

**UNIVERSITY OF ILORIN**

**ACADEMIC PROGRAMMES**

**(UNDERGRADUATE)**

**2014 – 2018**

**PUBLISHED BY THE UNIVERSITY OF ILORIN, ILORIN**

**AS APPROVED BY SENATE**

**ACADEMIC PROGRAMMES**

**(UNDERGRADUATE)**

**2014 – 2018**

**PUBLISHED BY THE UNIVERSITY OF ILORIN, ILORIN**

**AS APPROVED BY SENATE**

**ACADEMIC PROGRAMMES**

**(UNDERGRADUATE)**

**2014 – 2018**

**Printed at:**

**UNILORIN PRESS**

**University of Ilorin, Nigeria**

## **TABLE OF CONTENTS**

Foreword

Principal Officers of the University

Definitions

Abbreviations

General Information about the University

Admission Requirements

Procedure for Registration

Regulations Governing First Degree Programmes

Regulations Governing the Conduct of Examinations in the University

## **FACULTY ENTRIES**

Faculty of Agriculture

Faculty of Arts

Faculty of Basic Medical Sciences (College of Health Sciences)

Faculty of Clinical Sciences (College of Health Sciences)

Faculty of Communication and Information Sciences

Faculty of Education

Faculty of Engineering and Technology

Faculty of Environmental Sciences

Faculty of Law

Faculty of Life Sciences

Faculty of Management Sciences

Faculty of Pharmaceutical Sciences

Faculty of Physical Sciences

Faculty of Social Sciences

Faculty of Veterinary Medicine

UNIT ENTRIES

General Studies Division

Technical and Entrepreneurial Studies

## **FOREWORD**

The 7<sup>th</sup> edition (2014-2018) of the University of Ilorin Academic Programme as approved by Senate has been painstakingly reviewed and updated to reflect current status of her programmes, which have witnessed rapid growth and development in recent times.

The Academic Programme presents all available courses in the 15 Faculties, including their codes, status, and credit loads. Other information include lists of Principal Officers and staff of various departments, admission requirements, rules and regulations guiding registration, examinations as well as graduation requirements for award of first degrees.

This document was prepared by the Senate Review Committee on Academic Programme charged to do a comprehensive update of the academic programme for 2014-2018. This, the committee has tried to do, taking cognisance of current NUC benchmark as submitted by the various departments. Any observations or suggestions should be directed to the Deputy Registrar, Academic Support Services.

On behalf of the members of the Committee, I thank all Deans and Heads of Departments for their cooperation and the Chairman and members of Senate for the opportunity to serve the University in this capacity.

Prof. (Mrs.) N.Y.S. Ijaiya  
Deputy Vice-Chancellor (Academic)  
and Committee Chairman.

## **PRINCIPAL OFFICERS OF THE UNIVERSITY**

### **Vice-Chancellor**

Professor AbdulGaniyu Ambali (OON)  
DVM (ABU); M.V.Sc., Ph.D. (Liverpool); FCVSN (Abuja)

### **Deputy Vice-Chancellor (Academic)**

Professor (Mrs.) Nike Y. S. Ijaiya  
B.A. (Ed.) (ABU); M.Ed., Ph.D. (Cardiff)

### **Deputy Vice-Chancellor (Management Services)**

Professor A. Y. Abdulkareem  
B.Ed. (Ibadan); M.Ed., Ph.D. (Ilorin)

### **Deputy Vice-Chancellor (Research Technology and Innovation)**

Professor Gabriel A. Olatunji  
B.Sc. (OAU); Dip. Chem., Dr.rer.Nat. Ph.D. (Berlin)

### **Registrar**

Mr. Emmanuel D. Obafemi  
B.A. (Ibadan); Cert. Public Information (Kaduna); FICA, FIHNR, MAUA (UK); MNIPR

### **Bursar**

Mr. Abiodun S. Yusuf  
B.Sc. (ABU); FCA, ACTI, FBR, MCIB

### **University Librarian**

Dr. Joseph O. Omoniyi  
B.A., M.A., PGDE (Ilorin); MLS (Ibadan); M.Ed., MPA, Ph.D. (Ilorin)

## DEFINITIONS

**Compulsory Course** A course within the student's discipline that must be taken and passed. Marks scored will count towards graduation and student cannot graduate without passing it.

**Required Course** A course within and/or outside the student's discipline that is, a subsidiary course that must be taken and passed.

**Elective Course** A course within and/or outside a student's discipline which may be selected for the purpose of fulfilling the minimum requirements for the award of the Degree. However, in order to graduate, a student must pass enough elective courses (where applicable) to meet the minimum number of credits required for the award of the degree.

**Concurrent Course** One that must be taken along with another stipulated one within the same session.

**Prerequisite Course** One that must be taken and passed before another stipulated course can be registered for.

**Pass** Satisfactorily completing a course by scoring not less than 40% or 50% (as applicable), in the overall assessment of that course. This is necessary in order to obtain or earn the credit allotted to the course.

**He/him/his/himself** As used in this book refer to both male and female as appropriate.



## ABBREVIATIONS

### General

C	-	Compulsory
CC	-	Concurrent
E	-	Elective
H	-	Hours
P	-	Practical
PR	-	Prerequisite
R	-	Required
T	-	Theory

### Course Codes and Acronyms

ABE	-	Agricultural and Biosystems Engineering
ACC	-	Accounting
ACD	-	Agricultural Extension and Community Development
AED	-	Arts Education
AEF	-	Agricultural Economics and Farm Management
AES	-	Adult Education Studies
AFS	-	Food Science
AHE	-	Home Economics
ANA	-	Anatomy
ANP	-	Animal Production

ARA	-	Arabic
ARC	-	Architecture
ASE	-	Arts and Social Science Education
AQF	-	Aquaculture and Fisheries
AXR	-	Agricultural Extension and Rural Development
BCH	-	Biochemistry
BED	-	Business Education
BEM	-	Business Education (Marketing Option)
BME	-	Biomedical Engineering
BMS	-	Basic Medical Science
BUL	-	Business Law
BUS	-	Business Administration
CED	-	Counsellor Education
CHE	-	Chemical Engineering
CHM	-	Chemistry
CIS	-	Communication and Information Science
CPE	-	Computer Engineering
CPT	-	Crop Protection
CSC	-	Computer Science
CVE	-	Civil Engineering

ECN	-	Economics
EDT	-	Educational Technology
EDU	-	Education
ELE	-	Electrical Engineering
EMA	-	Educational Management
ENG	-	English
ESM	-	Estate Management
FBE	-	Food and Bioprocess Engineering
FIN	-	Finance
FRE	-	French
FRM	-	Forest Resources Management
FVM	-	Faculty of Veterinary Medicine
GET	-	General Engineering and Technology
GEM	-	Geology and Mineral Sciences
GNS	-	General Studies
GPH	-	Geophysics
GPY	-	Geography and Environmental Management
GRM	-	German
GSE	-	Graduate Self Employment
HED	-	Health Education

HIM	-	Health Information Management
HIS	-	History and International Studies
HKE	-	Human Kinetics Education
ICH	-	Industrial Chemistry
ICS	-	Information and Communication Science
IRP	-	Industrial Relations and Personnel Management
ISL	-	Islamic Law
JIL	-	Jurisprudence and International Law
LIN	-	Linguistics
LIS	-	Library and Information Science
LIY	-	Yoruba
MAC	-	Mass Communication
MAT	-	Mathematics
MCB	-	Microbiology
MEE	-	Mechanical Engineering
MKT	-	Marketing
MME	-	Materials and Metallurgical Engineering
NSC	-	Nursing Science
OPT	-	Optometry and Vision Science
PAD	-	Public Administration

PCG	-	Pharmacognosy and Drug Development
PCH	-	Pharmaceutical and Medicinal Chemistry
PCL	-	Pharmacology and Toxicology
PCP	-	Clinical Pharmacy and Pharmacy Practice
PCT	-	Pharmaceutics and Industrial Pharmacy
PES	-	Primary Education Studies
PFA	-	Performing Arts
PHM	-	Pharmacology
PHS	-	Physiology
PHT	-	Physiotherapy
PHY	-	Physics
PLB	-	Plant Biology
PMB	-	Pharmaceutical Microbiology and Biotechnology
PPL	-	Private and Property Law
PUL	-	Public Law
QTS	-	Quantity Surveying
RCR	-	Comparative Religious Studies
RCS	-	Christian Studies
RIS	-	Islamic Studies

SED	-	Science Education
SIWES	-	Students Industrial Work Experience Scheme
SOC	-	Sociology
SSE	-	Social Sciences Education
STA	-	Statistics
SVG	-	Surveying and Geoinformatics
TCS	-	Telecommunication Science
TED	-	Technology Education
URP	-	Urban and Regional Planning
VAN	-	Veterinary Anatomy
VMB	-	Veterinary Microbiology
VMD	-	Veterinary Medicine
VPA	-	Veterinary Pathology
VPB	-	Veterinary Physiology and Biochemistry
VPE	-	Veterinary Parasitology and Entomology
VPH	-	Veterinary Public Health & Preventive Medicine
VPT	-	Veterinary Pharmacology and Toxicology
VSR	-	Veterinary Surgery and Radiology
VTP	-	Theriogenology and Production
WEE	-	Water Resources and Environmental Engineering

**GENERAL INFORMATION ABOUT THE UNIVERSITY****HISTORICAL NOTE**

The University of Ilorin is located in the ancient city of Ilorin, about 300 kilometers from Lagos and 500 kilometers from Abuja, the Federal Capital City. Ilorin, the Capital of Kwara State, is strategically located at the geographical and cultural confluence of the North and South and can be described as a gateway city.

The University of Ilorin is one of the institutions of higher learning established by a decree of the Federal Military Government in August, 1975. This step was taken to provide more opportunities for Nigerians aspiring to acquire University education and to generate relevant high level manpower for its developing economy.

The University commenced as an affiliated College of the University of Ibadan in September, 1975 at the Mini Campus. Following an entrance examination, 200 foundation students were admitted into residence on Saturday, 23<sup>rd</sup> October 1976 and academic activities commenced on Monday, 25<sup>th</sup> October 1976 with the three foundation Faculties of Arts, Education and Science. On 1<sup>st</sup> October 1977, the University College, Ilorin attained a full autonomous status of a University and has since then been developing by leaps and bounds. The student population of 200 in 1976 had increased to 32,684 in the 2014/2015 academic session. Up till January 1982, the University carried out its academic programmes, involving the Faculties of Arts, Science, Education, Engineering and Technology, Business and Social Sciences and the Pre-Clinical aspect of the Health Sciences on the Mini Campus. The completion of the Faculty blocks for Natural Sciences and Engineering as well as Eight blocks of students' hostels by December 1981, made it possible for the actual movement of over 1,000 science-oriented students to the Main Campus to pursue their various academic programmes.

The Main Campus currently houses the Faculties of Agriculture, Arts, Communication & Information Sciences,

Education, Engineering & Technology, Environmental Sciences, Law, Life Sciences, Management Sciences, Pharmaceutical Sciences, Physical Sciences, Social Sciences and Veterinary Medicine. While the College of Health Sciences comprising the Faculties of Basic Medical Sciences and Clinical Sciences has since been relocated to its permanent site in the University of Ilorin Teaching Hospital, while the Institute of Education remains in the Mini Campus. There are 118 Academic Departments within the 15 Faculties.

The duration of undergraduate degree programmes ranges from three to six years, depending on entry qualifications and discipline. The University started with the traditional 'Three Term System,' but later changed to the "Two Semester System" called Harmattan and Rain Semesters with effect from 1979/80 session. Each semester comprises one-half of an academic year as determined by Senate. Also, instruction in the various Faculties, with the exception of the MB;BS, DVM, and B.Pharm. programmes, is by the course system and courses are quantified into credits.



## ADMISSION REQUIREMENTS

### 1. Admission by Entrance Examination – UTME.

The Entrance Examination is conducted by JAMB. In addition to attaining the required standard in entrance examination, candidates must satisfy the general University as well as specific Faculty requirements.

For the general requirement, candidates must obtain at least a credit pass in five subjects at S.S.C.E. O'Level or approved equivalent, including English Language and Mathematics at not more than two sittings (See tables for other faculty requirements).

### 2. Admission by Direct Entry

**Candidates must possess one of the following qualifications:**

- (i) A minimum of two passes at the Principal or Advanced Level. In addition, candidates must also obtain at least a credit pass in five subjects at S.S.C.E. or approved equivalent, including English Language and Mathematics at not more than two sittings (See tables for other faculty requirements).
- (ii) A minimum of two passes in recognized NCE subjects. Education is accepted as a second 'A' Level subject for those taking courses in Education. In addition, candidates must also obtain at least a credit pass in five subjects at S.S.C.E. or approved equivalent, including English Language and Mathematics at not more than two sittings. (See tables for other faculty requirements).

- (iii) Candidates who successfully pass the final examination of the following Institutions shall also be considered eligible for admission: The International Baccalaureate obtained from an accredited Institution with relevant gradings; the University of Ilorin Diploma, National Diploma from Monotechnics/Polytechnics or Colleges of Technology, not below Upper Credit, and applicable only to some faculties (See table on Special Faculty requirements); and the Defence Academy Certificate as moderated by a recognized University. In addition, candidates must also obtain at least a credit pass in five subjects at S.S.C.E. or approved equivalent, including English Language and Mathematics at not more than two sittings

**Other conditions to note:**

- (i) No subject may be counted at both O' and A' Levels.
- (ii) General Paper at H.S.C. or in any other examination will not be accepted as a substitute for English language.
- (iii) A credit pass in English Language and Mathematics of the IJMB at the O'Level is acceptable as equivalent to SSCE/GCE O'Level for admission purpose.

**COLLEGE OF HEALTH SCIENCES**

<b>COURSE</b>	<b>REQUIREMENTS</b>		<b>UTME SUBJECTS</b>	<b>SPECIAL CONSIDERATION (WAIVER) REMARKS</b>
	<b>DIRECT ENTRY</b>	<b>UTME</b>		
<b>ANATOMY</b>	At least two A' level passes chosen from Biology, Chemistry and Physics in addition to UTME requirement.	Five O'level credit passes in English Language, Mathematics, Biology, Chemistry and Physics.	English Language, Biology, Chemistry and Physics	

<b>PHYSIOLOGY</b>	At least two A' Level passes chosen from Biology Chemistry and Physics in addition to UTME requirement.	Five O'Level Credit passes in English Language, Mathematics, Biology, Chemistry and Physics	English Language, Biology, Chemistry and Physics	
-------------------	---	---	--	--

<b>COURSE</b>	<b>REQUIREMENTS</b>		<b>UTME SUBJECTS</b>	<b>SPECIAL CONSIDERATION (WAIVER) REMARKS</b>
	<b>DIRECT ENTRY</b>	<b>UTME</b>		

<p><b>MEDICINE AND SURGERY</b></p>	<p>(i) A' Level passes in Physics, Chemistry and Biology.</p> <p>(ii) B.Sc. (Second Class Upper Honours) in relevant fields</p>	<p>Five O'Level Credit passes in English Language, Mathematics, Physics, Chemistry and Biology.</p>	<p>English Language, Physics, Chemistry and Biology.</p>	<p><b>DIRECT ENTRY:</b></p> <p>(i) UNILORIN accepts minimum aggregate of 13 Points.</p> <p>(ii) UNILORIN accepts B.Sc. (Second Class Honours, Upper Division) in Anatomy, Biochemistry, Microbiology, Physiology, Zoology.</p> <p><b>UTME:</b></p> <p>(i) UNILORIN requires five O'Level credit passes at only one sitting.</p> <p>(ii) UNILORIN requires a Minimum UTME Score as determined by the University Senate.</p>
--	---	---	--	--

<b>NURSING</b>	<p>(i) Registered Nurse (RN) Certificate in addition to UTME requirements.</p> <p>(ii) At least two 'A' Level passes chosen from Biology, Chemistry and Physics in addition to UTME requirements.</p>	<p>Five 'O' Level Credits Pass in English Language, Mathematics, Physics, Chemistry and Biology</p>	<p>English Language, Physics, Chemistry and Biology</p>	
----------------	---	---	---	--

**FACULTY OF AGRICULTURE**

<b>COURSE</b>	<b>REQUIREMENTS</b>	<b>U</b>	<b>T</b>	<b>M</b>	<b>E</b>	<b>S</b>	<b>P</b>	<b>E</b>	<b>C</b>	<b>I</b>	<b>A</b>	<b>L</b>
---------------	---------------------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------

	<b>DIRECT ENTRY</b>	<b>UTME</b>	<b>SUBJECTS</b>	<b>CONSIDERATION (WAIVER) REMARKS</b>
<b>AGRICULTURE</b>	At least two A' level passes in Chemistry and one from Biology/Botany/Zoology/Agric. Science, Economics, Physics, Geography and Geology/ Mathematics (Pure & Applied)	Five 'O' level credit passes to include English language, Mathematics, Biology/Agric. Science, Chemistry and any one of Physics, Geography, Economics, Animal Husbandry, Crop Husbandry and Horticulture	English Language, Chemistry, Biology/ Agriculture and any one of Physics and Mathematics	<b>DIRECT ENTRY:</b>  UNILORIN Accepts OND/NCE credit pass in Agriculture into 200 level while those with HND may be admitted into 300 level

<p><b>AGRICULTURAL EXTENSION AND COMMUNITY DEVELOPMENT</b></p>	<p>(i) At least 5 O-level WAEC, SSCE, GCE Credits at not more than two sittings in the following subjects: English Language, Mathematics, and any other three from Biology or Agriculture, Chemistry, Physics, Geography, Economics, Food and Nutrition and Home Management.</p> <p>(ii) A Higher National Diploma (HND or equivalent) in Agriculture or related field of study with a minimum of lower credit from a recognized institution in Animal</p>			<p>The entry point is at the 300 level.</p>
--	--	--	--	---



<p><b>AQUACULTURE AND FISHERIES</b></p>	<p>(i) A' level passes in Chemistry, Biology and at least a pass in any of Physics, Geography and Economics.</p> <p>(ii) OND/ND in Fisheries, Agriculture or related disciplines with at least lower credit grade plus five 'O' level credits in English Language, Mathematics, Chemistry, Biology, Fisheries or Agric. Science and any other from Physics, Geography and Economics.</p> <p>(iii) HND with Lower Credit Pass in Fisheries, Agriculture or related discipline from NBTE Accredited Institutions.</p>	<p>5 O'level credit passes at not more than two sittings including English Language, Mathematics, Chemistry, Biology, Fisheries or Agric. Science and any other from Physics, Geography and Economics.</p>	<p>English Language, Mathematics, Chemistry and one of Biology and Agricultural Science.</p>	<p>UNILORIN may accept HND with lower credit pass in Fisheries, Agriculture or related discipline from NBTE Accredited Institutions.</p>
---	---	--	--	--

<p><b>H O M E ECONOMICS</b></p>	<p>GCE ‘A’ Level or equivalent in Chemistry plus at least one of the following subjects; Biology/Botany/Zoology/Agric. Science/Economics/Mathematics plus UTME entry requirements. OND in <b>ANY</b> of the following: Catering/Hotel Management/ Food Science/Consumer Science/Hospitality and Tourism Management/Event Management with at least Lower Credit grade from recognized tertiary institutions plus UTME entry requirements.</p> <p>NCE in Biology/</p>	<p>‘O’ Level credits in five subjects which should include Mathematics, English Language, Chemistry, Biology / Agricultural Science and <b>ANYONE</b> of the following subjects: Physics / Economics / Garment Making/ Catering Craft Practice/ Clothing and Textiles/Foods and Nutrition/ Dyeing and Bleaching/ Home Management/ Jewelry/Leather Work/Printing and Decoration/Printing</p>	<p>English Language, Biology, Chemistry and <b>ANYONE</b> of the following subjects: Economics and Mathematics.</p>	<p>(i) Candidates with a pass in Biology, but who have credit in Agric Science may be considered.</p>
-------------------------------------	---	---	---	---

<p><b>FOOD SCIENCE</b></p>	<p>a. GCE ‘A’ Level or equivalent in Chemistry plus at least One of the following subject; Biology/Botany/ Zoology/Agric. Science/ Economics/ Mathematics plus U.T.M.E. entry requirements.</p> <p>b. OND in Agriculture/ Catering Hotel Management and Food Science and Technology with at least Lower Credit grade from recognized tertiary Institutions. Plus U.T.M.E. entry requirements.</p> <p>c. NCE in Biology/ Chemistry/Home Economics or</p>	<p>Credits at SSCE/ NECO/GCE ‘O’ Level, NABTEB or equivalent at least 5 subjects including English Language, Mathematics, Chemistry, Physics, Food and Nutrition or Biology/Agric.</p>	<p>English Language, Biology/Agric. Science, Chemistry and any of the following: Physics, Mathematics and Economics.</p>	<p><b>DIRECT ENTRY:</b></p> <p>i) Candidates with a pass in Biology, but who have credit in Agric. Science may be considered.</p> <p>(ii) Ordinary pass in Physics is acceptable in lieu of Credit Pass.</p>
----------------------------	---	--	--	--

<b>FORESTRY AND WILDLIFE</b>	At least two 'A' level passes in Chemistry and one of Botany / Biology / Zoology; Geography; Economics; Mathematics with minimum of 5 points. Botany and Biology will not count as two subjects.	Five 'O' level credit passes at not more than two sittings to include; English Language, Mathematics, Chemistry, Biology / Agricultural Science; and any of Geography and Economics, with at least a pass in Physics.	English Language, Chemistry, Biology / Agricultural Science, and any of Geography, Economics, Physics and Mathematics.	i) OND/ND (Forestry/Wildlife) or related field with minimum of Lower Credit from recognized institutions into 100 level.  ii) HND (Forestry/Wildlife) or related field with minimum of Lower credit may be admitted into 200 level.  iii) NCE Agriculture double major at Credit Pass level may be admitted into 200 level.
------------------------------	--	---	--	---

**FACULTY OF ARTS**

<b>COURSE</b>	<b>REQUIREMENTS</b>		<b>UTME SUBJECTS</b>	<b>SPECIAL CONSIDERATION  (WAIVER)/REMARKS</b>
	<b>DIRECT ENTRY</b>	<b>UTME</b>		

<p><b>ARABIC</b></p>	<p>At least two A' Level passes to include Arabic and any other Arts/Social Science Subject.</p>	<p>Five O' level credit passes to include English Language, Mathematics, Arabic and two other Arts/ Social Science Subjects</p>	<p>Arabic and any other two Arts/ Social Science Subjects</p>	<p><b>DIRECT ENTRY:</b></p> <p>(i) UNILORIN accepts Unilorin Diploma and other relevant Diploma: BUK, KWASU, ABU. (This satisfies both A/L and O/L admission requirements by Direct Entry).</p> <p>(ii) Candidates who do not offer Arabic at UTME but meet UTME entry requirements may be considered for admission into 100 level.</p> <p>(iii) Unilorin accepts candidates with Senior Islamic Studies Certificates or its equivalent as "O" level qualification for Arabic Studies and related programmes.</p> <p><b>UTME:</b></p> <p>UNILORIN may accept candidates with no Arabic but who meets UTME entry requirements into 100 level</p>
----------------------	--	---	---	---

<p><b>CHRISTIAN STUDIES</b></p>	<p>At least two A' level passes/NCE to include Christian Religious Studies/Religious Studies and any other Arts/Social Science Subject.</p>	<p>Five O' level credit passes in English Language, Mathematics, Christian Religious Studies and any two other relevant subjects.</p>	<p>Christian Religious Knowledge and any other two Arts or Social Science Subjects.</p>	<p>UNILORIN accepts Diploma in Religious Studies or Theology of London or an accredited Nigerian University or Affiliated institutions.</p>
<p><b>COMPARATIVE RELIGIOUS STUDIES</b></p>	<p>(i) At least two A' level passes in Christian Religious Studies or West Africa Traditional Religious or Islamic Religious Studies and any other Arts/Social Science/ Science Subject.</p> <p>(ii) ND/NCE in Christian/Islamic Studies.</p>	<p>Five O' level credit passes to include English Language, Mathematics, Christian Religious Knowledge/ Islamic Religious Studies, West Africa Traditional Religious, and any other two Arts/Social Science/Science Subjects.</p>	<p>Christian Religious Knowledge or Islamic Religious Studies and any other two Arts/ Social Science/ Science Subjects.</p>	<p><b>DIRECT ENTRY:</b></p> <p>UNILORIN accepts Diploma in Religious Studies or Theology of Ibadan, London, or any accredited University in Nigeria.</p> <p><b>UTME:</b></p> <p>UNILORIN accepts candidates who do not have Christian Religious Studies or Islamic Religious Studies but who meet other UTME entry requirement.</p>

<p><b>ENGLISH LANGUAGE</b></p>	<p>At least two A' Level passes to include Literature-in-English and one other Arts or Social Science Subject.</p>	<p>Five O' level credit passes to include Literature-in-English, English Language, Mathematics and any two Arts/Social Science Subjects.</p>	<p>Literature-in-English, one other Arts subject and another Arts or Social Science subject.</p>	<p><b>DIRECT ENTRY:</b> UNILORIN accept NCE with English major or English with other teaching Subjects</p>
--------------------------------	--	--	--	--



<p><b>FRENCH</b></p>	<p>At least two A' level passes including French and one other Arts or Social Science Subject.</p>	<p>Five O'level credit passes in French, English Language, Mathematics and two other Arts/Social Science Subjects.</p>	<p>French and any other two Arts/ Social Science Subjects.</p>	<p><b>DIRECT ENTRY:</b></p> <p>UNILORIN accepts NCE (Credit Level) with French as major subject and Diploma with French as Principal subject.</p> <p><b>UTME:</b></p> <p>(i) UNILORIN accepts Social Science Subjects.</p> <p>(ii) UNILORIN accepts ND with French as principal subject.</p> <p><b>WAIVER</b></p> <p>Candidate who do not offer French at UTME but meet the O/Level requirement may be considered</p>
----------------------	--	--	--	---

<p><b>HISTORY AND INTERNATIONAL STUDIES</b></p>	<p>At least two A' level passes in History or Government and any other Arts/Social Science Subject</p>	<p>Five O'level credit passes to include English, Mathematics, History/Government and any two Arts/Social Science Subjects.</p>	<p>History/ Government and any other two subjects from Arts or Social Sciences.</p>	<p><b>DIRECT ENTRY:</b> UNILORIN accepts</p> <p>(i) Government in lieu of History</p> <p>(ii) NCE (Merit Pass) in History and or Government/ Political Science as major and any other Arts or Social Science Subject.</p> <p>(iii) NCE Social Studies Double major with at least a merit pass.</p> <p>(iv) Diploma (Merit) in Administrative Management, Conflict Resolution, Law, Mass Communication, Public Administration, Industrial Relations and Social Work and Development Studies with at least merit pass.</p> <p><b>UTME</b></p> <p>UNILORIN requires five O' level credits in English Language, History/ Government plus three other Arts/Social Science Subjects.</p>
---	--	---	---	--

<p><b>ISLAMIC STUDIES</b></p>	<p>At least two A' level passes to include Islamic Studies and any other Arts/Social Science Subject</p>	<p>Five O'level credit passes to include English Language, Mathematics, Islamic Studies or Arabic and any two Arts/Social Science Subjects.</p>	<p>Islamic Studies and two other Arts/Social Science Subjects</p>	<p><b>DIRECT ENTRY</b></p> <p>(i) UNILORIN accepts relevant Diploma of Bayero University, Kano (This satisfies both A/L and O/L admission requirements by Direct Entry).</p> <p>(ii) Candidates who do not offer Islamic Religious Studies at UTME but meet UTME entry requirements may be considered for admission into 100 level.</p> <p>(iii) Unilorin accepts candidates with Senior Islamic Studies Certificates as entry qualification for Islamic Studies and related programmes.</p>
-------------------------------	--	---	---	--

<p><b>LINGUISTICS</b></p>	<p>At least two A' level passes or NCE to include any Language, preferably an African Language and any other Arts/Social Science/Science Subject</p>	<p>Five O' level credit passes including English Language, Mathematics, one other Language and any two Arts/Social Science/ Science Subjects.</p>	<p>Any Language and two other Arts/ Social Science/ Science Subjects.</p>	<p><b>DIRECT ENTRY</b></p> <p>(i) UNILORIN accepts Diploma in Linguistics</p> <p>(ii) UNILORIN requires A' level or NCE with a major in Language and any two Arts/ Social Science/ Science subject.</p> <p><b>UTME</b></p> <p>(i) UNILORIN requires O'level credits passes in Arts and Social Sciences.</p> <p>(ii) UNILORIN requires at least one Nigerian Language and one other Arts Subject.</p> <p>(iii) UNILORIN accepts a Science Subject.</p> <p><b>UTME. SUBJECTS</b></p> <p>UNILORIN requires one Language and any two subjects from Arts/Science/</p>
---------------------------	--	---	---	--

<p><b>THE PERFORMING ARTS</b></p>	<p>(i) At least two A' level passes to include Fine Arts/Music/Literature-in-English and any other Arts/ Social Science/Science Subject</p> <p>(ii) NCE passes at merit level in English/ Music/Fine Arts and or Applied Arts as a major subject</p> <p>(iii) Diploma in Theatre Arts/ Dramatic Arts/Journalism/ Architecture/ Environmental Design/Mass Communication/ Law/ Music/Fashion Design / Make-ups</p>	<p>Five O'level credit passes to include English Language, Mathematics, Literature-in-English and any two Arts/ Social Science/ Science Subjects.</p>	<p>One Art subject and any other two Arts/Social Science/Science Subjects</p>	<p><b>DIRECT ENTRY</b></p> <p>(i) UNILORIN requires A' level candidates to pass Lit-in-English at credit levels.</p> <p>(ii) UNILORIN requires holders of Diploma in Theatre Arts or Dramatic Arts to pass Literature-in-English at credit in O/Level</p> <p><b>UTME</b></p> <p>UNILORIN accepts ABRSM Grade V and above (Music Theory) or equivalent certificate in lieu of credit pass in Lit-in-English.</p>
-----------------------------------	--	---	---	---

<b>YORUBA</b>	<p>(1)At least two A' level passes to include Yoruba and any other Arts/Social Science Subject.</p> <p>(2)NCE with a major in Yoruba</p> <p>(3)Diploma in Yoruba with Upper Credit and any other Arts and Social Science subject.</p>	<p>Five O'level credit passes to include Yoruba, Mathematics, English Language, and two other Arts/ Social Science Subjects.</p>	<p>Yoruba and two other subjects in Arts/Social Science.</p>	<p><b>DIRECT ENTRY</b></p> <p>UNILORIN accepts NCE/ Diploma (Upper Credit) in Yoruba and Social Science Subjects.</p> <p><b>UTME</b></p> <p>UNILORIN accepts candidates who do not offer Yoruba (Language/Literature) but meet other UTME entry requirements.</p>
---------------	---	--	--	---

**FACULTY OF COMMUNICATION AND INFORMATION SCIENCES**

<b>COURSE</b>	<b>REQUIREMENTS</b>		<b>U T M E SUBJECTS</b>	<b>S P E C I A L CONSIDERATIO N  ( W A I V E R ) / REMARKS</b>
	<b>DIRECT ENTRY</b>	<b>UTME</b>		

<b>COMPUTER SCIENCE</b>	UTME qualifications plus (i) or (ii).  (i) At least two A' level passes in Mathematics, and any of Physics and Chemistry.  (ii) Diploma in Computer Science.	Five O'level credit passes in English Language, Mathematics, Physics, Chemistry and Biology.	English Language, Mathematics, Physics and Chemistry.	<b>DIRECT ENTRY:</b>  UNILORIN accepts ND Upper Credit or HND Lower Credit in Computer Science.
-------------------------	--	--	---	---

<p><b>INFORMATION AND COMMUNICATION SCIENCE</b></p>	<p>UTME qualifications plus: A' Level or equivalence with a minimum of two relevant subjects from Mathematics, Physics, Chemistry, Biology/ Agric. Science, Economics and Geography.</p>	<p>Five (5) O'Level credits in SSCE/NECO/GCE or equivalent to include English Language and Mathematics; and at least three other subjects from Physics, Chemistry, Biology/ Agric. Science, Economics, Geography, Computer Studies/ Data Processing.</p>	<p>English language and any three subjects from, Mathematics, Physics, Chemistry, Biology/ Agric. Science, Economics, Geography</p>	<p><b>DIRECT ENTRY:</b> Upper Credit in the National Diploma (ND) in the physical sciences and engineering disciplines may be considered.</p>
---	--	--	---	---



<p><b>LIBRARY AND INFORMATION SCIENCE</b></p>	<p>(i) Two A' Level passes in relevant subjects with O'Level Credit passes in three other subjects from Arts/Social Science/Science.</p> <p>(ii) Three (3) passes in any subject area at Advanced Level with SSCE/GCE O'level Credit Passes in two other subjects from Arts/Social Science/ Science.</p> <p>(iii) National Diploma (Upper Credit) in Library and Information Science from recognized polytechnics.</p> <p>(iv) Diploma at Credit level in Library and Information Science from recognized universities.</p>	<p>Five O'level credit passes in SSCE/NECO/GCE to include English Language, Mathematics and three other subjects from Arts/Social Science/Science.</p>	<p>Any three subjects from Arts/Social Science/Science.</p>	<p><b>DIRECT ENTRY:</b></p> <p>UNILORIN accepts Merit pass in Diploma of Library Science offered by universities and Upper Credit in Diploma of Library Science offered by polytechnics</p>
---	---	--	---	---

<p><b>M A S S COMMUNICATION</b></p>	<p>UTME qualifications plus (a) or (b).</p> <p>(a) National Diploma (at Upper Credit) in Journalism, Mass Communication, Public Relations and Advertising.</p> <p>(b) HND (at least with Lower Credit) in Journalism, Mass Communication, Public Relations and Advertising.</p>	<p>Five O'level credit passes in SSCE/NECO/GCE or equivalent including English Language, Mathematics, one Arts subject (preferably Literature in English), one Social Science subject and any other subject</p>	<p>Four subjects including English Language, one Art subject, one Social Science subject and any other subject</p>	<p><b>DIRECT ENTRY</b></p> <p>UNILORIN accepts Diploma (Upper Credit) in Journalism, Mass Communication, Public Relations and Advertising</p>
-------------------------------------	---	---	--	---

<p><b>TELECOMMUNICATION SCIENCE</b></p>	<p>UTME qualifications plus (a) or (b).</p> <p>a. Two “A” Level Passes or equivalent in Mathematics, Physics and any one of the following Chemistry, Biology and Geography.</p> <p>b. Upper Credit in the National Diploma (ND) and a minimum of one-year post qualification Industrial attachment in the physical sciences and engineering disciplines.</p>	<p>Five O-level credits in SSCE/NECO/ GCE including Mathematics, English language, Physics, Chemistry and any of Further Mathematics, Technical Drawing, Economics and Geography.</p>	<p>English Language Mathematics, Physics, Chemistry.</p>	
---	--	---	--	--

**FACULTY OF EDUCATION**

<b>COURSE</b>	<b>DIRECT ENTRY REQUIREMENTS</b>	<b>UTME REQUIREMENTS</b>	<b>UTME SUBJECTS</b>	<b>Waivers</b>
---------------	--------------------------------------	------------------------------	--------------------------	----------------

<p><b>ADULT EDUCATION STUDIES</b></p>	<p>(i) At least two “A” Level passes in GCE/IJMB or equivalent to include at least one Teaching subject in Arts/Social science/ Science subjects.</p> <p>(ii)NCE with at least one teaching subject in Arts/ Social Science/ Science subjects</p> <p>(iii)Diploma in Adult Education with a minimum of merit pass</p>	<p>Five O’ level credit passes in GCE/SSCE/ TC II or equivalent to include English Language, Mathematics and any three other Arts/Social Science/ Science subjects</p>	<p>Any three Arts/ Social Science/ Science subjects.</p>	
<p><b>PRIMARY EDUCATION STUDIES</b></p>	<p>(i) At least two A Level passes in GCE/IJMB or equivalent to include at least one Teaching subject in Art/ Social science/ Science subjects.</p> <p>(ii)NCE with at least one teaching subject in Arts/ Social Science/ Science subjects</p> <p>(iii)Diploma in Early Childhood or Primary Education with a minimum of merit pass</p>	<p>Five O’ level credit passes in GCE/SSCE/ TC II or equivalent to include English Language, Mathematics and any three other Art/Social Science/ Science subjects</p>	<p>Any three Art/ Social Science/ Science subjects</p>	

---

<b>EDUCATION AND ARABIC:</b>	At least two A' level passes in GCE/IJMB or NCE in relevant subjects including Arabic	Five O'level credit passes in relevant subjects including English Language, Mathematics and Arabic and two from the following:  Civic Education, Government, Geography, Economics, Commerce, History, Social Studies, Insurance	Arabic and any two relevant Arts/ Social Science subjects.  Islamic Studies, Government, Literature, Economics, Commerce, Geography, History	<b>DIRECT ENTRY</b>  (i)UNILORIN accepts relevant Diploma of Bayero University, Kano (This satisfies both A/L and O/L admission requirements by Direct Entry).  (ii) Candidates who do not offer Arabic at UTME but meet UTME entry requirements may be considered for admission into 100 level.  (iii) Unilorin accepts candidates with Senior Islamic Studies Certificates as entry qualification for
------------------------------	---	---	--	---

---

<b>EDUCATION AND CHRISTIAN RELIGIOUS STUDIES</b>	At least two A' level passes in GCE/IJMB or Equivalent to include CRS and any other Arts subjects.	Five O'level credit passes in GCE/SSCE/NECO/TC II/ Equivalent to include English Language, Mathematics, CRS and any two from the followings: Government, History, Civic Education, Social Studies, Economics, Commerce, Yoruba, Litreature -in-English, Geography, Insurance, West African Traditional Religion	English Language, CRS and any other two relevant Arts/ Social Science subjects from the following: Government , History, Literature-in-English, Yoruba, Commerce, Economics, Geography.	UNILORIN accepts Diploma in Religious Studies or Theology of London or an accredited Nigerian University.
--	--	--	--	---

**B.Sc. (Ed.)  
Economics**

(a) A level passes or NCE in Economics , Geography, Political Science and Social Studies Plus O/L Credits in five subjects including English Language, Mathematics, Economics and two from the following subjects: Geography, Social Studies, Financial Accounting (F/A), Civic Education, Business Management, Government, Commerce and Marketing

O/L Credits in five subjects including English Language, Mathematics, Economics and any two from the following subjects : Social Studies, Financial Accounting, Civic Education, Government, Commerce, Marketing and Business Management.

English Language Mathematics, Economics and any of Geography, Commerce, Financial Accounting and Government

Preference will be given to NCE holders for Direct Entry. General English at NCE level is not acceptable as a replacement for O' Level credit pass.

(b) 2 'A' Level passes in GCE/IJMB or Equivalents in any two of the following subjects: Economics, Government, Geography, Accounting, Plus O/L Credits in five subjects including English Language, Mathematics, Economics, Social Studies, F/A, Civic Education, Commerce, Marketing, Government and Business Management



**B.Sc. (Ed.)  
Geography**

(a ) A level passes or NCE in Geography, Economics, Political Science and Social Studies Plus O/L Credits in five subjects including English Language, Mathematics, Geography and two other Social Science subject.	O/L Credits in five subjects including English Language, Mathematics, Geography and any two from the following subjects : Economics, Social Studies, F/A, Civic Education, Government, Commerce, Marketing and Business Management.	English Language plus three other subjects from Economics, Mathematics, Commerce, Financial Accounting, Geography and Government	Preference will be given to NCE holders for Direct Entry. General English at NCE level is not acceptable as a replacement for O' Level credit pass
(b) 2 'A' Level passes in GCE/IJMB or Equivalent in Geography, Economics, Political Science/ Government, Accounting.			

**B.Sc. (Ed.) Social Studies**

- (a) 2 'A' Level passes in NCE Social Studies/Economics, Geography, History, Political Science, plus O/L Credits in five subjects including English Language, Mathematics, and two from the following subjects: Economics, Social Studies, Financial Accounting, Civic Education, Government, Commerce, Marketing and Business Management.
- O/L Credits in five subjects including English Language, Mathematics and two from the following subjects : Economics, Social Studies, F/A, Civic Education, Government, Commerce, Marketing and Business Management.
- English Language, Mathematics plus two other social science subjects from Economics, F/A, Government, Commerce and Geography.
- Preference will be given to NCE holders for Direct Entry. General English at NCE level is not acceptable as a replacement for O' Level credit pass
- (b) 2 'A' Level passes in GCE/IJMB or Equivalent in any two of the following subjects:  
Economics,  
Government,  
Geography,  
Accounting plus O/L Credits in five

**B. A (Ed) Social Studies**

- (a) 2 'A' Level passes in NCE Social Studies/C.R.S, or I.R.S., or History or English Language, or Primary Education Studies plus O/L Credits in five subjects including English Language, Mathematics and any three from the following Arts subjects: CRS, IRS, Yoruba, French, Civic Education, History/ Government and Literature in English
- O/L Credits in five subjects including English Language, Mathematics and three from the following Arts subjects: CRS, IRS, Yoruba, French, Civic Education, History/ Government and Literature in English, Literature in English, Yoruba
- English Language plus two other Arts subjects from the following: CRS, IRS, Yoruba, French, History/ Government, Literature in English and Yoruba
- Preference will be given to NCE holders for Direct Entry. General English at NCE level is not acceptable as a replacement for O' Level credit pass
- (b) 2 'A' Level passes in GCE/IJMB or Equivalent in any two Arts subjects e.g. Lit-in English, History/ Government plus O/L Credits in five subjects including English Language, Mathematics and any other two from the following Arts subjects: CRS, IRS, Yoruba, French Civic Education

**EDUCATION AND ENGLISH**

(i) At least two GCE/IJMB A' level passes in relevant teaching subjects including Literature-in-English.

(ii) NCE with credit or merit passes in two relevant subjects including English Language

Five O' level credit passes to include English Language, Mathematics and Literature-in-English plus two from the following:  
Government, History, CRS, IRS, Yoruba, Arabic, French, Geography, Commerce, Economics, Social Studies, Civic Education, Insurance

Literature-in-English, one Arts subject and any other subject from the following:  
Government, History, CRS, IRS, Yoruba, Arabic, French, Geography, Commerce, Economics

<b>EDUCATION AND FRENCH</b>	At least two A' level passes in GCE/IJMB/Equivalent/NCE merit in French and one other Arts/Social Science subject.	Five O'level credit passes to include English Language, Mathematics, French and two from the following:  History, Government, Civic Educ., Geography, C.R.S., I.R.K., Yoruba, Commerce, Economics, Insurance and Social Studies	French plus three other Arts subjects/ Social Science Subject:  History, Government, Geography, C.R.S., I.R.K., Yoruba, Commerce, Economics, Lit-in English
<b>EDUCATION AND HISTORY</b>	At least two IJMB/GCE A' level/NCE merit passes in History or Government and one other relevant Arts subject.	Five O'level credits in English Language, Mathematics, History/ Government and any other two of the following subjects: Literature-in-English, Social Studies, Insurance, Geography, Civic Educ., Economics, Yoruba, Commerce, Tourism, Sculpture, West African Traditional Religion.	English Language, History/ Government and any other two Arts/ Social Science subjects  Literature-in-English, Social Studies, Geography, Economics, Yoruba, Commerce

**EDUCATION AND ISLAMIC STUDIES**

- (i) At least NCE merit passes in IRS and Education
- (ii) IJMB/GCE A' level passes in Arabic/IRS and any other relevant Arts subject.

Five O'level or TC II credit/merit passes to include English, Mathematics and Islamic Religious Studies, Arabic, Civic Education, Government, Geography, Economics, Commerce, History, Social Studies, Insurance

Islamic Studies/Arabic and any other three Social Science or Arts subjects Government, Literature, Economics, Commerce, Geography, History

**DIRECT ENTRY**

- (i) UNILORIN accepts relevant Diploma of Bayero University, Kano (This satisfies both A/L and O/L admission requirements by Direct Entry).
- (ii) Candidates who do not offer Islamic Religious Studies at UTME but meet UTME entry requirements may be considered for admission into 100 level.
- (iii) Unilorin accepts candidates with Senior Islamic Studies Certificates as entry

**B. Ed. Educational Management**

(i) NCE with at least one teaching subject from:

**(a) Arts**

Eng. Lang., French, Yoruba, CRS, History, IRS, Arabic, Lit. in Eng. and Government.

**(b) Social Science**

Economics, Government, Geography, Social Studies

**(c) Sciences**

Mathematics, Biology, Physics, Chemistry, Physical and Health Education

ii) At least two A<sup>+</sup> level passes in GCE/IJMB to include at least one Teaching subject in Arts/Social Sciences.

Five O<sup>+</sup> level credits in GCE/SSCE/NECO/NABTEB/TCII

Equivalent to include English Language, Mathematics and any three subjects from:

**(a) Arts**

Eng. Lang., French, Yoruba, CRS, History, IRS, Arabic, Lit. in Eng. and Government.

**(b) Social Science**

Economics, Government, Geography, Social Studies

**(c) Sciences**

Mathematics, Biology, Physics, Chemistry, Physical and Health Education

English, Language and any three of the following subjects:

**(a) Arts**

Eng. Lang., French, Yoruba, CRS, History, IRS, Arabic, Lit. in Eng.

**(b) Social Science**

Economics, Government, Geography,

**(c) Sciences**

Mathematics, Biology, Physics, Chemistry,

No waiver

<b>B.Sc. (Ed.) Business Education</b>	<p>(a) NCE Business Education Double Major Plus Five Ordinary level credits in GCE/SSCE/NECO/ NABTEB/ Equivalent, to include English Language, Mathematics and any three of the following Social Science and Commercial subjects at not more than two sittings: Financial Accounting, Business Management (Business Methods), Commerce, Words Processing (Typewriting), Shorthand, Marketing, Office Practice, Salesman, Insurance, Information and Communication Technology, Economics, Government and Geography, Data Processing.</p> <p>(b) NCE Business Education with the following options: (Accounting, Secretarial Studies and Marketing) Plus Five Ordinary level credits in GCE/SSCE/NECO/ NABTEB/ Equivalent, to include English Language, Mathematics and any three of the following Social Science</p>	<p>Five ‘O’ level credits in GCE/SSCE/NECO/ NABTEB/ Equivalent, to include English Language, Mathematics and any three of the following Social Science and Commercial subjects at not more than two sittings: Economics, Book Keeping/ Principle of Accounting, Business Management, Commerce, Typewriting and Shorthand</p>	<p>English Language, Mathematics and any TWO of the following subjects: Commerce, Financial Accounting, Economics</p>	<p>1. Preference will be given to NCE holders for Direct Entry.</p>
---------------------------------------	---	--	---	---



**EDUCATION AND  
YORUBA**

At least Two GCE/IJMB A' level/NCE passes in Yoruba and any of Literature-in-English, English, Social Studies, Yoruba, Arabic, CRS, IRS, Igbo, Hausa and French.

Five O'level/TC II or equivalent credit or merit passes including English Language, Mathematics, Yoruba and any other two subject from Geography, Government, History, Social Studies, Civic Education , Economics, Commerce, West African Traditional Religion, Insurance, CRK, IRS, Arabic.

Yoruba and any two subjects chosen from History, Literature-in-English, French, CRK, Islamic Studies, Arabic, Geography, Economics and Commerce

**COUNSELLOR  
EDUCATION**

(i) At least Credit/Merit in NCE subjects to include one teaching subject in either Arts/Social Sciences/Sciences

(ii) Two 'A' Level Credits to include one teaching subject in either Arts/Social Sciences/Sciences. Only GCE and A/L IJMB will be considered.

Candidates with NCE must have five 'O' Level credits to include English Language, Mathematics and three other subjects in Arts/Social Sciences/Sciences. A/L candidates must have five 'O' Level credits in English Language, Mathematics and three other subjects in Arts/Social Sciences/Sciences.

Any three Art/  
Social  
Science/  
Science  
subjects.

Agricultural Science Education	<p>Education, Agricultural Science. Passes at A 'Level of G.C.E. or NCE</p> <p>(a.) (Double major) in Agricultural Science.</p> <p>(b.) Education plus Agricultural Science with minor in Biology, Chemistry, Integrated Science</p> <p>(c.) A 'Level' of IJMB/GCE or equivalent in Chemistry, plus at least one of the following subject:</p>	<p>Five O/Level Credit including in English Language, Mathematics, and any three of Agricultural Science or Biology, Chemistry, Economics, Geography.</p>	<p>English Language, Biology, Chemistry, and any of Mathematics, Physics, Geography or Agricultural Science or Economics</p>	
Biology Education	<p>Biology/Botany/Zoology, Agricultural Science</p> <p>Education, Biology and Chemistry or Integrated Science or Computer Science (at NCE or A/L)</p>	<p>Credit in Biology, Chemistry, English Language, Mathematics, Geography, or any other Science subjects at O/Level.</p>	<p>English Language, Biology, Chemistry, and any of Mathematics, Physics, Geography or Agric. Science.</p>	<p>Students can minor in Chemistry or Educational Technology.</p>

Chemistry Education	Education, Chemistry, Mathematics, Physics or Biology or Integrated Sci. or Computer Sci. (at NCE or A/L): plus any two O/L subjects.	Credits in Chemistry, Biology, Mathematics, English Language, plus one Subject from Physics, Agricultural Science Basic Electricity, and Integrated Science.	English Language, Chemistry, Biology, Mathematics Agricultural Science or any science subjects.	Students can minor in Mathematics or Biology.
Mathematics Education	Education, Mathematics, Chemistry and Physics or Integrated Science, Computer Science (at NCE or A/L): plus any other two O/L subjects at credit level. Mathematics and Geography.	Credit in English Language, Mathematics Physics, Chemistry and Economics or Geography.	English Language, Mathematics/ Further Mathematics, Chemistry, Physics, Economics or Geography.	Students can minor in Chemistry, Physics, Statistics or Economics.
Physics Education	Education, Physics, Mathematics, Further Mathematics. Computer Science (at NCE or A/L):	Credits in Physics and Mathematics, Chemistry, English Language and one from Basic Electricity Applied Electricity Auto Mechanics Agric/Biology, Further Mathematics.	English Language, Mathematics, Physics, Chemistry or Further Mathematics.	Students are to minor in Mathematics.

**EDUCATIONAL  
TECHNOLOGY**

B.Sc. (Ed.) Computer  
Science

Candidates who satisfy the O' Level or Teachers' Grade II requirement in addition have the following qualifications may be given direct entry admission into the 200 level.

- i. Nigeria Certificate in Education (NCE) or its equivalent in Computer Science (single or double major) with an overall grade of at least a Merit.
- ii. Ordinary National Diploma (OND) in Computer Science with a minimum overall grade of Lower Credit.
- iii. Passes at A 'Level of G.C.E. or equivalent in Mathematics plus at least one of the following subjects: Physics, Further Mathematics and Chemistry

Candidates must have obtained, in not more than two sittings, Credit passes in five or more subjects at G.C.E. O' Level (WAEC, NECO,

NABTEB or equivalent) or at least merit in Teachers' Grade II Certificate Examinations. The subjects passed at the credit level (or at least merit level in Teachers Grade II Certificate Examination) must include Mathematics, English Language, Physics, Chemistry and any of the following:

- i. Biology
- ii. ICT
- iii. Data Processing
- iv. Computer Studies

English Language, Mathematics, Physics and Chemistry

B. A. (Ed.) in Educational Technology with Minor Options in Arts

Candidates who satisfy the O' Level or Teachers' Grade II requirement mentioned under UTME admission, in addition must have the following qualifications:

- i. NCE in any of Arabic, Christian Religious Studies, English Language, Fine and Applied Arts, French, History, Islamic Studies, Nigerian Languages.
- ii. IJMB / A 'Level of G.C.E. or equivalent in English Language, Fine and Applied Arts, French, History, Islamic Studies, Nigerian Languages.

Credits in English and Mathematics, and any two of the following: O/Level subjects in selected Arts and one Social Science  
Subjects including:

- Picture making,
- Ceramics
- Carpentry and Joinery
- Graphic Design
- Sculpture
- Woodwork
- Textiles
- ICT
- Printing and Decorating
- Visual Arts

English Language, plus any three Arts subjects or English Language, two Arts subjects with a Social Science subject

Candidates with Diploma in any of  
(i) Creative Arts and Crafts,  
(ii) Instructional Radio and Television Production, and  
(iii) Photography of University of Ilorin can be admitted through Direct Entry (200 Level)

B. Sc. (Ed.) in Educational Technology with Minor Options in Sciences

Candidates who satisfy the O' Level or Teachers' Grade II requirement mentioned under UTME admission, in addition must have the following qualifications:

- i. NCE in any of Biology, Chemistry, Computer Science, Health Education, Human Kinetics, Integrated Science, Mathematics, Physics, Technology Education
- ii. National Diploma (ND) in A-V Technology; Electrical/ Mechanical/ Civil Engineering/ Woodwork/ Metallurgical and Computer Science.
- iii. IJMB / A 'Level of G.C.E. or equivalent in Chemistry, Mathematics, Physics, Biology, Further Mathematics

Credits in English and Mathematics, and any other three O/Level Science or Technical Subjects, including

- Information and Communication Technology (ICT)
- Basic Electricity
- Applied Electricity
- Electrical Installation and Maintenance work
- Radio, Television and Electronic work

English Language and any three Science subjects

Candidates with Diploma in any of  
(i) Creative Arts and Crafts,  
(ii) Instructional Radio and Television Production, and  
(iii) Photography of University of Ilorin can be admitted through Direct Entry (200 Level)

B. Sc. (Ed.) in Educational Technology with Minor Options in Social Sciences

Candidates who satisfy the O' Level or Teachers' Grade II requirement mentioned under UTME admission, in addition must have the following qualifications:

- i. NCE in any of Accounting, Economics, Geography, Political Science, Social Studies.
- ii. IJMB / A 'Level of G.C.E. or equivalent in Accounting, Economics, Geography, Political Science, Social Studies

Credits in English and Mathematics, and any other three O/Level Social Sciences subjects including the following

- Data Processing
- Computer Studies
- Business Management
- Insurance
- Marketing.

English Language and any three Social Science subjects

Candidates with Diploma in any of  
(i) Creative Arts and Crafts,  
(ii) Instructional Radio and Television Production, and  
(iii) Photography of University of Ilorin can be admitted through Direct Entry (200 Level)



B.Sc. (Ed.)  
Technology  
Education

Candidates who satisfy the O' Level or Teachers' Grade II requirement mentioned under UTME admission, in addition must have the following qualifications

- i. NCE (Technical) in A-V Technology/ Electrical/ Mechanical/ Civil Engineering/Woodwork/ Building/ Metallurgical and Computer Science; NCE with combination in Physics, Computer, Integrated Science, Chemistry and Biology
- ii. National Diploma (ND) or Advanced National Technical Certificate (ANTC) in A-V Technology/ Electrical/ Mechanical/ Civil Engineering/Woodwork/ Building/ Metallurgical and Computer Science; NCE with combination in Physics, Computer, Integrated Science, Chemistry and Biology;
- iii. Passes at A 'Level of G.C.E. /IJMB with Physics, or Chemistry or Biology as one of the subjects passed.

**UTME Entrants:** English Language, Mathematics, Physics and Chemistry  
SSCE/WAEC/NECO/ NABTEB with five credits passes in English Language and Mathematics plus three other related subjects (Physics, Chemistry, Biology, Computer, Technical Drawing, Electronics, Auto-Mechanics, Basic Electricity, Metalwork, Woodwork, Building Construction, Auto Body Repair and Spray Printing, GSM Phones Maintenance and Repairs, Electrical Installation and Maintenance Work, Welding and Fabrication Engineering Craft Practice, Radio Television and Electronics Work, Refrigeration and Air-Conditioning.

**HEALTH  
EDUCATION**

<p>(a)NCE in Physical and Health Education, Agriculture Science/ Chemistry, Biology, Physics, Home Economics and Integrated Science plus five 'O' level credits in GCE/ SSCE/NECO/NABTEB/ Grade II TC to include English Language, Mathematics and any three (3) of the Science, Arts or Commercial subjects. Biology, Agric. Science, Economics, IRS/CRS, Commerce, Chemistry, Physics, Health Science, Mathematics,</p> <p>(b)'A' Level passes in GCE/ IJMB/ or their Equivalent in any two of the following subjects: Biology, Chemistry, Physics, Mathematics, Economics, Geography, Government, Health Science and CRK/IRS plus FIVE 'O' Level Credits as stated in (a) above</p> <p>(c) Any accredited Diploma in Physical and Health</p>	<p>Five 'O' Level Credits in GCE/SSCE/NECO/ NABTEB/Grade II TC/Equivalent to include English Language, Mathematics and any three (3) of the following social sciences, Art and Science subject in at not more than two sittings: Economics, Biology, Agric. Science, Government, Commerce, Chemistry, Physics, History, Geography, Health Science, Physical Education, Christian Religion Studies, History, Food and Nutrition, Islamic Studies, Financial Accounting, Civic Education, Computer Studies, Animal Husbandary, Clothing and Textiles, Crop Husbandary and Horticulture, Home</p>	<p>English Language and three of the Arts, Social Science and Science Subjects,</p>	<p>Preference will be given to NCE holders &amp; A first degree from a recognized institution for Direct Entry.</p> <p>UNILORIN Diploma and other Diploma from Accredited Institutions</p>
---	--	---	--

**HUMAN  
KINETICS**

(a) Two NCE/Dip/AL Merit passes in any of Physical & Health Education and related areas, Special Education, Science Lab Technology, Biology, Chemistry, Physics, Mathematics, Integrated Science, Health Science, Economics, Accounting, Geography, Government, Computer Science, Agricultural Science, Home Economics,

and Integrated Science plus five 'O' Level Credits in GCE/SSCE/NECO/NABTEB/Grade II TC to include Mathematics, English Language and any three (3) of the Science subjects and or social science or Arts subjects in not more than two sittings

(b) 'A' Level passes with minimum of 9 points in GCE/IJMB/Equivalent in any two of the following subjects: Biology, Chemistry, Economics, Geography, Government,

Five 'O' Level Credits/TCII at Merit Level or equivalence to include English Language, Mathematics and 3 other subjects which must include either two Science; Social Science and or Arts Subjects.

For B.Sc.(Ed.) Human Kinetics; Physical Education, Mathematics, Biology, Health Science, Economics, Geography, Government, Physics, Chemistry Religious Studies, Literature in English, or any other two relevant subjects.

All candidates either major or minor in the Department of Human Kinetics Education may be interviewed.  
Candidate with Third Class may be considered for direct entry.  
In addition candidate with Nursing, Public Health and Health related areas are admitted through direct entry  
National / Higher Diploma Social Work, Accounting, Data Processing, Banking and Finance, Mass Communication, Sports  
Journalism, Law

**FACULTY OF ENGINEERING AND TECHNOLOGY**

<b>COURSE</b>	<b>REQUIREMENTS</b>		<b>U T M E SUBJECTS</b>	<b>S P E C I A L CONSIDERATION ( W A I V E R ) / REMARKS</b>
	<b>DIRECT ENTRY</b>	<b>UTME</b>		

<p><b>ENGINEERING</b> (All Courses)</p>	<p>In addition to O’Level and Post-UTME requirements, candidates must have either of the following:</p> <p>(i) A’Level IJMB or approved equivalent Pass in Mathematics, (Pure or/and Applied), Physics, and Chemistry with a minimum of 10 points.</p> <p>(ii) OND (Upper Credit) in <b>Relevant Discipline</b> with at least one year post diploma experience.</p>	<p>UTME candidates are required to obtain O’Level credits in Five (5) subjects including English Language, Mathematics, Physics, Chemistry and any other relevant subject.</p>	<p>English Language, Mathematics, Physics, Chemistry.</p>	<p><b>Direct Entry:</b> In addition to O’Level and Post-UTME requirements, candidates with any of the following qualifications may be considered:</p> <p>(i) First Degree from Physical Sciences at Second Class Lower Division may be admitted into 200 Level.</p> <p>(ii) HND in relevant Engineering discipline at Distinction or Upper Credits level from recognized Polytechnic or College of Technology after NYSC may be considered for upgrading to 300 Level.</p> <p>(iii) First Degree Honours in Engineering discipline may be admitted into 300 Level of <b>any other</b> Engineering programme.</p>
---	---	--	---	--

<b>AGRICULTURAL A N D BIOSYSTEMS ENGINEERING</b>		Five O'Level Credit Passes to include Physics, Chemistry, Mathematics, Biology and English Language		
<b>BIOMEDICAL ENGINEERING</b>	Physics, Mathematics, Chemistry or Biology	Five O'Level Credit Passes to include Physics, Chemistry, Mathematics, Biology and English Language		<b>DIRECT ENTRY: Relevant Disciplines include:</b> Biomedical Engineering Technology, Chemical Engineering Technology, Electrical & Electronics Engineering Technology, Materials & Metallurgical Engineering Technology, Foundry Engineering Technology, Glass/ Ceramics Technology, Water & Environmental Engineering Technology, Mechanical Engineering Technology, Metallurgy, Polymer Technology, Welding and Fabrication Technology.

<p><b>C H E M I C A L E N G I N E E R I N G</b></p>		<p>UTME candidates are required to obtain O’Level credits in Five (5) subjects including English Language, Mathematics, Physics, Chemistry and any other relevant subject.</p>		<p><b>DIRECT ENTRY: Relevant Discipline include:</b> Biomedical Engineering Technology, Chemical Engineering Technology, Water and Environmental Engineering Technology, Mechanical Engineering Technology, Polymer Engineering.</p>
<p><b>C I V I L E N G I N E E R I N G</b></p>		<p>UTME candidates are required to obtain O’Level credits in Five (5) subjects including English Language, Mathematics, Physics, Chemistry and any other relevant subject.</p>		<p><b>DIRECT ENTRY: Relevant Discipline include:</b> OND Civil Engineering and Water Resources Engineering.</p>

<p><b>C O M P U T E R E N G I N E E R I N G</b></p>		<p>UTME candidates are required to obtain O'Level credits in Five (5) subjects including English Language, Mathematics, Physics, Chemistry and any other relevant subject.</p>		<p><b>DIRECT ENTRY: Relevant Discipline include:</b> Computer Technology, Telecommunications or Communication Engineering, Power Systems Engineering, Control Systems Engineering, Electrical and/or Electronics Engineering Technology, Instrumentation Engineering, Biomedical Engineering.</p>
---	--	--	--	---



<p><b>ELECTRICAL A N D ELECTRONICS ENGINEERING</b></p>		<p>UTME candidates are required to obtain O’Level credits in Five (5) subjects including English Language, Mathematics, Physics, Chemistry and any other relevant subject.</p>		<p><b>DIRECT ENTRY: Relevant Discipline include:</b> Electrical and/or Electronics Engineering Technology, Computer Technology, Telecommunications or Communication Engineering, Power Systems Engineering, Control Systems Engineering, Instrumentation Engineering, Biomedical Engineering.</p>
--	--	--	--	---

<p><b>FOOD AND BIOPROCESS ENGINEERING</b></p>		<p>Five O'Level credits          Passes to include          Physics, Chemistry,          Mathematics, Biology          and English Language,</p>	<p><b>DIRECT ENTRY:          Relevant Discipline          include:</b>          In addition to O'Level          and Post-UTME          requirements,          candidates with any of          the following          qualifications may be          considered:</p> <p>(i) First Degree from          Physical Sciences at          Second Class lower          level may be admitted          into 200 Level.</p> <p>(ii) HND in relevant          Engineering discipline,          at Distinction or Upper          Credits level from or          College of Technology          after NYSC may be          upgraded to 300 Level          only.</p> <p>(iii) First Degree          Honours in          Engineering discipline          may be admitted into          300 Level of any other          Engineering          programme.</p> <p><b>UTME:</b></p>
---	--	--	--

<p><b>MATERIALS AND METALLURGICAL ENGINEERING</b></p>	<p>In addition to O’Level and Post-UTME requirements, candidates must have either of the following:</p> <p>(i) A’Level IJMB or approved equivalent Pass in Mathematics, (Pure or/and Applied), Physics, and Chemistry with a minimum of 8 points.</p> <p>(ii) OND (Upper Credit) in <b>Relevant Discipline</b> with at least one year post diploma experience.</p>	<p>UTME candidates are required to obtain O’Level credits in Five (5) subjects including English Language, Mathematics, Physics, Chemistry and any other relevant subject.</p>	<p>English Language, Mathematics, Physics, Chemistry.</p>	<p><b>DIRECT ENTRY: Relevant Disciplines include:</b></p> <p>Chemical Engineering Technology, Foundry Engineering Technology, Glass/Ceramics Technology, Mechanical Engineering Technology, Metallurgy, Mineral Processing Engineering Technology, Mineral Resources Engineering Technology, Biomedical Engineering Technology, Polymer Technology, Welding and Fabrication Technology, Wood and Paper Technology.</p>
---	--	--	---	--

<b>MECHANICAL ENGINEERING</b>		UTME candidates are required to obtain O'Level credits in Five (5) subjects including English Language, Mathematics, Physics, Chemistry and any other relevant subject.		<b>DIRECT ENTRY: Relevant Disciplines include:</b> Biomedical Engineering and Materials & Metallurgical Engineering. Agricultural Engineering
<b>W A T E R RESOURCES AND ENVIRONMENTAL ENGINEERING</b>		UTME candidates are required to obtain O'Level credits in Five (5) subjects including English Language, Mathematics, Physics, Chemistry and any other relevant subject.		<b>DIRECT ENTRY: Relevant Disciplines include:</b> Civil Engineering, Building, Architecture, Water Resources, Agricultural Engineering.

**FACULTY OF ENVIRONMENTAL SCIENCES**

<b>COURSE</b>	<b>REQUIREMENTS</b>	<b>UTME SUBJECTS</b>	<b>S P E C I A L CONSIDERATIO</b>
---------------	---------------------	----------------------	---------------------------------------

	<b>DIRECT ENTRY</b>	<b>UTME</b>		<b>N ( W A I V E R ) REMARKS</b>
<b>ARCHITECTURE</b>	Only Holders of OND (Upper Credit) or HND (Upper Credit) in Architecture in addition to UTME requirements would be considered for admission into 200 level.	Five SSCE credit passes at credit level to include English Language, Mathematics, Physics and any two of Technical Drawing, Fine Arts, Building Construction, Graphic Design, Geography, Chemistry, Biology, Economics.	English Language, Mathematics, Physics and any one of Geography, Biology, Fine Arts, Chemistry, Economics, Technical Drawing and Building Construction.	

<p><b>E S T A T E MANAGEMENT</b></p>	<p>(i) Holders of OND certificate in Estate Management at Upper Credit level may be considered for admission into 200 Level.</p> <p>(ii) Holders of HND in Estate Management with Upper credit in addition to one above may be considered for upgrade into 300 level upon request by such Candidate.</p> <p>All direct entry Candidates must meet the “O” level requirements</p>	<p>(a) Five SSCE credit passes in English Language, Mathematics, Economics and any one from Physics, Chemistry, Biology and any other one from Geography, Technical Drawing and Fine Arts/Visual Arts, Accounting.</p> <p>(b) Economics and one of Geography, Accounting, Physics, Chemistry, Biology, Technical Drawing, Fine Arts</p>	<p>UTME Subjects</p> <p>i English Language</p> <p>ii Mathematics</p> <p>iii. Economics and one from Geography, Accounting Physics, Chemistry, Biology, Technical Drawing, Fine Arts</p>	<p>Holders of HND in Estate Management with Lower Credit may be considered for admission into 200 level provided the candidate has at least lower credit in OND Estate Management. In addition to O level requirements for Estate Management.</p>
--	--	---	---	---

<p><b>Q U A N T I T Y S U R V E Y I N G</b></p>	<p>(i) Holder of OND certificate in Quantity Surveying, Building and Architecture at upper credit level may be considered into 200 level.</p> <p>(ii) Holders of HND certificate in Quantity Surveying with upper credit in both OND and HND may be considered for direct into 300 Level.</p>	<p>(a) Five SSCE credit in English Language, Mathematics, Physics and any other subjects from the following lists:          Geography, Technical Drawing, Economics, Chemistry, Commerce, Building Construction, Biology, Block laying, carpentry &amp; joinery, wood work.</p>	<p>English Language, Mathematics, Physics and any one of Geography, Technical Drawing, Economics and Chemistry.</p>	
---	---	---	---	--

<p><b>SURVEYING AND GEOINFORMATICS</b></p>	<p>(i) Two A” Level passes in Mathematics and Physics are eligible for admission into 200 Level. (ii) Holders of OND in Surveying and Geoinformatics with Upper Credit are eligible for admission into 200 Level. (iii) Holders of HND in Surveying and Geoinformatics with Upper Credit are eligible for admission into 300 Level.</p>	<p>Five SSCE credit passes in English Language, Mathematics, Physics and any two of Chemistry, Geography. Further Mathematics, Technical Drawing and Elementary Surveying.</p>	<p>English Language, Mathematics, Physics and any one of Geography Chemistry, Technical Drawing, Further Mathematics.</p>	<p>Holders of HND in Surveying and Geoinformatics with Lower Credit may be considered for admission into 200 Level.</p>
<p><b>URBAN AND REGIONAL PLANNING</b></p>	<p>(i) Holders of OND in Urban and Regional Planning with Upper Credit are eligible for admission into 200 Level. (ii) Holders of HND in Urban and Regional Planning with Upper Credit are eligible for admission into 300 Level, In addition to (i) above.</p>	<p>Five SSCE or its equivalent credit passes in English Language, Mathematics, Geography, and any two of Physics, Chemistry, Economics, Biology, Technical Drawing, Fine Art/Visual Arts and Tourism.</p>	<p>English Language, Mathematics, Geography and any one of Physics, Chemistry, Economics, Biology, Technical Drawing, fine Art/Visual Arts.</p>	<p>Holder of HND in Urban and Regional Planning with Lower Credit may be considered for admission into 200 Level. Provided the candidate has at least lower credit in OND.</p>



**FACULTY OF LAW**

<b>COURSE</b>	<b>REQUIREMENTS</b>	<b>UTME</b>	<b>SPECIAL</b>
---------------	---------------------	-------------	----------------

	<b>DIRECT ENTRY</b>	<b>UTME</b>	<b>SUBJECTS</b>	<b>CONSIDERATION  (WAIVER)/ REMARKS</b>
--	---------------------	-------------	-----------------	---

<p><b>COMMON LAW</b></p>	<p>(i) At least two A' level passes in Arts or Social Science subjects.</p> <p>(ii) First Degree (Second Class Lower) of an accredited University.</p> <p>(iii) Diploma in Law from Accredited Institutions with minimum of Upper Credit other than University Diploma</p>	<p>Five O'level credit passes to include English Language, Literature – in – English, Mathematics and any other two Arts or Social Science subjects.</p> <p>Government, CRS, Civic Education, History, Islamic Studies, Arabic, Economics, Geography, Insurance and Commerce</p>	<p>Literature-in-English and any two other Arts/or Social Science subjects.</p>	<p><b>DIRECT ENTRY</b></p> <p>(i) UNILORIN accepts passes in the following:</p> <p>(a) ACIS;.</p> <p>(b) LL.B (UNIVERSITY OF LONDON)</p> <p>(c) Two year Diploma in Law of an accredited Government Institution with at least Upper Credit grade.</p> <p>(d) A' level pass in English Literature may be considered <u>in lieu</u> of O'level requirement in Literature-in-English</p> <p>(e) Degree holders need not possess Literature-in-English.</p> <p>(f) Where a Diploma is of four grades:- Distinction, Credit,</p>
--------------------------	--	--	---	---

<b>COMMON AND ISLAMIC LAW</b>	(i) At Least A' level passes in Islamic or Arabic with Arts/Social Sciences subjects.	Five O'level credit passes in English Language, Mathematics, Islamic Studies or Arabic and any other two subjects in Arts or Social Sciences. (Civic Edu. /Government/ History)	Arabic or Islamic Studies and any two other Arts/Social Science subjects.	<b>DIRECT ENTRY</b>  UNILORIN requires Distinction or Credit grade where a Diploma is of Distinction, Credit, Merit and Pass grades
	(ii) Diploma in Law (Upper credit)			
	(iii) Relevant degree of an accredited University.			
	(iv) NCE with Arabic or Islamic Studies as major.			

**FACULTY OF LIFE SCIENCES**

<b>COURSE</b>	<b>REQUIREMENTS</b>		<b>U T M E SUBJECTS</b>	<b>S P E C I A L CONSIDERATION (WAIVER)/ REMARK</b>
	<b>DIRECT ENTRY</b>	<b>UTME</b>		
<b>BIOCHEMISTRY</b>	Two 'A' Level passes or equivalent in Biology, Chemistry and Physics	Five O'Level Credit passes in English Language, Mathematics, Physics, Chemistry and Biology.	English Language, Biology, Chemistry and Physics .	

<b>MICROBIOLOGY</b>	UTME qualifications plus a minimum of two A' Level passes in Biology and Chemistry.	Five O'Level Credit passes in English Language, Mathematics, Physics, Chemistry and Biology.	English Language, Biology, Chemistry, Physics.	
<b>OPTOMETRY AND VISION SCIENCE</b>	UTME qualifications plus A' Level passes in Biology, Chemistry and Physics. At least 13 Points.	Five O'Level Credit passes at one sitting in English Language, Mathematics, Physics, Chemistry and Biology.	English Language, Biology, Chemistry and Physics	
<b>PLANT BIOLOGY</b>	UTME qualifications plus a minimum of two A' Level passes in Biology and Chemistry.	Five O'Level Credit passes in English Language, Mathematics, Physics, Chemistry and Biology.	English Language, Biology, Chemistry and Physics	
<b>ZOOLOGY</b>	UTME qualifications plus a minimum of two A' Level passes in Biology and Chemistry.	Five O'Level Credit passes in English Language, Mathematics, Physics, Chemistry and Biology.	English Language, Biology, Chemistry and Physics.	

**FACULTY OF MANAGEMENT SCIENCES**

<b>COURSE</b>	<b>REQUIREMENTS</b>		<b>U M T E SUBJECTS</b>	<b>SPECIAL CONSIDERATION (WAIVER) REMARKS</b>
	<b>DIRECT ENTRY</b>	<b>UTME REQUIREMENTS</b>		
<b>ACCOUNTING</b>	At least two A' level passes (not less than grade 'C') including Accounting and at least one of Mathematics, Business Management, Economics, Statistics, Geography and Government.	Five O'Level Credit passes including English Language, Mathematics, Economics and any other two from Accounting, Business Methods, Commerce, Government, Geography, Book keeping, Insurance and Data Processing obtained from WAEC, NECO, GCE, IJMB and NABTEB.	English, Mathematics, Economics and any other Social Science subject from Commerce, Financial Accounting, Government and Geography	<p><b>DIRECT ENTRY</b> Unilorin accepts:</p> <p>i. UNILORIN Diploma in Accounting and Data processing with Upper Credit.</p> <p>ii HND with minimum of Lower Credit.</p> <p>iii ND in Accountancy with Upper Credit <b>or</b> ND with Lower Credit with ICAN (ATS)</p> <p>iv ICAN (ACA)</p>

<p><b>B U S I N E S S ADMINISTRATION</b></p>	<p>(i) At least two ‘A’ level passes in Economics and one of Business Administration, Accounting, Statistics, Mathematics, Geography and Government. At least not less than 12 points</p>	<p>Five ‘O’ level credit passes including English Language, Mathematics, Economics, and any two from Accounting, Business Methods, Commerce, Geography, Insurance, Marketing and Government.</p>	<p>E n g l i s h Language, Economics, Mathematics and any other one Social Science Subject from Accounting, Geography, Commerce and Government</p>	<p>(i) UNILORIN accepts: (a) Unilorin DIPLOMA in Management Studies (b) ORDINARY NATIONAL DIPLOMA (OND) in Business Studies/ Business Management with UPPER CREDIT from recognized institutions</p>
<p><b>FINANCE</b></p>	<p>(At least two A’ level passes (<b>Not less than grade ‘C’</b>) including Accounting and at least one of Mathematics, Business Management, Economics, Statistics, Geography and Government. At least 12 Points.</p>	<p>Five O’Level Credit passes including English Language, Mathematics, Economics and any other two from Accounting, Business Methods, Commerce, Government, Geography.</p>	<p>E n g l i s h, Mathematics, Economics and any other Social Science subject from Accounting, Geography, Commerce and Government</p>	<p>(a) Diploma in Financial Studies with Upper Credit from Unilorin. (b) OND in Banking and Finance with minimum of Upper Credit from recognized institutions in addition to meeting UTME requirements.</p>

<p><b>MARKETING</b></p>	<p>(i) At least two A' level passes including Economics and one of Business Management, Accounting, Statistics, Mathematics, Geography and Government</p> <p>(ii) Unilorin Diploma in Marketing &amp; Logistics</p> <p>(iii) Ordinary National Diploma (OND) in Marketing with UPPER CREDIT from recognized Institutions in addition to meeting UTME requirements.</p>	<p>Five 'O' Level Credit passes Including English Language, Mathematics, Economics and any two from Accounting, Business Methods, Commerce, Geography, Book keeping, Business Management, Marketing, Insurance and Government</p> <p>Obtained from WAEC, NECO, NABTEB, IJMB or Its equivalent.</p>	<p>English Language, Economics, Mathematics, and one other social science subject from Geography, Commerce, Government &amp; Accounting</p>	
-------------------------	--	--	---	--



<b>INDUSTRIAL RELATIONS AND PERSONNEL MANAGEMENT</b>	At least two A' level passes in GCE/IJMB to include Economics and one of Business Management, Accounting, Statistics, Mathematics, Geography and Government.	Five O'Level credit passes including English Language, Mathematics, Economics, and any two from Accounting, Business Methods, Commerce, Government, Insurance, Social Studies and Geography.	English Language, Mathematics, Economics and one other subject from Accounting, Geography and Commerce	(a) Diploma in Management Studies with Upper Credit. (b) ND in Industrial Relations & Personnel Management <b>OR</b> Human Resource Management with UPPER CREDIT from any recognized institution in addition to meeting UTME requirements.
--	--	--	--	---

<b>P U B L I C ADMINISTRATION</b>	At least two A' level passes in GCE/IJMB to include Government and at least one of Economics, Geography, Christian Religion Studies or Islamic Religious Studies.	Five O'level credit passes including English Language, Mathematics, Government or Civic Education, History, and any of Economics, Geography, Commerce, Christian Religious Studies or Islamic Religious Studies.	History / Government, Economics, and any other subject from Mathematics, Commerce, Geography and Christian Religious Studies or Islamic Religious Studies.	(i) UNILORIN Diploma in Administrative Management with minimum of Upper Credit.  (ii) ND in Public Administration; or Local Government Studies with minimum of Upper Credit and HND lower credit.  (iii) Advanced Diploma in Public Administration with minimum of Upper Credit from Accredited Tertiary Institutions in addition to meeting UTME requirements.
---------------------------------------	---	--	--	---

**FACULTY OF PHARMACEUTICAL SCIENCES**

<b>COURSE</b>	<b>REQUIREMENTS</b>		<b>UTME SUBJECTS</b>	<b>SPECIAL CONSIDERATION  (WAIVER)/ REMARKS</b>
	<b>DIRECT ENTRY</b>	<b>UTME</b>		

<p><b>PHARMACY</b></p>	<p>(i) A' Level passes in Physics, Chemistry and Biology.</p> <p>(ii) B.Sc. (Second Class Upper Honours) in relevant fields:</p>	<p>Five O'Level Credit passes in English Language, Mathematics, Physics, Chemistry and Biology</p>	<p>Physics, Chemistry and Biology</p>	<p><b>DIRECT ENTRY:</b></p> <p>(i) UNILORIN accepts minimum aggregate of 12 Points.</p> <p>(ii) UNILORIN accepts B.Sc. (Second Class Honours Upper Division) in Anatomy, Biochemistry, Microbiology, Physiology, Zoology, Chemistry and other Basic Sciences (Plant Biology and Industrial Chemistry.)</p> <p><b>UTME:</b></p> <p>(i) UNILORIN requires five O'Level credit passes at two sittings.</p>
------------------------	--	--	---------------------------------------	---

**FACULTY OF PHYSICAL SCIENCES**

<b>COURSE</b>	<b>REQUIREMENTS</b>		<b>UTME SUBJECTS</b>	<b>S P E C I A L CONSIDERATION (WAIVER)/ REMARKS</b>
	<b>DIRECT ENTRY</b>	<b>UTME</b>		
<b>CHEMISTRY</b>	Three passes from GCE A' level or equivalent in Chemistry, Physics and Biology	Five (5) O'level credits in English Language, Chemistry, Physics, Biology and Mathematics	English Language, Chemistry, Physics and Biology	
<b>GEOLOGY</b>	Three A' Level passes or equivalent in Chemistry and Physics plus any of Geology, Mathematics.	SSCE or equivalent with at least five (5) credits including English Language, Mathematics, Biology, Chemistry and Physics obtained at not more than two sittings.	English Language, Chemistry, Mathematics and Physics	National Diploma Certificates are not acceptable

<b>GEOPHYSICS</b>	<p>(i) Three A' level passes to include Physics, Mathematics and any one of Chemistry and Geology.</p> <p>(ii) National Diploma (Upper Credit) in Electrical Engineering, Petroleum Engineering, Geology and Mining, Physics or Computer Science.</p> <p>(iii) NCE (Distinction or Credit) in any two from Physics, Mathematics, Geology and Computer Science</p>	<p>Five O'Level Credit passes to include English Language, Physics, Mathematics, Chemistry, and any one of the following Further Mathematics, Biology and Geography.</p>	<p>English Language, Physics, Mathematics and Chemistry.</p>	
<b>INDUSTRIAL CHEMISTRY</b>	<p>At least three A' Level or equivalent in Chemistry, Physics and Mathematics</p>	<p>Five O'Level Credits in English Language, Chemistry, Physics, Mathematics and Biology</p>	<p>English Language, Chemistry, Physics and Mathematics</p>	

<b>MATHEMATICS</b>	<p>(i) At least two A' Level passes in Mathematics and Physics.</p> <p>(ii) NCE (Distinction) or Mathematics, Physics Plus U T M E Requirements</p>	<p>Five O'Level Credits passes including English Language, Mathematics, Physics, Chemistry and one of the following Further Mathematics or Biology, Economics, Geography.</p>	<p>E n g l i s h Language, Mathematics and any two of Physics, Chemistry, Economics, Geography and Biology.</p>	
<b>PHYSICS</b>	<p>(i) At least two A' Level passes in Physics and Mathematics.</p> <p>(ii) NCE (Distinction/ Merit passes) in Physics and Mathematics plus UTME requirements.</p>	<p>Five O' Level Credits passes to include English Language, Mathematics, Physics, Chemistry and one of Further Mathematics, B i o l o g y or Agricultural Sciences.</p>	<p>E n g l i s h Language, P h y s i c s , Mathematics, Chemistry.</p>	

<p><b>STATISTICS</b></p>	<p>(i) At least two A' level passes or equivalent in Mathematics and any of Physics, Chemistry Economics or Geography.</p> <p>(ii) National Diploma (ND) or Diploma in Statistics with at least a credit pass from a recognized Institution.</p> <p>(iii) NCE in Mathematics and any of Chemistry, physics, Economics or Geography</p>	<p>At least five O'Level Credits which must include Mathematics, English Language and any three from the following, namely: Physics, Chemistry, Further Mathematics, Economics, Geography and any other subject.</p>	<p>English language, Mathematics and any two of Physics, Chemistry, Economics and Geography.</p>	
--------------------------	--	--	--	--

COURSE	REQUIREMENTS		UTME SUBJECTS	SPECIAL CONSIDERATION (WAIVER)/ REMARKS
	DIRECT ENTRY	UTME		
<b>Criminology and Security Studies</b>	<p>(1) At least two “A” passes in Sociology, Government, Economics, Geography, Business Management in GCE/IJMB or their equivalents (not less than) two social science Subjects.</p> <p>(2) National Diploma (Upper Credit) in related courses from recognized institutions.</p> <p>(3) Unilorin Diploma in DCCM and DSA at Upper Credit.</p>	<p>At least five (5) credits in GCE/SSCE/NECO or their equivalents in English Language, Mathematics, and any three of the followings Subjects: Economics/Government, Geography, Civic Educ., Commerce, at not more than two (2) sittings.</p>	<p>English Language, Government and two from the following: Economics Geography, Commerce.</p>	



<p><b>ECONOMICS</b></p>	<p>At least two A' level passes in Economics and any one of Mathematics, Geography, Commerce and Government.</p>	<p>Five O' level credit passes in English Language, Mathematics, Economics and any two of Commerce, Geography and Government</p>	<p>English Language, Economics, Mathematics and any Social Science subject from Commerce, Geography, and Government</p>	<p><b>DIRECT ENTRY</b> UNILORIN accepts Unilorin Diploma in Money and banking (Upper Credit) in addition to UTME requirements.</p>
<p><b>GEOGRAPHY AND ENVIRONMENTAL SCIENCES</b></p>	<p>i. At least two A' level passes in Geography and one other Social Science or Science subject.  ii. NCE in Geography in addition to UTME entry requirements</p>	<p>Five O' level credit passes in English Language, Mathematics, Geography and any other two from Social Science or Science subjects.</p>	<p>Geography and two other Social Science or Science Subjects.</p>	

<p><b>POLITICAL SCIENCE</b></p>	<p>At least two A' level passes including Government/History and any other Social Science Subject.</p>	<p>Five O' level credit passes in Government/ History, English Language, Mathematics and two other Social Science subjects.</p>	<p>English Language, Government/ History in addition to other two Social Science subjects.</p>	<p><b>DIRECT ENTRY:</b></p> <p>UNILORIN accepts Unilorin Diploma in Administrative Management (Upper Credit) in addition to <b>UTME</b> requirements.</p>
---------------------------------	--	---	--	---

<p><b>PSYCHOLOGY</b></p>	<p>At least two (2) A Level passes in two (2) Social Science Subjects from Geography, Sociology, Economics, Business Management, Government.</p> <p>1. General Certificate of Education/ IJMB</p> <p>A/Level NABTEB/ NCE NOT ACCEPTABLE</p>	<p>Five O' level credit passes in English Language, Mathematics, Biology and any two from the following social science subjects:</p> <p>Government, Economics, Geography, Commerce, Civic Educ., Social Studies.</p>	<p>UTME subjects should include English and any two social science subjects (Government, Economics, Geography, Commerce, and other one from Arts or Science</p>	
--------------------------	---	--	---	--

<p><b>SOCIAL WORK</b></p>	<p>a. B. Sc. (Hons.) in Social Sciences, Humanities or Nursing with at least a third Class degree.</p> <p>b. Two A level subject passes in Social Sciences and Humanities in addition to UTME O' Level requirements.</p> <p>c. Registered Nurse Certificate (RN) plus UTME O' Level requirements</p> <p>d. Matured Social Workers with OND (Upper Credit) plus UTME O'level</p>	<p>At least five (5) credit passes including English Language, Mathematics, and one (1) Social Science, others subjects in Arts/Social Sciences/Science.</p>	<p>At least one Social Science</p>	
---------------------------	---	--	------------------------------------	--

<b>SOCIOLOGY</b>	At least two A' level passes in IJMB/GCE to include at least two Social Science subjects from the followings: Sociology, Geography, Economics and Government.	Five O' level credit passes including English Language, Mathematics, at least two Social Science subjects from Geography, Government, Economics and one other.	English Language, Government/History and one Social Science Subject from Geography, Economics and any other	<b>DIRECT ENTRY</b> UNILORIN accepts UNILORIN Diploma (Upper Credit) in Social Admin. / Diploma in Crime Control and Management (Upper Credit) in addition to UTME requirements.
------------------	---	--	---	---

**FACULTY OF VETERINARY MEDICINE**

<b>COURSE</b>	<b>REQUIREMENTS</b>		<b>UTME SUBJECTS</b>	<b>SPECIAL CONSIDERATION (WAIVER)/ REMARKS</b>
	<b>DIRECT ENTRY</b>	<b>UTME</b>		

<p><b>V E T E R I N A R Y M E D I C I N E</b></p>	<p>At least two A level passes (<b>with at least C grade</b>) in any of the following; Biology/ Zoology, Chemistry and Physics in addition to meeting the O' level requirements above</p> <p>At least a minimum of 8 point.</p>	<p>Five O' level credit passes at not more than two sittings in English Language, Mathematics, Biology, Physics and Chemistry.</p>	<p>E n g l i s h L a n g u a g e, B i o l o g y, C h e m i s t r y a n d P h y s i c s</p>	<p><b>DIRECT ENTRY:</b></p> <p>i) S p e c i a l consideration may be given to candidates with Higher National Diploma in Animal Health and Husbandry, or Animal Production provided the diploma is passed at Upper credit level, in addition to meeting the O' level requirements above.</p> <p>ii) Graduates of first degree in related Biosciences (Zoology, Biological Science, Animal Science or P r o d u c t i o n , Biochemistry, Microbiology, Anatomy, Physiology, Nursing, Medicine, <b>with a minimum of second class Lower division</b>, in addition to meeting the O' level requirements above.</p>
---	---	--	--	--



## INSTITUTE OF EDUCATION

B. A. (Ed.), B.Ed.and B. Sc. (Ed.) (Sandwich/Part-Time)

<b>Degree</b>	<b>Direct Entry</b>	<b>UTME &amp; O/L Subjects</b>
B. Sc. (Ed.) Mathematics, Physics	NCE in Mathematics, Physics A/ L GCE/IJMB) in Mathematics & Physics	Candidates with NCE must have O'Level Credit Passes in GCE/SSCE/NECO/TC II/ Equivalent in English Language, Physics & Mathematics. A/L candidates must also have five O'Level credit passes in five subjects including English Language, Mathematics & Physics
B. Sc. (Ed.) Chemistry, Biology	NCE in Chemistry, Biology, A/L GCE/IJMB in Chemistry & Biology	Candidates with NCE must have five Credit Passes in O'Level GCE/SSCE/NECO/ TCII/Equivalent including English Language, Biology, Chemistry and Mathematics; A/L candidates must have credits in five subjects including English Language, Mathematics, Biology/ Chemistry



B.A.(Ed.) History	NCE in History or Political Science, Diploma in Public Administration, Law, Administrative Management, Mass Communication with at least Lower Credit. A/L GCE/IJMB in History or Government and any other Arts Subjects	Candidates with NCE must have five O'Level credit Passes to include English Language and Government/History. Candidates with Diploma or A/L GCE/IJMB must have credits in English Language, Government/History & any three other subjects from Arts or Social Sciences
B.A.(Ed.) Arabic, Islamic Studies	NCE in Arabic/Islamic Studies and one Arts/Social Science Subject; Diploma in Arabic/Islamic Studies/Sharia with at least Lower credit. Two A/L/ Passes to include Arabic or Islamic Studies	Candidates with NCE must have five O'Level, GCE/SSCE/NECO/TCII/SIS/Equivalent credit Passes in English Language and any other two Arts/Social Science subjects. Diploma and A/L candidates must have credits in English Language, Arabic/Islamic Studies and any other three Arts/Social Science subjects

B.A.(Ed.) Christian Studies	NCE in Christian Studies Two A/L Passes to include Christian Studies & any other Arts or Social Science or Science subject. Diploma in Theology/ Christian Studies with at least Lower credit	Candidates with NCE must have five O'Level credit Passes to include English Language and C.R.K. A/L and Diploma candidates must have five credits including English Language, C.R.K. & other three Arts or Social Science subjects
B.Ed. Primary Education Studies	NCE in any Teaching subject. Two A/L Passes in relevant subjects	Candidates with NCE must have five O'Level credit Passes to include English Language and any other four subjects. A/L Candidates must have five credit passes including English Language

<p>B.Sc.(Ed.) Economics</p>	<p>(a) NCE Economics ,Geography, Political Science and Social Studies Plus O/L Credits in five subjects including English Language and Mathematics, Economics and any other two Social Science subjects</p> <p>(b) „A“ Level passes in GCE/ IJMB or Equivalent in any two of the following subjects: Economics, Government, Geography, Accounting, Plus O/ L Credits in five subjects including English Language, Mathematics, Economics and any other two Social Science subjects</p>	<p>Candidates with NCE must have five O“Level credit Passes including English Language, Mathematics &amp; Economics. A/L candidates must have five credit Passes to include English Language, Government, Economics and Mathematics</p>
---------------------------------	--	---

<p>B.Sc.(Ed.) Geography</p>	<p>(a) NCE Geography, Economics, Political Science and Social Studies plus O/L Credits in five subjects including English Language, Mathematics, Geography and any other two Social Science subjects.</p> <p>(b) „A“ Level passes in GCE/ IJMB or Equivalents in any two of the following subjects Economics, Political Science/ Government, Geography, Accounting, Plus O/L Credits in five subjects including English Language, Mathematics, Geography and any other two Social Science subjects</p>	<p>Candidates with NCE must have five O’Level credit passes to include English Language &amp; Geography. A/L candidates must have “O” Level Credit Passes including English Language, Geography and three other Social Science/Science subjects</p>
<p>B . A . ( E d . ) E n g l i s h Language</p>	<p>NCE in two relevant subjects including English Language. Two A/L Passes in English Language and Literature in English</p>	<p>Candidates with NCE must have five O’Level credit passes to include English Language, Literature-in-English and one Arts Subjects. A/L candidates must have five O/Level credit passes to include English Language Literature-in-English and three other Arts and Social Science subjects.</p>

<p>B . A . ( E d . ) F r e n c h , Yoruba</p>	<p>NCE/Two A/L Passes to include Principal subject(French or Yoruba)</p>	<p>Candidates with NCE must have five O’Level credits to include English, French or Yoruba and any other Arts/ Social Science Subject. A/L candidates must have five O’Level credit passes to include English Language, French/Yoruba &amp; any other three Arts and Social Science subjects..</p>
<p>B . S c . ( E d . ) H e a l t h Education</p>	<p>NCE in Physical &amp; Health Education, Home Economics, Science Education and Integrated Science. Two A/L Passes to include Biology. Any accredited Diploma, Nursing &amp; Midwifery, Health Management, Social Work, Health Technology, and Health Administration &amp; Environmental Health. Diploma in Health Records/Health Information Management and other Diplomas in Health related fields.</p>	<p>Candidates with NCE must have three O’Level credits to include English Language &amp; one O’Level Science subject. A/L candidates to have five credit passes to include English Language, one Science &amp; any other three relevant subjects.</p>

<p>B.Sc.(Ed.) Human Kinetics</p>	<p>(a) NCE/Dip/AL Merit passes in any of Physical and Health Education, Special Education, Science Lab Technology, Biology, Chemistry, Physics, Mathematics, Integrated Science, Health Science, Economics, Accounting, Geography, Government, Computer Science, Agricultural Science, Home Economics, and Integrated Science</p> <p>Fitness Instruction and Exercise Therapy, Sport Administration and Coaching, Sports Administration/Coaching of the NIS/other related institutions Nursing, Public Health and Health related areas; Social Work, Accounting, Data Processing, Banking and Finance, Mass Communication, Sports Journalism, Law; HND Science-based.</p>	<p>Candidates with NCE must have Five 'O' Level Credits/ TC/ II at Merit Level or its equivalence to include English Language, Mathematics and three other subjects which must include either two Science; or two Social Science/Arts Subjects with at least one science subject .</p>
--	---	--

B.Ed. Educational Guidance and Counseling	NCE with at least one teaching subject in Arts/Social Science/ Science subject. Two A/L passes to include one teaching subject in Arts/Social Science/Science subject.	Candidates with NCE must have five O’Level credits Passes to include English Language and any four Arts/ Social Science/Science subjects. A/L and must have five O’Level credits in English Language and four others in Arts/Social Science/ Science subjects. A Pass in Mathematics may be considered.
B.Ed. Educational Management	NCE with at least one teaching subject in Arts/Social Science/ Science subjects. Two A/L passes to include one teaching subject in Arts/Social Science/ Science subjects.	Candidates with NCE must have five O’Level credits in English Language and in any four Arts/Social Science/ Science subjects. A/L candidates must have five O’Level credits in English Language and four others in Arts/Social Science/Science subjects. A Pass in Mathematics may be considered.

B.Ed. Educational Technology	NCE in Fine Arts, Vocational/ Technology, Educational; Intro Tech; Computer Educational, Educational Technology, Integrated Science. Special Education; ND in A-V Technology; Elec./Mech./Civil Engineering, Fine/Applied Arts and Computer Education with specialization in Educational Technology. Two A/L passes in Mathematics & Physics	Candidates with NCE must have five O’Level credits including Mathematics & English Language. A/L candidates must have five O’Level credits in English Language, Physics and Mathematics and any two Science subjects from Agric. Science, Fine Art, Sciences, Voc./Technical subjects
------------------------------------	---	---

Students are expected to combine Education with any of the following subjects: science, Mathematics, Yoruba, Christian Religious Studies, Islamic Religious Studies, and Social Studies. The following subjects are accepted for Social Studies: Economics, Geography, Government, History, Political Science and Social Studies

## **STUDENTS’ REGISTRATION**

### **REGISTRATION PROCEDURE FOR FRESH STUDENTS**

#### **STEP 1: BIO-DATA REGISTRATION**



1. Once you have been cleared, visit the University of Ilorin Website ([www.unilorin.edu.ng](http://www.unilorin.edu.ng)) and click on the **Undergraduate Portal** link.
2. Click on the **Login** link on the Portal and login using your JAMB Registration Number as Login ID and Surname as your default password.
3. Fill the displayed Bio-data template carefully. You will be required to change your initial Password from your Surname to a new one which should be confidential and known to you alone. You are advised to choose a password that is difficult to guess but easy for you to remember. In case you forget your password, the password recovery is available online after payment of necessary charges. **Please ensure that the spellings and arrangements of your names are correct because no change is allowed after Matriculation.**

## **STEP 2: COURSE REGISTRATION**

- a. After the completion of the Steps above, click on **Course Registration** link to proceed with your course registration.
- b. Print out your preliminary course registration form and forward to your Level Adviser, who should authenticate the courses you have selected before payment. Once you register for wrong courses you will need to use Add/Drop form to make amendment(s).

**NOTE:** Any Student who fails to authenticate the selected courses with the Level Adviser **before payment**, does so at his own risk.

- c. After authentication, go back to the website and register as advised by your Level Adviser.
- d. Your customized charges and levies would be displayed and you would be requested to make online payment for approved charges, using your ATM Verve or Master Card.

**NOTE:** Students are expected to pay the prevailing bank charges in addition to the main University charges and therefore, must ensure that there is enough balance in their bank account to accommodate the charges.

e. If payment is successful, you are to print the payment receipt and four copies of the final course form.

f. Present the copies to your Level Adviser and Faculty Officer for appropriate signatures and collect the original copy from the Faculty Office.

Keep your copy safely as you would need it for your Examinations.

**PLEASE NOTE THAT YOUR REGISTRATION IS INCOMPLETE EVEN AFTER SUBMISSION ONLINE UNTIL YOUR FORMS ARE ENDORSED BY YOUR LEVEL ADVISER AND FACULTY OFFICER WITHIN THE REGISTRATION PERIOD.**

### **ADD AND/OR DROP FORM**

**NOTE:** The form can be accessed after 3 weeks of registration. Processing of ADD/DROP Form is done on Semester basis and all procedures for actualizing ADD/DROP must be completed within the stipulated period.

### **PROCEDURE FOR ADD/DROP**

Students who have concerns regarding registration (e.g. error in registration) can add or drop courses. This should be done online without downloading any form by the affected students. The concerned students are required to pay online and effect changes as recommended by their Level Adviser and as approved by the Head of Department. Students should note that ADD/DROP of courses should be done within the period stipulated online by the University as lateness will not be condoned.

1. **Adding of Courses**

A student may add a course by completing the Add and Drop Form before the end of the third week of the semester in which the course is being offered.

2. **Dropping of Courses**

A student may drop a course or courses by completing the Add and Drop Form before the end of the fifth week of the Semester in which the course(s) is being offered. Any student who withdraws from a course without acceptable explanation after half of it has been given, shall be deemed to have failed the course.

**All Registration and Add and Drop Forms must be duly signed by the Dean of the Faculty, the Head of Department and the Faculty Officer.**

### **PAYMENT PROCEDURE**

Students are to note that all payments **shall be online** and shall be through the use of ATM cards as indicated on the University Portal.

## **REGISTRATION PROCEDURE FOR RETURNING STUDENTS**

1. Visit the Unilorin Website (www.unilorin.edu.ng) and click on the **Undergraduate Portal** link.
2. Click on **Login** link on the Portal and login using your Matriculation Number as Login ID and Surname as your Default password.
3. You are required to change your initial Password from your Surname to a new one which should be confidential and known only to you. You are advised to choose a password that is difficult to guess but memorable to you. In case you forget your password, the password recovery is available online after payment of necessary charges.
4. Please be mindful of the spellings and arrangements of your names during registration.

**NOTE:** If you are a student of the University of Ilorin and your name does not appear on the Good Standing List, interact with your Level Adviser to confirm your status.

### **GOOD STANDING**

1. If you are in Good Standing or on Probation, click on **Course Registration** link and register for appropriate and relevant courses. You are to register for courses failed before registering for current level courses. Seek guidance from your Level Adviser.
2. Print out preliminary Course Registration Form and present to your Level Adviser, who should authenticate the courses you have selected before you make payment.
3. After authentication, go back to the website and register as advised by your Level Adviser.
4. Your customized charges and levies would be displayed and you would be requested to make online payment for approved charges, using your ATM Verve or Master Card.

**NOTE:** Students are expected to pay the prevailing bank charges in addition to the main University charges and therefore, must ensure that there is enough balance in their bank account to accommodate the charges.

5. If payment is successful, you are to print the payment receipt and four copies of the final course form.
6. Present the copies to your Level Adviser and Faculty Officer for appropriate signatures and collect the original copy from the Faculty Office.

Keep your copy safely as you would need it for your Examinations.

**NOTE:** Any Student who fails to authenticate selected courses before payment does so at his own risk. Once you pay and register for courses you are not expected to offer, you will need to use the Add/Drop form to make amendment(s).

### **IF NOT IN GOOD STANDING**

If you are not in good standing, further instructions would be displayed as you may no longer be able to continue with your current programme. You are then advised to download a change of course form, on account of not being in good standing (where applicable). This attracts an online payment of Two Thousand Naira (₦2000.00) only or as may be reviewed by the University.

#### **Steps on Change of Course(s)**

1. Click on **Change of Course** link
2. Make online payment for Change of Course form on account of not being in good standing (provided you are qualified)
3. Download the form
4. Complete the form manually
5. Submit duly approved Transfer Form to the Directorate of Academic Support Services for processing and subsequent registration.
6. Applicants from the following Faculties with less than the required CGPA may transfer, on account of not being in good standing, to programmes for which they qualify:
  - a. Basic Medical Sciences
  - b. Clinical Sciences (Nursing), and
  - c. Engineering and Technology
  - d. Life Sciences (Optometry and VisionScience)
  - e. Pharmaceutical Sciences

f. Verterinary Medicine

## **OTHER ISSUES**

### **ADD AND/OR DROP FORM**

**NOTE:** The form can be accessed after 3 weeks of registration. Processing of ADD/DROP Form is done on Semester basis and all procedures for actualizing ADD/DROP must be completed within the stipulated period.

### **Procedures for ADD/DROP**

There are two procedures involved. The first is for students who are still within the range of 48 maximum credits and the other is for those seeking to register above 48 credits per session.

#### **(A) Students Within the Approved Maximum of 48 Credits**

students who have concerns regarding registration (e.g. error in registration) can add or drop courses. This should be done online without downloading any form by the affected students. The concerned students are required to pay online and effect changes as recommended by their Level Adviser and approved the Head of Department. Students should note that ADD/DROP of courses should be done within the period stipulated online by the University as lateness will not be condoned.

1. **Adding of Courses**

A student may add a course by completing the Add and Drop Form before the end of the third week of the semester in which the course is being offered.

2. **Dropping of Courses**

A student may drop a course or courses by completing the Add and Drop Form before the end of the fifth week of the Semester in which the course(s) is being offered. Any student who withdraws from a course without acceptable explanation after half of it has been given, shall be deemed to have failed the course.

**All Registration and Add and Drop Forms must be duly signed by the Dean of the Faculty, the Head of Department and the Faculty Officer.**

#### **(B) Procedure for Additional Credit(s) Above the 48 Credits Limit**

1. Payment for the Additional credit(s) is done at the prevailing cost, which must be online.

2. The form is printed online from the portal and manually completed. **Note that the permission of the Head of Department and approval of the Dean are required when you are adding above the maximum of 24 credits allowed per semester.**
3. The form is to be forwarded to the Deputy Registrar (Academic Support Services) through the Dean with a copy of Course Registration Form and payment receipt attached to the form and the approval of the Dean, as in (2) above.
4. After approval by Academic Support Services, changes requested will be effected and an alert will also be sent to the concerned student who should print a new Course Registration Form from the portal. This form supersedes the earlier one.
5. The approved Additional Credit Form; Payment Receipt and old Course Form must be attached to the new Course Form and forwarded to the Level Adviser and Faculty Officer for endorsement.
6. Please note that the Academic Support Services will not treat any request for more than 24 credits per semester, if all the requirements in (2) and (3) are not met.

**PLEASE NOTE THAT YOUR REGISTRATION IS NOT COMPLETE EVEN AFTER SUBMISSION ONLINE UNTIL YOUR FORMS ARE ENDORSED BY YOUR LEVEL ADVISER AND FACULTY OFFICER WITHIN THE REGISTRATION PERIOD.**

#### **PAYMENT PROCEDURE**

Students are to note that all payments shall be online and shall be through the use of ATM cards on the University Portal.

## REGULATIONS GOVERNING FIRST DEGREE PROGRAMMES

1. Programmes of Courses shall be provided leading to the Bachelors Degrees to be denoted as:

S/No.	Faculty	Degrees
1.	Agriculture	B.Agric., B.Sc., B. Aquaculture and Fisheries, B. Forestry and Wildlife
2.	Arts	B.A.
3.	Basic Medical Sciences	B.Sc.
4.	Clinical Sciences	MB;BS
5.	Communication and Information Sciences	B.Sc.
6.	Education	B.A. (Ed.), B.Sc. (Ed.), B.Ed.
7.	Engineering and Technology	B.Eng.
8.	Environmental Sciences	B.Sc.
9.	Law	LL.B
10.	Life Sciences	B.Sc., OD.
11.	Management Sciences	B.Sc.
12.	Pharmaceutical Sciences	B.Pharm.
13.	Physical Sciences	B.Sc.
14.	Social Sciences	B.Sc.
15.	Veterinary Sciences	DVM

Each of the degrees of the various Faculties shall be awarded with Honours or Pass, except the MB;BS, OD., B.Pharm., and DVM of the Faculties of Clinical Sciences, Life Sciences, Pharmaceutical Sciences and Veterinary Medicine which are not classified.



## 2. Duration of Programmes

Faculty	UTME Admission		Direct Entry Admission	
	Minimum	Maximum	Minimum	Maximum
B.Sc. Agricultural Extension and Community Development			3	5
Agriculture (B.Sc. Home Economics), Arts, Basic Medical Sciences, Communication & Information Sciences, Education, Environmental Sciences, Life Sciences, Management Sciences, Physical Sciences and Social Sciences,	4 years	6 years	3 years	5 years
Agriculture (B.Agric., B. Aquaculture and Fisheries, B. Forestry and Wildlife, B.Sc. Food Science), Clinical Sciences (B.NSc. Nursing Science) Engineering and Technology, Environmental Sciences, Law, and Pharmaceutical Sciences	5 years	7 years	4 years	6 years
Clinical Sciences (MB;BS), Life Sciences (OD. Optometry) and Veterinary Medicine	6 years	11 years	5 years	10 years

3. Instruction shall be by Courses, except the MB;BS in the Faculty of Clinical Sciences.
4. The courses are quantified into credits: Courses shall be assigned 1, 2, 3, 4, 5 or 6 credits. No course shall carry more than 6 credits except with special permission of Senate on the recommendation of the Faculty Board concerned
5. (a) One credit shall be a series of 15 one-hour lectures or tutorials, or two hours of

seminar, or three hours of Laboratory or field work.

- (b) A session consists of 2 semesters, each of 15 weeks of lectures
- (c) Long vacation period is 12 weeks

6. (a) Undergraduate Courses shall be numbered as follows:

101	-	199
201	-	299
301	-	399
401	-	499
501	-	599

Students admitted through UTME or Remedial shall normally start with 101 – 199 courses, while those admitted with GCE “A” Level or approved equivalent shall normally start with 201 – 299 courses. Students admitted into the B. Agric. Extension and Community Development programme in the Faculty of Agriculture shall normally start from 301 – 399 courses.

- (b) However, Direct Entry students may be required to take 100 level courses to satisfy specific programme requirements.
- (c) Senate may, on the recommendation of the Faculty Board, permit a student to start at any other level.

7. Appropriate Pre-requisite and/or Concurrent requirements may be prescribed for courses.

8. A student shall take courses prescribed for his degree programme and approved by Senate on the recommendation of the Faculty Board.

9. (a) Every full-time student may register for not less than 15 or more than 24 credits

per semester. However after due consideration, the Dean upon the recommendation of the student’s Academic Adviser may approve not more than 2 extra credits per semester for a student.

- (b) Students who have any outstanding credits at the end of their Final Year should, in any subsequent semester during which they are enrolled in the University, register for not less than a minimum of 5 credits per semester including those allotted to any compulsory and /or required courses they might have failed

10. **Deferment of Admission:** The University does not defer admission for candidates.

**11. Graduation Requirements**

To be eligible for the award of a degree, a student, including MB;BS., must pass all prescribed courses including those earned in GNS 111, 112, 211, 212 and 311, and GSE 301.

NOS.	Faculty	Department/Programme	UTME	Direct Entry	300 Level
1.	Agriculture	<b>1. Agriculture</b> <b>2. Aquaculture &amp; Fisheries</b> <b>3. Forestry &amp; Wildlife</b> <b>4. Home Economics &amp; Food Science:</b> *Food Science *Home Economics <b>5. Agricultural Extension &amp; Community Development (Sasakawa Programme)</b>	160 148 156  157 144	160 148 156  157 112	100

2.	<b>Arts</b>	<b>1. Arabic</b> <b>2. English</b> <b>3. French</b> <b>4. History &amp; Internatioal Studies</b> <b>5. Linguistics &amp; Nigerian Languages :</b> * Linguistics * Yoruba <b>6. The Performing Arts</b> * Drama Option * Music Option *Dance Option <b>7. Religions:</b> * Christian Studies * Comparative Studies * Islamic Studies	127 132 120 130  133 131  147 146 145  121 120 124	99 103 94 98  105 105  103 106 105  95 94 98	
3.	<b>Basic Medical Sciences</b>	1. Anatomy  2. Physiology   3. BMS	116 116  148	116 116	
4.	<b>C l i n i c a l Sciences</b>	1. Epidemiology & Community Health: * Health Information Management 2. Nursing Science	146  199	112  158	



7.	<b>Engineering and Technology</b>	<ol style="list-style-type: none"> <li>1. Agric. and Biosystems Engineering</li> <li>2. Biomedical Engineering</li> <li>3. Chemical Engineering</li> <li>4. Civil Engineering</li> <li>5. Computer Engineering</li> <li>6. Electrical &amp; Electronics Engineering</li> <li>7. Food and Bioprocess Engineering</li> <li>8. Mechanical Engineering</li> <li>9. Mechanical Engineering</li> <li>10. Water Resources and Environmental Engineering</li> </ol>	182 178 186 176 170  171 179 176 179	182 178 186 176 170  171 179 176 179	135 129 139 129 127  124 132 129 132
8.	<b>Environmental Sciences</b>	<ol style="list-style-type: none"> <li>1. Architecture</li> <li>2. Estate Management &amp; Valuation</li> <li>3. Quantity Surveying</li> <li>4. Surveying &amp; Geoinformatics</li> <li>5. Urban &amp; Regional Planning</li> </ol>	181 210 200 178 188	139 172 160 146 148	132 119 112 115
9.	<b>Law</b>	<ol style="list-style-type: none"> <li>1. Common Law</li> <li>2. Common and Islamic Law</li> </ol>	199 199	161 167	
10	<b>Life Sciences</b>	<ol style="list-style-type: none"> <li>1. Biochemistry</li> <li>2. Microbiology</li> <li>3. Optometry &amp; Vision Science</li> <li>4. Plant Biology</li> <li>5. Zoology</li> </ol>	138 137 224 135 147	108 107 185 103 115	

11	<b>Management Sciences</b>	<ol style="list-style-type: none"> <li>1. Accounting</li> <li>2. Business Administration</li> <li>3. Finance</li> <li>4. Marketing</li> <li>5. Industrial Relations &amp; Personnel Management</li> <li>6. Public Administration</li> </ol>	<p>156 145 158 150 151 151</p>	<p>126 124 132 120 118 115</p>	
12	<b>Pharmaceutical Sciences</b>	<ol style="list-style-type: none"> <li>1. Clinical Pharmacy &amp; Pharmacy Practice</li> <li>2. Pharmaceutics &amp; Pharmaceutical Microbiology</li> <li>3. Pharmaceutical Microbiology &amp; Biotechnology</li> <li>4. Pharmacognosy &amp; Drug Development</li> <li>5. Pharmaceutical and Medicinal Chemistry</li> <li>6. Pharmacology &amp; Toxicology</li> </ol>	226	189	
13.	<b>Physical Sciences</b>	<ol style="list-style-type: none"> <li>1. Chemistry</li> <li>2. Geology</li> <li>3. Geo-Physics</li> <li>4. Industrial Chemistry</li> <li>5. Mathematics</li> <li>6. Physics</li> <li>7. Statistics</li> </ol>	<p>138 149 159 128 133 144 120</p>	<p>107 116 129 98 110 108 111</p>	

14.	<b>Social Sciences</b>	<ol style="list-style-type: none"><li>1. Economics</li><li>2. Geography &amp; Environmental Mgt.</li><li>3. Political Science</li><li>4. Psychology</li><li>5. Public Administration</li><li>6. Social Work</li><li>7. Sociology</li></ol>			
-----	------------------------	--	--	--	--



15.	<b>Veterinary Medicine</b>	<ol style="list-style-type: none"> <li>1. Vet. Anatomy</li> <li>2. Vet. Medicine</li> <li>3. Vet. Microbiology</li> <li>4. Vet. Parasitology and Entomology</li> <li>5. Vet. Pathology</li> <li>6. Vet. Pharmacology and Toxicology</li> <li>7. Vet. Physiology and Biochemistry</li> <li>8. Vet. Physiology and Pharmacology</li> <li>9. Vet. Pulic Health &amp; Preventive Medicine</li> <li>10. Vet. Surgery and Radiology Theriogenology and Production</li> </ol>	285	243	
16.	<b>Institute of Education</b>				

--	--	--	--	--	--

## Final Year Screening exercise

- (i) The screening exercise should commence at the 300 level so as to enable students have enough time for screening before graduation;
- (ii) The screening committee should present its report at least two weeks before the commencement of each semester examinations;
- (iii) A new verification fee of ₦3,500 or such amount as agreed to at the parley between the University Administration and representatives of the students' Union, as directed by Senate, be approved;
- (iv) All copies of external results obtained for screening purpose be kept centrally in the Admission Office;
- (v) A late verification fee of ₦1,500 shall be paid by students who are late for verification;
- (vi) The time line during which a student should conclude verification shall not exceed one academic session following a student's completion of academic graduation requirements.

### 12. **Waivers for Overstayed Students with not more than two Outstanding Courses (not applicable to students who matriculated after 2011/2012 session)**

Any student who had exhausted his year(s) of stay in the University but still falls short of normal graduation requirements, by NOT MORE THAN TWO COURSES will be processed for graduation with a Pass Degree irrespective of his CGPA.

### 13.. **Status of a Course**

A course shall be classified as “**Compulsory**”, “**Required**” or “**Elective**” in a given degree programme of the University.

#### (a) **Compulsory Courses:**

These are courses within the student's discipline which must be taken and passed. Marks scored will count towards graduation and student cannot graduate without passing them.

#### (b) **Required Courses:**

These are courses outside the student's discipline, i.e. a Subsidiary course that must be taken and passed.

#### (c) **Elective Courses:**

These are courses within and/ or outside a student's discipline from which a student may select a number for the purpose of fulfilling the requirements for the award of the Degree. However, in order to graduate, a student must pass enough elective courses to meet the minimum number of Credits required for the award of the degree.

14. **Course Requirements**

Each student shall satisfy the specific requirements of his Degree Programme as contained in the Faculty entries.

15. **Transfer Cases**

- a. The University will entertain cases of students wishing to transfer from the University as a normal expression of their choice.
- b. The University also welcomes request(s) from candidates for transfer into her Programmes on the following conditions:
  - i. Suitability based on the prevailing Unilorin admission requirements at the year of admission into his previous University;
  - ii. Minimum CGPA of 3.00;
  - iii. Payment of the prevailing Transfer/Acceptance fee;
  - iv. Good conduct; and
  - v. Spend a minimum of two sessions in the University before graduation.

16. **Admission to and Withdrawal from Courses:**

(a) **Registration of Courses**

Registration for course or courses must be done during the first two weeks of the first semester. There is penalty for late registration.

(b) **Late Registration**

Late Registration closes at the end of the 4<sup>th</sup> week of the first Semester after which a student is deemed to have voluntarily withdrawn.

17. **Intra-University Transfer**

Only students who are not in good academic standing at the end of a Session shall be allowed to transfer to other programmes within the University, subject to the following guidelines.

- (a) The maximum number of years a transferred student can spend on a programme shall be counted from the time he/she starts the new programme.
- (b) The number of transfers a student can enjoy within the University shall not exceed one.
- (c) A student transferring to a new programme must satisfy the basic admission requirements for the new programme at time of first registration, and take the package of courses prescribed for the new programme in order to meet the requirements for the award of the degree.
- (d) Transfer shall only take place at the beginning of a new academic session.
- (e) On the approval of a transfer (change of major subject) by the Head(s) of Department(s) and Dean(s) concerned, a letter shall be issued by the Registrar to the student and copied to the relevant Head(s) of Department(s) and Dean(s) indicating the transfer (change of major subject) that has been approved.

**18. Continuous Evaluation**

- i. Continuous assessment shall constitute at least 30% in theoretical questions and 40% in practical questions of the marks assigned to the course, except in some programmes (MB; BS., DVM. etc.) where the progressive assessment carries 50% of the overall marks assigned to a subject/course. However, Continuous Assessment which should be conducted at least twice before the Examination, will now carry a minimum of 40% with effect from 2015/2016 academic session.
- ii. Continuous Assessment should be carried out at least two (2) weeks before the commencement of Examination, this would ensure that students have a good opportunity to improve on their grades.

## 19. Examinations

- (a) Each course shall normally be examined at the end of the semester in which it is completed. Not more than one course shall be examined in one paper.
- (b) Examination shall last a minimum of one-hour (except for computer based courses which may vary as appropriate) and not more than three courses can be examined at the same level in a day.
- (c) A pass letter grade in any course shall be one of the letters A, B, C, D and E while F denotes failure except in peculiar programmes.
- (d)
  - (i) A student can only repeat a course if he/she failed it on an earlier occasion, and
  - (ii) Where a course has been repeated, the Grade Points earned at all attempts shall count towards the Cumulative Grade Point Average.
- (e) All grades must be uploaded onto the University portal and submitted through the Dean's Office to the Academic Support Services not later than four (4) weeks after the examinations.
- (f) Results of all courses including Computer Based Examinations (CBE) that involve External Examiners shall be released only after they have been approved by the External Examiner(s).
- (g) For the regulations governing the conduct of examinations in the University, see relevant section on Conduct of Examination in this Academic Programme.
- (h) Official Transcripts of examination shall be issued to students on request and payment of prescribed fees

**20. Scoring and Grading System for 2014/2015 intake**

- (a) One of the letter grades A, B, C, D, E and F shall be used in reporting a student's performance in a course.
- (b) Letter grade, where applicable, shall be assigned to percentage scores and carry grade points as tabulated below:

<b>Percentage Scores</b>	<b>Letter Grades</b>	<b>Grade Points</b>
70 – 100	A	5
60 – 69	B	4
50 – 59	C	3
45 – 49	D	2
40 – 44	E	1
0 – 39	F	0

- (c) Every course lecturer shall report a student's performance in both marks and letter grades at the end of each semester.

iii. Commencement of full implementation of the Four (4) Point Grading System as prescribed by NUC is with effect from the 2015/2016 academic session. Consequently, the pass mark for all courses including GNS and GSE will be 45% as well as a minimum Cumulative Grade Point Average (CGPA) of 1.50 for goodstanding. However, there are exceptions as contained in sections 22 and 23.

iv. The new 4 Point Grading System will be reflected as follows:

<b>SCORE</b>	<b>LETTER GRADE</b>	<b>GRADE POINT</b>
70 and above	A	5
60 - 69	B	4
50 - 59	C	3
45 - 49	D	2
0 - 44	F	0

**(d) Grade Point Average (GPA)**

A student's semester Grade Point Average (GPA) shall be computed by multiplying the Grade Point (GP) attained in each course by the course credit(s), and then summing these up and dividing by the total credits taken for the semester, where applicable.

## **21. Examiners**

- (a) (i) For each course, there shall be a panel of not less than three Internal Examiners. One of them shall normally be the Head of Department, who shall be designated the Chief Examiner and shall have overall responsibility for Examinations within the Department.
  - (ii) The Panel shall set, moderate the questions and mark the answer scripts. The computer-based examinations shall also be moderated. Panel members shall also jointly sign the draft question papers and the examination results before the latter are submitted to the Dean of the Faculty.
  - (iii) The absence of one member of a Panel shall not affect the validity of a draft question paper or an Examination Result.
- (b)** External Examiners shall be appointed to participate in the evaluation of all final year as well as other levels where applicable and submit a report on the same to the Vice-Chancellor coping both the Dean of Faculty and the Head of Department concerned.



## 22. Good Academic Standing

### (a) For 100 Level Students

For a 100 level student to remain in good academic standing (i.e. not be advised to withdraw from the University) the following conditions must be satisfied:

- (i) Student in the Faculties of Agriculture, Arts, Communication & Information Sciences, Education, Environmental Sciences, Law, Life Sciences, Management Sciences, Physical Sciences and Social Sciences as well as Nursing Science in the Faculty of Clinical Sciences must maintain a Grade Point Average (GPA) of at least 1.50 at the end of the academic year.
- (ii) Students in Faculty of Engineering and Technology must have a Grade Point Average (GPA) of 2.00 and in addition must have passed at least 75% of the credit loading in each of Physics and Mathematics and at least 60% of the Credit loading in Chemistry.
  - (iii) Students in the Faculty of Basic Medical and Nursing Science must obtain a GPA of 2.00 at the end of academic year, except MB;BS students who must obtain a GPA of at least 3.00 as well as obtaining a weighted average of 50% in all subjects offered. However, students who scored less than 50% in not more than two courses, but still obtain a GPA of 3.00 will be deemed to still be in good standing.
- (iv) At 100 Level, students of Optometry and Vision Science programme must have a GPA of 3.00 to be in good standing.

The pass mark for 200 Level courses and above is 50%, except for GNS and GSE courses which have 45% as pass mark. However, for a student to be in good standing, he must not fail more than two courses and must have a minimum CGPA of 3.00.

Any student with GPA less than 3.00 at the end of the academic year will be asked to withdraw from the department. Any failed course from 200 Level can be carried over to the next level as long as the credit load limit allows.

However, a student in Optometry will not be allowed to register for clinical courses without passing all the carried over course(s).
- (v) At 100 Level, students of Nursing Science Programme must obtain Pass grades in Chemistry, Biology, Mathematics and Physics, plus any two other Science courses to qualify for 200 level (Pre-Clinical courses)

**23. Probation**

**For 200,300 and 400 Level Students**

- (a) A student in the Faculties of Agriculture, Arts, Basic Medical Sciences, Clinical Sciences (Nursing Sciences), Communication & Information Sciences, Education, Engineering and Technology, Environmental Sciences Law, Life Sciences, Management Sciences, Physical Sciences and Social Sciences whose Cumulative Grade Point Average (CGPA) is below 1.50 at the end of a particular session shall be on probation for one academic year. For other Faculties/ Programmes probation is as follows:
- i. Pharmaceutical Sciences and Veterinary Medicine - CGPA less than 2.40
  - ii. Optometry & Vision Sciences - CGPA less than 3.00

**Fresh 200/300 level students, (including transferred students) shall not be on probation and shall be required to withdraw from the University.**

- (b) A student on probation shall be so informed in writing by the Registrar through the Faculty Officer indicating the number of extra Grade Points the student needs to remove the deficiency in his academic records in order to be in good academic standing at the end of the “probationary period”.
- (c) A student whose Cumulative Grade Point Average (CGPA) is found to be at least 1.50 at the end of a probationary period, shall be restored to normal student status and be informed in writing by the Registrar through the Faculty Officer.
- (d) In the Faculty of Clinical Sciences, a medical student is allowed to repeat the year and subjects failed at all levels except 100 level.

## **24. Clarification**

- (i) A fresh 100 level student who is not in good academic standing as specified in 22 above at the end of his 100 level shall be advised to withdraw from the University.
- (ii) A fresh 200 or 300 level student who is not in good academic standing as specified in 22 above at the end of his first year shall be advised to withdraw from the University.
- (iii) A fresh student who has been advised to withdraw from the programme because he/she fails to satisfy some other requirements for good academic standing and is absorbed into another programme at 200 level, shall be on probation if he/she is not in good academic standing at the end of his first year in the new programme.
- (iv) In the Faculty of Veterinary Medicine a student cannot carry over any course from 100 and 200 levels (i.e., Pre-Clinical phase) to 300 or 400 level (i.e., Para-Clinical phase) and from Para-Clinical phase to 500 or 600 level (i.e., Clinical phase).

## **25. Withdrawal**

A student whose Cumulative Grade Point Average is below 1.50 or 2.40 (as applicable to different programmes) at the end of the probationary period shall be advised to withdraw from the programme to which he was admitted.

### **Faculty of Clinical Sciences**

- i. Having repeated the year and the examinations, a student who fails the examinations will be required to withdraw from the medical programme at 200, 300 and 400 Final MB;BS Part I, Part II and Part III Resit Examinations:

A student who fails in any subject in each of these final examinations shall be required to write the papers failed within three months of the initial attempt. Any student who fails the second attempt shall be required to repeat the year (including Clerkship and Progressive Assessment in the subject failed) before the third and final attempt. Thereafter if the student fails, he shall be required to withdraw from the Medical Programme. However, a student at Parts II and III shall be allowed an additional Resit Examination. Thereafter, if the student fails he then withdraws from Medical programme.

### **Clarification**

Withdrawal here means withdrawal from a Programme rather than from a Faculty (except for fresh students who shall be advised to withdraw from the University) in accordance with the NUC directive on Minimum Academic Standards. This means that a student who is advised to withdraw from a programme may be absorbed into another programme even within the same Faculty/Department.

## 26. Maximum Time Permitted for a Degree

A maximum period of 5, 6, 7 or 8 years (as the case may be) is allowed for a 3, 4, 5 or 6 years' degree programme respectively for the award of a classified degree or unclassified degree (as the case may be). In the Faculties of Clinical Sciences, Life Sciences (OD. Optometry) and Veterinary Medicine, a maximum period of 11 years is allowed.

<b>CLASS OF DEGREE</b>	<b>RANGE OF CGPA</b>
First Class Honours	4.50 - 5.00
Second Class Honours (Upper Division)	3.50 - 4.49
Second Class Honours (Lower Division)	2.40 - 3.49
Third Class Honours	1.50 - 2.39

## 27. Classification of Degrees

**Four classes** of Degree shall be awarded based on the Cumulative Grade Point Average as follows:

**The MB;BS., B.Pharm., B.NSc., OD and D.VM degrees are not classified.**

## 28. Absence from University Examinations

- (a) A grade of Incomplete (I) shall be awarded in a course to a student who completed the course except that he/she was absent from final examination in that course. However, upon a written application, a student who has been absent from an examination with reasonable excuse (supported by a certificate issued by the Director of Health Services - if it is on the grounds of ill-health **or any proven cases of emergency**) may obtain permission of the Faculty Board to write a make-up examination.
- (b) Any student who obtains permission of the Faculty Board to write a make-up examination must take the examination before the end of third week of the following Semester, thereafter change of grade from incomplete result would be made to reflect his new grade.
- (c) A grade of Incomplete (I) shall revert to a Failure (F) by the end of the third week of the following Semester if the student has not applied for or has failed to obtain the permission of the Faculty Board for a make-up examination.

## 29. Regulations Governing Students' Continuous Absence from the University

- (a) A student, who absents **himself** from the University for upwards of six weeks in a semester without written official permission, shall normally be deemed to have withdrawn from the University.
- (b) A student's actual attendance at lectures, tutorials, practicals etc. is to be recorded. Any student who fails to attend up to 75% of any of the above shall not normally be allowed to sit for the examination in that course.
- (c) Absence from an examination shall normally result in failure of the Course. However, upon a written application, a student who has been absent from an examination with reasonable excuse (supported by a certificate issued by the Director of Health Services, if it is on the grounds of ill-health **or proven cases of emergency/accident**) may obtain permission of the Faculty Board to write a make-up in the subsequent examination.

**REGULATIONS GOVERNING THE CONDUCT OF UNIVERSITY EXAMINATIONS**

## 1. GENERAL

### Preamble

The University of Ilorin Act, Cap. 455, Laws of the Federation of Nigeria, 2010 (as amended) provides that it shall in particular, be the function of the Senate to make provision for the organisation and control of courses of study at the University, and of the examinations held in relation to those courses, including the appointment of Internal and External Examiners.

### Definition of Terms

(a) **University Examinations**

University Examinations include **semester**, **professional** and other **examinations** involving the participation of the Department, Faculty and the Examinations Office.

(b) **Continuous Assessment/Progressive Assessment**

The term continuous assessment means course tests, practical works, tutorial and Other graded assignments done within the Department/Faculty where the course is being taught.

(c) **Semester**

A semester is one-half of an academic year as determined by Senate.

(d) **Session**

A Session consists of two semesters otherwise referred to as an Academic Year as determined by Senate.

(e) **Course Credit**

One Credit represents 15 hours of lecture/tutorial or 45 hours of practical work per semester.  
Two Credits represent 30 hours of lecture/tutorial or 90 hours of practical work per semester.  
Three Credits represent 45 hours of lecture/tutorial or 135 hours of practical work per semester and so on.

There are courses that are purely theoretical or practical, while some others are a combination of both.

## 2. ORGANIZATION OF EXAMINATIONS

### A. Internal Examiners

For each course, there shall be a Panel of Examiners, which shall consist of not less than three (3) Internal Examiners. The Head of Department shall be designated the Chief Examiner. A Part-time Lecturer may be appointed an Examiner based on a special case made by the Head of the Department concerned. The Internal Examiners, for all courses in each semester, shall be appointed by Senate on the recommendation of the Head of Department and the Faculty Board concerned.

- (i) The panel shall set and moderate the questions and mark the examination answer scripts. Panel members shall also jointly sign the draft question papers and the examination results before they are submitted to the Examinations Officer.
- (ii) Each Faculty shall set up a Board of Examiners consisting of the Dean of the Faculty all the members of the Panel of Examiners in the Faculty and the External Examiners (where applicable). The Dean shall be the Chairman of the Board of Examiners and shall sign the provisional results.
- (iii) **The Departmental Examination Committee including the external examiner (where applicable) shall consider the results before forwarding same to the Faculty Board of Examiners.**
- (iv) Duties enumerated in (i-iii) above apply also to Computer Based Tests and Examinations
- (v) The **Departmental Examination Committee**, having received and considered reports of the panel of examiners, shall advise Senate through the Faculty Board of Examiners, on the results of the examinations in the Faculty and matters arising therefrom.



## **B. External Examiners**

- (i) Early in the Harmattan Semester of each Session, Senate shall, on the recommendation of the Faculty Board concerned, appoint at least one External Examiner for courses taken in the final year of a Degree, Diploma or Certificate Programme. In the case of the Faculty of Clinical Sciences, External Examiners shall be required to moderate the First Professional and Final MB;BS. Examinations (Part I, Part II and Part III).  
For Veterinary Medicine – External Examiner shall be required to moderate questions and conduct Oral Examination for completed courses at both Harmattan and Rain semesters for 200 – 600 levels.  
For Pharmaceutical Science – External Examiners shall also be appointed for oral examination of 400(PCP 401 and PCP 404) and 500(PCP 503 and PCP 506) level courses.

For the B.NSc, External Examiners shall be required to moderate the Registered Nurse Certificate (RN Examinations), Registered Midwife Certificate (RM Examinations) and Registered Public Health Nurse Certificate Examinations as provided by the relevant Professional Bodies. In addition, External Examiners shall be appointed by the University to moderate the final B.NSc. Examinations.

- (ii) External Examiners shall be appointed annually and shall not serve for more than two years in the first instance renewable once. At the time of nomination of External Examiners, their titles and/or current academic appointments, degrees, relevant professional qualifications, and/or current University appointment shall be stated.  
An External Examiner shall normally be a Professor or in any case not below the rank of a Senior Lecturer or its equivalent from a recognized University/Research Institute.
- (iii) There shall be at least one External Examiner from outside Nigeria per Faculty.
- (iv) The External Examiners shall be paid such remunerations for their services as may be determined from time to time by Senate.
- (v) The duties of External Examiners shall be to:

### C. Duties of Examinations Officer

The Examinations Officer (who shall be based in the Registry) shall:

- i. call for lists of External Examiners from the Faculties for the approval of Senate at the beginning of each session;
- ii. call for lists of Internal Examiners from the Faculties at the beginning of each semester for the approval of Senate;
- iii. write letters of appointment to approved External Examiners and make **arrangements** for their accommodation and payment of remuneration;
- iv. convene **as early as possible in the semester, at the instance of Chairman of Time-Table and Room Usage Committee**, a meeting of Faculty Sub-Deans **and Examinations Coordinators** for coordination purposes, such as avoiding time-table and room usage clashes;
  - i. call for the order of examination materials at the beginning of each semester, acquire sufficient examination materials as required by Faculties and ensure sufficient stock for at least one Semester at any given time;
- vi. acquire sufficient examination materials as required by Faculties and ensure sufficient stock for at least one semester at any given time;
- vii. inform the Director of Health Services of the dates of **examinations** and request **him** to arrange for at least one University Medical Officer to be on call, for the purpose of attending to candidates for the whole period of the examinations;
- viii. monitor the conduct of Entrance/Qualifying examinations for admission into relevant Certificate and Diploma Programmes;
- ix. attend each Faculty Board of Examiner's meeting to ascertain correctness of marks and application of University Regulations governing the Degree/Certificate/Diploma classification;
- x. transmit the recommendations of the Faculty Board of Examiners on the results and matters arising therefrom to Senate for consideration
- xi. issue comprehensive transcripts on behalf of the University to . students and graduates of this University;
- xii. make available to students and Chief Invigilators/Invigilators appropriate portions of the examination regulations through the Faculty Officer before each semester examinations;
- xiii. request for, and publish the name of students who, even though duly registered for certain courses, are not eligible to take the examinations in those courses (see section on Eligibility);

#### **D. Sub-Dean/Faculty Examinations Co-ordinator**

Each Faculty shall have a Faculty Examination co-ordinator, who shall be elected/appointed by the Faculty, provided such elected or appointed Officer shall not be below the rank of a Senior Lecturer.

#### **Duties**

The Faculty Sub-Dean, in conjunction with the Faculty Officer, shall;

- i. be responsible for the proper conduct of examinations taken in the Faculty;
- ii. request Heads of Departments to submit, on prescribed forms, information on the examinations, including the list of courses to be examined during the semester for the purpose of preparing the examination time-table;
- iii. request examination materials from the Examination Officer as soon as possible and take delivery of them at least two weeks before the commencement of the examinations;
- iv. liaise with other Faculty Sub-Deans within the Time-Table & Room Usage Committee where necessary, for the purpose of co-ordination, such as avoiding examination time-table clashes for courses that cut across Faculties and making arrangements for examination venues;
- v. prepare the time-table for examinations to be held in the Faculty. The Final Time-table shall be published on Notice Boards and the University/Faculty website for students' information, at least three weeks before the commencement of the examinations. Where any alterations are made, affected students must be duly informed latest three (3) working days before the examination is held;
- vi. obtain a list of academic staff from Heads of Departments, and prepare invigilation Schedule for the examinations in the Faculty and circulate it at least two weeks before the commencement of the examinations;
- vii. mobilize Faculty and Departmental non-academic staff to assist in the day- to-day conduct of examinations in the Faculty;
- viii. receive answer scripts from Chief invigilators and ensure that examiners sign for the answer scripts on collection.

### **E. Duties of Chief Examiner**

The Head of Department, who shall normally be the Chief Examiner for all the courses to be examined in the Department, shall:

- i. be the Chairman of the Departmental Panel of Examiners to consider results of all examinations conducted by the Department before they are forwarded to the Faculty Board of Examiners.
- ii. be responsible for the production of question papers for courses to be examined in his Department in accordance with the regulations. Questions of all final year examinations in Degree Programmes shall be moderated by the External Examiners before Examinations can be conducted. At the end of each examination, the Chief Examiner shall deposit, with the Departmental Examinations Officer the moderated question papers.
- iii. ensure that drafts are written legibly on the prescribed forms supplied by the Examinations Officer. The draft must contain all the necessary information and must be signed by at least one of the Internal Examiners concerned and the Chief Examiner;
- iv. seal securely and keep custody of question papers until they are required.
- v. Oversee the computation and loading of Final Year Results, prepare and publish the results of all courses, taught by the department for presentation to the Faculty Board of Examiners; and
- vi. submit to the University Librarian three copies of each examination question paper at the end of each semester examinations (where applicable)

## **F. Question Papers**

- i) All examiners shall strictly preserve the secrecy of question papers at all stages until the examination.
- ii) All courses shall normally be examined at the end of the semester in which they are offered except in the Faculty of Clinical Sciences.
- iii) The duration of written examinations shall range from a minimum of one hour to a maximum of three hours with the exception of practical courses.
- ii) The security of examination question papers shall be the joint responsibility of the Internal Examiners, Chief Examiner and the Faculty Sub-Dean.

## **G. Eligibility**

- i) All students who are duly registered for courses in a given semester are eligible to sit for examinations in those courses except students in the following categories:
  - a) a student who absents himself from the University for upward of six weeks in any semester without official permission. Such a student shall normally be deemed to have voluntarily withdrawn from the University;
  - b) a student who fails to attend up to 75% practical/lecture hours; and
  - c) a student on suspension for one reason or another.
- ii) The Examinations Officer shall request from Heads of Departments the names of students who are not eligible under the above regulations and the titles and code numbers of the courses concerned. The information must be received by the Examinations Officer for the semester and must be published by him to the students within one week of receipt.

## **H. Examination Time-Table**

- i) Examination time-table shall be prepared by the Faculty Sub-Deans in liaison with the Examinations Officer within the Time-Table & Room Usage Committee
- ii) All Faculty Examinations Officers shall meet to prepare a workable Time table within the Time-Table & Room Usage Committee.
- iii) As far as possible, examinations for the same Faculty shall be scheduled for the same hall.
- iv) As far as possible, not too many courses shall be scheduled, to hold simultaneously in one hall.
- v) As far as possible, a student shall not normally be required to sit for more than two examinations on the same day.

## **I. Examination Accommodation**

- i. All University Examinations shall be held in halls, rooms or laboratories approved by the University.
- ii. All Faculty Examinations Officers/Sub-Deans shall meet to arrange the usage of available halls, lecture rooms and laboratories/lecture theatres among the Faculties.
- iii. Sitting arrangement should be made in such a way to make possible for the invigilators to reach candidates with ease.
  - ii. A large clock or clocks from which time for the examination shall be determined shall be prominently displayed before and visible to all candidates.

## **J. Examination Materials**

- (a) The Examinations Officer shall arrange to supply and/or allow the use of the following materials:
  - i. **formats for drafting** examination questions;
  - ii **format for score sheets**;
  - iii. **answer** booklets and supplementary sheets, including graph papers, shall be regarded as security materials and treated as such. Answer booklets and supplementary answer sheets shall be perforated at the top left-hand corners;
  - iv. **strings**, stapling machines, pins, large **envelops and jackets**;
  - v. **a** list of students registered for each course to be provided with the assistance of COMSIT;
  - vi. **attendance register** (to be **endorsed** by Invigilators); and
  - vii. **four**-figure table, statistical tables, chart tables, design aids and other authorized materials.
- (b) Staff, students and any other persons found in unauthorized possession of these materials shall be liable to disciplinary action.

**K. Medical Attention**

At least two of the University Medical Officers shall be on call for the purpose of attending to sick students during the period of the examinations.

### 3. CONDUCT OF EXAMINATIONS

#### A. Invigilation

##### (i) Appointment of Chief Invigilators/Invigilators:

A list of academic members of staff in each Department shall be prepared by the Faculty Officer who shall forward same to the Faculty Examination Coordinator (**Sub-Dean**) who shall in turn prepare the Invigilation Schedule in such a way that for every examination venue there shall be a Chief Invigilator, preferably a Professor.

##### (ii) Duties of Chief Invigilators

The Chief Invigilator shall:

- a) be responsible for the conduct of all the courses for examinations put under his care at any particular examination venue;
- b) collect from the Sub-Dean (Faculty Examination Co-ordinator) or Departmental Examination Officer as the case may be, the question papers in sealed packets at least half an hour before the examination is due to start. The sealed packets of examination papers shall be opened in the presence of the students at the time appointed for the commencement of the Examination;
- c) allow Examiners into the Examination Hall for as long as may be necessary in the first 30 minutes of the examination to correct possible error on the question papers;
- d) ensure that students are properly searched before or during any University examination for items, materials, etc., which are prohibited;
- e) ensure orderliness in the Examination Hall with the assistance of other Invigilators,. Seats shall be arranged and numbered according to the number of groups taking examinations at each particular time and candidates shall be in the hall 30 minutes earlier than the commencement of each examination. He, with the assistance of other Invigilators, shall ensure that candidates keep strictly to the seating arrangements to avoid confusion;
- f) ensure that Invigilators exercise constant and vigilant supervision over the candidates;
- g) ensure, with the assistance of the invigilators, that the attendance sheet is duly signed by each student;
- h) ensure that silence is maintained by the students throughout the period of the examination. The only permissible way of attracting the attention of the invigilator shall be students' show of their hands;
- i) call the attention of students to the time, thirty minutes and five minutes before the close of the examination;
- j) at the end of each examination, check with the assistance of other Invigilators, the students' scripts against the signed attendance sheet and seal the scripts together with the attendance sheet and at least four copies of the question papers in special envelopes provided by the Senate and Examinations Office at the end of each examination. These packets shall be clearly identified as indicated on the envelopes. He shall deliver the sealed packets to the Faculty Examination Co-ordinator/Departmental Examination Officer (as the case may be) duly signed for;
- k) make a report (using the prescribed forms) of cases of examination misconduct and other problems to the Dean concerned immediately such misconduct is detected. However, students involved in such acts of examination misconduct should normally be allowed to complete writing the



### iii. Duties of Invigilators

Invigilators shall:

- a) report to the Examination Hall thirty minutes before the commencement of the examination;
- b) assist the Chief Invigilator in the discharge of his duties;
- c) distribute question papers and necessary examination materials to candidates;
- d) constantly watch the candidates to prevent any malpractice;
- e) provide any legitimate aid immediately to any candidate who raises his hand to request for assistance;
- f) ensure that no candidate enters the venue of the examination with materials other than those allowed for that examination;
- g) search, with the assistance of Security Personnel, students before or during any University examination; and
- h) collect answer scripts from the students, arrange, count, cross-check with the attendance register and hand them over to the Chief Invigilator for counter-endorsement.

#### iv) Disciplinary Action Against Erring Invigilators

Absence from or lateness to the examination hall by scheduled invigilators without permission or reasonable excuse, shall be a serious misconduct and shall attract appropriate disciplinary action.

A report of such absence or lateness shall be made by the Chief Invigilator to the Dean of the Faculty through the Sub-Dean.

## **B1. Instructions to Students**

- i) Students shall always ensure that they acquaint themselves with the examination regulations and instructions;
- ii) Students shall attend the examinations punctually. Admittance into the examination hall more than half an hour after the examination has started shall only be at the discretion of the Chief Invigilator.
- iii) Students shall bring with them to the examination hall their own ink, pen, ruler, erasers and pencils and any other materials which are permitted by these regulations (as stated here under). Accordingly, students are warned in their own interest to ensure that lecture notes, text-books, jotters, bags, handsets and other prohibited items are not brought anywhere close to the examination venue.
- iv) Students must sign the attendance register at the beginning of each paper.
- v) Having signed the attendance register, no student shall leave the examination hall without submitting his answer script.
- vi) No student shall leave the examination hall for whatever reason without informing the invigilator
- vii) While the examination is in progress, communication of any kind between **students** shall strictly be prohibited and any **student** found to be giving or receiving irregular assistance commits a misconduct, **which shall attract appropriate sanction.**
- viii) Silence shall be observed in the examination hall. The only permissible way of attracting the attention of the Invigilator is by a show of the hand.
- ix) Smoking in and around the examination hall is strictly prohibited.
- x) The use of scrap paper is prohibited. All rough work shall be done in the answer booklet and crossed neatly through. Supplementary answer sheets which shall not be supplied until **at least** half-an-hour after the commencement of the examination shall be **stapled to** the main answer booklet.
- xi) Students taking Mathematics or Engineering Drawing and similar courses shall bring their own mathematical or drawing instruments, which should include compass and dividers, protractors, diagonal scales and set squares. Personal copies of Mathematical Tables may be allowed in the examination hall provided there are no inscriptions on them.
- xii) Before submitting their scripts at the end of the examination, students shall satisfy themselves that they have inserted at the appropriate places their matriculation numbers and the numbers of the questions answered. Except for the question paper and any other materials they may have legitimately brought with them (as indicated in rules (iii) and (viii) above), students shall not be allowed to remove or mutilate any paper or materials supplied by the University.

## C. Examination Offences and Penalties

### 1. Code of Conduct

**Students** shall:

- i. use or consult during an examination only such books, papers, instruments or other materials or aids as are specifically permitted or provided by the Department in which the examination is being held;
- ii. not introduce or attempt to introduce into examination venue hand bags, books, notes, instruments (handsets, i-pad/i-pod, flash drives and any other storage device) or other materials or aids that are not permitted;
- iii. not enter any examination venue with any inscription on any part of the dress or body e.g. palm, arm, thigh, etc. if such inscriptions bear any relevance to the examination;
- iv. not pass or attempt to pass any information from one person to another during an examination;
- v. neither act in collusion with any other candidate(s) or person(s) nor copy nor attempt to copy from another candidate, nor engage in any similar activity;
- vi. not disturb or distract any other candidate(s) during the examination;
- vii. only use their matriculation **numbers** for examination, (no names should be written);
- viii. not be allowed to leave an examination venue until after 75% of the time allocated for that particular paper has expired;
- ix. not write any University examination on behalf of others, nor other people write any university examination for them; and
- x. ensure that he submit the answer script and any extra sheet to the invigilator before leaving the examination hall.

**Failure to observe any of the rules (i) to (x) above, shall *prima facie* constitute examination misconduct.**

## 2. Procedure for investigating Alleged Examination Misconduct

- (a) At the discretion of the Chief Invigilator, a student may be required to leave the examination venue when his conduct is adjudged to be disturbing or likely to disturb the examination. The Chief Invigilator shall report immediately any such action taken to the Dean, through the Faculty Examination Co-ordinator (Sub-Dean), after the completion of the examination by the other students.
- (b) Any student suspected of any examination irregularity shall be required to sign and submit to the Chief Invigilator a written statement in the Examination Hall. Failure to make a written statement shall be regarded as an admission of the charge against such a student. In any case, the students shall be allowed to finish his examination;
- (c) The Dean shall, within 48 hours of receipt of a report, send it to the Faculty Examination Malpractice Committee comprising not less than three academic staff to investigate the charge(s) and make available a report along with their records of proceedings and all other exhibits within four (4) weeks through the Deputy Registrar (Academic Support Services) to the Registrar who shall forward same to the Students' Disciplinary Committee; and
- (d) The Students' Disciplinary Committee shall within six weeks of receiving such a report, investigate and recommend the penalty in cases of proven misconduct to the Vice-Chancellor in accordance with section 17 of the University Act.

### 3. Penalties

- (i) Any candidate found cheating or aiding and abetting cheating in any examination shall be expelled from the University;
- (ii) In a situation where an individual, not registered for a particular course writes an examination on behalf of a **student**, **he** shall be handed over to the Law Enforcement Agents, if **he** is from outside the University, while the student so helped shall be **expelled** from the University. Where the individual is a student or staff, **he** and the **student** so helped shall be **expelled or dismissed** from the University (**as the case may be**)
- (iii) In a situation where a student sits for **an** examination in a course not registered **for**, **no score** shall be recorded for such a student.

### 4. Examination Leakage

Where the Dean has reason to believe that the nature of any question or the content of any question paper may have become known before the date and time of the examination to any person(s) other than the Examiners and any Official of the University authorized to handle the question paper, he may order the suspension of the examination or the cancellation of the question paper or the setting of a new paper. He shall then investigate the leakage and report the matter to Senate through the Vice-Chancellor.

#### D. Absence from Examinations

- (i) **Students** shall present themselves at such University Examinations for which they have registered under these Regulations. **Students** who fail to do so, for reasons other than proven ill-health, accident or any **proven** emergencies shall be deemed to have failed that examination. Mis-reading/**ignorance** of the Time-Table and such other excuses shall not be accepted as a satisfactory explanation for absence.
- (ii) A student who falls ill during an examination period should report in writing to the Dean of his Faculty through **his** Head of Department.
- (iii) A student who is absent from an examination on account of ill-health confirmed by medical report from the Director of University Health Services may be given a make-up examination in the course(s) missed, based on guidelines approved by Senate. **Otherwise, he** shall take the regular examination on the following occasion **as his make-up.**
- (iv) Approval for make-up examination shall be by the Faculty Board, provided:
  - (a) **the** ill-health has been reported to the Dean through the Head of Department; and
  - (b) **the student** has obtained a written report from the Director of Health Services or his designate which either is dated prior to the end of the examination, or provides evidence that the student was hospitalized during the examination.
- (v) **Application** for make-up examinations shall normally be made **immediately at the end of the semester examinations.**
- (vi) make-up examination shall normally be concluded within the first five (5) weeks of the semester following the application for the **make-up.**

## **E. Determination of Result**

### **i. General**

A student shall be deemed to have passed a first-degree examination if he has satisfied Senate in all the requirements for the examinations (including all GNS & GSE courses). A student who had been referred in any of these requirements shall be deemed to have passed that examination when he has fulfilled the requirements.

### **ii. Pass Mark**

The pass mark shall be 40% in all **Faculties**, except the MB;BS. and B.NSc. Programme of **College of Health Sciences, DVM Programme in the Faculty of Veterinary Medicine, B.Pharm. Programme in the Faculty of Pharmaceutical Sciences and Doctor of Optometry (OD) programme in the Faculty of Life Sciences** where it shall be 50%.

### **iii. Make-up Examination**

A **Make-up** Examination is an examination specially arranged for a student or group of students who could not sit for the normal examination due to ill-health or any other unavoidable circumstances **as specified in d(i) above**. Each case **will**, however, be treated on its merit. Following the conclusion of such examinations (**normally** within the first five (5) weeks of the new semester) the updated good standing result of such candidate shall be processed through the Deputy Registrar (**Academic Support Services**) to Senate for approval.

### **iv. Procedure For Result Verification**

- (a) The student **completes online** “Result Verification Form” **available on the University website**.
- (b) The **student submits the form to his Head of Department for onward transmission to the Deputy Registrar (Academic Support Services)**
- (c) The HOD, within one week, shall issue to the student, the verified result either confirming the old score or reflecting the new one. A copy shall also be forwarded to the Deputy Registrar (**Academic Support Services**).
- (d) Where a review occurs, the HOD is under obligation to give reasons and forward a copy of the Verification Report through the Dean to the:  
Director of Academic Planning and Deputy Registrar (**Academic Support Services**)
- (e) In case the student is still not satisfied with the result, **he** shall obtain a Re-mark Request Form from the Deputy Registrar (**Academic Support Services**). The Form shall be filled and submitted to the same office

**UNIVERSITY OF ILORIN, ILORIN, NIGERIA**  
**ACADEMIC OFFICE**  
**RESULT VERIFICATION FORM**

**(Visit [www.unilorin.edu.ng/Portal](http://www.unilorin.edu.ng/Portal) and study the procedure for Re-mark).**

- (i) **Name of Student:**.....
- (ii) **Faculty** .....
- (iii) **Department:**.....
- (iv) **Programme**.....
- (v) **Level** .....
- (vi) **Matric. No:**.....
- (vii) **Session:**.....
- (viii) **Semester:**.....
- (ix) **Date of Examination:**.....
- (x) **Course Code & Title:**.....
- (xi) **Student's Phone No:**.....
- (xii) **Student's e-mail Address:**.....
- (xiii) **Complaint:**.....  
.....  
.....  
.....
- (xiv) **Signature of Student & Date:**.....



For Official Use Only

- (i) **Date and Time Received** in the Department:.....
- (ii) HOD's Comment/Verification:.....
- (iii) Signature of HOD & Date:.....
- (iv) Date and **Time Received** by the Dean:.....
- (v) **Date and Time** Form is returned to the **Deputy Registrar (Academic Support Services)**

## **THE GUIDELINES ON SUSPENSION OF STUDIES BY STUDENTS**

- a. student can be allowed to suspend his study for a semester or session;
- b. application for suspension of study shall normally be made before the commencement of the semester or session for which approval is sought.
- c. a student wishing to suspend his study shall obtain the designated application form for Suspension of Study from the University Portal;
- d. Such application for suspension of studies shall be processed through the Faculty Board for Senate approval
- e. following Senates approval of the Faculty Board's recommendation, the Registrar shall communicate the decision to the candidate;
- f. no student can have his study suspended for more than one session at a time. However, upon expiration of the first session the student can re-apply on proven conditions e.g. national assignment; and
- g. Upon the expiration of the period for which the study has been suspended, the candidate shall be required to obtain and fill the appropriate Reactivation of Study Form from the Academic Office.

## **4. SENATE DECISIONS ON IMPROVEMENT OF THE CONDUCT OF EXAMINATIONS IN THE UNIVERSITY**

**A. Short-Term Measures**

**(i) Investigation of and Penalties for Examination Misconduct**

- a. Any student established to be in possession of incriminating materials at the examination or involved in any other examination malpractice before, during or after an examination, including impersonation, shall be expelled from the University.
- b. The procedure of investigation shall be reviewed to ensure prompt treatment of all cases of examination malpractice to avoid delay in disposing reported cases. In this connection, each Faculty shall properly set up a Standing Committee to investigate reported cases of examination misconduct immediately after each Semester Examination such that all reports are received by the Registrar four weeks after examination.
- c. The Students' Disciplinary Committee shall treat prima facie cases within six weeks of receipt of reports from Faculties.
- d. All students suspected to be in any examination misconduct during any semester examination shall be required, in writing, to remain on campus after the semester examination to facilitate the process of investigation.

**(ii) Handling of Answer Booklets:**

- (a) Every Faculty must ensure that all answer sheets for examinations carry the Faculty stamp and date of the examination. Any extra sheets given out must also be stamped as well. All Faculties must ensure that all answer scripts must carry the Faculty names.
- (b) Answer booklets shall be treated as security materials and shall be numbered serially, while it shall be an offence for anyone whether staff or students to put it to other use than it is meant for.
- (c) Invigilators must ensure that students write their matriculation numbers clearly on the answer booklets immediately before the commencement of the examinations to prevent swapping of booklets during and after the examination.

(d) All answer sheets for examination are those produced for the Faculty and bears the Faculty's name.

**(iii) Examination Invigilation**

- (a) Course Lecturer shall not normally be made to invigilate the examinations of their courses;
- (b) Invigilators must properly check-in students to the examination hall and be satisfied that no student brings prohibited materials into the examination hall/room;
- (c) Chief Invigilators must report through the Faculty Sub-Dean all cases of examination misconduct to the Dean within forty-eight (48) hours;
- (d) There shall be at least two Invigilators per hall/room and at no time should they both leave the hall or room at the same time.
- (e) Erring Invigilators shall be administratively dealt with.

**(iii) Other Precautions:**

- (a) After all students have been seated in the examination hall and question papers distributed, no student shall be allowed to leave the examination hall without being accompanied by a staff member;
- (b) No student shall be allowed to leave the examination hall within the first thirty minutes of the examination or fifteen minutes to the end of the examination;

- (c) Students shall be required to place on the table, their Faculty examination card and University Identity Card for Invigilators' inspection at any time during the examination;
- (d) Sitting arrangement in the examination hall shall be at the discretion of the invigilators who shall engage means of breaking up organized sitting arrangements; and
- (e) The services of University Security Personnel shall be enlisted during the period of examinations to prevent unauthorized visitors from roaming about the examination halls/venues.

**B. Long Term Measures:**

- i) Provision of adequate accommodation and furniture for examination will be looked into;
- ii) Efforts will be made to provide adequate number of equipment and specimen to discourage sharing:
- iii). Each course Lecturer shall be provided information as to the number of students who have registered for course(s) assigned to him or her. This measure will allow the Lecturer to have the correct number of students who registered for a course and are expected to write examination in the course. It will also prevent students who are not properly registered for the course or fake students from sitting examination in the course. Also, regular attendance at lectures shall be closely monitored in order to encourage regular class attendance.
- iv) Where it is needed, Senior Non-academic staff could be considered for examination invigilation with appropriate remuneration.



**UNIVERSITY OF ILORIN, ILORIN, NIGERIA**

**ACADEMIC OFFICE**

**RE-MARK REQUEST FORM**

(Visit [www.unilorin.edu.ng/Portal](http://www.unilorin.edu.ng/Portal))

- (i) **Name of Student:**.....
- (ii) **Faculty** .....
- (iii) **Department:**.....
- (iv) **Programme**.....
- (v) **Level:**.....
- (vi) **Matric No:**.....
- (vii) **Session:**.....
- (viii) **Semester:**.....
- (ix) **Date of Examination** .....
- (x) **Course Code/Title:**.....
- (xi) **Student's Phone No:**.....
- (xii) **Student's e-mail Address:**.....
- (xiii) **Complaint** .....  
.....  
.....  
.....
- (xiv) **Pledge: That a sum of N50, 000 shall be paid for this form, refundable only if the student's claim is not found to be frivolous.**
- (xv) **Student's Signature & Date**.....

**FOR OFFICIAL USE ONLY**

- i) **Date received:**.....
- ii) **Date script was remarked:**.....
- (a) **New Score**.....

## FACULTY OF ARTS

### Dean's Office

A. Akinwale	B.A., M.A., Ph.D. (Ibadan)	Professor & Dean
A. Abubakar	B.A. (BUK); M.A., Ph.D. (Ilorin)	Sub-Dean & Senior Lecturer



**DEPARTMENT OF ARABIC**

A. A. Abdussalam	B.(Ed.) (IUA Khartoum); M.A., Ph.D. (Ilorin)	Senior Lecturer & Ag. Head
Z. I. Oseni	B.A., M.A., Ph.D. (Ibadan)	Professor
R. D. Abubakre	B.A. (Ibadan); Ph.D. (London)	Professor
N. I. Raji	B.A. (Al-Azar, Cairo); M.A., Ph.D. (Ibadan)	Senior Lecturer
I. A. Abubakar	B.A. (Ilorin); M.A. (BUK); PGD, Ph.D. (Ilorin)	Senior Lecturer
A. M. Usman	B.A. (UDUS); M.A., Ph.D. (Ilorin), PGDE	Senior Lecturer
L. O. Ibraheem	B.A., M.A., PGD, PhD (Ilorin), PGD TAFL (Riyadh)	Lecturer I
I. U. Kankawi	B.A.,(UDUS); M.A., Ph. D. (Ilorin)	Lecturer II
K. U. Gbodofu	B.A. (Kano); M.A., Ph.D. (Ilorin)	Lecturer II
A. D. Diop	B.A. (Niamey); M.A. (Ilorin)	Assistant Lecturer
Hassanat F. Abubakar	B.A., M.A. (Ilorin)	Assistant Lecturer
A.A. Aliy	B.A., (EKSU); M.A. (Ilorin), PGDJ	Assistant Lecturer

H. M. Musa	B.A., (Cairo); M.A. (Ilorin)	Assistant Lecturer
M. D. Musa	B.A. (Al-Hikma)	Assistant Lecturer

### **DEPARTMENT OF ENGLISH**

Victoria. A. Alabi	B.A. (Ibadan); M.A., Ph.D. (Ilorin)	Professor & Head
O. Obafemi	B.A. (ABU); M.A. (Sheffield); Ph.D. (Leeds)	Professor
C. A. Bodunde	B.A. (ABU); M.A.(Ibadan); Ph.D.(Ilorin)	Professor
S. T. Babatunde	B.A. (Ibadan); M.A., Ph.D. (Ilorin)	Professor
Oyin. C. Medubi	B.A. (Lagos); M.A., Ph.D. (Ilorin)	Reader
P. O. Balogun	B.A. (Ed.), M.A., Ph.D. (Ilorin)	Reader
T. Oloruntoba-Oju	B.A., M.A. (Ilorin); M.A.(TEFL) (Reading); Ph.D. (Ibadan)	Senior Lecturer
O. I. Dunmade	B.A., M.A. (OAU); Ph.D. (Ilorin),	Senior Lecturer
Binta F. Ibrahim	B.A., M.A., Ph.D.(Ilorin)	Senior Lecturer
A. S. Abubakar	B.A. (BUK), M.A., Ph.D. (Ilorin)	Senior Lecturer
M. S. Abdullahi- Idiagbon	B.A.(BUK), M.A., Ph.D. (Ilorin)	Senior Lecturer
T. A. Alabi	B.A. (Ed.), M.A., Ph.D. (Ilorin)	Senior Lecturer

M.A. Adedimeji	B.A., M.A., Ph.D. (Ilorin)	Senior Lecturer
Tale M. Olujide	B.Ed. (Ibadan); M.A. (Ilorin)	Lecturer I
K. N. Afolayan	B.A. (Ilorin); M.A. (Lagos); Ph.D.(Ilorin)	Lecturer I
Foluke Aliyu-Ibrahim	B.A., M.A., Ph.D. (Ilorin)	Lecturer II
Bridget J. Balogun	B.A., M.A. (Ilorin)	Assistant Lecturer
I. T. Owolabi	B.A. (Ilorin)	Graduate Assistant
M.A. Ahmed	B.A. (ABU)	Graduate Assistant
M. O. Durosinmi	B.A. (ABU)	Graduate Assistant
U.E. Inyang	B.A. (Uyo)	Graduate Assistant

#### **DEPARTMENT OF FRENCH**

I. Bariki	B.A. (OAU); M.A. (Ibadan); PGDE, Ph.D.(Ilorin)	Professor & Head
T. Ajiboye	B.A. (Ibadan); Ph.D. (Nancy)	Professor
Yetunde Oluwafisan	B.A. (Ilorin); M.A., Ph.D. (Lagos)	Senior Lecturer
Y. O. Tijani	B.A. (OAU); M.A. (Niamey); Ph.D. (Ilorin)	Senior Lecturer
Elizabeth D.A.M. De Campos	B.A., M.A., Ph.D. (Ibadan)	Senior Lecturer

M. O. A. Oyebola	B.A (Ife), M. A. (Toronto), Ph.D. (Ilorin)	Senior Lecturer
Afsat Sanni-Suleiman	B.A. (OAU); PGDE, M.A.(Ibadan); Ph.D. (Ilorin)	Lecturer I
O. Oyelabi	B.A., M.A. (Ilorin)	Lecturer I
B. Isa	B.A., M.A. (Ilorin)	Assistant Lecturer
Adelaide Dongmo	B.A., M.A. (Ilorin)	Assistant Lecturer
I. Abdulmalik	B.A M. A. (Zaria)	Assistant Lecturer
G. Oguike	B.A. (Nsukka)	Assistant Lecturer
Temitope Yusuf	B.A. (OAU)	Graduate Assistant

#### **DEPARTMENT OF HISTORY AND INTERNATIONAL STUDIES**

K.D. Aiyedun	B.A. (ABU); M.Sc. (Ibadan); Ph.D. (UCLA)	Senior Lecturer Ag. Head
B.M. Eyinla	B.A., M.A. (Ibadan); M.Sc. (OAU); Ph.D. (Ilorin)	Professor
R. A. Olaoye	B.A., M.A., Ph.D. (Ilorin)	Professor
S. O. Aghalino	B.A. (Ed) (AAU); M.A., Ph.D. (Ilorin)	Professor
P. F. Adebayo	B.A. (Ibadan), M.Sc. (OAU); Ph.D. (Ilorin)	Senior Lecturer
I. A. Jawondo	B.A. (Ilorin); M.A., Ph.D. (UDUS)	Senior Lecturer
Y.S. Omoiya	B.A. (Ilorin); M.A., M.Phil. (Ibadan); Ph.D., (Ilorin), Dip. in African Studies	Senior Lecturer
L.E. Odeh	B.A. (LASU); M.Sc., Ph.D. (BSU) PGDE (Kaduna)	Senior Lecturer
E.J. Ige	B.A., M.A. (OAU)	Lecturer 1

Mary A.Y Lewu	B.A., M.A. (Ilorin)	Lecturer 1
B. O. Ibrahim	B.A., M.A., Ph.D. (Ilorin)	Lecturer 1
A. Abiodun	B.A. (Ilorin); M.Sc., Ph.D. (Ibadan)	Lecturer 1
Theresa N. Odeigah	B.A., M. A (Ilorin) Ph.D (Anyigba)	Lecturer II
J. A. Aboyeji	B.A., M. A. PDGE (Kaduna) Ph.D (Ilorin)	Lecturer II
R. Onagun	B.A., M. A. (Ilorin)	Assistant Lecturer
S. D. Yusuf	B.A., M. A. (Ilorin)	Assistant Lecturer
M. O. Alabi	B.A., M. A. (Ilorin)	Assistant Lecturer
S. Adebayo	B.A., M.A (Ilorin)	Assistant Lecturer

#### **DEPARTMENT OF LINGUISTICS AND NIGERIAN LANGUAGES**

A. S. Abdussalam	B.A., M.Phil. (Riyadh); Ph.D. (Khartoum), Dip. HSc.	Professor & Head
A. G. Fakuade	B.Ed., M.A. (Ibadan); Ph.D. (Ilorin)	Professor
O. Adeyemi	B.A. (Ed)., M.Ed., Ph.D. (Ilorin)	Reader
I. O. Sanusi	B.A., M.A., Ph.D. (Ilorin)	Senior Lecturer
H. O. Adeosun	B.A. (OOU); M.A.(Ibadan); M.A., Ph.D. (Ilorin)	Senior Lecturer
Bolanle E. Arokoyo	B.A., M.A., Ph.D. (Ilorin)	Senior Lecturer
K. A. Rafiu	B.A., M.A., Ph.D. (Ilorin)	Senior Lecturer

B. Adekeye	B.A., M.A. (Ilorin) ; Ph.D (EKSU)	Lecturer I
O. D. Ogunlola	B.A. (Ed) (Ibadan); M.A. Ph.D. (Ilorin)	Lecturer I
J. O. Friday-Otun	B.A. (Jos); M.A. (Ilorin); Ph.D. (Ibadan)	Lecturer I
S a u d a t A . O . Hamzat	B.A. (OAU); M.A. (Ibadan); M.A. (Ilorin)	Lecturer I
B. Adekeye	B.A., M.A. (Ilorin) ; Ph.D (EKSU)	Lecturer I
O. C. Omolewu	B.A., M.A. (Ilorin)	Lecturer II
S. O. Abubakre	B.A., M.A. (Ibadan)	Lecturer II
J. A. Atoyebi	B.A. (OAU); M.A. (Ibadan)	Lecturer II
O. T. Okewande	B.A. (Ilorin)	Lecturer II
R o h e e m a t O . Adeyemi	B. A. M. A. (Ilorin)	Assistant Lecturer
Florence C. Nwosu	B. A. M. A. (Ilorin)	Assistant Lecturer
Mary C Amechi	B. A. M. A. (Ilorin)	Assistant Lecturer
Sabina N. Nwokeji	B. A. (ED) (UNN) M. A (Unilag)	Assistant Lecturer
Waziri A. S	B. A. (ABU)	Graduate Assistant

#### **DEPARTMENT OF THE PERFORMING ARTS**

S. O. Ikibe	NCE, B.A. (UNN); M.A. (Ibadan); Ph.D. (Ilorin)	Senior Lecturer &Ag. Head
E. O. Kofoworola	B.A. (Ibadan); M.A., Ph.D. (ABU)	Professor
A. Akinwale	B.A., M.A., Ph.D. (Ibadan)	Professor

A. A. Adeoye	B.A., MPA. (Ilorin); M.A., Ph.D. (Ibadan)	Reader
J. O. Ojuade	B.A. (Ilorin); M.A., Ph.D. (Ibadan); LLB. B.L., MBA. (Ilorin)	Senior Lecturer
A. Emielu	B.A. (Ilorin); M.A. (Ibadan); Ph.D. (Ilorin)	Senior Lecturer
S. O. Oyewo	B.A. (Jos); M.A., Ph.D. (Ibadan)	Lecturer I
A. G. Adegbite	B.A., M.A. (Ilorin)	Lecturer I
Saidat O. O. Shuaib	B.A., M.A., Ph.D. (Ilorin)	Lecturer I
P. S. Arinde	B.A, M. A, Ph.D. (Ilorin)	Lecturer II
O. Ojediran	B.A, M.A. (Ilorin); Ph.D. (Edinburgh)	Lecturer II
T. S. Adeola	B.A., M.A. (OAU)	Lecturer II
F. A. Akinsipe	B.A. (Ilorin); M.A. (Ibadan)	Lecturer II
A. A. Amali	B.A. (Maiduguri); M.A. (Ilorin)	Lecturer II
K. A. Olalusi	B.A., M.A. (Ilorin)	Assistant Lecturer
T. A. Olalusi	B.A. (Ilorin)	Graduate Assistant
H. K. Rufai	B.A. (Ilorin)	Graduate Assistant

#### **DEPARTMENT OF RELIGIONS**

Oyeronke Olademo	B.A., M.A., Ph.D. (Ilorin)	Professor & Head
Y. A. Quadri	B.A., M. Phil., Ph.D. (Ibadan)	Professor
I. O. Oloyede	B.A, M.A., Ph.D., PGDE (Ilorin)	Professor
Y.O. Imam	B.A., M.A. (Jos); Ph.D. (Ilorin)	Professor
B. O. Yusuf	B.A., M.A., Ph.D. (Ilorin)	Professor

R. W. Omotoye	B.A., M.A. (OAU); Ph.D. (Ibadan)	Professor
H. A. AbdulSalam	B.A., M.A., Ph.D. (Ilorin)	Reader
P. O. Abioje	B.Th. (Rome), M.Th., Ph.D. (Calabar)	Senior Lecturer
O. R. Ogunade	B.A. (LASU); M.A., Ph.D. (Ilorin)	Senior Lecturer
C. O. Ogunkunle	M.A. (Winnipeg); B.Th.(Kitchener); Ph.D. (Ibadan)	Senior Lecturer
R. I. Adebayo	B.A.,M.A., Ph.D. (Ilorin)	Senior Lecturer
A. Y. Imam	B.A. (BUK); M.A., Ph.D. (Ilorin)	Senior Lecturer
A. G. Alamu	B.A. (AAU); M.A. (Ibadan); Ph.D. (Ilorin)	Senior Lecturer
Abiola T. Dopamu	B.A., M.A., Ph.D. (Ilorin)	Senior Lecturer
O. O. Ogunbiyi	B.A., M.A. (Ilorin)	Lecturer I
A. S. Agboola	B.A., M.A. (Ilorin)	Lecturer I
O l u b u s o l a B . Akinfenwa	B.A. (Ilorin); M.A. (Ibadan)	Lecturer I
P. U. Nwosu	B. Phil. (Rome), M.A. (Ilorin), PGDE	Lecturer I
Moji B. Daramola	B.A., M.A. (Ilorin)	Assistant Lecturer
A. O. Fahm	B.A., M.A. (Ilorin)	Assistant Lecturer
M. S. Hussein	B.A. (Kuwait); PGD, M.A. (Ilorin)	Assistant Lecturer

## DEPARTMENT OF ARABIC

### Course Description



## **B.A. Arabic**

- ARA 121 Intermediate Arabic Grammar 2 Credits**  
Grammar of the Arabic language involving inflections. Factors governing grammar of Arabic, *asma*, *'af'al*, and *huruf*. Types of sentence as well as the subjective (*al-Mansubat* and Appositives (*at-Tawabi'*).  
**30h (T); C**
- ARA 122 Introduction to Arabic Composition I 2 Credits**  
Principles, rudiments, theories, and types of Arabic composition. Oral and written aspects of the composition in simple short Arabic sentences including school activities, life in the village, a football match, public holidays, importance of computer, auto mobile teller machine spot, university auditorium, writing of curriculum vitae.  
**30h (T); C**
- ARA 123 Arabic Reading skills I 2 Credits**  
Students reading, note taking, note-making, summarizing and using the library, and dictionary. Intensive illustration and testing level of comprehension.  
**30h (T); C**
- ARA 124 Translation Drills 2 Credits**  
Translation of at least 10 prose of about 200 words each and 5 poetry passages into English from Arabic and vice-versa. Passages to cover both classical and modern Arabic.  
**30h (T); C**
- ARA 125 Introduction to Arabic Literature 2 Credits**  
Basic concept of Arabic literature. Basic components; imagery and music. Literary creation and literary appreciation. Relevant Arabic text will be used for illustration. Arabic literature different literary period. Outstanding characteristic of the literary figure in each periods.  
**30h (T); C**
- ARA 126 Introduction to Morphology 2 Credits**  
Arabic Morphology as basis of understanding vocabulary items in the language. Basic Arabic Morphology, structural formations and composition of words. Morphological forms, naked compound forms the source and derived forms and defective verbs.  
**30h (T); C**

<b>ARA 127</b>	<b>Introduction to Islamic Literature (al-Adabul-Islami)</b> Historic Islamic literature, theories, characteristics and features. Critical issues on <i>al-Adabil Islami</i> . Selected poetry and prose works reviewed for practical purpose. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ARA 128</b>	<b>Language Drills</b> Consolidation of various verbs, nouns and particles with emphasis on objects ( <i>maf'ulat</i> ) verbal and nominal sentences. Extensive reading comprehension exercises. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>ARA 141</b>	<b>Beginners' Arabic Conversation I</b> Basic vocabulary of Arabic language. Simple sentence formation, short story-telling in Arabic. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>
<b>ARA 142</b>	<b>Beginners' Arabic Conversation II</b> Basic vocabulary of Arabic language. Dialogues and discussions in Arabic. Construction of short stories. <b>45h (P); E</b>	<b>1 Credit</b>
<b>ARA 143</b>	<b>Beginners' Arabic Reader I</b> Arabic alphabet, word and sentence construction. Reading and writing of fully vocalized short passages. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>
<b>ARA 144</b>	<b>Beginners' Arabic Reader II</b> Reading, writing of fully vocalized long passages, short stories and essays in Arabic. <b>15h (T), 45h; (P) E</b>	<b>2 Credits</b>
<b>ARA 145</b>	<b>Beginners' Arabic Grammar</b> Essential grammatical features of standard Arabic: nouns, verbs, pronoun and particles. <b>30h (T); E</b>	<b>2 Credits</b>
<b>ARA 222</b>	<b>Reading Skills II</b> Reading and comprehension of at least 20 long sparsely vocalized Arabic passages. Emphasis on classical and modern literary texts. <b>30h (T); 45h C</b>	<b>2 Credits</b>
<b>ARA 223</b>	<b>Arabic Composition II</b> Oral and written presentation in standard Arabic.	<b>2 Credits</b>

**30h (T); C**

- ARA 224 Introduction to Translation Study 2 Credits**  
Principles of translation. Theories of translation from and into Languages with particular reference to Arabic and English translation procedure: literal, borrowing, calque, transposition, modulation equivalence, adaptation, copious illustration of each.  
**30h (T); C**
- ARA 225 Pre-Islamic Arabic Literature 2 Credits**  
Pre-Islamic (*Jahili*) literature. Historical background of *Ashabu'l - Mu'allaqat* and orators of the era. Representative texts of major literary figures of the period.  
**30h (T); C**
- ARA 226 Arabic Literature of the Early Islamic and Umayyad Periods. 2 Credits**  
Literary works and prose. *Khutab* (public speeches) and poetry of the periods, of one of the seven odes. Short poems from: *Mufaddaliyat and Hamasah* (Jamhara excluded). Style of the Qur'an and the Hadith literature.  
**30h (T); C**
- ARA 227 The Art of Speech-Making in Arabic 2 Credits**  
Techniques, theories of speech-making in Arabic. Practical demonstration by students. Grammar, vocabulary, idioms, and quotations from Classical Arabic works.  
**15h (T), 45h (P); C**
- ARA 228 Arabic Syntax I 2 Credits**  
Arabic Syntax. Types of sentences and aspects of verbs, nouns and particles. *Sharh bn 'Aqil should be used.*  
**30h (T); C**
- ARA 229 Arabic Morphology II 2 Credits**  
Arabic Morphology, verbs, derivatives (*al-mushtaqat*). Types of *mu'annath* (the feminine).  
**30h (T); C**
- ARA 230 Contemporary Arabic Prose 2 Credits**  
Terminologies and expressions used in literary journals and daily press emphasis on the Arabic press sourced from internet.  
**30h (T); C**
- ARA 241 Intermediate Arabic Reader I 2 Credits**

Reading, comprehension of vocalized Arabic passages of not less than 150 words each. Translation of selected passages into English.

**15h (T), 45h (P); C**

- ARA 242 Intermediate Arabic Reader II 2 Credits**  
Reading, comprehension of vocalized Arabic passages of about 200 words. Translation of selected passages into English.  
**15h (T), 45h; (P)**
- ARA 243 An-Nahw 2 Credits**  
Principal units involved in Arabic grammar. *Al-ism* (noun), *al-fi'l* (verb) *al-harf* (particles).  
**15h (T), 45h (P); E**
- ARA 251 General Survey of Arabic Literature 2 Credits**  
Arabic Literature from the Pre-Islamic period to Abbasid period. Textual samples in Arabic original and English translation.  
**30 h (T); E**
- ARA 261 Arabic for Textual Reading I 3 Credits**  
Reading, writing of Arabic letters, words, sentences and short passages taken from classical Arabic texts.  
**30h (T), 45h (P); C.E**
- ARA 262 Arabic for Textual Reading II 2 Credits**  
Reading, writing of Arabic texts.  
**15h (T), 45h (P); C.E**
- ARA 263 Arabic Structures 3 Credits**  
Grammatical features of Arabic. Major parts of speech.  
**45h (T); E**
- ARA 264 Al-Muhadathah 2 Credits**  
Conversation in simple and correct Arabic.  
**15h (T), 45h (P); E**
- ARA 265 At-Tarjamah I 2 Credits**  
Passages selected from both classical and modern Arabic prose.  
**30h (T); E**

<b>ARA 266</b>	<b>Al-Insha'</b> Composition in Arabic. Lexical verbs, nouns and particles. <b>15h (T); E</b>	<b>1 Credit</b>
<b>ARA 321</b>	<b>Arabic Literature of the Early Abbasid Period</b> Abbasid Period from the 9 <sup>th</sup> to 10 <sup>th</sup> century C.E. Historical literary figures of the period, selected prose and poetry composed by them. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ARA 322</b>	<b>Arabic Literature of the Late Abbasid Period</b> Arabic Literature, 10 <sup>th</sup> to 13 <sup>th</sup> century C.E. Historical literary figures of the period, selected texts of their works. <b>30h (T); E</b>	<b>2 Credits</b>
<b>ARA 324</b>	<b>Art and Practice of Translation</b> Polysemy, Oligosemy, shared experience, contractions, absence of idea. Arabic language and target language. <b>30h (T); R</b>	<b>2 Credits</b>
<b>ARA 325</b>	<b>Arabic Rhetoric I</b> <i>al-Balaghah</i> , including <i>al-Fasahah</i> . Historical development of Arabic Rhetoric. Comprehensive study of al-Bayan components. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ARA 326</b>	<b>Arabic Prosody</b> Traditional metres of Arabic Poetry and their feet. Aspects of the iambic metric rules and the exceptions as well as morphological and syntactical constraints imposed on the syllabus in rhyme. Poetic licenses in Arabic. <b>45h (T); C</b>	<b>2 Credits</b>
<b>ARA 327</b>	<b>Quranic Texts</b> Qur'an development of Arabic Language & Literature. Literary appreciation of the Qur'an. Selected verses with emphasis on <i>al-balaghah</i> (Rhetoric). <b>30h (T); E</b>	<b>2 Credits</b>
<b>ARA 328</b>	<b>Arabic Composition</b> Arabic essays on narrative, descriptive, and argumentation topics. Emphasis on diction, presentation, grammar, punctuation and paragraphing. <b>30h (T); C</b>	<b>2 Credits</b>

- ARA 329**      **Arabic Lexicography**      **2 Credits**  
 Arabic lexicography and the events that led to the early major dictionaries. Critical analysis of the methods of arranging the various lexicons.  
**30h (T); C**
- ARA 330**      **Introduction to Comparative Literature**      **2 Credits**  
 Arabic, comparative literature on Arabic-Western Literary relations. Influence of Arabic literary traditions, translation theory, thanatology, literature, religion, literature and Arts.  
**30h (T); C**
- ARA 331**      **Information and Communication Technology for Arabic**      **2 Credits**  
 Arabic oriented computer hardware and software. Language and Literature software and Word Wide Web resources on Arabic Language and Literature. Computer in Arabic writings. Library potentials of internet for Arabic studies: ICT resources, keyboard, scripts, typesetting in Arabic, graphic designs, word and processing.  
**15h (T), 45h (P); C**
- ARA 332**      **Phonetics and Phonology**      **2 Credits**  
 Arabic phonetics. Production of Arabic sound, perspectives of articulation and the state of the glottis. Sounds in the language phonetic description of Arabic sound, phonological problems in the learning of Arabic as a second or third language in Nigeria.  
**15h, (T), 45h (P); C**
- ARA 333**      **Arabic Dialectology**      **2 Credits**  
 Dynamic tendency a language evolution. Superimposed dialect of Arabic, known as ‘high’ in a state of diglossia on dialects marked “low”. Different *Amiyyah* and a study of one of them.  
**30h (T); E**
- ARA 335**      **Arabic Syntax II**      **2 Credits**  
 Noun (*al-ism*), verb (*al-fi'l*) and the particle (*al-harf*). Accusative and genitive a role which particles play. *Alfiyyah* of Ibn Malik.  
**30h (T); C**
- ARA 336**      **Arabic Morphology III**      **2 Credits**  
 Morphological, nouns, treating aspects of diminutive and nouns of relation (*an-Nisbah*) posture (*al-Hay'ah*), place (*makan*), tool (*'alaah*), number (*marrah*). Analysis of ‘*ibdal* (substitution) and *i'lal* (irregularity).  
**30h (T); C**

<b>ARA 337</b>	<b>Classical Arabic Criticism</b> Arabic literary criticism of the classical era. Emphasis on literary history, choice of words and the socio-political leaning of the poets and prose-writers studied. The major genres of classical Arabic literature and their exponents. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ARA 338</b>	<b>A Special Author</b> Insight into the works of a specific author, his personality and biography <b>30h (T); E</b>	<b>2 Credits</b>
<b>ARA 341</b>	<b>As-Sarf wa ‘n-Nahw</b> Arabic morphology and syntax. Application of relevant morphological and syntactical rules. <b>30h (T); E</b>	<b>2 Credits</b>
<b>ARA 342</b>	<b>At-Tarjamah II</b> Arabic passages of about 200 words each for translation into English. <b>30h (T); E</b>	<b>2 Credits</b>
<b>ARA 343</b>	<b>At-Tarjamah III</b> English passages of about 200 words each for translation into Arabic. <b>30h (T); E</b>	<b>2 Credits</b>
<b>ARA 351</b>	<b>Major Themes in Classical Arabic Literature</b> Classical genres of Arabic literature, e.g. <i>al-Madih</i> , <i>al-hija</i> , <i>al-ghazal</i> , <i>al-fakhr</i> , <i>al-khatabah</i> , <i>al-qlssah</i> , and <i>ar-risala</i> in English with Arabic illustration. <b>30h (T); E</b>	<b>2 Credits</b>
<b>ARA 361</b>	<b>Arabic Structures</b> Syntax and morphology of standard Arabic. Syntactical and morphological relations within and between sentences using Islamic Arabic sources. <b>45h (T); E</b>	<b>3 Credits</b>
<b>ARA 362</b>	<b>Textual Reading and Translation I</b> Vocalized prose passages in Arabic. Passages from <i>Fiqh</i> books: <i>al-Akhdari</i> , <i>al-Ashmawi</i> , and <i>al-Muqaddimatu ‘l-izziyah</i> . Translated passages into English. <b>45h (T); E</b>	<b>3 Credits</b>

- ARA 363 Textual Reading and Translation II 3 Credits**  
Vocalized passages: Risalah of Ibn Abi Zayid'l-Qayrawani and Arba'un. Hadith of Yahya b. Sharaf 'nNawawi. Comprehension passages translated into English.  
**45h (T); E**
- ARA 388 Research Methods in Arabic 2 Credits**  
Methods of research in Arabic Studies. Topic, collection of data, interviews, administration of questionnaire, literature review methodology, concluding parts, language and reference materials.  
**30h (T); R**
- ARA 421 Arabic Literature of Post-Classical Period 2 Credits**  
Period of Decadence fall of Baghdad in 1258 C.E., occupation of Egypt by Napoleon Bonaparte in 1798 C.E. Prose and poetry of the period.  
**30h (T); E**
- ARA 422 Modern Arabic Poetry 2 Credits**  
Study of the development of modern Arabic poetry. Introduction and study the works of the major poets; *al-Barudi, Hafiz Ibrahim, Shawql, Khalil, Mutran, ar-Rusafi, ash-Shabbi, Abdu 'r-Rahman Shukri and Badr Shakiru 'S-Sayyab*.  
**30h (T);C**
- ARA 423 Modern Arabic Prose 2 Credits**  
Development of short stories and novel in modern Arabic literature. Journalism and the press. Prose-writings of the following authors: Najib Mahfuz, Taha Husayn, Mahmudu 'l-Aqqad, Muhammad al-Muwaylihi, and Muhammad Husayn Haykal.  
**30h (T); C**
- ARA 424 Nigerian Literature in Arabic 2 Credits**  
Arabic writings of Nigerian origin in prose and poetry. Nigerian authors: *Sheykh 'Uthman b.Fudi,Abdullah b. Fudi,Muhammad Bello,Adam al-ilori,Ibrahim Umar Zaria,Isa Alabi Abubakar,Zakariyau Oseni,Muhammad Nasir Kabara and Sulayman Ahmad*. Emphasis on three of them.  
**30h (T); C**
- ARA 425 Arabic Manuscript Editing 2 Credits**  
Arabic Orthography from the pre-Islamic time to the evolution of the *Naskh, Ruq'ah, Farisi, Kufi and Maghribi* types of writing. Adoption of *Maghribi* script in West Africa for *Ajami* scripts. Ability to read and write each with emphasis on *Ruq'* and *Maghribi* scripts. Critical editing of manuscripts West Africa origin. Special authors and their works



30h (T); E

- ARA 426 Modern Arabic Literature in Nigeria 2 Credits**  
Major poetry and prose works by Nigerian authors after 1914. Old and new trends. Themes in poetry scenic and abstract descriptions, love, nationalism, panegyric, elegy, pedagogy, and satire. Short story and drama.  
**30h (T); E**
- ARA 427 Arabic Rhetoric II 2 Credits**  
*Al-Ma'ani* and *al-Badi'*, consideration of *al-itnab*, *al-ijaz* and *al-Musawah* under *al-Ma'ani* and *al-Muhassanatu 'Ilafziyyah wa 'l-ma'nawiyyah* under *al-Badi'*  
**30h (T); C**
- ARA 430 Advanced Arabic Reader II 2 Credits**  
Arabic prose, reading and comprehension. Collections of short stories of about 200 pages, read, comprehend and analysed.  
**30h (T); C**
- ARA 432 Arabic Literature in Spain 2 Credits**  
Spread of Arabic culture to Spain. Emergence of poets and essayists: Ibn Hanī, Ibn Zaydun, Ibn Khafajah, Ibn Sahl, Ibn Shuhayd and al-Mu'tamid b. al-Abad.  
**30h (T); E**
- ARA 433 Literature on Biladu 's-Sudan 2 Credits**  
Arabic records on West Africa, reports on travellers, historians and geographers *al-Bakri*, *Yaqut*, *Ibn Battutah*, *as-Sa'di*, *Muhammad Bello*. Style, content and form.  
**30h (T); E**
- ARA 434 Advanced Arabic Syntax 2 Credits**  
Linguistic on aspects of Arabic syntax. Construction, nominal and verbal sentences. Cycle, variables types and complementisers for subordination and co-ordination.  
**30h (T); C**
- ARA 435 The Theatre in Arabic 3 Credits**  
Drama in Arabic, contact with the West, selected playwrights; Marunu n-Naqqash, Ahmed Shawqi, *Tawfiq li-Hakim*, *Zakariyau Oseni* and *Abdul-Ghani Alabi Adebayo*. One full play by one of these writers.  
**30h (T), 45h (P); C**

- ARA 436      Advanced Arabic Translation      2 Credits**  
 Translation Arabic into English. Passages from diverse sources and practical translation theories.  
**30h (P); C**
- ARA 437      Modern Arabic Literary Criticism      2 Credits**  
 Arabic literary criticism. West, ideologically based schools. Major exponents of modern criticism: *al-Mazini, Taha Husayn and al-Aqqad*.  
**30h (T); C**
- ARA 438      Classical and Modern Libraries      2 Credits**  
 Concept, types and development of both traditional/e-libraries. Libraries in the Arab World and rejuvenation of Arabic cultural heritage. Indexing, abstracting & cataloguing. Reference information sources in Classical & Modern Arabic: encyclopedias, dictionaries, lexicography, thesaurus, linguistics, literature, geography, sciences, biography & Internet. Primary sources in classical and modern Arabic literary works.  
**30h (T); E**
- ARA 439      Literature of the Mahjar      2 Credits**  
 Arabic literary figures who migrated to the Americas: *Jibran Khalil Jibran, Milkha 'il Nu'aymah, Iliya Abu Madi*, literary output in prose and poetry.  
**30h (T); E**
- ARA 440      Literature of Maqamat      2 Credits**  
*Maqomat* literature as one of the genres in Arabic Literature: *Maqomaatu al-Hamadhaniy, Al-Hariri, Majmau li-Bahrain, Almatu dduniya and Al-qorniy*.  
**30h (T); E**
- ARA 490      Media Arabic      2 Credits**  
 Arabic Language usage in media aspects-Print, Broadcast, Information Technology, Media literacy & Culture, News reporting and Language of the press.  
**30h (T); E**
- ARA 491      North Africa Literature      2 Credits**  
 Arabic literature in Morocco, Tunisia, Libya, Algeria and Mauritania. Two poets and two essayists. Writings of the Northern African Region widely read in Nigeria: *Hasan Ibn Masud al-Layusi's Daliya (Nailu li amani fi sharh ttahaniy) Busairi's Al-burda and Hamziya*.

**30h. (T); E**

**ARA 499 Research Project**

**4 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**225h (P); C**

**SUMMARY**

**100 LEVEL**

**Compulsory Courses:** ARA 121 (2), 122(2), 123(2), 124(2), 125(2), 126(2), 127 (2), 128 (2)  
= **16 Credits**

**Required Courses:** GNS 111 (2), 112(2), RIS 121 (2), 122(2), 123 (2), 126(2) = **12 Credits**

**Elective Courses:** At least 4 Credits from relevant 100 level course in LIN  
**Total= 32 Credits**

**200 LEVEL**

**Compulsory Courses:** ARA 222(2), 223(2), 224(2), 225(2), 226(2), 227 (2), 228 (2), 229 (2),  
230 (2) = **18 Credits**

**Required Courses:** GNS 211(2), 212 (2), RIS 223 (2), 224 (2), 225 (2), 228 (2) = **12 Credits**

**Elective Courses:** At least 4 Credits from relevant 200 Courses in LIN = **4 Credits**  
**Total = 34 Credits**

**Direct Entry Students:** GNS 111(2), 112 (2) = **4 Credits**

**Total = 38 Credits**

**300 Level**

**Compulsory Courses:** ARA 321 (2), 322 (2), 324 (2), 330 (2), 331(2), 325 (2), 326 (2), 328 (2),  
332 (2), 335 (2), 337 (2), 388 (2) = **24 Credits**

**Required Courses:** GNS 311 (2), GSE 301 (3) = **5 Credits**

**Elective Courses:** At Least 2 Credits from ARA 327 (2), 329 (2), 329 (2) 333 (2), 336 (2),  
= **2 Credits**

**Total= 31 Credits**

#### **400 Level**

**Compulsory Courses:** ARA 424 (2), 434 (2), 499 (4), 423 (2), 427 (2), 430 (2), 435 (2), 436 (2),  
437 (2), 490 (2) = **22 Credits**

**Elective Courses:** At Least 8 Credits from ARA 421 (2) 422 (2) 425 (2) 426 (2) 432 (2)  
433 (2) 438 (2)439 = **8 Credits**

**Total = 30 Credits**

#### **Graduation Requirements:**

UTME - 127Credits  
DE - 99 Credits

### **DEPARTMENT OF ENGLISH**

#### **Course Description**

#### **B.A. English**

<b>ENG 101</b>	<b>English Language I</b> History, sound, grammar, semantic system and varieties of English. Role of English as an international language. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 102</b>	<b>English Language II</b> Salient features of English Grammar: basic sentence, clause, phrase and word structures as well as inter-sentential relations. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 103</b>	<b>Spoken English</b> Conversational English, using relevant phonological materials (e.g. tapes, records, video, films, etc.) to enhance the students' spoken English. <b>90h (P); C</b>	<b>2 Credits</b>
<b>ENG 105</b>	<b>Literary Appreciation</b> Rudiments of literary appreciation. Literature as a foundation for the higher literary criticism courses. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 106</b>	<b>Basic English Grammar and Composition</b> Rudiments of English grammar and relevance to composition. <b>45h (T); C</b>	<b>3 Credits</b>
<b>ENG 107</b>	<b>Theatre Workshop</b> Practical skills of theatre, speech and voice training: Techniques of improvisation, acting and stage construction. <b>135h (P); C</b>	<b>3 Credits</b>
<b>ENG 114</b>	<b>Introduction to Nigerian Literature</b> Literary developments through the pioneer period, the colonial and the postcolonial stages. Modes of poetry, drama, prose or fiction of major Nigerian writers. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 115</b>	<b>Introduction to Poetry</b>	<b>3 Credits</b>

Nature, form and characteristics of poetry. Acquisition of the tools and techniques of poetic appreciation and analysis.

**45h (T); C**

**ENG 116 Introduction to Prose Fiction**

**3 Credits**

Literary tenets of the fictional mode. Techniques of fiction and thematic focus. Genres: satirical novel, romance, historical novel, war fiction, epic novel, literary biography and literary autobiography.

**45h (T); E**

**ENG 117 Introduction to African Oral Literature**

**3 Credits**

Traditional oral forms in selected African regions. Basic tenets of oral performances. Nature and context of performance. Rudiments of data collection, transcription and translation of oral texts.

**45h (T); C**

**ENG 118 Introduction to Drama and Theatre**

**3 Credits**

Nature and artistic features of drama and theatre. Acquisition of the tools and techniques of drama and theatre through the analysis of selected African and non-African plays.

**45h (T); E**

**ENG 119 Introduction to European Literature in Translation**

**3 Credits**

Introduction to translated works from European literature. Study of selected national literatures. Literary movements, social and cultural impulses. Selected works from Italian, German and French literatures.

**45h (T); E**

**ENG 203 Introduction to General Phonetics and Phonology I**

**2 Credits**

Principles of phonetic description and taxonomy.

**30h (T); C**

**ENG 204 Introduction to General Phonetics and Phonology II**

**2 Credits**

Application of the principles of phonetics and phonology. Emphasis on practical exercises relevant to English in Nigeria.

examples and language laboratory

**30h (T); C**

<b>ENG 205</b>	<b>Advanced English Composition I</b> Specialized composition, including reports, long essays, minutes of meetings and various types of letters. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 206</b>	<b>Advanced English Composition II</b> Technical matters related to kinds of writings, including reports, minutes, memoranda and long essays. <b>30h (T); E</b>	<b>2 Credits</b>
<b>ENG 207</b>	<b>History of the English Language</b> Diachronic study of the development of the English Language from the old English period to its present-day status as a world language. <b>45h (T); E</b>	<b>3 Credits</b>
<b>ENG 209</b>	<b>Language and Society</b> Examination of Language in its social context. Emphasis on variations based on age, sex, ethnicity, social status, etc. <b>45h (T); E</b>	<b>3 Credits</b>
<b>ENG 210</b>	<b>Creative Writing I</b> Stimulating creative potentials of students. Instruction on imaginative writing with specific reference to poetry, drama and prose. <b>45h (T); E, PR: ENG 328</b>	<b>3 Credits</b>
<b>ENG 215</b>	<b>History of Theatre: Aeschylus to Shakespeare</b> Forms, characteristics and conventions of theatre from Aeschylus to Shakespeare. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 216</b>	<b>Modern Comedy: Moliere to Soyinka</b> Comedy as a genre. Texts of comedians from Moliere to Soyinka. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 217</b>	<b>European Theatre since Ibsen</b> European Theatre from Ibsen to Modern times. Theatre of the Absurd.	<b>2 Credits</b>

30h (T); C

- ENG 218 Introduction to Stylistics 2 Credits**  
Basic principles of linguistic and literary analysis. Features of texts which instigate markedness and corresponding implications for interpretation and appreciation of the discourse.  
30h (T); C
- ENG 219 English Syntax I 2 Credits**  
Major syntactic constituents: cohesive devices, concord, syntactic units and how coordinators and subordinators affect sentence varieties in a text. Essential elements of tense and concord.  
30h (T); C
- ENG 220 English Syntax II 2 Credits**  
Grammatical theories of syntax emphasizing the syntactic analysis of phrases and clauses. Detailed study of one theory of linguistic analysis. Some simple syntactic processes in English: passivization, nominalization and complementation.  
30h (T); C
- ENG 221 Introduction to American Literature 2 Credits**  
Selection of American imaginative works. Role in historical and political developments. Major American authors in the various genres.  
30h (T); C
- ENG 222 Introduction to African Literature 2 Credits**  
Development of African literature in English from a literary historical perspective. African poetry, African drama and African prose or fiction. Developments in literary genres, language and movements.  
30h (T); E
- ENG 223 English Literature: The Renaissance Period 2 Credits**  
Literary movements, themes and major authors from the Accession of the Tudors to the Restoration of Charles II.  
30h (T); C
- ENG 224 English Literature: Neo-Classical Period 2 Credits**  
Convention and Realism from the Restoration to the end of the Neo-classical Age.  
30h (T); C



- ENG 226**      **English Literature from the Beginning**      **2 Credits**  
Literary types and sub-types from Anglo-Saxon invasion to the Norman Conquest.  
**30h (T); C**
- ENG 304**      **Introduction to Semantics**      **2 Credits**  
Concentration on sense properties and sense relations. Problems of word versus sentence including meaning and semantic markedness. Situating the course within the general framework of linguistic semantics.  
**30h (T); C**
- ENG 306**      **Discourse Analysis**      **2 Credits**  
Introduction to the principle and practice of discourse analysis. Practical analysis, study and description of relevant textual materials. Features of coherence, cohesion as intra and inter-sentential paragraph devices in texts.  
**30h (T); C**
- ENG 307**      **Introduction to Sociolinguistics**      **2 Credits**  
Basic concepts and applications of sociolinguistics. Relationship between language and society: language varieties, social dialects and the problems of multilingualism. Language in relation to development.  
**30h (T); C**
- ENG 315**      **English Literature: Romantic Movement**      **2 Credits**  
Representative authors and dominant literary features of the Romantic period.  
**30h (T); C**
- ENG 316**      **English Literature: Victorian Period**      **2 Credits**  
Representative authors and dominant literary features of the Victorian period.  
**30h (T); C**
- ENG 317**      **English Literature: Modern Period**      **2 Credits**  
Representative authors and dominant literary features of the twentieth century.

<b>ENG 321</b>	<b>30h (T); C</b> <b>African Drama</b> Origin and development of written dramatic works in Africa. Response of African writers through theatre to cultural, social and political situation. Close study of the works of the major dramatists in the various regions of the continent. <b>30h (T); C</b>	<b>2 Credits</b>	
<b>ENG 323</b>	<b>Seminar in Criticism</b> Writing seminar designed to develop skill and insight. Writing of critical essays: poetry, drama and prose. <b>30h (T); E</b>	<b>2 Credits</b>	
<b>ENG325</b>	<b>Contemporary English Usage</b> English in its contemporary form. Variations according to uses and users. Notion of correctness and grammaticalness. Problem of defining 'Standard English' worldwide. <b>30h (T); C</b>	<b>2 Credits</b>	
<b>ENG 326</b>	<b>Phonology of English</b> distinctive and generative of English. Segmental and non-segmental phonemes. Organization and analysis of phonological features in connected speech. <b>30h (T); C</b>	<b>2 Credits</b>	Approaches to phonemic, prosodic,
<b>ENG 327</b>	<b>A Survey of Applied Linguistics</b> Approaches to language analysis in the classroom: contrastive analysis, error analysis, discourse analysis. English for specific purposes, including computer-assisted language learning and the internet. Practical application of the various analytical models and implications for teaching. <b>30h (T); C</b>	<b>2 Credits</b>	
<b>ENG 328</b>	<b>Creative Writing II</b> Practical class. Advanced stimulation of latent creative skills. Poetry, drama and prose. <b>30h (T); E, PR: ENG 210</b>	<b>2 Credits</b>	
<b>ENG 329</b>	<b>The English Language in Nigeria</b>	<b>2 Credits</b>	

History, features and functions of English in Nigeria. Emergence of virile local varieties and changes leading to the evolution of a Nigerian standard. Examination of English, National language question and language attitudes among Nigerians.

**30h (T); C**

**ENG 330**

**Philosophy of Language**

**2 Credits**

Contemporary issues in the philosophy of language: private language, meaning and reference, naming and necessity theories of description, indexical reference and the language of thought. Isolation, clarification and solutions to language problems.

**30h (T); E**

**ENG 331**

**Grammatical Theories**

**2 Credits**

Major theories of grammatical description: traditional, structural, systemic and transformational-generative theories of grammar and impacts on the description of English.

**30h (T); E**

**ENG 332**

**Principles of Semiotics**

**2 Credits**

Science of signs and sign systems. Meta-language of semiotics and the process of semiotic analysis. Application of semiotics to communication in social context.

**30h (T); E**

**ENG 333**

**English for Professional Purposes**

**2 Credits**

Vocabulary, sentence structure and writing styles of English in banking, law, advertising, administration, business, the media, among others. Critical examination, study and production of texts in different professions.

**30h (T); E**

**ENG 334**

**Systemic Grammar**

**2 Credits**

Guide to the patterns and organization of English at the morpheme, word, group, clause and sentence levels. Categories of unit, class, structure and system of English. Surface and deep structures of grammar.

**30h (T); C**

<b>ENG 335</b>	<b>African Poetry</b> Origin and developments of written poetry in various parts of Africa. Poetic movement, categories, literary language and selected poetry anthologies. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 336</b>	<b>African Fiction</b> Study of novels by Major African and non-African authors. African themes, life and experiences. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 338</b>	<b>Introduction to the Literature of Black Diaspora</b> Concept of Black Diaspora. General survey of roots and sources in the literature of Black Diaspora: major stages, periods, influences; major themes, including themes of alienation, dislocation, colonization and neo-colonization. <b>30h (T); E</b>	<b>2 Credits</b>
<b>ENG 339</b>	<b>Research Methods I</b> Methods and tools of research: question, hypothesis, population and sampling, instrUTMENTation, literature review, and others. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 340</b>	<b>Literary Criticism</b> Critical and literary traditions across periods. Forms of criticisms, including genre, deconstruction, archetypal, formalist, etc. (Only for Literature emphasis) <b>30h (T); C</b>	<b>2 Credits</b>
<b>ENG 342</b>	<b>Introduction to the Practice of Theatre</b> Rudiments of theatre practice: choice of play, casting, directing, costuming, lighting, stage management and theatrical productions. Stimulating theatrical process through production of short plays or theatrical sketches. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>
<b>ENG 421</b>	<b>Trends in Syntax</b> Syntactic treatment of topics of relevance or currency: pro-nominalization, complement structures, case marking, thematic roles, negation, grammatical categories, tense, aspect, mood, tense marking.	<b>2 Credits</b>

**30h (T); E**

- |                |  |                  |
|----------------|--|------------------|
| <b>ENG 422</b> | <b>Pragmatics</b><br>Utterance meaning as distinct from sentence meaning. Socio-cultural and linguistic rules that determine correct interpretation of terms in the real world.<br><b>30h (T); E</b>   | <b>2 Credits</b> |
| <b>ENG 423</b> | <b>Psycholinguistics</b><br>Relationship between language and mind: language acquisition, language learning, thinking and cognition, language and the brain, language localization, linguistic performance and behavior. Production and comprehension, and language impairment.<br><b>30h (T); E</b>                         | <b>2 Credits</b> |
| <b>ENG 424</b> | <b>Multilingualism</b><br>Identification, study and analyses of problems of national languages. Official orthographies, languages as school subjects, language policy and language planning. Reference to position of English in multilingual Africa and other continents.<br><b>30h (T); E</b>                              | <b>2 Credits</b> |
| <b>ENG 425</b> | <b>English for Specific Purposes</b><br>Pre-conditions for functional and goal-oriented English language learning in meeting linguistic and communicative needs of specialist students. Formulation, administration and follow-up of English language teaching curriculum in applied contexts.<br><b>30h (T); E</b>          | <b>2 Credits</b> |
| <b>ENG 426</b> | <b>Language and National Development</b><br>Constraints and prospects placed on national development by the linguistic situation in developing African nations. Language as the most effective means of human communication and as cornerstone of mass participation in the development process itself.<br><b>30h (T); E</b> | <b>2 Credits</b> |
| <b>ENG 427</b> | <b>Speech Writing</b><br>Speech writing as a communication skill. Speech types, organization and mechanics of speech writing.<br><b>30h (T); E</b>   | <b>2 Credits</b> |
| <b>ENG 428</b> | <b>Language and Media Studies</b>  | <b>2 Credits</b> |

Major characteristics of language usage as a second language. Media aspects in the 21<sup>st</sup> Century Africa: Print, Broadcast, Information Technology, Media Literacy and Culture, Attitude Cultivation and Conditioning, and Rural Communication. Review of major media theories: Mass Society Theory, Limited Effect Theory, Cultural Theory, Critical Cultural Theory and others.

**30h (T); E**

**ENG 429**

**Studies in Fiction**

**2 Credits**

Novel as a form of literary expression. Textual analysis of major novels written in or translated into English. Major theories of novel and different approaches in the criticism of fiction.

**30h (T); E**

**ENG 430**

**Studies in Poetry**

**2 Credits**

Major poetic forms in English or translated into English. Genres of poetry and poetic forms developed in response to aesthetic and intellectual movement.

**30h (T); E**

**ENG 431**

**Studies in Drama**

**2 Credits**

Major dramatic works in English or translated into English. Texts adjudged to be representative of major landmarks in dramatic literature from the classical to the present will be studied.

**30h (T); E**

**ENG 432**

**Advanced Practical Theatre**

**2 Credits**

Major theatrical trends across periods: the Greek, Roman, Elizabethan, Jacobean, Italian, Renaissance and African theatres. Theories of the stage from Aristotelian through Naturalism to Absurdist theatre and related practices. Study of the African stage and the contemporary theatre practice.

**30h (T); E**

**ENG 433**

**Studies in Caribbean and African-American Literature**

**2 Credits**

Major works of selected authors in the Caribbean and Africans in America. Distinctive literary traditions of the regions: innovative literary language like Pidgin or Creole. Reinvention of genres, transposition of African oral traditions, and retrieval of African performance. Traditions in drama and poetry and use of the epic journey mode.

**30h (T); E**

<b>ENG 434</b>	<b>Studies in American Literature</b> Study of selected American poets, dramatists, novelists and literary autobiographers. History and political trends of the modern period. <b>30h (T); E</b>	<b>2 Credits</b>	
<b>ENG 435</b>	<b>Research Methods II</b> Data analysis and description. Research report writing: methods of citation, references, and bibliographic styles. Foundations and applications of statistical inference and probability. <b>45h (T); C</b>	<b>3 Credits</b>	
<b>ENG 436</b>	<b>Literature and the Media</b> Various outlets of circulating literature. Establishing literary features or tenets of literature produced in the media: newspaper, radio, Television, internet and literary magazines. Study of genres: newspaper poetry, newspaper short story, radio drama, internet short story and internet home video. <b>30h (T); E</b>	<b>2 Credits</b>	
<b>ENG 437</b>	<b>Stylistics</b> various sample literary texts by the principles of literary theory. Practice and principles of linguistic analysis. <b>45h (T); C</b>	<b>3 Credits</b>	Study, description and analysis of
<b>ENG 438</b>	<b>Modern Literary Theory</b> Recent trends in Literary Theory including their relevance to African Literature. <b>30h (T); E</b>	<b>2 Credits</b>	
<b>ENG 439</b>	<b>The Practice of Creative Writing</b> Techniques of fiction, verse, drama, literary biography and autobiography. <b>30h (T); E</b>	<b>2 Credits</b>	
<b>ENG 440</b>	<b>Fundamentals of Journalism</b>	<b>2 Credits</b>	

Historical development of newspapers in Nigeria. Functions of newspaper offices and officers. The Press and Press laws. The Press in Nigeria. News reporting. Free lancing. Professional code. Language of the Press.

**30h (T); E**

**ENG 499**

**Research Project**

**5 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**225h (P); C**

**Summary**

**100 Level**

<b>Compulsory Courses:</b>	ENG101 (2), 102 (2), 103 (2), 105 (2) 106 (3), 107 (3), 114 (2), 115 (3), 117 (3)	<b>= 22 Credits</b>
<b>Required Courses:</b>	GNS111 (2), 112 (2)	<b>= 4 Credits</b>
<b>Elective Courses:</b>	(a) 4 Credits from HIS, PFA, Religion, LNG, YOR, FRE, Arabic	<b>= 4 Credits</b>



(b) 3 Credits from ENG 116 (3), 118 (3), 119 (3) = 3 Credits

**Total = 33 Credits**

**200 Level**

**Compulsory Courses:** ENG 203 (2), 204 (2), 205 (2), 218 (2), 219 (2), 220 (2), -  
{215 (2) or 217 (2)} {216 (2) or 222 (2)} { (221) (2) or 223 (2)}  
{224 (2) or 226(2)} = 20 Credits

**Required Courses:** GNS211 (2), 212 (2) = 4 Credits

**Elective Courses:** (a) 4 Credits from HIS, PFA, Religion, LNG, YOR, FRE, Arabic  
= 4 Credits

(b) 5 Credits from ENG 206 (2), 207 (3), 209 (3), 210 (3)  
= 5 Credits

**Total = 33 Credits**

**DE Students:** GNS111 (2) & GNS112 (2) = 4 Credits

**Total = 37 Credits**

**300 Level**

**(a) Language Emphasis**

**Compulsory Courses:** ENG304 (2), 306 (2), 307 (2), 325 (2), 326 (2), 327 (2),  
329 (2), 334 (2), 339 (2) = 18 Credits

**Required Courses:** GNS311 (2), GSE 301(3) = 5 Credits

**Elective Courses:** At least 10 Credits from ENG315 (2), 328 (2), 330 (2), 331 (2), 332 (2),  
333 (2), 342 (2) = 10 Credits

**Total = 33 Credits**

**(b) Literature Emphasis**

**Compulsory Courses:** ENG315 (2), 316 (2), 317 (2), 321 (2), 335 (2), 336 (2), 339 (2), 340 (2)  
=16 Credits

**Required Courses:** GNS311 (2), GSE 301 (3) = 5 Credits

**Elective Courses:** At least 12 Credits from ENG 306 (2), 307 (2), 323 (2), 328 (2), 329 (2), 330 (2), 332 (2), 333 (2), 338 (2), 342 (2)  
= 12 Credits  
**Total = 33 Credits**

**400 Level**

**Compulsory Courses:** ENG 435 (3), 437 (3), 499 (5) = 11 Credits

**Elective Courses:**

(a) **Language Emphasis :** At least 22 Credits from ENG421 (2), 422 (2), 423 (2),  
424 (2), 425 (2), 426 (2), 427 (2), 428 (2), 429 (2), 430 (2), 431 (2),  
433 (2), 434 (2), 436 (2), 438 (2), 439 (2), 440 (2) = 22 Credits  
**Total = 33 Credits**

(b) **Literature Emphasis:** At least 22 Credits from ENG424 (2), 425 (2), 426 (2), 427 (2),  
428 (2), 429 (2), 430 (2), 431 (2), 432 (2), 433 (2), 434 (2), 436 (2),  
438(2), 439 (2), 440 (2) = 22 Credits  
**Total = 33 Credits**

**Graduation Requirements:**

UTME – 132  
DE - 103

## Courses Description

### B.A. French

#### For French Absolute Beginners/Minor without O/Level French or its equivalents

<b>FRE 101</b>	<b>French Sounds and Orthography</b> Basic network of rules governing the relationship between French sounds and French orthography. <b>15h (T), 90h (P); C</b>	<b>3 Credits</b>
<b>FRE 102</b>	<b>Oral French</b> Skills involved in pronunciation and articulation of French sounds both in isolation and in connected speech based on simple dialogues set in clear social contexts. <b>15h (T), 90h (P); C</b>	<b>3 Credits</b>
<b>FRE 103</b>	<b>Fundamentals of French Grammar I</b> Basic connections between French words and rules governing them. Identification and use of different features: noun, verb, pronoun, subject, object, among others. <b>15h (T), 90h (P); C</b>	<b>3 Credits</b>
<b>FRE 104</b>	<b>Fundamentals of French Grammar II:</b> Acceptable basic rules and principles in French. <b>15h (T), 90h (P); C</b>	<b>3 Credits</b>
<b>FRE 105</b>	<b>Reading in French</b> Competence in reading limited connected stretches in French: polysyllabic words, short phrases, sentences pronunciation, fluency and intonation. <b>15h (T), 90h (P); E</b>	<b>3 Credits</b>
<b>FRE 106</b>	<b>French Composition</b>	<b>2 Credits</b>

Short composition using elementary techniques of self-expression: Exaggeration, comparison, assertion, denial, hypothesis, interrogation, exclamation, and others.

**30h (T); E**

- FRE 107      Writing in French      2 Credits**  
Exploitation of the resources of French sounds and orthography to practice how to write correctly in French. Special features: capital letters, small letters and punctuation marks in French.  
**30h (T); C**
- FRE 108      Aspects of French Culture      2 Credits**  
Major characteristic features of French life, politics and culture: family structure, food, cooking, leisure, sport and implications for students' immediate society.  
**15h (T), 45h (P); E**
- FRE 109      Francophone Countries of West Africa      2 Credits**  
Francophone countries of West Africa: history, identification of socio-political institutions, languages spoken and key linkages with France.  
**15h (T), 45h (P) ; E**

#### **Courses For German Minor**

- GRM 101      German Sounds and Orthography      3 Credits**  
Basic network of rules governing relationship between German sounds and orthography.  
**15h (T), 90h (P); C**
- GRM 102      Oral German      3 Credits**  
Skills involved in pronunciation and articulation of German sounds both in isolation and in connected speech based on simple dialogues set in clear social contexts.  
**15h (T), 90h (P); C**
- GRM 103      Fundamental of German Grammar I      3 Credits**

Basic connections between German words and rules governing them. Identification and use of different features, including noun, verb, pronoun, subject, object.

**15h (T), 90h (P); C**

**GRM 104      Fundamentals of German Grammar II      3 Credits**

Acceptable basic rules and principles in German.

**15h (T), 90h (P); C**

**GRM 105      Reading in German      3 Credits**

Competence in reading limited connected stretches in German: polysyllabic words, short phrases, sentences pronunciation, fluency and intonation.

**15h (T), 90h (P); E**

**GRM 106      German Composition      2 Credits**

Short composition using elementary techniques of self-expression: Exaggeration, comparison, assertion, denial, hypothesis, interrogation, exclamation, and others.

**15h (T), 45h (P); E**

**GRM 107      Writing in German      2 Credits**

Exploitation of the resources of German sounds and orthography to practice how to write correctly in German. Special features: capital letters, small letters and punctuation marks in German.

**15h (T), 30h (P); E**

**GRM 108      German Culture and Civilisation      2 Credits**

German people and movement. Geography of German speaking nations. German former colonies.

**30h (T); E**

**Course Description**

**100 Level**

**FRE 111      Laboratory Work      2 Credits**

French speech, Fluency, speed, audition of phonic and grammatical patterns. Acquisition of speech, automation and mastery of the language.

**15h (T), 45h (P); C**

<b>FRE 113</b>	<b>Corrective Grammar I</b> French grammatical structures: exercises, practice of structural forms and dictation. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>	
<b>FRE 115</b>	<b>Extensive Reading of Prescribed Texts I</b> Reading of prescribed texts from the “Français Facile” series. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>	
<b>FRE 117</b>	<b>French Conversation I</b> Use of French and Francophone documents including songs and short plays. Free communication, expression and vocabulary. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>	
<b>FRE 119</b>	<b>Composition Writing in French I</b> descriptive French writing. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>	Basic skills in narrative and
<b>FRE 121</b>	<b>French Phonetics</b> Acquisition of good pronunciation of French sounds. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>	
<b>FRE 123</b>	<b>Corrective Grammar II</b> Characteristics of separate units: elements of sentence structure, verb, noun, objects and prepositional phrases. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>	
<b>FRE 125</b>	<b>Extensive Reading of Prescribed Texts II</b> Reading of advanced prescribed texts from the “Français Facile” series. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>	
<b>FRE 127</b>	<b>French Conversation II</b> Lexical acquisition and fluency of spoken French. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>	

<b>FRE 129</b>	<b>Composition Writing in French II</b> Advance composition writing, exposition, and argumentation relating various registers of written French language to appropriate themes. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>FRE 131</b>	<b>Topics in French Civilisation</b> French society and culture. Landmarks of French social and political history. <b>30h (T); E</b>	<b>2 Credits</b>
<b>FRE 210</b>	<b>French Grammatical Structures</b> Practice and identification of verbal forms, sentence and grammatical structures. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>FRE 211</b>	<b>Introduction to Translation</b> Theory and practice of translation from and into French. Translating French and English single sentences. Similarities and dissimilarities between both languages. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>FRE 213</b>	<b>Studies in Aural and Written Comprehension</b> Study and analysis of French registers: French and Francophone newspapers, administrative, commercial, technical and literary excerpts. <b>30h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>FRE 215</b>	<b>Introduction to Francophone African Literature</b> African literature as aesthetic drive to convey various meanings and messages using prescribed texts. <b>30h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>GRM 201</b>	<b>Introduction to German</b> German as second foreign language, illustrating current main literary movements in German. <b>15h (T), 45h (P); R</b>	<b>2 Credits</b>
<b>FRE 231</b>	<b>Introduction to French Drama</b> French and Francophone plays, drama theory, artistic elements, themes, forms. <b>30h (T); E</b>	<b>2 Credits</b>
<b>FRE 233</b>	<b>Critical Appreciation of Literature</b>	<b>2 Credits</b>

Practice of literary appreciation written expression: “l’explication de texte”, résumé de texte”, “l’analyse littéraire” and “le commentaire de texte”.

**30h (T); E**

- FRE 221      Theory and Practice of Translation      2 Credits**  
Advance theory and practice of translation from and into French. Translating French and English single sentences. Similarities and dissimilarities between both languages.  
**15h (T), 45h (P); C**
- FRE 222      Advanced Composition written in French      2 Credits**  
This course is a more advanced form of FRE 119 and 129. It improves upon the various skills and techniques of composition writing in French already acquired in the previous year.  
**15h (T), 15h (P); E**
- FRE 223      Introduction to French Phonetics and Phonology      3 Credits**  
Introduction to systematic description of French sounds both at the phonetic and phonological levels.  
**30h (T), 45h (P); C**
- FRE 225      Survey of French Literature 16<sup>th</sup> & 17<sup>th</sup> Centuries      2 Credits**  
Major trends of the French literary history. Theory and practice of literary schools including “la Renaissance”, “la Pleiade”, “Classicism”.  
**90h (P); C**
- GRM 202      Proficiency Course in German      2 Credits**  
Advanced German. Developing communicative in German texts, songs and short plays.  
**15h (T), 45h (P); R**
- FRE 241      Introduction to Poetry      2 Credits**  
Practical anatomy of poetry based on French and Francophone poems. Nature of poetry and its stylistic devices.  
**30h (T); E**
- FRE 243      Introduction to the Culture and Civilisation of Francophone Africa      2 Credits**  
Study of social, economic and cultural life of Francophone African countries; Nigeria’s French speaking neighbours.  
**30h (T); E**
- FRE 310      Advanced Studies in French Language Structures I      2 Credits**



Fluency and understanding of the French language using intensive exercises in the production and comprehension of complex sentence patterns.

**15h (T), 45h (P); C**

- FRE 311      Communication Skills in French I      2 Credits**  
Communication skills in French. Oral and written communication skills. Development of Laboratory work, films, slides, games and songs.  
**15h (T), 45h (P); R**
- FRE 313      Practical Translation I      2 Credits**  
Basic skills and techniques of translation from French into English and vice versa.  
**15h (T), 45h (P); C**
- FRE 315      Advanced Studies in French Phonetics I      2 Credits**  
Advance French sound production and discrimination through oral exercises and laboratory work.  
**15h (T), 45h (P); C**
- GRM 301      German Grammar in Communication      2 Credits**  
Structure of German grammatical formations, lexical expansion techniques, nominative and accusative cases.  
**15h (T), 45h (P); R**
- FRE 331      Culture and Civilisation of France      2 Credits**  
Social, economic and cultural life of France from the period of the 1789 Revolution to date.  
**30h (T); E**
- FRE 333      Trends in African Literature Written in French      2 Credits**  
Literary trends of African literature. General definition, nature and specificity of African literature written in French.  
**30h (T); E**
- FRE 335      18<sup>th</sup> Century French Literature      2 Credits**  
Landmarks of 18<sup>th</sup> century French literature, Encyclopédie; history structure, characteristics, main ideas and major contributors. Authors to be studied: Voltaire, Diderot, Beaumarchais, Montesquieu, Marivaux, and Rousseau.  
**30h (T); E**
- FRE 320      Advanced Studies in French Structures II      2 Credits**  
Trends in French semantic studies from the traditional to the modern structural approaches.

**15h (T), 45h (P); C**

- FRE 321      Communication Skills in French      2 Credits**  
Advanced communication skills in French. Oral and written communication skills. Development of Laboratory work, films, slides, games and songs.  
**15h (T), 45 (P); C**
- FRE 325      Advanced Studies in French Phonetics II      2 Credits**  
Advanced speech sounds in the French language. Dimensions of sound description and representation.  
**15h (T), 45h (P); C**
- FRE 327      Introduction to Research      2 Credits**  
Data analysis and description. Research report writing: methods of citation, references, and bibliographic styles. Foundations and applications of statistical inference and probability.  
**30h (T); C**
- GRM 302      German Grammar in Communication II      2 Credits**  
Advanced structure of German grammatical formations, lexical expansion techniques, nominative and accusative cases.  
**15h (T), 45 (P); R**
- FRE 341      Culture and Civilisation of Francophone Africa      2 Credits**  
French speaking African Communities. Historical, political and social realities.  
**30h (T); E**
- FRE 343      Practical Translation II      2 Credits**  
Translation of more complicated texts from and into French. Basic principles of the theory of Translation.  
**15h (T), 45h (P); E**
- FRE 345      Introduction to Basic Prose      2 Credits**  
French and Francophone prose fiction. Introduction to the anatomy of prose, main features and its aesthetic elements.  
**30h (T); E**
- FRE 410      Linguistics Applied to the teaching to French Language I      2 Credits**  
Linguistic principles. Demonstration of application of linguistic principles to French Language teaching.  
**15h (T), 45h (P); C**

- FRE 411      Advanced Communication Skills      2 Credits**  
 Communication skills in French grammatical content. Structures conveying diverse messages. French language and structural ambiguities. Salient inter-language, ambiguities and false correspondences. Themes and structures, including presentation of debates, quiz, short plays.  
**15h (T), 45h (P); C**
- FRE 413      Contemporary African Literature in French      2 Credits**  
 Development of genres African Literature of French expression from the Negritude to the Post-colonial period. Study of trends of post-colonial works of contemporary authors with at least two main genres.  
**30h (T); C**
- FRE 420      Linguistics Applied to the Teaching of French Language II      2 Credits**  
 Social and linguistic norms affecting French language learning. Distinction between French as a Foreign Language (FLE) and French as wither Mother Tongue (FLM) or Second Language (FLS). Relating French Language learning to the Nigerian environment: *interférence, interlangue, and facilitation*.  
**30h (T); C**
- FRE 423      20<sup>th</sup> Century French Literature      2 Credits**  
 Highlights of French literature of the 20<sup>th</sup> century. Genres and literary movements, including *le Dadaïsme, le surréalisme, l'Existentialisme, l'absurde, Le Nouveau Roman*. Illustrative study of these movements by Jean-Paul Sartre, Albert Camus, Michel Butor, Alain Robbe-Grillet and Nathalie Sarraute.  
**30h (T); C**
- FRE 431      19<sup>th</sup> Century French Literature      2 Credits**  
 Highlights of 19<sup>th</sup> century French literature. Genres and literary movements including: *le pré-romantisme, le romantisme, le parnasse, le réalisme, le naturalisme, le symbolisme* of Madame de Staël, Chateaubriand, Victor Hugo, Leconte de Lisle, Balzac, Flaubert, Sola, and Mallarmé.  
**30h (T); E**
- FRE 433      African Oral Literature      2 Credits**

Principles and practice of Oral Literature in Francophone Africa. Major oral texts transcription and translation from African languages into French in the light of established canons.

**30h (T); E**

**FRE 435      Advanced Translation I**

**2 Credits**

Definition and types of Translation: interlingual, intralingual, intersemiotic. Servitude and option. Equivalence in theme and version. Translation procedures: literal, borrowing, *calque*, *transposition*, *modulation*, *equivalence*, *adaptation*. Practical translation of variety of texts: literary, pragmatic, commercial, religious, educational, technical, medical, among others.

**15h (T), 45h (P); E**

**FRE 437      Creative Writing in Practice**

**2 Credits**

Practical skills for writing creatively and imaginatively. Study and production “mini work of arts”.

**15h (T), 45h (P); E**

**FRE 439      Culture and Civilisation of Francophone Communities of Maghreb,  
Europe and America**

**2 Credits**

Social, political and economic life of Francophone Countries of Maghreb, Europe (excluding France) and America. Francophone communities in Maghreb, Algeria, Tunisia, Morocco and Egypt. Francophone communities in Europe: Belgium, Switzerland, Luxembourg and Monaco. Francophone communities in the Americas, Haiti, Canada and U.S.A.

**30h (T); E**

**FRE 441      French Morpho-syntax**

**2 Credits**

Morphological and syntactic characteristics of the French Language. Lexical formation, affixation, sentence constituents and clause categorization.

**30h (T); E**

**FRE 443      Literary Criticism in French**

**2 Credits**

Basic techniques of analyzing, interpreting and appreciating literary works of art. Structures and forms of modern approaches to critical analysis and interpretation of literature.

**30h (T); E**

**FRE445      Advanced Translation II**

**2 Credits**

Translation of texts of various nature, genres, interest and profession: prose, drama and poetry. Discussion and proposed solutions of translation. Application of theories of translating from French into English and vice versa. Different types of texts: literary, scientific, technical, legal, commercial, cultural and educational. Specificity of French and English, and extra-linguistic factors in translation.

**15h (T), 45h (P); E**

**FRE 447      Background Studies of Francophone Africa**

**2 Credits**

Present sociological realities of Francophone Africa. Ethnic groups of various Francophone countries in Africa. Problems created by the total domination of French language on other local languages. Economic and political factors at play in this part of Africa. Rapport between Francophone and Anglophone Africa.

**30h (T); E**

**FRE 449      Caribbean Francophone Literature**

**2 Credits**

Development and major trends in Caribbean literature of French expression from the Negritude through Antillanité to Créolite using the works of Aimé Césaire, and Edouard Glissant. Study of selected works of notable writers including Aimé Césaire, Sony Rupaire, Michele Lacrosil, Maryse Condé, Gisele Pineau, Hector Pouillet.

**30h (T); E**

**FRE 499      Research Project**

**5 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an approved area by the Department, culminating in the submission of a project.

**225h (P); C**

## SUMMARY

### 100 LEVEL

**Compulsory Courses:** FRE111 (2), 113 (2), 115 (2), 117 (2), 119 (2), 121 (2), 123 (2), 125 (2), 127(2), 129 (2)  
= **20 Credits**

**Required Courses:** GNS111 (2), GNS112 (2) = **4 Credits**

**Electives Courses:** At least 6 Credits: ENG 101 (2), LIN 101 (2), FRE 131 (2), LIN 108 (2),  
MAC 111 (2), and/or any relevant course from other Department  
= **6 Credits**

**Total = 30 Credits**

### 200 Level

**Compulsory Courses:** FRE 210 (3), 211 (2), 213 (3), 215 (2), 221 (2), 223 (2), 225 (2)  
= **16 Credits**

**Required Courses:** GRM 201 (2), 202 (2), GNS 211 (2), 212 (2) FRE 241 (2)  
= **10 Credits**

**Elective Courses:** At least 4 Credits: FRE 231 (2), 233 (2), 242 (2), 243 (2), and/or a two  
units 100L course in Sociology or any other course. = **4 Credits**

**Total = 30 Credits**

**DE Students:** GNS111 (2) & GNS112 (2) = **4 Credits**

**Total = 34 Credits**

### 300 Level

**Compulsory Courses:** FRE 310 (2), 311 (3), 315 (2), 320 (2), 321 (2), 325 (2), 327 (2)  
= **16 Credits**

**Required Courses:** GRM 301 (2), 302 (2), GSE 301 (2), GNS 311 (2)  
= **8 Credits**

**Electives Courses:** At least 6 Credits from the following: FRE 331 (2), 333 (2), 335 (2),

341(2), 343 (2), 345 (2)

= 6 Credits

**Total = 30 Credits**

**400 Level**

**Compulsory Courses:** FRE 499 (5), 410 (2), 411 (2), 413 (2), 420 (2), 423 (2) = 15 Credits

**Electives Courses:** At least 16 Credits from the following:

FRE 431 (2), 433 (2), 435 (2), 437 (2), 439 (2), 441 (2), 443 (2), 445 (2), 447 (2), 449 (2)

= 16 Credits

**Total = 31 Credits**

**Graduation Requirements:**

**UTME - 121 Credits**

**DE - 95 Credits**

**DEPARTMENT OF HISTORY AND INTERNATIONAL STUDIES**

**Course Description**

**B.A. History & International Studies**

**HIS 101      Nigeria from 1500 AD to 1800 AD**

**3 Credits**

Historical developments from about 1500 AD to 1800 AD. State formation and inter-group relations politics religion, economy and socio-cultural activities.

**45h (T); C**

**HIS 104      North Africa from the First Conquest of Egypt to 1500 A. D**

**3 Credits**

Egypt and the beginnings of civilization. Occupation by foreign powers including Libya, Greeks and Romans. Spread of Islam in North African States, and relationship with West Africa.

**45h (T); C**

**HIS 109      History of International Relations and Diplomacy**

**3 Credits**



Scope of international relations, international law, and interaction between nation-states. International politics and international systems. Functions and limitations of diplomacy. Types of diplomacy: traditional, conference, preventive diplomacy. Diplomatic relations, negotiations, pacts and treaties,

**45h (T); C**

**HIS 110**

**Blacks in the Diaspora**

**3 Credits**

Black communities found outside their home lands. Factors responsible for their dispersal and their roles in contemporary world affairs.

**45h (T); E**

**HIS 122**

**Economic and Diplomatic Relations of West Africa up till the 20th Century**

**3 Credits**

History of diplomacy. Meaning and classifications of diplomats and consuls. Duties and functions of diplomatic and consular personnel. Establishment and termination of diplomatic relations, diplomatic privileges and immunities. Concept of policy and strategic studies. Elements and types of strategy. Major economic developments and activities in the West African region in the 19<sup>th</sup> century, highlighting the motivating factors of demand and supply from within, and the external factors engendered by the European penetration of West Africa and the industrial revolution in Europe.

**45h (T); C**

**HIS 127**

**Introduction to Archaeology and Major World Civilisations**

**3 Credits**

Archaeology: meaning, development, methods, principles and techniques. Relevance of inter-disciplinary approach to the study of history. Reconnaissance, excavation, artifact study and museum. Case studies include Nok, Benin, Oyo and Igbo-Ukwu. General survey of some of the major world civilizations and their major contribution to historical developments including the Egyptians, the Arabs, the Greeks, the Romans, the Chinese and the Europeans.

**45h (T); C**

**HIS 128 Introduction to Political Economy of African States 1500-1900 AD 3 Credits**

Relationship between politics and economics. Economics as determinants of politics. Class analysis and political power relations of African states. Production and politics with emphasis on the development of law in African society.

**30h (T); E**

**HIS 201 The Nigerian Region 1800-1914 A.D. 3 Credits**

Major developments, including internal and external factors, which brought the Nigerian communities into a nation state.

**45h (T); C**

**HIS 204 History of Latin America from the 15<sup>th</sup> Century to the 20<sup>th</sup> Century 3 Credits**

Early empires and civilizations. Incas and the Aztecs (Peru and Mexico), contact with Europe from the times explorations. Spanish and other colonialists. Struggle for independence including the railway boom and foreign factors. Development after independence, the French adventure, the 20<sup>th</sup> century problems of governance in the area; revolutions and instability.

**45h (T); C**

**HIS 206 USSR in the 19<sup>th</sup> and 20<sup>th</sup> Centuries 3 Credits**

Historical developments in Russian history: Russia under Alexander I; Russia and Ottoman Empire up to the Crimean War of 1853 to 1856 and the effects of the war, Serfdom, and Emancipation of 1861 under Tsar Alexander II. Growth of the press and universities and the emergence of a critical intelligentsia and revolutionary Marxism and industrialization in the late 19<sup>th</sup> century. The Russo-Japanese war 1904, Russian revolution of 1917, the Civil War, 1919-1920, the roles of social revolutionaries and the formation of USSR, Mensheviks, Lenin and his New economic policy, Stalin and “Socialism in one Country”, USSR in the second

world war and the Cold War. The emergence of the Socialist economic bloc and its orientation and characteristic features, the fall of the Berlin wall and the disintegration of the USSR.

**45h (T); C**

**HIS 207 Africa and European Imperialism**

**3 Credits**

Internal and external factors and developments which created the setting in Europe and Africa for European imperialism and its impact on Africa and the world.

**45h (T); C**

**HIS 208 History of East and Central Africa since 1800 AD**

**3 Credits**

State formation and consolidation in this region analyzing the internal and external factors of warfare, conquest and trade. Arab and European imperialism; independence movements, regional organisations and the struggle for survival.

**45h (T); C**

**HIS 209 History of the Ottoman Empire and North Africa since 1590 AD**

**3 Credits**

History of North Africa and Ottoman Empire since the 16<sup>th</sup> century using the fall of Constantinople as a background. Highlight of subsequent development of Ottoman Turkey in international relation to the treaty of Kutchuk Kinarji 1774, Crimean war, 1853-1856, the crises of the Young Turks, 1908, the Balkan wars 1911-1913 and the First World War, 1914-1918.

**45h (T); C**

**HIS 210 Europe from the French Revolution to the 2<sup>nd</sup> World War**

**3 Credits**

Impact of French revolution on Europe and the subsequent development leading to the 2<sup>nd</sup> World War and the inter-war years and the Second World War and their impact.

**45h (T); E**

- HIS 212      Foundation of African Culture and Civilisations      3 Credits**  
Man, culture and technology in Africa and the changes that have produced the “classical” cultures of African peoples.  
**45h (T); E**
- HIS 221      Philosophy of History and International Studies      3 Credits**  
Nature of history and international relations, their development as academic disciplines and their relevance to the society.  
**45h (T); C**
- HIS 307      History of the Commonwealth      3 Credits**  
Process, arguments and activities by which the old British Empire ruled from Whitehall and transformed into a Commonwealth of independent and friendly nations. Imperial Federation idea, Colonial conferences of 1897, 1902, 1887, 1911, the First World War and its effects, imperial conferences of 1917, 1921, 1923, 1926 and the Balfour declaration. Imperial conferences of the 1930s, World War II and its effects, and the decolonization process. The modern Commonwealth of Nations.  
**45h (T); C**
- HIS 322      History Research Methods      3 Credits**  
Sources of information, the methods of collections, analysis, usage and evaluation of historical data. Practical exposure to the library, the archives, and field work for the collection for oral tradition.  
**45h (T); C**
- HIS 323      History of Southern Africa from 1652 to the Present      3 Credits**  
Internal developments in the Southern Africa region and external factor of the Europeans as adventurers, explorers, settlers, miners and rulers up to the present. Developments in Southern Africa in the 20<sup>th</sup> century. The defeat of local resistance and the

introduction of the Portuguese rule in Angola and Mozambique, extension of the British South African company (BSAC), the creation of the native affairs development in Angola, termination of German rule in Namibia, formation of African National Congress, institutionalization of apartheid policy in South Africa, domestic and international oppositions to apartheid, Nationalists struggle against white minority regimes and for independence in the various southern Africa States. Post-independence developments in the Southern African States.

**45h (T); E**

**HIS 326      International Political and Economic Systems since 1945      3 Credits**

Developments and nature of the international political economy. Theories and concepts of imperialism, hegemony and globalisation. The major world wars (1<sup>st</sup> and 2<sup>nd</sup>), the crises in Vietnam, Middle East, Angola and Southern Africa, the emergence of World Super Powers, the cold war and threats to peace. Efforts to resolve world crises through international organisations. Competing world blocks: NATO and the Warsaw Pact. Development of weapons by the Super Powers and poverty in the Third World countries. Establishment, evolution and nature of the contemporary political systems. Scope and major trajectories of the various issues in the international agenda.

**45h (T); C**

**HIS 328      Africa and International Affairs in the 20<sup>th</sup> Century      3 Credits**

Political and economic developments within Africa and international relations among African states and the outside world. Efforts of the African States in regional and continental organisations to solve the problems of political instability and continental unity.

**45h (T); C**

**HIS 329      Field Trip      2 Credits**

Field trip to governmental, quasi-governmental and non-governmental institutions to gain firsthand experience in policy formulation, analysis and implementation. Each student is required to submit a field trip report.

**30h (T); C**

- HIS 330      The Third World in International Relations      3 Credits**  
Emergence of the Third World countries and their impact in world politics. Imperialism, colonialism, decolonisation, and neo-colonialism, determinants of foreign policy making in Third world countries. Demand for a New International Economic Order (NIEO). Politics of the North-South Dialogue, Non-alignment, politics of debt crises, diplomacy of Afro-Asian blocs in the United Nations and other multilateral international organisations and institutions.  
**45h (T); E**
- HIS 331      History of the USA since 1945      3 Credits**  
Economic development in the U.S.A. Issues of slavery, the Civil War, reconstruction after 1865 and industrialization in the 19<sup>th</sup> Century.  
**45h (T); C**
- HIS 403      Economic History of Nigeria in the 20<sup>th</sup> Century      3 Credits**  
Factors of change and continuity in the patterns of economic activities in Nigeria. Political, economic antecedents and colonial setting. Infrastructural development and the exploitation of agricultural and mineral resources. Manpower needs, training and issues of labour.  
**45h (T); C**
- HIS 404      OAU and AU: Issues in African International Relations      3 Credits**  
Origins, formation and the role of the Organisation of African Unity (OAU) in intra-African relations. Problems and achievements of the organization. The transformation of the OAU to African Union.  
**45h (T); C**

- HIS 405      Development of Parliamentary Systems (Britain, France and India)      3 Credits**  
 Comparative discussion of parliamentary systems as practiced by Britain, France and India. Common trends and distinguishing differences viewed against the varying historical experiences of the communities involved.  
**45h (T); C**
- HIS 406      Contemporary History of the Middle East      3 Credits**  
 The Palestinian question. Effects of the Second World War and the creation of the state of Israel on the region; the Suez Crises; the Arab-Israeli conflicts; the role of the Super Powers and the efforts at bringing peace to the region.  
**45h (T); C**
- HIS 407      Special Paper      4 Credits**  
 Students are to choose any one of the following themes, which are aimed at exposing students to the use of documents to interpret historical development: The Mau-Mau; Evolution of Nigerian Administration; The Atlantic Slave Trade; Power and politics in 19<sup>th</sup> century Hausa land; Trade and politics in the Middle Niger and lower Benue 1830-1900; Ilorin and its region 1850; Indigenous technology in West Africa since 1850; The struggle for Nigeria's independence 1945-1960. Africa and European Imperialism 1880-1914; The O.A.U.: A study in the Quest for African Unity 1960-1963; Economic Change in Lagos and its Hinterland 1880-1914; The Nigerian Civil War 1967-1970; Pre-history of the Nigerian region  
**60h (T); C**
- HIS 410      History of Science and Technology from 1500-1980      3 Credits**  
 Developments, which have taken place in Science and Technology  
**45h (T); C**
- HIS 411      Land and Labour in Africa      3 Credit**

Land and labour in Africa. Traditional land tenure systems in Africa; patterns of responses to the dynamics of changes occasioned by population explosion and environmental challenges. History of Labour from the stage of self-employment to hired (wages) and organized labour and their Unions and the question of governmental control.

**45h (T); E**

**HIS 412      Philosophy of History      3 Credits**

History, its development as a discipline and its relevance to the society.

**45h (T); C**

**HIS 421      African and European Political Thoughts      3 Credits**

Modern African political thoughts. Consideration of the works of Plato, Aristotle, Russell, Hobbes, Roseau, Bodin, Machiavelli and others and the effect of these works on the nature and evolution of the modern state systems

**45h (T); C**

**HIS 422      African Government and Politics      3 Credits**

Politics and governance in selected post-colonial African states. Various approaches in the quest for African Unity. Neocolonialism and globalization of the African economy.

**45h (T); E**

**HIS 423      Problems and Prospects of Regional Integration in Africa      3 Credits**

Regional organizational setup in Africa and the joint efforts of the African States to facilitate economics developments. Problems encountered and the prospects of such efforts

**45h (T); C**



- HIS 424**      **Conduct and Administration of External Relations**      **3 Credits**  
Conduct and administration of Nigerian Foreign policy from independence to the present. The structure, instruments and machinery of foreign policy making and implementation under the various regimes and the major facets of Nigeria's external relations.  
**45h (T); C**
- HIS 426**      **Themes in History and International Studies**      **1 Credit**  
Perspectives in history and international affairs based on selected themes such as war, peace, treaties, imperialism, environmental crises , terrorism and globalization.  
**15h (T); C**
- HIS 499**      **Project**      **5 Credits**  
Each student, under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.  
**225h (P); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** HIS 101 (3), HIS104 (3), HIS122 (3), HIS127 (3), HIS128 (3)  
= 15 Credits

**Required Courses:** GNS 111(2)112(2) = 4 Credits

**Departmental Elective Courses:** HIS109 (2), HIS110 (2) = 4 Credits

**Elective Courses:** At least three (3) Credits from courses offered by other Departments in the Faculty of Arts: RCS 123 (2), RIS 121 (1) = 3 Credits

**TOTAL = 26 Credits**

### 200 Level

**Compulsory Courses:** HIS 201(3), HIS 204 (3), HIS 206 (3), HIS 207 (3), HIS 208 (3), HIS 221 (3), = 18 Credits

**Required Courses:** GNS 211(2), 212(2) = 4 Credits

**Departmental Elective Courses:** HIS 209 (2), HIS 210 (2), HIS 212 (2) = 6 Credits

**Elective Courses:** At least three (3) Credits for courses offered by other Departments in the Faculty of Arts: RCS 222 (2), RCR 225 (2), RIS 224 (1) = 3 Credits

**TOTAL = 31 Credits**

**Direct Entry Students:** GNS111 (2), 112 (2) = 4 Credits

**Total DE = 35 Credits**

**300 Level**

**Compulsory Courses:** HIS 307(3), HIS 322(3), HIS 324(3), HIS 326(3), HIS 328(3), HIS 329(2), HIS 331(3)  
**= 21 Credits**

**Required Courses:** GNS 311(2) GSE 301(3) **= 5 Credits**

**Departmental Elective Courses:** HIS 323 (3), HIS330 (3) **= 6 Credits**

**Elective Courses:** At least Five (5) Credits for from courses offered by other Departments in the Faculty  
of Arts: RCS 328 (2), RCS 329 (1), RIS 337 (1) **= 5 Credits**

**TOTAL = 35 Credits**

**400 Level**

**Compulsory Courses:** HIS 403 (3), HIS404 (3), HIS 405 (3), HIS 406 (3), HIS 407 (4), HIS 410  
(3), HIS412 (3), HIS 421 (3), HIS 423 (3), HIS424 (3), HIS 499 (5)  
**= 36 Credits**

**Elective Courses:** At least three (2) Credits from HIS 410 (2), 423 (2) **= 2 Credits**

**TOTAL = 38 Credits**

**Graduation Requirements:**

**UTME = 130**

**DE = 98**



## DEPARTMENT OF LINGUISTICS AND NIGERIAN LANGUAGES

### Course Description

#### B.A. Linguistics

- LIN 101 Introduction to Linguistics I 3 Credits**  
Definition of linguistics, aims and scope: descriptive, historical, comparative. Sociolinguistics and applied linguistics. Application of linguistics to language teaching, book publishing, machine translation, telecommunication, speech pathology and audiology. Language and relation to animal communication and other artificial forms of communication, its relationship to culture.  
**30h (T), 45h (P); C**
- LIN 102 Introduction to Linguistics II 3 Credits**  
Linguistic concepts: phoneme, distinctive features, morphemes, etc. Introduction to Linguistic methodology and formal description of language.  
**30h (T), 45h (P); C. PR:LIN 101**
- LIN 103 Introduction to General Phonetics I 3 Credits**  
Phonetics as part of linguistics. Speech organs and individual functions. Airstream mechanism and their parameters for differentiating and sub-classifying them with illustrations from African languages.  
**45h (P); C**
- LIN 104 Introduction to General Phonetics II 3 Credits**  
Practical course in ear training. Performance and transcription exercises on a variety of languages, preferably African languages. Introduction to acoustic, phonetics and the study of the non-segmental features of speech such as tone, stress and intonation.  
**45h (P); C**
- LIN 105 Languages of the World 3 Credits** Major language families of the world: geographical distribution and linguistic description. Characteristics of speakers, location, use, roles in education, public administration, commerce, mass media and official policy towards them (emphasis on Nigerian languages).  
**45h (T); C**
- LIN 106 Traditional Grammar 2 Credits**  
Introduction to Traditional Grammar: evolution, underlying principles and assumptions. Categorization of words and structure.

Sentence parsing. Specific Traditional Grammars of English and Nigerian languages.

**30h (T); C**

- LIN 107      History of Linguistics      3 Credits**  
Historical development of linguistics as a scientific discipline. Emphasis on the various 'schools' and models and the outstanding names in the discipline of linguistics. Attention to be paid to contributions to language study by linguists and institutions in Nigeria.  
**45h (T); C**
- LIN 108      Language Use and Language Attitude      2 Credits**  
Uses of language in different communities: business, administration, formal education, law making, entertainment, magic, etc. Different communities' languages, the role of education, linguistic purism; aesthetic considerations, politics, religions, etc. in shaping such attitudes.  
**30h (T); C**
- LIN 201      Introduction to Phonology      2 Credits**  
Relationship between phonetics and phonology in a structural framework and the principles of phonology. Basic tenets and analysis based on the phonemic theory, the distinctive theory, and generative phonology, distinctive and non-distinctive sounds, the phoneme and principles of phonemic analysis.  
**15h (T), 45h (P); C**
- LIN 202      Phonemic Analysis      2 Credits**  
Introduction to phonological analysis, distribution, distinctive and non-distinctive sounds. Phonemes and main principles of phonemic analysis.  
**15h (T), 45h (P); C. PRE:LIN 201**
- LIN 203      Introduction to Morphology      3 Credits**  
Definition of morphology. Morpheme, its identification and classification. Types of morphemes. Morphological processes: affixation, reduplication, compounding, suppletion, and desententialization. Morphological typology of languages: isolating, agglutinative and fusional languages. Lexical and grammatical categories.  
**30h (T), 45h (P); C**
- LIN 204      Morphologies of African Languages      2 Credits**  
Analysis of the morphologies of selected African languages (e.g. Bantu and Kwa)  
**15h (T), 45h (P); C**
- LIN 205      Phonetics of English and Nigerian Languages      2 Credits**

Detailed phonetic description, classification and analysis of sounds of English language in comparison with those of selected Nigerian languages.

**15h (T), 45h (P); C**

**LIN 206**

**Orthography Design**

**2 Credits**

Role of the linguist in determining the genetic classification of the major languages in Africa. Major language families of Africa, highlighting their geographical distribution and linguistic description. Emphasis on characteristics of speakers, use of the languages in education, public administration, commerce, mass media, etc.

**90h (P); C**

**LIN 207**

**Writing Systems: Graphic Representation**

**2 Credits**

Introduction to the relationship between language and writing, versus the needs of a developing technological and literate society. Nature of writing and writing systems. Elementary principles for designing orthographies. Introduction to the orthographies of Igbo, Hausa and Yoruba. Different types of writing systems, the function of writing and the relationship between language and literacy.

**15h (T), 45h (P); C**

**LIN 208**

**Introduction to Syntax I**

**2 Credits**

An introduction to the study of syntax. Basic concepts on sentence analysis. Discussion of the basic word order as one of the universals of human languages. An introduction to syntactic rules under different grammatical models. Identification of major lexical categories. Illustration of how determiners modify NP's in different languages with different basic word order: pre-modification, post-modification, syntactic relationship, phrase structure rules, phrase markers, and exemplification.

**30h (T); C**

**LIN 301**

**Introduction to Syntax II**

**3 Credits**

The sentence as a unit of linguistic description. Major constituents of a sentence: noun phrase, verb phrase, prepositional phrase, etc. Grammatical types of sentences: simple, compound, complex. Types of clause structures: main, subordinate, complement, adjunct, among others as generative grammar.

**30h (T), 45h (P); C**

**LIN 302**

**Generative Syntax**

**2 Credits** History, theory and practice of the

generative transformational model with

emphasis on the explanation of the basic assumptions, goals and concepts

postulated in the model: deep and surface structures, base and transformational rules, the lexicon. Practical application of concepts and assumptions in the analysis of syntactic data: focus, relativization, passivization, deletion, ellipsis, movement, substitution, etc.

**15h (T), 45h (P); C. PR: LIN 301**

- LIN 303      Survey of Applied Linguistics      3 Credits**  
General linguistics for practical uses and non-linguistic fields: language teaching and testing, language standardisation, planning and development, the creation of orthographies and compilation of dictionaries, telecommunication, translation, speech pathology and therapy, stylistics, language materials development. Role of linguistic principles and techniques in each discipline.  
**30h (T), 45h (P); C**
- LIN 304      Field Methods and Introduction to Research Methodology      3 Credits**  
Practical instructions in techniques involved in linguistic field work. Supervised application of techniques of data elicitation and techniques of phonological, tonemic and syntactic analysis of a Nigerian language. Organisation and writing of project reports in specific domains of linguistics: Descriptive and Applied Linguistics, Sociolinguistics and others.  
**15 (T), 90h (P); C**
- LIN 305      Introduction to Sociolinguistics      3 Credits**  
History, scope and methodology, basic concepts and application of socio-linguistics. Relationship between language and society. Emphasis on attitudes towards language varieties and social dialects, problems of multilingualism, and language in relation to national development.  
**30h (T), 45h (P); C**
- LIN 306      Generative Phonology      2 Credits**  
Principles of Generative Phonology and the theory of distinctive features. Treatment of phonological processes and rules: assimilation, dissimilation, epenthesis, deletion, metathesis and coalescence. Phonological representation and formulation of rules within the generative framework. Detailed study of supra-segmental: tone, intonation, stress and pitch accent. Phonological presentation and formulation of relevant phonological rules. Practical exercises in tone perception and transcription.  
**15h (T), 45h (P); C PR: LIN 205**
- LIN 308      Error and Contrastive Analyses      2 Credits**  
Principles, goals and practice of error and contrastive analyses. Applications and limitations with respect to language materials development and second language pedagogy.  
**15h (T), 45h (P); C**
- LIN 309      Phonetics      2 Credits**  
Acoustic phonetics and simple experimental techniques of investigating the physiological and acoustic properties of sounds. Emphasis to be on practical analysis.



**15h (T), 45h (P); E. PR:LIN 201**

- LIN 310      Language Materials Development      2 Credits**  
Theories of language learning and their relevance in the preparation of language teaching materials. Mother tongue teaching materials. Linguistic considerations in the preparation of primers and readers, as well as in the designing of drills and exercises. Second language teaching materials. Linguistic considerations in the construction of phonetic and syntactic drill, lexical grading, and exercises. Evaluation of language textbooks and their adaptation to specific classroom situation.  
**30h (T); E**
- LIN 311      Language Testing      2 Credits**  
Goals and methods of language testing. Types of language tests. Principal techniques of language testing. Methods and problems of testing various language skills. Evaluation of language tests and results. Basic statistics in determining significant test norms.  
**15h (T), 45h (P); E**
- LIN 313      Linguistics and Language Teaching      2 Credits**  
Detailed consideration of the application of linguistics to various aspects of language teaching. First language acquisition and second language learning. Psycholinguistic and sociolinguistic factors in language learning and teaching. Linguistic technique in language teaching: error analysis, discourse analysis and language testing. Linguistic foundations of language teaching methods, including grammar translation, audiolingual and cognitive code.  
**15h (T), 45h (P); E**
- LIN 315      Linguistics and Translation      2 Credits**  
Detailed consideration of the application of linguistic techniques to translation. Different types of translation. Different types of texts to be translated and the degree of equivalence required. Criteria for determining accuracy of translation. Role of referential and connotative meanings in translation. Functions of translators and interpreters in a multilingual setting. Focus will be on practical translation and interpretation.  
**15h (T), 45h (P); E. PR: LIN 203 and LIN 204**
- LIN 316      Introduction to African Linguistics      3 Credits**  
Findings of various works on African languages with special reference to information on structural characteristics, phonological and grammatical (e.g. tone and Bantu-type Noun Classification). Classification of African languages based on their characteristics. Principles based on comparison, re-construction and classification. Phonological, morphological and syntactic characteristics of African languages or properties of various language families of Africa, vowel harmony, noun classes, concord, verb serialisation, ideophones, labio-velars and clicks.  
**30h (T), 45h (P); C**

- LIN 319      Structure of a Nigerian Language I      2 Credits**  
 Systemic and in-depth study of aspects of a Nigerian language with emphasis on the relationship between the various levels of grammar, phonetics, phonology, morphology and syntax.  
**15h (T), 45h (P); E**
- LIN 320      The Structure of a Nigerian Language II      2 Credits**  
 Further application of Linguistics principles to the teaching of Nigerian Languages with emphasis on syntax.  
**15h (T), 45h (P); E. PR: LIN 312**
- LIN 322      Discourse Analysis      2 Credits**  
 Introduction to the Principle and Practice of Discourse Analysis. Topics include standards of textuality, co-textual relations and critical analysis. Emphasis on practical analysis, study and description of relevant textual materials, advertisement, news headlines, cartoons and political statements.  
**15h (T), 45h (P); E**
- LIN 323      Semantics      3 Credits**  
 Introduction to the study of semantics. Place of meaning in linguistics. Theories of Meaning, use and reference. Semantic fields, synonymy, hyponymy, paraphrase, lexical and structural meanings, logical operators, quantification, scope, sense properties, sense relations, problems of word versus sentence and Syntax versus semantics. Relations in semantic theories.  
**30h (T), 45h (P); C**
- LIN 401      Topics in Phonology      2 Credits**  
 Theory of generative phonology: rule formalism and ordering, morpheme structure conditions, abstractness and naturalness. Problems, argumentation and evaluation of analysis. Practical problems in data analysis.  
**30h (T), 45h (P); C**
- LIN 403      The Problems of a Multilingual Nation      2 Credits**  
 Psychological and socio-cultural setting of language contact and interference, mechanism of interference, the bilingual individual's aptitude, code switching, relative proficiency, emotional involvement, psychological theories of bilingual or multilingual settings.  
**15h (T), 45h (P); C**

- LIN 405 Historical and Comparative Linguistics 2 Credits**  
Introduction to the nature and levels of language change and genetic relationship. Techniques and methods of studying the history of language including comparative method, internal reconstruction and lexicostatics. Exemplification from and application to Indo-European and African language families.  
**15h (T), 45h (P); C**
- LIN 406 Dialectology 3 Credits**  
Theory of dialect differentiation with practical applications to the language(s) of the area in which the university is situated.  
**30h (T), 45h (P); C**
- LIN 408 Psycholinguistics 3 Credits**  
Mechanism of first language acquisition. Behaviourist and mentalist theories of language acquisition. Language and cognitive development. Physiological and psychological aspects of speech production and perception. Language, cognition, and thought. Research concerns in various areas of psychometrics, psycholinguistics ability, tests and psychology of language.  
**30h (T), 45h (P); C**
- LIN 410 Theories of Phonology 2 Credits**  
Goals, procedures and tenets of major current phonological theories: classical or autonomous phonemics, prosodic analysis and generative phonology.  
**15h (T), 45h (P); E**
- LIN 411 Experimental Phonetics 2 Credits**  
Mechanism involved in speech, using experimental techniques. Physical nature of speech. Advanced work on acoustic phonetics.  
**15h (T), 45h (P); E. PR: LIN 309**
- LIN 412 Phonetics of a Nigerian Language 2 Credits**  
Research in experimental phonetics. Phonetic properties of one or more Nigerian languages: labio-velars and pre-nasalized segments. Readings on relevant experimental research.  
**15h (T), 45h (P); E**
- LIN 414 Pidgin and Creole Languages 2 Credits**  
Origin, nature and development of pidgin and creole languages. Language contact, pidginization and creolisation in relation to simplification, restructuring and relaxation. General characteristics of pidgins and creoles, with exercises in tape-transcription and analysis of pidgin and creole corpus.  
**15h (T), 45h (P); E**

- LIN 415 Yoruba Contrastive Studies 2 Credits**  
 Systematic examination of the structure of Yoruba contrasted with those of Hausa, and Igbo, with emphasis on those areas requiring special attention in teaching the language to speakers of the other two languages. Preparation and evaluation of materials for teaching Yoruba as a second language.  
**15h (T), 45h (P); E. PR: LIY 301 and LIY 303**
- LIN 416 Igbo Contrastive Studies 2 Credits**  
 Systematic examination of the structure of Hausa contrasted with those of Igbo and Yoruba with emphasis on those areas requiring special attention in teaching the language to speakers of the other two languages. Preparation and evaluation of materials for teaching and testing Igbo as a second language.  
**15h (T), 45h (P); E**
- LIN 417 Hausa Contrastive Studies 2 Credits**  
 Systematic examination of the structure of Hausa as contrasted with those of Igbo and Yoruba with emphasis on those areas requiring special attention in teaching the language to speakers of the other two languages. Preparation and evaluation of materials for teaching Hausa as a second language.  
**15h (T), 45h (P); E**
- LIN 421 Topics in Syntax 3 Credits**  
 Study of theory of syntax with individual syntactic analysis of African language data: various syntactic processes, nominalization and complementation, relativization, verb serialization and apposition. Argumentation and evaluation of solutions or analyses within this theoretical framework. Working knowledge of one theory of syntax  
**30h (T), 45h (P); C**
- LIN 422 Theories of Syntax 2 Credits**  
 Detailed discussion and emphasis of the historical antecedents and the contents of some of the current theories of syntax: Systemic Grammar, Government and Binding theory, relational Grammar, stratificational grammar and application of any two of the models to African Languages.  
**15h (T), 45h (P); C**
- LIN 424 Lexicography 3 Credits**  
 History of lexicography, dictionaries, thesauruses and encyclopaedias. Types of dictionaries: scholarstic, specialized, general purpose; dictionaries of synonyms, etc. Monolingual and bilingual dictionaries. Linguistic and non-linguistic factors in the compilation of dictionaries. Size, price-range and uses. Place and role of sociolinguistics, semantics, syntax, phonetics and

phonology. Practice in constructing dictionary entries.

**30h (T), 45h (P); C**

**LIN 425      Linguistics and Book Publishing      2 Credits**

Publishing houses. Types of publishing. Types of editors: creative, procurement and copy. Requisite training. Differences between written and spoken languages. Compensatory devices built into written languages. Factors aiding or inhibiting publishing in different types of languages. Application of syntax, semantics and phonology in editing and in proof-reading.

**15h (T), 45h (P); E**

**LIN 426      Pragmatics      2 Credits**

Scope, goals, principles and emerging theories of pragmatics. Socio-cultural and linguistic rules of correct interpretation of terms in the real world. Presupposition, context, locutionary, illocutionary and perlocutionary acts, speech acts, intention, interference, conventional and conversational implicatures.

**15h (T), 45h (P); E**

**LIN 428      Language Policy and Planning      2 Credits**

Factors relevant to language policy. Principles that determine the choice and implementation of language policy with emphasis on the techniques of language planning. Cost account analysis, principles and techniques of orthography, language codification and standardisation. Evaluation of planning and implementation of the planned language.

**30h (T); C**

**LIN 499      Project      5 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.

**225h (P); C**

## SUMMARY

### 100 LEVEL

<b>Compulsory Courses:</b>	LIN 101 (3), 102 (3), 103 (3), 104 (3), 105 (3), 106 (2), 107 (3), 108 (2)	<b>= 22 Credits</b>
<b>Required Courses:</b>	GNS 111(2), 112(2)	<b>= 4 Credits</b>
<b>Elective Courses:</b>	A 3 Credit course per semester in a natural language	<b>= 6 Credits</b>
		<b>Total = 32 Credits</b>

### 200 LEVEL

<b>Compulsory Courses:</b>	LIN 201 (2), 202 (2), 203 (3), 204 (2), 205 (2), 206 (2), 207 (2), 208 (2)	<b>= 17 Credits</b>
<b>Required Courses:</b>	GNS 211(2), 212(2)	<b>= 4 Credits</b>
<b>Elective Courses:</b>	(a) A total of 6 Credit units in a natural language per session (b) A total of 6 Credit units per session in any of the following programmes: ( History, English, Sociology, Communication, Anthropology, African Languages, Religions)	<b>= 6 Credits</b>
		<b>Total = 33 Credits</b>
<b>DE Students:</b>	GNS111 (2) & GNS112 (2)	<b>= 4 Credits</b>
		<b>Total = 37 Credits</b>

**300 Level**

**Compulsory Courses:** LIN 301(3), 302(2), 303(3), 304(3), 305(3), 306(2), 316(3), 308(2), 323 (3)  
= **24 Credits**

**Required Courses:** GNS 311(2), GSE 301(3) = **5 Credits**

**Elective Courses:** A total of 6 Credit units per session from the following courses:  
LIN 309 (2), 310(2), 315(2), 313 (2), 319(2), 320 (2) and  
LIY 301 (3), 303 (3), and 322 (3) = **6 Credits**  
**Total = 35 Credits**

**400 Level**

**Compulsory Courses:** LIN 401 (2), 403 (2), 405(2), 406(3), 408(3), 428(2), 421(3), 422 (2), 424 (3), 499 (5)  
= **27 Credits**

**Elective Course:** A total of 6 Credit units per session from the following courses  
LIN 410 (2), 411 (2), 412(2), LIN 414(2), 415(2), 416(2), 417(2),  
425 (2) and 426 (2) = **6 Credits**

**Total = 33 Credits**

**Graduation Requirements:**  
**UTME = 133 Credits**  
**DE = 105 Credits**

## Course Description

### B. A. YORUBA

- LIY 101      Introduction to Yoruba People and Language      3 Credits**  
Yoruba as a people, a language and an academic discipline. Origin of Yoruba people, thoughts, belief systems, myths and legends. Yoruba orthography, history and language.  
**30h (T), 45h (P); C**
- LIY 103      Advanced Comprehension and Composition I      3 Credits**  
Latest Yoruba orthography: spelling, punctuation, organization and language use. Comprehension exercises. Oral delivery in Yoruba.  
**30h (T), 45h (P); C**
- LIY 104      Advanced Comprehension and Composition II      3 Credits**  
Comprehension, composition and development of skills in speech making and writing.  
**30h (T), 45(P); C**
- LIY 105      Introduction to Linguistics I      3 Credits**



Definition, aims and scope: historical, comparative, Sociolinguistics and Applied Linguistics. Use of linguistics in language teaching, book publishing, machine translation, telecommunication, speech pathology and audiology Language in communication: culture, animal and other artificial forms.

**30h (T), 45h (P); C**

- LIY 106      Introduction to Linguistics II      3 Credits**  
Linguistic concepts: phoneme, distinctive features, morphemes, among others. Linguistic methodology and formal description of language.  
**30h (T), 45h (P); C**
- LIY 110      The Yoruba Language      2 Credits**  
Introduction to Yoruba language. History of Yoruba scholarship from 1800 to the present time. Yoruba cultural, literary and scholarstic associations. Contemporary state of Yoruba studies. Place of Yoruba among Nigerian and West African languages.  
**30h (T); C**
- LIY 112      Introduction to the History of the People      3 Credits**  
History Yoruba people; rise and fall of the major Yoruba Kingdoms: Oyo, Egba, Ife, Owu, and others. Inter-tribal wars and advent of colonialism. Examination of historical data from oral and written sources.  
**30h (T), 45h (P); C**
- LIY 201      Survey of Yoruba Written Literature      2 Credits**  
History of Yoruba written literature. Roles of Christian missions, early newspapers, nationalist, cultural groups and government. Selected literary works in prose, poetry and drama.  
**15h (T), 45h (P); C**
- LIY 202      The Use of Yoruba      2 Credits**  
Trends in modern Yoruba usage. Common errors and usage. Principles of effective written and oral communication in Yoruba.  
**15h (T), 45h (P); C**
- LIY 203      Phonology of Yoruba Language I      2 Credits**  
Elementary phonetic description and classification of Yoruba sounds. Patterns of co-occurrence. Discussion of contraction, assimilation and tone.  
**15h (T), 45h (P); C**
- LIY 204      Introduction to Yoruba Oral Literature      2 Credits**  
Scope of Yoruba oral literature; oral and written nature. Problems of collection, transcription and analysis. Classification into

literary genres.

**15h (T), 45h (P); C**

- LIY 205 Yoruba Morphology 2 Credits**  
Systematic discussion of structure and forms of words: nouns, emphatic and non-emphatic pronouns, and word-formation.  
**15h (T), 45h (P); C**
- LIY 206 Readings in Yoruba Literature 3 Credits**  
Introduction to literary study of selected works in written literature. Poetry, drama, and various types of prose writings: novels, romances, short stories, essays, translation, among others.  
**30h (T), 45h (P); C**
- LIY 207 Yoruba Syntax I 2 Credits**  
Introduction to systematic study of Yoruba word-formation categories, major sentence types and grammatical analysis.  
**15h (T), 45h (P); C**
- LIY 208 Yoruba Folktales 2 Credits**  
Universality of folktales: Types, Motifs, and the world of folktales. Characterisation: setting and techniques, performance, narration and the audience. Songs in folktales; creativity and originality of rendering. Folktales and myths.  
**15h (T), 45h (P); C**
- LIY 210 Principles and Practice of Translation 3 Credits**  
Basic concepts of translation: source and target languages. Types of translation. Basic consideration and limits of translation.  
**135h (P); E**
- LIY 213 Yoruba Creative Writing 3 Credits**  
Art of creativity in Yoruba. Major elements in creative writing, including setting, conflict, character, point of view, language, and organic whole.  
**30h (T), 45h (P); E**
- LIY 214 Yoruba Oral Poetry 3 Credits**  
Literary features of *Ese Ifa*, *Iyere Ifa* and *Ofo*. Differences between *Ese Ifa* and *Iyere Ifa*. Audience participation. Sociological background, structure and nature of *Ofo*.  
**30h (T), 45h (P); E**
- LIY 215 Dialects of the Yoruba Language 3 Credits**

Phonological, morphological, lexical and syntactic characteristics of the major regional and social varieties.

**30h (T), 15h (P); C**

- LIY 217 Yoruba Phonetics 3 Credits**  
Phonetics of the Yoruba language. Articulatory and distinctive feature of the phonemes.  
**30h (T), 45h (P); E**
- LIY 301 Phonology of Yoruba Language II 3 Credits** Analytical examination of phonological processes in Yoruba: syllable structure  
assimilation, nasalisation, epenthesis, vowel harmony, vowel elision, tonal processes, reduplication, and loan words.  
**30h (T), 45h (P); C**
- LIY 303 Syntax of Yoruba II 3 Credits**  
Transformational-generative theory to the analysis of Yoruba sentences. Major sentence types Yoruba: declarative, interrogative, imperative, focus, and grammatical analysis.  
**30h (T), 45h (P); C**
- LIY 304 Introduction to Drama in Yoruba 3 Credits**  
Concept of drama in Yoruba language. Early attempts at play writing and play acting. Influence of traditional and folk drama. Appraisal of written plays: Adebayo Faleti, Oladejo Okediji, Afolabi Olabintan and Akinwunmi Ishola. Folk operas of Hubert Ogunde, Kola Ogunmola, Duro Ladipo, and others.  
**30h (T), 45h (P); C**
- LIY 307 Yoruba Stylistics I 3 Credits**  
Yoruba stylistics. Theories and ideas of the relationship between stylistics, literature and linguistics. Literary features and devices of different genres of Yoruba literature.  
**30h (T), 45h (P); C**
- LIY 308 Yoruba Literary Criticism 3 Credits**  
Practical application Classical, Western and Marxist theories of literature in prose, poetry and drama.  
**30h (T), 45h (P); C**
- LIY 310 Yoruba Thoughts and Beliefs 3 Credits**  
Thoughts, beliefs and religious system of the Yoruba. *Olodumare*: God in Yoruba belief. *Orisa*: origin, nature, role and creation myths. *Abiku*: belief in the use of *oogun* (charms), incantations, ancestors, the priest, festivals, worship, and magic.

**30h (T), 45h (P); E**

- LIY 314 Yoruba Child Language 3 Credits**  
Speech development in Yoruba Children.  
**45h (T); E**
- LIY 315 Yoruba Speech Abnormalities 3 Credits**  
Speech abnormalities among the Yoruba.  
**30h (T), 45h (P); E**
- LIY 317 Advanced Yoruba I 3 Credits**  
Readings in Yoruba Literature: prose, poetry, and drama. Advanced composition, conversation and speech making.  
**135h (P); E. PR: LIY 210**
- LIY 318 Advanced Yoruba II 3 Credits**  
Advanced readings in Yoruba Literature  
**135h (P); E. PR: LIY 317**
- LIY 321 The Novels of D. O. Fagunwa 3 Credits**  
Novels of D. O. Fagunwa: background, features, oral tradition, Christian and foreign literature. The world of Fagunwa's novels: elements, problems of realism and ideal of trilogy.  
**45h (T); C**
- LIY 322 Yoruba in Broadcasting and Advertising 2 Credits**  
Broadcasting and advertising: Practicals, identification and features. Studio scripts for continuity announcers, presenters, and producers. Advertising among Yorubas. Original advertisement for various commodities in the Nigerian market.  
**15h (T), 45h (P); C**
- LIY 323 Varieties of Yoruba Poetry 3 Credits**  
Poetic forms, background, content, structure, and functions of *Esa, Rara, Ijala, Oriki, alamo; olele, and dadakuada*. Recurrent themes; changing modes; and role of the audience. Performance and comparison various techniques of performing artistes; oral artiste: training, role, scope, originality and creativity.  
**30h (T), 45h (P); C**
- LIY 324 Introduction to the Yoruba Culture 3 Credits**  
Yoruba culture: ways of life and institutions, kinship, marriage, child rearing, burial, inheritance, major occupations, apprenticeship

system and co-operative activities. Guild of hunters, drummers, healers, cults. Government and administration: land tenure and administration of justice. Yoruba social system: role of *the Obas*, Chiefs, Elders, *Baale*, and family heads.  
**30h (T), 45h (P); C**

- LIY 325      Naming in Yoruba      3 Credits**  
Yoruba names: naming as a mental, emotional, linguistic and cultural affair.  
**30h (T), 45h (P); E**
- LIY 328      Research Methodology in Yoruba Studies      3 Credits**  
Research methodology: types, current methods of data collection in literary, linguistic and cultural studies, methods of documentation and presentation of research findings, referencing styles and practical instructions on aspects of writing research reports.  
**30h (T), 45h (P); C**
- LIY 401      Issues in Yoruba Phonology      3 Credits**  
Current and relevant issues in Yoruba phonology: tones, vowel harmony, syllable structure, loan words and intonation .  
**30h (T), 45h (P); C. PR: LIY 301**
- LIY 402      Yoruba Social and Material Culture      2 Credits**  
Description and analysis of the social and material aspects of Yoruba culture.  
**15h (T), 45h (P); C**
- LIY 403      Issues in Yoruba Syntax      3 Credits**  
Current and relevant issues in Yoruba syntax: tense, aspect, relationships, nominalization, relativisation topicalisation, ideophones, pronominalisation, reflexivisation, adjectives and verbs.  
**30h (T), 45h (P); C PR: LIY 303**
- LIY 404      Introduction to the Yoruba Traditional Music      2 Credits**  
Forms, functions and qualities of Yoruba traditional music.  
**15h (T), 45h (P); C**
- LIY 405      Yoruba Stylistics II      3 Credits**  
Stylistic features of Yoruba writings, prose and poetry. Principles of discourse and textlinguistic analyses to specific works of Yoruba literature.  
**30h (T), 45h (P); C PR: LIY 307**

- LIY 406**      **Contemporary Yoruba Prose Fiction**      **3 Credits**  
 Analytical study of Yoruba prose fiction outside the Fagunwa tradition of novel writing. Characteristics, types, and new trends of thrillers and detectives in Yoruba novel writing. Specific works of Delano, Odunjo, Yemiitan, Isola, Okediji and Akinlade.  
**30h (T), 45h (P); C**
- LIY 408**      **Yoruba Contrastive Studies**      **3 Credits**  
 Structure and teaching of Yoruba as contrasted with those of English, Hausa and Igbo. Preparation and evaluation of materials for teaching and testing Yoruba as a second language.  
**30h (T), 45h (P); C**
- LIY 409**      **Yoruba Drama**      **3 Credits**  
 Influence of Traditional and folk drama on the society. Early attempts at Yoruba play writing: E. A. Akintan; translation of Christian plays; study and appraisal of plays by Faleti, Olabimtan, Isola and Okediji Olu, Daramola and Lawuyi Ogunniran. Historical plays, political and social satires.  
**45h (T); C**
- LIY 412**      **Early Yoruba Written Poetry**      **3 Credits**  
 Trends in Yoruba written poetry. Translations from English poetry. Place and role of the Church. Inspirations from Yoruba culture. Early Yoruba newspapers as a medium of literary communication. Original compositions. Poems in school textbooks. Influence of nationalist organizations: *Egbe Agbaotan*, *Egbe Onife ile Ibi Won*, among others. Literary study of early Yoruba written poetry: works of Sobo Arobiodu, Obasa and Odunjo.  
**45h (T); C**
- LIY 414**      **Contemporary Yoruba Poetry**      **3 Credits**  
 Appreciation of contemporary Yoruba poetry: Faleti, Esan, Ojo, Olabimtan, Oladapo, Adepoju, Aremu, Eleburu-Ibon, Arigbabuwo, Wale Akanni and others. Oral performance of these poems on radio, television and other devices.  
**45h (T); C**
- LIY 499**      **Project**      **5 Credits**  
 Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.  
**225h (P); C**

## Summary

### 100 Level

**Compulsory Courses:** LIY 101(3), 103(3), 104(3), 105(3), 106(3), 110(2), 112(3)  
= 20 Credits

**Required Courses:** GNS 111(2) GNS 112(2) = 4 Credits

**Elective Courses:** A 3 Credit course in Linguistics per semester = 6 Credits

**Total = 30 Credits**

### 200 Level

**Compulsory Courses:** LIY 201(2), 202(2), 203(2), 204(2), 205(2), 206(3), 207(3), 208(2)  
= 18 Credits

**Required Courses:** GNS 211(2), 212(2), LIN 201(2), 203(3) = 9 Credits

**Elective Courses:** A total of 6 Credit units per session from the following courses:  
LIY 210 (3), 213 (3), 214 (3), 215 (3), 217 (3), 225(3) = 6 Credits  
**Total = 33 Credits**

**Direct Entry students:** GNS 111 (2) & 112 (2) = 4 Credits  
**Total = 37 Credits**

### 300 Level

**Compulsory Courses:** LIY 301(3), 303(3); 304(3), 307(3), 308(3), 321(3), 322(3), 323 (2),  
324(3), 328 (3); = 29 Credits

**Required Courses:** GNS 311(2), GSE 301(3) = 5 Credits  
**Total = 34 Credits**

### 400 Level

**Compulsory Courses:** LIY 401(3), 402(2), 403(3), 404(2), 405(3), 406(3), 408(3), 409(3),  
414(3), 499(5) **Total = 30 Credits**

**Graduation Requirements:**

**UTME = 131 Credits**

**DE = 105 Credits**

**DEPARTMENT OF THE PERFORMING ARTS**

**100 LEVEL**

- PFA 101 Introduction to Performing Arts 3 Credits**  
Concept and form of the performing arts involving theoretical study of the forms and functions of music, dance and drama and technical theatre. Practical exercises selected from texts incorporating all areas.  
**15h (T), 45h (P); C**
- PFA 102 Performing Arts Workshop I 3 Credits**  
Detailed practical work on one of the texts studied culminating into stage performance.  
**15h (T), 45h (P); C**
- PFA 103 History of the Performing Arts (Greek to Medieval) 3 Credits**  
Historical survey of the art of performance in music, dance and drama within the Greek and Medieval period of Western Europe.  
**45h (T);**
- PFA 105 Basic Communication Theory 2 Credits**  
Basic models and theories of communication as the process evolves from individual perceptions, language habits and behaviour in interpersonal and social interactions.  
**30h (T); C**
- PFA 108 Performing Arts in Kwara State 2 Credits**  
Introduction to indigenous festival and theatre in form and content with a historical development perspective of performing arts in Kwara State.  
**30h (T); R**
- PFA 110 Theatre for Development 3 Credits**



The taxonomy of community theatre practice: history, types and methods.  
community to be thematically analysed and used as a module for stage production by the students with members of the community for dramatic presentation.

**15h (T), 45h (P); C**

Major socio-political problem of a rural

**PFA 111      Fundamentals of Music and Choral Studies I      3 Credits**

Rudiments of music theory and singing; Concepts of rhythm and meter, pitch, intervals, scales, form etc and choral singing (Western pieces)

**30h (T) 60h (P); R**

**PFA 114      Fundamentals of Music and Choral Studies II      3 Credits**

Further studies of the rudiments of music theory and singing; Minor scales, compound and irregular times, setting words to music, vocal techniques etc and choral singing (African pieces).

**30h (T) 60h (P); R**

**PFA 125      Rudiments of Dance      2 Credits**

Introduction to practical technical training in movement. Exposure to the basic dance steps of various Nigerian ethnic groups and how they could be developed in their idioms as modern dance and ballet. Introduction to dance notation.

**15 (T), 45h (P); R**

**PFA 126      Dance Studies I      2 Credits**

Lectures in dance theory and its relevance to teaching and choreography.

**15h (T), 45h (P); C**

**200 LEVEL**

**PFA 201      History of the Performing Arts (Africa and the Western World)**

**3 Credits**

Developments of the arts of performance in music, dance and drama in post-colonial Africa and a cross-section of Asia and the Western world.

**45h (T); C**

**PFA 203      Performing Arts and Allied Courses      2 Credits**

A study of the relationship between the performing arts and basic concepts in the sciences, social sciences and education.

**15(T) 30h (P); C**

- PFA 208      Performing Arts Workshop II      1 Credit**  
Performer's response to various demands on him through stage realization of a performance. Further development in the three areas of music, dance and drama through a total theatre experience  
**45h (P); C**
- PFA 209      Departmental Production Workshop I      1 Credit**  
Students are to participate in at least two Departmental productions such as university convocation plays and commissioned performances. Further assessment of skills and artistry assessment in theory and practice.  
**45 (P); C**
- PFA 215      Theory of Music I      2 Credits**  
A study of major and minor triads and their inversions in selected keys; chord formation and elementary harmony.  
**15h (T), 45 (P); R**
- PFA 217      Choral Studies      1 Credit**  
Training in art of choral singing through a performance study of selected African and Western Pieces  
**45(P); R**
- PFA 218      African Music      2 Credits**  
Introduction to African music and its cultural contexts. music in rites of passage, ritual and non-ritual contexts. Basic rhythmic, melodic, harmonic and formal features  
**30h (T); C**
- PFA 220      Theory of Music II      2 Credits**  
More studies on chords: Tonic 7<sup>th</sup>, Dominant 7<sup>th</sup> Chords, Major 7<sup>th</sup>, Chord of the sixth, augmented, diminished and other chord extensions and intermediate harmony.  
**15h (T) 45(P); R**
- PFA 225      Basic Choreography      2 Credits**  
Elements of movement composition, dance patterns, motifs and combinations for movement interpretations and choreography  
**15(T) 45 (P); C**
- PFA 233      Introduction to Acting Skills and Techniques      2 Credits**

Theory and practice of basic skills and techniques in acting. Art of acting: emotional, psychological, physical and intellectual involvement.

**15h (T) 45h (P); R**

- PFA 234      Dance Studies II      2 Credits**  
Study of works of national and international choreographers; analysis of selected productions  
**15h(T) 45h(P); R**
- PFA 235      Dramatic Literature      2 Credits**  
Dramatic texts in the genres of tragedy, satire, etc with special attention to their historical and socio-political backgrounds and contexts. Selection of dramatic texts to be taken from various periods and cultures  
**15h(T) 45(P); R**
- PFA 236      Speech and Oral Interpretation      2 Credits**  
Speech delivery and oral interpretations of dramatic pieces, poetic renditions and the art of oral delivery.  
**15(T) 45(P); R**
- PFA 238      Technical Theatre 1      2 Credits**  
Introduction to technical theatre in scenography, electronics, lighting, acoustics, costume and make-up.  
**15h(T) 45(P); C**
- PFA 239      Introduction to Radio and Television      2 Credits**  
Introduction to the theory and practice of broadcasting involving basic skills and techniques of the production process of programmes with special focus on music, dance and drama.  
**15h(T) 45(P); R**
- PFA 240      Introduction Play Directing      2 Credits**  
Basic concepts in play directing; a study of the historical development of play directing in African and Western theatres  
**30h(T); C**
- PFA 241      Performing Arts and the Print Media      2 Credits**  
Core Issues in the print media in relation to the performing arts. Publication, editorial, feature writings, cartoon design and creative writing processes with particular reference to art features, play reviews (critical analysis of drama, dance and music) and other print media issues connected with the performing arts in general.  
**30h(T); E**

### 300 LEVEL

- PFA 302      Performing Arts Workshop III      2 Credits**  
Music, dance and drama as total theatre and development of the performer's techniques in the three areas of the performing arts. Stagecraft and theatre techniques drama, dance and music productions of considerable length.  
**15h (T); 45h (P); C**
- PFA 306      Department Production Workshop III      1 Credit**  
Participation in at least two Departmental productions including University Convocation production and commissioned performances with emphasis on the skills development and artistry.  
**45h (P); C**
- PFA 307      Theatre Administration      2 Credits**  
Management of the performing arts in various types of theatre planning and production. Supervision on theatrical operations in publicity, promotions, book-keeping, fund-raising, etc.  
**30h (T); C**
- PFA 308      Research Methods for the Performing Arts      2 Credits**  
Research methods for project writing with special focus on performing arts.  
**30h (T); C**
- PFA 309      Field Work in Children Theatre      2 Credits**  
Practical training in working with primary school children in creative theatre work.  
**15h (T); 45h (P); C**
- PFA 310      Field Work in Performing Arts and the Media      2 Credits**  
Advanced course in media production in the three areas of dance, music and drama. Exercises in adapting stage materials for radio and television.  
15h (T); 45h (P); C.  
**\*(Old PFA 303 with addition to the course title)**

- PFA 311      Acoustics and Electronics for Music Production      2Credits**  
 Basic principles of acoustics affecting musical instruments: string, wind, membrane, resonance, harmonies, etc. Architecture acoustics: Recording and reproduction of music.  
 30h (T); E
- PFA 312      Nigerian Indigenous Theatre Forms      2 Credits**  
 Form, social content and performance mode of traditional Nigerian music, dance, drama and the art of storytelling. Aspects of festival performances, rituals and rites of passage and the style of traditional professional theatre troupes.  
 30h (T); C
- PFA 314      History of Music      2 Credits**  
 History of Western art music from the classical period to the end of the Romantic period (for Music Specialists).  
 30h (T); E
- PFA 315      Harmony and Counterpoint I      2 Credits**  
 Use of diatonic chords (including the dominant 7th), passing and cadential 6/4s, elementary modulation. Exercises in part writing reflecting both European and African traditions (for Music Specialists).  
 30h (T); E
- PFA 316      Harmony and Counterpoint II      2 Credits**  
 Secondary 7th Introduction to chromatic harmony and modulation to distantly-related keys (for Music Specialists).  
 30h (T); E. PRE: PFA 315
- PFA 317      Music Directing      2 Credits**  
 Issues in musical directing, auditioning and training for choristers. Choir training and conducting. Vocal ranges and types of choir (for Music Specialists).  
 15h (T), 45h (P); E
- PFA 318      Applied Music II      1 Credit**  
 Individual tuition and exercises on principal and subsidiary instruments, including voice, keyboard harmony and aural training (for Music Specialists)  
 45h (P); E
- PFA 319      Applied Music I      2 Credits**  
 Further tuition and exercises on principal and subsidiary instruments, including voice. Further keyboard harmony and aural training (for Music Specialists). (Continuation of PFA 318).

30h (T); E

- PFA 323**      **Dance Workshop**      **2 Credits**  
Practical study and presentation of selected choreographed dance pieces. Selected works with emphasis on rhythm awareness, combined use of arms and legs, duet, trio, and group movement, stage arrangement, floor patterns, level and directional changes and dancers' interaction (for Dance Specialists).  
15h (T), 45h (P); E
- PFA 324**      **Intermediate Modern Dance Technique**      **2 Credits**  
Intermediate level movement techniques, incorporating combination exercises in body stretches, quarter, half and full turns, runs and leaps, extension of range of motion in various joints of the body, body lines and curves and movement rhythm variations (for Dance Specialists).  
90h (P); E
- PFA 325**      **Advanced Choreography I**      **2 Credits**  
Composition and presentation of a full work of dance together with music, lighting and costume designs. Concept formation and research into dance subject matter. Audition process together with choreographic notes. Presentation and improvement on works-in-progress leading to photography sessions and a compilation of a production portfolio. (Duration of choreographed pieces: 3 minutes) (for Dance Specialists).  
15h (T), 45h (P); E
- PFA 326**      **Dance Analysis and Criticism I**      **2 Credits**  
Practical study of different movement techniques as they relate to the development of muscle strength and flexibility, elements of weight and quality of movement, direct and indirect movement approach. Movement theories and Dance notation (for Dance Specialists).  
15h (T), 45h (P); E
- PFA 327**      **Dance Kinesiology**      **2 Credits**  
Conception of the kinesphere. Theory of dance and movement technique in relation to the work of body joints and muscles. Principles of constructive rest and body alignment. Dance injury prevention and treatment. Skeletal and muscular control for speech formation, vocalization and dance movement (for Dance Specialists).  
30h (T); E

- PFA 329**      **Dance Studies III**      **2 Credits**  
 Dance work of at least 30 minutes duration. Conceptual framework of presentation to be performed. Different choreographic styles and techniques. Performance of completed project. During the second semester, writing assignments to be tailored towards the development of analytical and critical skills.  
 15h (T), 45h (P); E
- PFA 330**      **Dramatic Theory and Criticism (Drama Specialists)**      **2 Credits**  
 Theories of drama from classical Greece till the present, including Africa. Evolution of theories and critical ideas vis-à-vis the peculiarities of the period and personalities concerned. Representatives play to be studied (for Drama Specialists).  
 30h (T); E
- PFA 331**      **Advanced Acting (Drama Specialists)**      **2 Credits**  
 The psychology of acting. Exploratory study of art of acting in theory and practice. Acting schools and theories. Practical exercises covering a range of plays, African and Western (for Drama Specialists).  
 15h (T), 45h (P); E, PR: PFA 233
- PFA 334**      **Introduction to Playwriting**      **2 Credits**  
 An introductory course designed to expose the students to the writing of play scripts. Students will have practical experience in writing dramatic texts on given topics and themes.  
 15h (T), 45h (P); E
- PFA 335**      **Performing Arts and Tourism**      **2 Credits**  
 The art of cultural tourism. Major global and national tourist centres and the roles of performing arts and performing artists in them (for Drama Specialists).  
 30h (T); E
- PFA 337**      **Directing I**      **2 Credits**  
 Theory and practice of the art of directing. Chosen pieces from published works as in practical projects.
- PFA 339**      **Advanced Studies in Costume and Make-up**      **2 Credits**  
 Theory and practice in the art of theatre design with emphasis on costume and make-up. In depth study of African, Western and Oriental theatre costume and make-up. Practical exercises on exhibitions of all the highlighted areas by students for examination.  
 15h (T), 45h (P); E
- PFA 340**      **Advanced Directing**      **3 Credits**  
 In-depth study of directing styles, conventions and the techniques of master directors. Practical work in a directing project.

30h (T), 45h (P); E

- PFA 342      Field Work in Dance and the Society      2 Credits**  
Workshop/industrial attachment session with Private Professional Troupe. (Such may be invited to hold the workshop in the school or students may have to go and meet them at their studios. A written report by students at the end that shall lead to a seminal session).  
15h (T), 90h (P); E
- PFA 344      Technical Theatre II      2 Credits**  
History of Technical Theatre focusing on stage designs, and construction, backdrops, painting, costumes, props, lighting, etc. Biographies and the design styles of notable technicians. Relationships between production styles and theatre technology. Practical work to reflect these styles.  
15h (T), 45h (P); E

#### 400 LEVEL

- PFA 401      Principles and Philosophy of Aesthetics      3 Credits**  
Theories of aesthetics from Plato to the present. African views of aesthetics, meaning and the nature of beauty, semiotics and form. The logic of critical judgment on executing arts. Specific works as exercises in aesthetics.      **45h (T); C**
- PFA 403      Advanced Theatre Management and Administration      2 Credits**  
Management of the performing arts at an advanced level. (for Drama specialists).      **45h (T); E**
- PFA 404      Contemporary African Drama      2 Credits**  
Drama in Africa from about the late 1940s to the present time. Broad trends of socio-cultural factors that have influenced the content and form of representative plays.      **45h (T); E**
- PFA 411      Form and Analysis      2 Credits**  
Principles of form and analysis. Simple forms: binary, ternary, strophic and extended forms including the sonata form, the fugue and chain song variations. Inter-relationship of harmony, tonality and form. Analysis and analytical procedures based on music examples from both the European and African traditions (for Music Specialists).  
**15h (T), 45h (P); E**
- PFA 412      Applied Music III      2 Credits**



Further training and exercises on principal and subsidiary instruments. Keyboard and aural training (for Music Specialists).  
**90h (P); E**

- PFA 413      Music Composition      3 Credits**  
Seminars on compositional techniques reflecting both the European and African traditions. Melody writing, thematic development, use of textures, formal coherence, multi-pitch constructions, etc (for Music Specialists).  
**15h (T), 90h (P); E**
- PFA 414      Applied Music IV      2 Credits**  
Advanced training and exercises on principal and subsidiary instruments, including voice. Keyboard and aural training (for Music Specialists).  
**45h (P); E**
- PFA 415      Orchestration      2 Credits**  
Elements of instrumentation: range, clefs and tone colours and transposing instruments. Intermediate exercises in orchestration. Scoring and arranging for African and European instruments (for Music Specialists).  
**30h (T), 45h (P); E**
- PFA 416      Musicology      3 credits**  
Traditional divisions of musicology. Theory and analytical techniques. Concepts and manifestations of scale, mode, melody, pitch combination and timbre design in music of various cultures. Theory and methods in Ethnomusicology (for Music Specialists)  
**45h (T); E**
- PFA 417      Twentieth Century Music      2 Credits**  
Detailed study of Twentieth Century Western Music focusing on stylistic developments: atonality, serialism, electronic music and the use of computer in the compositional process (for Music Specialists).  
**45h (T); E**
- PFA 418      Afro-American Music      2 Credits**  
Historical and stylistic development of Afro-American music from its early origins to the 20<sup>th</sup> Century (for Music Specialists).  
**30h (T); E**
- PFA 419      Contemporary Nigerian Composers of Art Music      2 Credits**

Development of Nigerian contemporary art music as reflected in the works of representative composers: Fela Sowande, Akin Euba, Laz Ekwuenne, Sam Akpabot, Adam Fiberesima and Ayo Bankole (for Music Specialists). **30h (T); E**

- PFA 421      Dance Analysis and Criticism II      2 Credits**  
Advanced dance movement technique. Practical comparative study of two-selected modern dance techniques with emphasis on lines, curves movement possibilities and formations, philosophies behind formulated techniques and an interaction of both styles to formulate new steps (for Dance Specialists).  
**15h (T), 45h (P); E**
- PFA 422      Advanced Choreography II      3 Credits**  
A spontaneous exploration of movement potentials and possibilities based on suggested themes and concepts. Movement development from single gestures. Developments of personal movement styles. Special problems in dance composition and possible solutions to them, simplification or complications in dance movement (for Dance Specialists).  
**15h (T), 45h (P) ; C PR : PFA 325**
- PFA 423      Advanced Dance Workshop      2 Credits**  
Practical group composition and presentation. Theme formulation making use of music, poetry, props and costume. (Dance piece thus formulated presented as a full stage presentation of at least 8 minutes duration).  
**15h (T), 45h (P); E**
- PFA 424      Twentieth Century Dance      3 Credits**  
Theoretical and practical identification of movement similarities and differences in dances of Africa, Asia and the West. Utilization of established cultural dance steps as sources for cross movement development. Various Nigerian cultural dance steps. Dance formations from Asian art, Modern dance: Ballet, Jazz and Tap dancing, Aerobic dancing, Calypso, Reggae, etc (for Dance Specialists).  
**15h (T), 45h (P); E**
- PFA 425      Dance and the Media      3 Credits**  
Exercises that may lead to full fledged dance-film experiences. Experiments on concepts, techniques, forms and theories. Examination of the skill of dancing and choreography for the media (for Dance Specialists).  
**15h (T), 90h (P); E**
- PFA 426      Professional Dance Practice      3 Credits**

Mini-Troupe formation and skill acquisition. Self-sustenance in dance practice. Concepts of independence and self sustenance and realities of the open market dance. Students to form a mini group within and outside the department. Exploration of areas of interests: pure dance practices, ballets, traditional dances, operatic dances, etc. The troupes to be registered under the course lecturer and all engagements closely monitored (for Dance Specialists).

**15h (T), 45h (P); E**

- PFA 427      Dance Studies IV      3 Credits**  
Mounting dance works of 20 to 25 minutes duration. Convener to approve conceptual framework of the presentation. Three complete course work modules with each module comprising a practical and written component (for Dance Specialists).  
**15h (T), 45h (P); E**
- PFA 431      Performance Theory and Criticism      2 Credits**  
Performance and theatre theories and their practical application in the analysis and criticism of productions. Stage performances coupled with those of the electronic media (for Drama Specialists).  
**45h (T); E**
- PFA 432      Advanced Technical Theatre      3 Credits**  
Advanced stenography optics. Electronics as applied to stage lighting: production, costume design and make-up (for Drama Specialists).  
**15h (T), 90h (P); E**
- PFA 433      Playwrights Workshop      2 Credits**  
Advanced course in playwriting. (Only for students who show evidence of talent and skill in PFA 334) (for Drama Specialists).  
**15h (T), 90h (P); E**
- PFA 434      Twentieth Century Western Drama      2 Credits**  
Western drama in the 20<sup>th</sup> Century, including avant-garde (e.g. Absurdist) drama and experimental and community theatre. Emphasis on leading theories as well as outstanding play texts of the period (for Drama Specialists).  
**45h (T); E**
- PFA 435      Black American Drama      2 Credits**  
Drama of Black America from the late 19<sup>th</sup> Century to the present. Emphasis on major phases and developments. Representative texts and critical opinions (for Drama Specialists).  
**30h (T); E**

- PFA 436 Theatre Directing for the Screen 2 Credits**  
 Screen production. Technicalities in handling technical screen equipment and the methods/approaches to theatrical direction in the screen production (home video and television). Pilot production to be carried out by a student as a demonstration of understanding of screen directing (for Drama Specialists).  
**15h (T), 45h (P); E**
- PFA 437 African Directors and Directing Styles 3 Credits**  
 Advanced study into the psychology and pervading sociological factors of the major African theatre directors and their directing styles. A known African director and his directing style. Practical demonstration of the proficiency of his chosen director's style (for Drama Specialists).  
**15h (T), 45h (P); E**
- PFA 499 Research Project 5 Credits**  
 Each student under the guidance of an approved Supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project. Group performances and production notes are integral part of the research project  
**225h (P); C**

*Please note that due to the tripartite nature of the Department, some courses designated as electives (E) may be required or compulsory for students majoring in that area.*

#### SUMMARY

##### 100 Level

**Compulsory Courses:** PFA 101 (3), 102 (3), 103 (3), 105 (2), 110 (3), 126 (2) =16 Credits

**Required Courses:** 108 (2), 111 (3), 114 (3), 125 (2), GNS 111 (2), GNS 112 (2)  
 =14 Credits

**Elective Courses:** At least 2 to 4 Credits from courses in the Faculty of Arts or elsewhere in the University  
**=2 or 4 Credits**

**Total = 32 or 34 Credits**

**200 Level**

**Compulsory Courses:** PFA 201 (3), 203 (2), 208 (1), 209 (1), 218 (2), 225 (2), 238 (2), 240 (2)  
**= 15 Credits**

**Required Courses:** 215 (2), 217 (1), 220 (2), 233 (2), 234 (2), 235 (2), 236 (2), 239 (2), GNS 211(2), 212(2)  
**= 19 Credits**

**Elective Courses:** PFA 241(2) or at least 4 Credits from courses in the Faculty of Arts or elsewhere in the University  
**= 4 Credits**

**Director Entry Students:** GNS 111(2), 112 (2) **= 4 Credits**

**Returning Students Total Credits = 38 Credits**

**DE Total Credits = 42 Credits**

**300 Level**

**Compulsory Courses for all students:** PFA 302(2), 306(1), 307(2), 308(2), 309(2), 310(2), 312(2)  
**= 13 Credits**

**Required Courses:** GNS 311 (2), GSE 301(3) **= 5 Credits**

**Music Option:**

**Compulsory Course:** PFA 311 (2), 314 (2), 315 (2), 316 (2), 317 (2), 318 (2), 319 (2)  
**= 14 Credits**

**Elective Courses:** At least 2 to 4 Credits from courses in the Faculty of Arts or elsewhere in the University  
**Total = 34 or 36 Credits**

**Dance Option:**

**Compulsory Courses:** PFA 323 (2), 324 (2), 325 (2), 326 (2), 327 (2), 329 (2), 342(2)  
**= 14 Credits**

**Elective Courses:** At least 2 to 4 Credits from courses in the Faculty of Arts or elsewhere in the University  
**Total =34 or 36 Credits**

**Drama Option:**

**Compulsory Courses:** PFA 330(2), 331(2), 334(2), 335 (2), 337(2), 339 (2), 340(2), 344 (2)  
**=16 Credits**

**Elective Courses:** At least 2 to 4 Credits from courses in the Faculty of Arts or elsewhere in the University  
**Total = 36 or 38 Credits**

**400 Level**

**Compulsory Courses for all students:** PFA 401(3), 499(5) **= 8 Credits**

**Dance Option:**

**Compulsory Courses:**  
PFA 421(2), 422(3), 423(3), 424(3), 425(3), 426(3), 427(3) **= 20 Credits**

**Total = 28 Credits**

**Drama Option:**

**Compulsory Courses:**  
PFA 403(2), 404(2), 431 (2), 432(3), 433(2), 434(2), 435(2), 436(2), 437(3) **= 20 Credits**

**Total = 28 Credits**

**Music Option:**

**Compulsory Courses:** PFA 411(2), 412(2), 413(3), 414(2), 415(2), 416(3), 417(2), 418(2), 419 (2)  
**= 20 Credits**

**Total = 28 Credits**

**Elective Courses:** At least 2 to 8 Credits from courses in the Department, Faculty of Arts or elsewhere in the University

UME (Drama)	Compulsory Courses	52		
	Required Courses	74		
	Elective Courses	8	<b>Total</b>	<b>134</b>
UME (Dance Option)	Compulsory Courses	52		
	Required Courses	72		
	Elective Courses	8	<b>Total</b>	<b>132</b>
UME (Music Option)	Compulsory Courses	52		
	Required Courses	72		
	Elective Courses	8	<b>Total</b>	<b>132</b>
DE (Drama Option)	Compulsory Courses	36		
	Required Courses	64		
	Elective Courses	6	<b>Total</b>	<b>106</b>
DE (Dance Option)	Compulsory Courses	36		
	Required Courses	62		
	Elective Courses	6	<b>Total</b>	<b>104</b>
DE (Music Option)	Compulsory Courses	36		
	Required Courses	62		
	Elective Courses	6	<b>Total</b>	<b>104</b>

## DEPARTMENT OF RELIGIONS

### Course Description

#### B.A. Christian Studies

- RCS 121      The Formative Period of Israelite History      3 Credits**  
The ancient oriental background of Israelite origin: Mesopotamia, Egypt and Palestine. The Hebrew background of Israelite origins. The patriarchal narratives, the migration of the patriarchs, the patriarchs as figures of history, Egyptian bondage and Exodus. The wilderness wanderings. The conquest of Palestine. The Judges.  
**45h (T); C**
- RCS 122      Early History and Doctrine of the Church      2 Credits**  
Expansion of Christianity in the Roman world, Egypt and North Africa. Church and State relations. Development of doctrine. Early threats to Christianity.  
**30h (T); C**
- RCS 123      Introduction to the Synoptic Gospels      2 Credits**  
Characteristics and purposes of the Gospels. Authors, dates, sources and contents.  
**30h (T); C**
- RCS 124      The Old Testament Prophets      2 Credits**  
Study of the major Israelite prophets. The functions of prophecy in Israelite history. The messages of the prophets and the situations to which the messages were addressed. Examination of Jeremiah, Ezekiel, Isaiah, Amos and Hosea.  
**30h (T); C**
- RCS 125      The Messianic Concept in the Testaments      2 Credits**  
The Jewish Messianic idea. Development of the idea up to the birth of Jesus. Jesus and his understanding of the Messianic Kingdom. The identity of the Messiah. The Messianic hope and its consummation.  
**30h (T); C**
- RCS 126      Jewish and Hellenistic Background to Christianity      2 Credits**  
Study of the period between David and Alexander. Study of the Maccabees. Synagogue and Sanhedrin. Pharisees and Sadducees. The Dispersion. The influence of Hellenistic thought and religion on Christianity in the Roman Empire.  
**30h (T); C**
- RCS 127      The Gospel of St. Mark      2 Credits**



Purpose, date, author and the main contents of the Gospel. Priority of Mark over the other Synoptic Gospels. Introduction of the Synoptic problem.

**30h (T); C**

**RCS 128 Introduction to the Pentateuch**

**2 Credits**

Contexts of the Pentateuch. Authorship in relation to the Scriptures. Issue of J.E.P. trends. Survey of the book Pentateuch. The place of Torah in Jericho Scripture.

**30h (T); C**

**RCS 129 The Book of Genesis**

**2 Credits**

Exegetical work of Genesis. Relating Genesis 1 - 11 to modern developments in science.

**30h (T); C**

**RCS 221 Critical Introduction to the Bible**

**3 Credits**

Types of literature contained in the Old and New Testaments, Main problems involved and their solutions

**45h (T); C**

**RCS 222 History of the Church in Africa**

**2 Credits**

Spread of Christianity to Egypt and Ethiopia. Exploration of Africa by European Christian Missionaries. Growth of anti-slavery and Christian Missionary Movements in Africa. Growth and development of the Church in West Africa. West Africa Christian Missionaries, such as Ajayi Crowther. Indigenous churches and prophets. EcUMenical movements in Africa.

**30h (T); C**

**RCS 223 Greek and Roman Religion**

**2 Credits**

Examination of the religious ideas and practices in Greek - Roman world.

**30h (T); C**

**RCS 224 Paul the Apostle**

**2 Credits**

Upbringing of Paul and his earlier religious views, conversion, work in Europe and Asia Minor. Paul the prisoner. Examination of the major themes of Paul: law, marriage, faith, righteousness, resurrection, judgment, family, life, government, Jesus and God.

**30h (T); C**

**RCS 225 Biblical Hebrew Grammar I**

**4 Credits**

Basic grammar. Syntax of classical Hebrew with appropriate exercises and translation of Old Testament passages.

**60h (T); C**

<b>RCS 226</b>	<b>The Life and Teaching of Christ</b> Study of the birth, life and ministry of Jesus. Major themes of his teachings with emphasis on his doctrinal, ethical and social interpretations as they apply to contemporary society. <b>15h (T); C</b>	<b>1 Credit</b>
<b>RCS 227</b>	<b>Soteriology</b> Christian concept of salvation. Concepts of salvation in the Old and the New Testaments. The place of Christian salvation in every life. Christian salvation as it affects adherents of other faiths. <b>30h (T); C</b>	<b>2 Credits</b>
<b>RCS 228</b>	<b>History of Reformation</b> History of the Reformation of the Church in the Modern ages. Church life in the Middle Ages. Wycliffe, Huss and reformation. Revival of learning: under Erasmus, Martin Luther, John Calvin. Reformation in England. The Puritans. The counter-reformation, The Jesuits and Francis Xavier. <b>30h (T); C</b>	<b>2 Credits</b>
<b>RCS 229</b>	<b>The Gospel of St. Matthew</b> Purpose, date, author and contents of the gospel with Sermon on the Mount. <b>30h (T); E</b>	<b>2 Credits</b>
<b>RCS 230</b>	<b>The Gospel of St. Luke</b> Life of St. Luke the Physician. Purpose, date and main contents of his gospel. Emphasis on the human source material and characteristics of the gospel. <b>30h (T); E</b>	<b>2 Credits</b>
<b>RCS 231</b>	<b>Acts of the Apostles</b> Authorship, date, audience, purpose and contents of the book. Historical links with Paul's letter. <b>30h (T); E</b>	<b>2 Credits</b>
<b>RCS 232</b>	<b>Hermeneutics and Exegesis</b> Scientific method of deriving a teaching from the scriptures. Task of Exegesis. Pericopaea as examples, taking the Old and New Testaments into consideration. <b>30h (T); E</b>	<b>2 Credits</b>
<b>RCS 233</b>	<b>Introduction to Missiology</b>	<b>2 Credits</b>

General introduction to the field of Missiology. State of the church in the modern world and the current crisis in mission, Contextualization, inculturation, the place occupied by mission in the thought and practice of the Church in history. Some Nigerian pioneers in mission.

**30h (T); C**

**RCS 234 Mission and Theology**

**2 Credits**

Study of questions concerning the foundation, motivation and goal of mission with emphasis on the Biblical understanding of mission. Mission in Protestant and modern Roman Catholic theology. Ecumenical and Evangelical definitions of mission. Missionary methods of Pentecostal churches. Mission as the essential task of the Church. Theology of the Apostolate. Church planting as the goal of the Church. Autonomous younger co-operation and the unity of the Church.

**30h (T); E**

**RCS 321 History and Religion of Israel I**

**2 Credits**

Antecedents of Israel. Formation of the tribal confederation. Monarchy and the empire up to the fall of Samaria (722 B.C.).

**30h (T); C**

**RCS 322 History and Religion of Israel II**

**2 Credits**

Religious and political history of Israel up to 587 B.C. The Southern Kingdom. Fall of the state of Judah. Emergence of Judaism following the exile.

**30h (T); E**

**RCS 323 Biblical Hebrew Grammar II**

**2 Credits**

Basic Hebrew grammar. Syntax of Biblical Hebrew. Selected Hebrew texts of the Old Testament for translation.

**30h (T); C**

**RCS 324 Biblical Greek Grammar I**

**4 Credits**

Basic Greek grammar. Syntax of New Testament Greek with appropriate exercises and translation of New Testament passages.

**60h (T); C**

**RCS 325 The Apostolic Church up to the Age of Persecution**

**3 Credits**

Examination of Judaism and the Graeco-Roman world serving as the immediate background of Christianity. Foundations and early spread of the Church. Schisms and heresies associated with Gnosticism, Marcionism and Montanism. Martyrs and Apologists Persecution of Christians by Roman Emperors. Emancipation of Christians by Constantine.

**45h (T); C**

- RCS 326      Controversies and Church Councils      3 Credits**  
 Doctrinal controversies. First ecumenical council in Nicaea in 325 A.D. Nicene settlement and its after-effect (325 - 326 A.D.). Settlement of Trinitarian controversies in Constantinople in 381 A.D. Church and State rivalry. Early Monasticism in Egypt. St. Augustine's life and thought. The Christological controversies. Apollinarianism. Nestorianism and Eutychianism. Compromise of Chalcedon in 451 A.D.  
**45h (T); E**
- RCS 327      Intertestamental Literature      2 Credits**  
 Examination of the Apocryphal books and selected books of the pseudo epigraphal. Authorship, date, content, structure, nature and the value of these books.  
**30h (T); C**
- RCS 328      Christian Ethics      2 Credits**  
 Exposition of Christian foundations as determinants of Christian moral decisions. Sphere of the Christian love and attitude(s) to war, violence. Church-State relationship.  
**30h (T); E**
- RCS 329      Miracles and Parables of Jesus      1 Credit**  
 Miracles and parables as a method of teaching. Their relevance to contemporary society.  
**15h (T); C**
- RCS 330      Biblical Archaeology      2 Credits**  
 Various archaeological sites and discovery to the understanding of the Bible.  
**30h (T); E**
- RCS 331      Exegesis of the Gospel of St. John      2 Credits**  
 Analytical study of the authorship of St. John. Destination and audience of St. John. Purpose of St. John  
**30h (T); C**
- RCS 332      New Testament Theology      2 Credits**  
 Various topics in New Testament theology, selecting out one topic for detailed exposition.  
**30h (T); E**
- RCS 333      Christianity and Social Justice      2 Credits**  
 Investigation of biblical teachings pertaining to the pursuit of peace and social justice. Specific political, economic and social issues such as poverty, war, racism, ethnicism and ecology in the light of Christian values

**30h (T); E**

- RCS 334 Ethics, Christianity and Financial Activities 2 Credits**  
Examination of the Biblical teachings on money and financial transactions. Major points of Christian social doctrine and their impact on financial activities. Christian teachings on wealth and illegal acquisition of money. Transparency in business. Preferential love for the poor and the needy. Ethical approach to the international debt question.  
**30h (T); E**
- RCS 335 The Gospel in an Industrial Society 2 Credits**  
Ethical issues and practical theological problems of the industrial society. Models of industrial mission. Employer - employee relationships. Migrant labour. Pollution and ethical demands.  
**15h (T), 45h (P); E**
- RCS 336 Christian Organisations in Nigeria 2 Credits**  
Origin and development of Christian organisations in Nigeria. Objectives and goals of the organisation. Contributions of the organisations to the development of Christianity in Nigeria. Problems and Challenges. Role in fostering religious harmony in Nigeria.  
**30h (T); E**
- RCS 337 Feminism and the Bible 2 Credits**  
Bible from the feminist perspective. Feminist hermeneutical options and the feminist reconstruction of early Christianity. Basic feminist theories. Inter-relational application of global feminist trends to the Church in Africa.  
**30h (T); E**
- RCS 338 Jewish and Christian Festivals 2 Credits**  
General survey of festivals in Judaism and during the New Testament era. Origin of Christmas and Easter in Christianity and the determination of their dates. Other Christian festivals and their place in Christianity. Ethics of Christian celebration.  
**30h (T); E**
- RCS 388 Research Methods 2 Credits**  
Modern methods of research in Christian Studies. Choices of topic, collection of oral and written data, literature review and the main body of research work. Concluding parts and the place of language and reference materials.  
**30h (T); C**
- RCS 421 Christianity in North Africa Up to 1315 A.D. 3 Credits**  
Introduction of Christianity to North Africa. Efforts of the African Church Fathers on Latin Christianity. Tertullian, Cyprian,

Athanasius, Augustine: theology and writings. Coming of Islam and its impact on the Church in North Africa. Persistence of the Church in Nubia and Ethiopia. Raymond Lull's campaign in North Africa.

**45h (T); E**

**RCS 422 Christianity in West Africa Up to 1914**

**3 Credits**

Voyages of exploration. First attempts to abolition of slave trade and the founding of Sierra Leone and Liberia. Missionary efforts in Sierra Leone, Ghana, Dahomey, Liberia, Calabar and Yorubaland. Effects of the scrambles for Africa on the establishment of Christianity in West Africa. Bishop Crowther and the Niger Mission. Roles of Edward Blyden, James, Johnson and Henry Venn in the development of Christianity in West Africa. Scramble for education and the Edinburgh settlement in 1910.

**45h (T); C**

**RCS 423 Christianity in West African from 1914 to Date**

**3 Credits** Independent African Church Movements

(1914-1929): William Wade, Harris, Garrick

Sokari Braide, Joseph Ayo Babalola, Moses Orinmolade, Tunolase and Massiam Ebossa.

Emerging indigenous Church. Catholic Christianity's expansion programme. Mission activities in Northern Nigeria. EcUMEnical problems of the emerging Church. The contemporary church in Nigeria. Characteristics of West African Christianity.

**45h (T); C**

**RCS 424 Language and Literature of the Old Testament**

**2 Credits** Formation of the Hebrew canon. History

of the Old Testament scholarship. Structure and theology of Yahwistic, eulogistic, priestly and deuteronomic histories and selected portions of the prophetic books.

**30h (T); C**

**RCS 425 Theology of the Old Testament**

**2 Credits**

Contemporary approaches to Old Testament theology such as the theology of Israel's historical traditions and the systematic exposition through a central concept. Relationship of the old testament with the New Testament.

**30h (T); E**

**RCS 426 Selection from the Old Testament**

**2 Credits**

Detailed study of selected Hebrew texts relevant to the language, literature and theology of the Old Testament

**30h (T); C**

**RCS 427 Methods of New Testament Interpretation**

**2 Credits**

In-depth study and use of critical methods in New Testament interpretation. Examination of historical, form, source, criticisms, tradition, history and questions of introduction. Task of exegesis. Illustrations to be drawn from relevant New Testament books.

**30h (T); E**

- RCS 428 New Testament Texts 2 Credits**  
Selected Greek texts from the Gospel of John, the Epistle to the Ephesians and the Johannine Epistle. Exegesis of the selected texts. Examination of the introduction, distinctive features and theological objectives of the books to aid exegesis.  
**30h (T); C**
- RCS 429 Pastoral and Captivity Epistles 1 Credit**  
Philippians, and Timothy I and II: features and the theological objectives.  
**15h (T); E**
- RCS 430 The Letter to the Hebrews 2 Credits**  
In-depth study of the Epistle to the Hebrews.  
**30h (T); E**
- RCS 431 Christian Theology 3 Credits**  
Definition, purpose and task of Christian theology. Theos of theology. The Living God. The Holy God. The Saving God and the Everlasting Father.  
**45h (T); C**
- RCS 432 The Christian Doctrine of Trinity 2 Credits**  
Christian doctrine of Trinity: origin, meaning and significance. Biblical basis for the teaching. The tri-personality and the unity of God with reference to the relevant old and New Testament passages.  
**30h (T); C**
- RCS 433 Biblical Greek Grammar II 2 Credits**  
Basic Greek grammar. Syntax of New Testament Greek. Translation of appropriate New Testament passages.  
**30h (T); C**
- RCS 434 Ecclesiology 2 Credits** Christian doctrine of the Church with regard to the origin, meaning and importance. Jewish assembly. Origin of the Christian Church. The Church as a visible society and the need for such a society. Characteristics and importance of the Church.  
**30h (T); E**
- RCS 435 Practical Theology 2 Credits**  
Definition. Approaches to practical theology in Nigeria. Theological ethics. Inculturation of worship in Africa. Methodological

approaches and plurality.

**30h (T); E**

**RCS 436 Contemporary Christian Theology in Africa**

**2 Credits** Quest for African theology. The encounter

between Christian theology and the cosmology

of the African peoples. Models of contextualization. Christianity and African symbolism.

Christian doctrines and African religious beliefs. Black theology. African Christian

theology. Liberation theology. Feminist theology. Theology of reconstruction. Political

theology.

**30h (T); E**

**RCS 437 History of Christian Theology**

**2 Credits**

Development of theological thought and important doctrines from the beginning of Christendom to the present day. Types of theology: Roman Catholic, Eastern Orthodox and Protestants. Theology of Vatican II and the World Council of Churches.

**30h (T); E**

**RCS 499 Project**

**5 Credits** Each student under the guidance of an

approved supervisor is required to conduct

research in an area approved by the Department, culminating in the submission of a

project.

**225h (P); C**

**Summary**

**B.A. Christian Studies**

**100 Level**



**Compulsory Courses:** RCS 121(3), 122(2), 123(2), 124(3), 126(2), 128(2), GNS 111(2), 112(2)  
**= 18 Credits**

**Required Courses:** RCR 121(3), 122(2), 123(2), RCR 124(3), RIS 121(2) = **12 Credits**

**Total = 30 Credits**

### **200 Level**

**Compulsory Courses:** RCS 221(3), 222(2), 224(2), 225(4), 226(1), 228(2), 233(2),  
GNS 211(2), 212(2) = **20 Credits**

**Required Courses:** RCR 221(3), 223(2), 224(1), 230(2), RIS 224(1) = **9 Credits**

**Elective Courses:** 1 Credit from relevant courses in RCS/RCR = **1 Credit**

**Total = 30 Credits**

**Direct Entry Students:** GNS 111(2), 112(2) = **4 Credits**

**Total = 34 Credits**

### **300 Level**

**Compulsory Courses:** RCS 321(2), 323(2), 324(4), 325(2), 329(1), 331(2), 388(2)  
= **15 Credits**

**Required Courses:** RCR 321(3), 322(2), 323(2), 324(1), RIS 337(1), GNS 311(2),  
GSE 301(3) = **14 Credits**

**Elective Courses:** At least 2 Credits from RCS and RCR = **2 Credits**

**Total = 31 Credits**

### **400 Level**

**Compulsory Courses:** RCS 423(2), 424(2), 431(3), 432(2), 433(2), 499(5) = **16 Credits**

**Required Courses:** RCR 421(3), 423(2), 424(2), RIS 437(2) = **9 Credits**

**Elective Courses:** Five Credits from RCS/RCR = 5 Credits  
**Total = 31 Credits**

**Graduation Requirements:**

**UTME =121 Credits**

**DE = 95 Credits**

**B.A. Comparative Religious Studies**

- RCR 121 The Study of African Religion 3 Credits**  
Introduction to African Religion. Meaning of African Religion. Earlier investigators and writers; their approach and writings. Methodology of study. Purpose of study. Sources. Modern writers and their approach: Africans and Europeans.  
**45h (T); C**
- RCR 122 The Nature of African Religion 2 Credits**  
Wrong application of terms: primitive, savage, native, tribe, paganism, heathenism, fetishism, animism, idolatry, juju, mana and ancestor worship. Previous suggested appropriate terms: ATR, African Religions, African Indigenous Religion etc. Contemporary use of "African Religion" (Afre).  
**30h (T); C**
- RCR 123 The Structure of African Religion 2 Credits**  
Structure of African Religion: belief in God, divinities, spirits, ancestors and mysterious supernatural powers. Exposition of some scholars: Parrinder, Idowu and Talbot.  
**30h (T); C**
- RCR 124 Religions in Nigeria 3 Credits**  
Encounter of Islam and Christianity with African Religion. Religious education in Nigeria. Religious pluralism in inter-religious dialogue. Place of Religion in the constitutions of Nigeria. Religious crises. Common denominators of Islam, Christianity and African Religion. Areas of divergence. Problem associated with the practice of Religion in Nigeria. Religious understanding, cooperation and tolerance. Religion in the development of Nigeria.  
**45h (T); C**
- RCR 125 New Age Movements 2 Credits**

Origin and development of New Age Movements: Adventism, Christian Science, Mormonism, Spiritualism, Theosophy, Grail Message, Occultism, Satanism, Devil worship, Hare Krishna, etc.

**30h (T); E**

**RCR 126 Introduction to Anthropology of Religion**

**2 Credits**

Definition of anthropology. Study of the approach of Social Anthropology to investigation; physical, political, economic. Institutions in a society. Difference between religious methods and social methods.

**30h (T); E**

**RCR 127 Introduction to the Study of Religion**

**2 Credits**

Definitions and dimensions of religion: Religions of the world since human existence. Study of religion; importance, history and classification of study. Philosophy of religion. Psychology of religion. Sources of the study; scriptures, myths, proverbs, symbols and archaeology. Religious experience and revelation. Universality of Religion. Functions of religion in society. Need to study religion today.

**30h (T); C**

**RCR 128 Religious Texts**

**2 Credits**

Religious texts of the different religions of the world; their origin, authenticity, writing, compilation and authority. Oral forms of unwritten scriptures: *odu* and *ofo*. Study of at least three texts with emphasis on the oral form, composition, authority and writing.

**30h (T); C**

**RCR 129 African Religion in Nigeria**

**2 Credits**

African Religion in Nigeria before the advent of Islam and Christianity. Changing destiny of African Religion in its encounter with Islam, Christianity and Western culture. Decline in the practice of African Religion. Resuscitation of African Religion. Contemporary adaptation of African values to national aspirations and other religious practices. Practice of African Religion in Nigeria today.

**30h (T); C**

**RCR 130 Modern Scholars of African Religion**

**2 Credits**

Modern scholars of African Religion with emphasis on their works and contributions to the study of African Religion; Parrinder, Idowu, Mbiti, Awolalu, Metuh, Evans – Pritchard etc.

**30h (T); E**

**RCR 221 Philosophy of Religion I**

**3 Credits**

Philosophical investigation of religion. Proofs of God: His existence, nature and attributes. Comparism of faith and science. Consideration of the problem of evil. Role of religion *vis-a-vis* both evil and virtue in society. Question of miracles.

45h (T); C

- RCR 222**     **Philosophy of Religion II**     **2 Credits**  
Philosophers of Religion: Immanuel Kant, B.D. Lewis, N. Berdyaev, Ninian Smart, Paul Tillich, John Hick and Martin Buber.  
**30h (T); E**
- RCR 223**     **African Concepts of God**     **2 Credits**  
Concept of the Africans about God; names, attribute, status, and works of God. Sources of African conception and knowledge of God. African terminologies about God borrowed by other religions.  
**30h (T); C**
- RCR 224**     **African Pantheon I**     **1 Credit**  
Definition of pantheon. Existence of divinities and spirits. Names, categories, census, position and duty. Relationship to God and human beings. Functions of incantation.  
**30h (T); C**
- RCR 225**     **African Pantheon II**     **2 Credits**  
Different divinities in different African localities: *Orisa-nla, Orunmila, Esu, Sango, Ogun, Sopona, Oya, Osun* (Yoruba); *Ala, Amadioha, Agwu, Ekwensu* (Igbo); *Gunnu, Sokogbona* (Nupe); *Mawu-Lisa, Fa, Gu, Hevioso* (Ewe); *Ta Yao, Gua* (Akan); *Dugbo, Kwigbe, Kaene* (Mende and Kano).  
**30h (T); C**
- RCR 226**     **African Ancestors**     **2 Credits**  
Meaning of the term ancestors. Qualification to become an ancestor. Responsibilities of the ancestors. Veneration and worship. Shrines and festivals of the ancestors. Ancestral ceremonies: Egungun, Oro, Agemo and Ndako Gboya.  
**30h (T); E**
- RCR 227**     **Religious Specialists**     **2 Credits**  
Nature of religious specialist; their call, training, function and influence in the society. Religious specialists in Nigeria and their contribution to development. Religious specialists and politics and their role in religious harmony in Nigeria.  
**30h (T); C**
- RCR 228**     **Phenomenology of Religion**     **2 Credits**  
Phenomenology as a concept. Methodology and application to the study of religion. Schools of thought and methodology as represented in the traditions of Emile Durkheim, Marx Weber, Fredrich Schlemarcher, Immanuel Kant, Milton Yinger, Paul Tillich, William James, Iqbal, Ibn Sina and al-Ghazali.

30h (T); E

- RCR 229 Deity and the Religious Concepts of Man 2 Credits**  
Meaning of deity and alternative names. Universal religious concept of man: experience, revelation and reflection and response of Rudolf Otto. God as the centre and source of religions. Theistic and non-theistic religions. Differences and similarities of concepts. Deism, pantheism, empiricism, agnosticism and theism.  
30h (T); C
- RCR 230 Introduction to Comparative Religion 2 Credits**  
Variety of religions. Living religions today; date, founder, deity and sacred books. Comparative religion as history of religion. Scholars associated with comparative religion. Comparative religion as an academic discipline: Approach and purpose.  
30h (T); C
- RCR 231 Women in African Religion 2 Credits**  
Female images and symbols and their interpretation in African religion. Status and leadership role of women in African mythology and proverbs. Position and roles of goddesses in Africa. Women and purity, rituals, taboos, restrictions, witchcraft and other mysterious powers. Rise of women liberation and feminist movements.  
30h (T); E
- RCR 232 Religion and Communication 2 Credits**  
Meaning and peculiarity of religious language and communication. Problems of religious language. Analogy in religious language. Language of faith and symbols. Negative use of language and communication and their effects on religious harmony. Communication and conflict resolution.  
30h (T); E
- RCR 233 Religion and Family in Africa 2 Credits**  
Family as a basic social unit. Marriage and family from a religious and sociological perspective. Types and functions of family in Africa. Role of African Religion in the protection of the family unit.  
30h (T); E
- RCR 234 Youth and Religion 2 Credits**  
Definition of youth within the African and global context. Youth in African religion, puberty rites and training like Ndako Gboya, Poro and Sande. Inculcation of leadership roles, responsibilities, morals and discipline in the youth to meet contemporary challenges. Religious youth organizations and role within Nigeria society.  
30h (T); E

- RCR 235 Religion and Science 2 Credits**  
 Relationship between religion and science. Criteria of religion and science and methods of investigation. Creation and evolution controversy. Origin and nature of human beings and the universe *vis-a.-vis* religion and science. Contemporary dialogue between religion and science.  
**30h (T); C**
- RCR 236 Functions and Forms of Marriage and Family 2 Credits**  
 Definitions and different forms of marriage and family. Family and marriage in different cultural contexts and beliefs. Communication and intimacy in the marital relationship. Violence in marriage and family. Place of religion in marriage. Personal values, ethics and values, ethical dilemmas, confidentiality and problems associated with marriage and family. Counseling in marriage. Process of divorce and mediation.  
**30h (T); E**
- RCR 321 Introduction to Ethics 3 Credits**  
 Definition of ethics. How ethical norms are derived, transmitted and applied in specific situations. Physical and moral good conscience. Consequences of human acts. Passions and virtues. Rights, duties and law. Duties of the rich to the poor and vice versa. Contract, social contract, inheritance, gift, and civil society.  
**45h (T); C**
- RCR 322 Theories of Religion 2 Credits**  
 Approaches to the study of religion. Etymological connotations of religion; origin, definition and purpose. Theories of the origin of Religion. Role and media of revelation. Revelation and reasoning compared. Religion and modern predicament.  
**30h (T); C**
- RCR323 African Cosmology 2 Credits**  
 African concept of the origin of things. Stories of creation among different African peoples. Maintenance and control of the world. Relationship between God and the world.  
**30h (T); C**
- RCR 324 Worship in African Religion I 1 Credit**  
 Meaning of worship. Objects of worship. Purpose of worship. Places of worship. Direct and indirect worship of God.  
**15h (T); C**
- RCR 325 Worship in African Religion II 2 Credits**  
 Worship of the divinities, liturgy, prayer, songs and sacrifice. Worship in African Traditional Religion and other religions. Cultic

functionarie their call, training and status.

**30h (T); C**

- RCR 326 Traditional Festivals 2 Credits**  
Meaning, features and purpose of traditional festivals. Theological significance of festivals. Descriptions of the celebration of different festivals and their importance.  
**30h (T); E**
- RCR 327 Religions of India 3 Credits**  
Origin and growth of the religions of an India Tradition, Jainism, Sikhism and Buddhism. Religions in India and Nigeria.  
**45h (T); C**
- RCR 328 African Traditional Religion and Society 2 Credits**  
Meaning, composition and purpose of society. Cohesive factor of society. Covenant, relationship. Moral values in relation to sex, marriage and the family. Responsibility, good and evil, freedom of the will, law and regulations, taboos, sin and its removal with illustrations form various ethnic groups in Africa.  
**30h (T); E**
- RCR 329 African Mythology 2 Credits**  
Meaning, purpose, categories, and characteristics of African myths. African myths. Values of myths in religions matters.  
**30h (T); C**
- RCR 330 Issues in Personal Ethics 2 Credits**  
Moral life demanding personal decision. Changing sexual behavior. Use of private property. Use and abuse of alcohol and drugs. Truth telling and eugenic engineering. Changing ethical norms.  
**30h (T); E**
- RCR 331 Philosophy of Religion III 2 Credits**  
Philosophical investigation into religious experience: Mystical and experience, *Numinous* , religious experience and their proofs. Sovereignty of God and the freedom of man. Materialism versus dualism, Religious language.  
**30h. (T); E**
- RCR 332 Comparative Study of Worship in Religion 2 Credits**  
Worship in African Religion; Christianity, Islam and other world religions, with emphasis on God, place, object, purpose and nature of worship. Functionaries in worship.  
**30h (T); C**

- RCR 333 African Theological Ethics in Perspective of Modern Science 2 Credits**  
 African religious foundations, texture, quality and morals. Ethical teachings from African religious injunctions on truth, wisdom, poverty, war and other virtues/vices. Comparison of African ethical teachings with scientific accounts on evolutionary ecology and neuroscience. African concept of causality, soul and destiny.  
**30h (T); C**
- RCR 334 Psychology of Religion 2 Credits**  
 Definitions and methodological issues. Psychology of Religion in relations to Phenomenology of Religion and Comparative Religion. Religious phenomena of individuals and groups based on man's relationship to God. Psychology of conversion. Fundamental human experience. Present state of psychology of religion.  
**30h (T), E**
- RCR 335 Religion and Environment 2 Credits**  
 Religion and nature. Philosophy and ethics of nature. Selected religious beliefs and practices concerning conservation of nature. Reverence for natural resources. African Communalism, Cultural and Biological diversity. Religious values and science-based environmental Ethics. Religion and sustainable development.  
**30h (T), E**
- RCR 336 Religion and Human Development 2 Credits**  
 Role of religion in socialization of the African Religion. Their values to national development and social mobilization. Cooperation between religious Institutions and the State in modern development.  
**30h, (T), E**
- RCR 337 Religious Meaning, Truth and Value 2 Credits**  
 Meaning Religion. Fundamental Truth of world religions. Value of Religion. End of Religion. Religion and the question of superiority and claim to monopoly of truth and value. Interreligious dynamics. Study of selected religious themes. Religious action and meaning.  
**30h (T); E**
- RCR 388 Research Methods 2 Credits**  
 Methods of research in Comparative Religious Studies with emphasis on African Religion.  
**30h (T); C**
- RCR 421 African Mysterious Powers 3 Credits**



Definition of magic, medicine, sorcery and witchcraft and their local terms. Relationship between magic and medicine, and between sorcery and witchcraft. Social functions, operations and relation to religion. Incantations. Divination and solution. Millennial magic and economic enterprise. Traditional and western medicine. Diseases and remedies. Potency of magic and medicine.

**45h (T); C**

**RCR 422**

**Issues in Social Ethics**

**3 Credits**

Relevance of religious message to social structures. Authority, violence, and race relations. Relationship between the religions and the state, revolution and economics. Ethical norms: justice, egalitarianism, freedom of action, virtuous deeds, tolerance, selflessness, human rights and human relations. Nature and purpose of state, war and peace. Human responsibility and accountability.

**45h (T); E**

**RCR 423**

**Sociology of Religion**

**3 Credits**

Psychological and sociological functions of religion. Religion as a cultural system. Functional theories of religion. Religion in industrial societies.

**45h (T); C**

**RCR 424**

**African Concept of Man**

**2 Credits**

Man's origin as conceived by different ethnic group in Africa. Function of the soul, human destiny and the concept of predestination. Rites of passage among the various African peoples.

**30h (T); C**

**RCR 425**

**Religion of the Far East and Near East**

**3 Credits**

Origin and growth of the religions in the Far East: Confucianism, Taoism, Shintoism, and Buddhism. Religions in Near East: Zoroastrianism, Judaism, Christianity, Islam, and the Bahai faith. Practice of religion in China and Japan today.

**45h (T); E**

**RCR 426**

**African Eschatology**

**2 Credits**

African interpretation of death. Death and burial ceremonies among different African peoples. Man's final end and concept of divine judgment. Reincarnation.

**30h (T); C**

**RCR 427**

**Aspects of African Traditional Religion I**

**3 Credits**

African Traditional Religion among the Yoruba, Igbo, Urhobo, Nupe, Tiv, Ewe, Mende and other West African peoples.

**45h (T); C**

- RCR 428**      **Aspects of African Traditional Religion II**      **3 Credits**  
 African Traditional Religion among the Lugbara, Nuer, Bantu, Abaluyia, Lele, Shilluk, Lovedu, Tonge, Ngombe, Ambo and in Rwanda. Motifs in African religion.  
**45h (T); E**
- RCR 429**      **African Religion in Contemporary Nigeria**      **2 Credits**  
 Decline in the practice of African religion and its encounter with Islam, Christianity and Western culture. Resilience of African religion. Festac '77. Revitalisation of African religion in Godianism, Orunmila church, Orisa worship and other movements. Prospect of African Religion and its relevance to modern situations.  
**30h (T); E**
- RCR 430**      **Atheistic Philosophies**      **2 Credits**  
 Atheistic systems: Socialism, Marxism, Communism, Secularism and Capitalism.  
**30h (T); E**
- RCR 431**      **Comparative Study of Religions in Nigeria**      **2 Credits**  
 Themes in African Religion. Islam and Christianity in Nigeria. Scriptures, oral traditions, origins of heaven and earth. Concept of death and the hereafter, spirits and spiritual agencies and passages of life and inheritance.  
**30h (T); C**
- RCR 432**      **Religion and Culture**      **2 Credits**  
 Definition of culture. Cultural patterns of societies. Varieties of cultures. Correlation between religions and cultures with specific instances where one evolves from the other. Christianity, Islam and the Nigerian cultures.  
**30h (T); C**
- RCR 433**      **Theodicy**      **2 Credits**  
 Meaning of theodicy. Existence of Evil in all forms vis-à-vis the claim that God is wholly good and omnipotent. Responses of different Religions to the problem of Evil. Purpose of Evil. Free will and the question of choice. Human acts, responsibility and accountability. Theodicy and Modern science.  
**30h (T); C**
- RCR 434**      **Ethical Perspectives on Ecology**      **2 Credits**  
 Theological approach to ethics of ecology and other ethical issues; technological, geo-agricultural, economic, political and religio-philosophical facets of the environmental crisis.  
**30h (T); E**

**RCR 435 Ethics of Political and Economic Life 2 Credits**  
 Theological and ethical problems. Relationship between Politics and Economics, the State and Economics, Liberation and Economic Development, Economic systems. Corruption and good Governance.  
**30h (T); E**

**RCR 436 African Religion in the Diaspora 2 Credits**  
 Meaning, causes, history and extent of the African diaspora (Cuba, Brazil, Argentina and North America). Manifestations of African Religious ideas in the diaspora. Influence on other cultures in the diaspora. Role of African Religion in liberation movements. Prospects and challenges in the diaspora. African Religion in Africa and in the diaspora today.  
**30h (T); C**

**RCR 499 Project 5 Credits**  
 Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**225h (P); C**

**Summary**

**100 Level**

**Compulsory Courses:** RCR 121(3), 122(2), 123(2), 124(2), 127(2), 128(2), GNS 111(2), 112(2)  
**= 18 Credits**

**Required Courses:** RCS 121(3), 122(2), 123(2), 124(2), RIS 121(2) **= 11 Credits**

**Elective Courses:** Other relevant Courses in RCS/RCR may be offered **= 1 Credit**

**Total = 30 Credits**

**200 Level**

**Compulsory Courses:** RCR 221(3), 223(2), 224(1), 225(2), 227(2), 229(2), 230(2), 235(2),  
 GNS 211(2), 212(2) **= 20 Credits**

**Required Courses:** RCS 221(3), 222(2), 224(2), 226(1), RIS 224(1) **= 9 Credits**

<b>Elective Courses:</b>	Other relevant Courses in RCS/RCR may be offered	= 1 Credit
		<b>Total = 30 Credits</b>
<b>Direct Entry Students:</b>	GNS 111(2) and GNS 112(2)	= 4 Credits
		<b>Total = 34 Credits</b>

### 300 Level

<b>Compulsory Courses:</b>	RCS 321(3), 322(2), 323(2), 324(1), 325(2), 329(2), 332(2), 388(2), GNS 311(2)	= 18 Credits
<b>Required Courses:</b>	RCS 321(2), 323(2), 325(2), 329(1), RIS 337(1)	= 8 Credits
<b>Elective Courses:</b>	Other relevant Courses in RCS/RCR may be offered	= 4 Credits
		<b>Total = 30 Credits</b>

### 400 Level

<b>Compulsory Courses:</b>	RCS 421(3), 423(2), 424(2), 426(2), 431(2), 432(2), 499(5)	= 18 Credits
<b>Required Courses:</b>	RCS 423(3), 431(3), 432(2), RIS 437(2)	= 10 Credits
<b>Elective Courses:</b>	Other relevant Courses in RCS/RCR may be offered	= 2 Credits
		<b>Total = 30 Credits</b>

### Graduation Requirements:

UTME	=	120 Credits
D/E Students	=	94 Credits

## **B.A. Islamic Studies**

- RIS 121      General Introduction to Islam      2 Credits**  
Meaning and basic principles of Islam. Importance of *Kalimatu'sh Shahadah*. Islamic sources of guidance. Different sciences associated with Islam. Efforts of the early Muslims. *Salaf* and subsequent sects of Muslims. Islam and Western civilization.  
**30h (T); C**
- RIS 122      Islamic Fundamentals I: *Iman* (Faith)      2 Credits**  
Definition of faith in Islam. Study of faith in Allah and its significance. Other articles of faith, their essence and significance.  
**30h (T); C**
- RIS 123      Islamic Fundamentals II: *As-Salat* (The performance of prayer)      2 Credits**  
Importance of Islam. Different aspects and kinds of prayer in Islam. Significance of prayer to Muslims.  
**30h (T); C**
- RIS 124      Islamic Fundamentals III: *Az-Zakat* (Poor-rate)      1 Credit**  
Importance of Zakat in Islam. Commodities on which Zakat is due, when and how Zakat is paid. Zakat in modern times. Its significance to Muslims.  
**15h (T); C**
- RIS 125      Islamic Fundamentals IV: *As-Sawm* (Fasting) and *Al-hajji* (Pilgrimage)      3 Credits**  
Importance of fasting in Islam. Institution of fasting before Islam. Islamic teachings on fasting. Ramadan fasting and other fasts and their purpose. Institution of pilgrimage before Islam. Islamic teachings on pilgrimage and significance of pilgrimage to Muslims.  
**45h (T); C**
- RIS 126      Introduction to *Sirah*      2 Credits**  
History of the Jahiliyyah period and the biography of the Prophet Muhammad as contained in *Sirah* books: the works of Ibn Hisham, Ibn Ishaq and M.H. Haykal.  
**30h (T); C**
- RIS 127      The Classical Foundations of Islamic Civilization and Culture      2 Credits**  
History of Islam from the death of the Prophet Muhammad to the death of the fourth orthodox Caliph Ali b. Abi Talib in 661 C.E.  
**30h (T); C**
- RIS 128      Muslim Organisations in Nigeria      2 Credits**

Origin and development of Islamic organisations: Ahmadiyyah, Ansar-ud-Deen (AUD), Ansaru'l-Islam (AIS), Jama'atu Nasru'l-Islam (JNI), Muslim Students Society of Nigeria (MSSN) and Tabligh. Contributions of the organisations to the development of Islam in Nigeria. Problems and challenges.

**30h (T); C**

**RIS 129      Status of Women in Islam**

**2 Credits**

Position of women prior to the advent of Islam. Emancipation of women by Islam. Islamic teachings on mode of dressing, education and acquisition of wealth. Women and leadership. Widowhood in Islam. Illustrations from the Nigerian Society.

**30h (T); C**

**RIS 130      Place of Mosque in Islam**

**1 Credit**

Historical development of some selected mosques in Islam: *al-Ka'bah*, al-Masjidun-Nabawi, al-Masjidul-'Aqsa, Masjidu Quba and Masjidu Qiblatayn.

**15h (T); C**

**RIS 221      The Umayyad Period of Islam**

**2 Credits**

Political history of Islam (661-750 C.E). Mu'awiyah Ibn Abi Sufyan dynasty. Study of the Sufyanid line of the Umayyads. The Marwanid rule. Characteristics of the Umayyads. Achievements of Umayyad rulers. Problems of Mawalis. Decline and collapse of Umayyad rule.

**30h (T); C**

**RIS 222      The Abbasid Period of Islam**

**3 Credits**

Political history of Islam (750-1258 C.E). Establishment of the Abbasid State. The golden period of the Abbasid. Scientific and literary progress. Disintegration and decline. Petty and sundry dynasties in the West and East of the Islamic Hemisphere. Collapse of the Abbasid dynasty.

**45h (T); C**

**RIS 223      The Origin and Development of Islamic Law**

**2 Credits**

Pre-Islamic Arabian customary law. Islamic stand on legal matters and yardsticks used in assessing customary Laws. The ancient schools of law. Ash-Shafi'i and jurisprudence. The five schools of law in Islam. The classical theories on sources of law.

**30h (T); C**

**RIS 224      Introduction to the Qur'an**

**1 Credit**

Historical survey of how the Qur'an came into existence. Contents and divisions of the Qur'an. Importance of the Qur'an to the Muslims.

**15h (T); C**

- RIS 225**      **Textual Study of the Qur'an**      **2 Credits**  
 Selected texts for study involving correct recitation, translation, and commentary on each text. Chapter 1 (Al-Fatihah) and Chapters 87 (Al-A'la) to 114 (An-Nas).  
**30h (T); C**
- RIS 227**      **Textual Study of the Hadith**      **2 Credits**  
 Correct reading, translation and commentary on the forty-two Hadith of the Arba'un an-Nawawiyah.  
**30h (T); C**
- RIS 228**      **Pillars of Islam**      **3 Credits**  
 Study of the five pillars of Islam with emphasis on their importance and significance.  
**45h (T); C**
- RIS 229**      **Introduction to the Hadith**      **2 Credits**  
 Historical survey of the Hadith. Aims and functions of the Hadith. *Mustalahu'l-hadith* including *isnad*, *tadwin* and authentication. Criteria used in classification of the Hadith. Modern contributions to the study of the Hadith.  
**30h (T); C**
- RIS 230**      **Public Finance in Islam**      **2 Credits**  
 Sources of revenue generation in Islam: *Zakat*, *Waqf*, *Kharaj*, *Jizyah*, *Ghanimah* and *Fay*. Origin, development and importance of *Baytu 'l-Mal* and *Diwan*. Mode of disbursing public funds and properties. Islamic perspectives on public finance. Welfare scheme in general.  
**30h (T); C**
- RIS 231**      **Islamic Banking**      **2 Credits**  
 Study of Qur'anic verses and prophetic traditions on *al-Mudayanah*. Origin of Islamic banking system. Its growth and development among Muslim and Islamic states. Value of Islamic banking.  
**30h (T); C**
- RIS 232**      **Islamic Festivals**      **2 Credits**  
 Survey of festivals in Islam: *Ash-hur Hijrah*, *Mawlidun-Nabiyyi Al-Isra' wa' l-Micraj*, *al-dul-Fitri* and *al-du'l-Adha*. Study of *adadus-Sinin wa'l-Hisab* in Qur'an 10:5 and 17:12 towards the determination of dates of festivals in Islam. Ethics of Islamic celebration.  
**30h (T); C**

- RIS 321 Introduction to Islamic Philosophy 2 Credits**  
 Muslim contact with Greek thoughts. Early philosophical arguments among Muslims. Power of God and the freedom of Man. The *mu'tazilah* and their philosophical thoughts. Conflicts of ideas over prophecy and philosophy. Views of Ibn Tufayl, Al-Ghazali and Ibn Rushd on revelation and reason.  
**30h (T); E**
- RIS 322 Introduction to Islamic Theology 2 Credits**  
 Development of religious thoughts in Islam. Growth of sects in Islam. Controversies on God's decree vis-à-vis man's responsibilities. Qadariyyah versus Jabariyyah views. Theological arguments of the *Mu'tazilah*. Supremacy of *ahlu's – Sunnah*. Growth of scholasticism in Islam.  
**30h (T); C**
- RIS 323 Introduction to Islamic Mysticism (Sufism) 2 Credits**  
 Asceticism of early Muslims. Asceticism developed into mysticism. Internal and external causes. Conflicts of ideas and practices between the Sufis and the Scholastic theologians. The Sufi way and their esoteric interpretation of the Qur'an. Al-Ghazali's impact on Sufism.  
**30h (T); C**
- RIS 324 Islamic Family Law 3 Credits**  
 Conditions governing marriage in Islam. Seclusion (*al-hijab*). Polyandry and polygyny. Marriage responsibilities. Divorce conditions. Determination of paternity. Al-Walad li '*Ifirash*, custody of children (*al-hadanah*) family planning and birth control.  
**45h (T); C**
- RIS 325 Qur'anic Exegesis and Exegetes 2 Credits**  
 Growth and development of the science of *Tafsir*. Classification of *Tafsir* works. Lives and works of notable *Mufasssirun* among the *Sahabah*, the *Tabi'un* and subsequent generations. Modern developments in *Tafsir*.  
**30h (T); C**
- RIS 326 Qur'anic Text 2 Credits**  
 Current reading, translation and study of the Qur'an from Chapter 70 (*Al-Ma'arij*) to chapter 86 (*Al-Tariq*) as well as chapter 2 verses 124-134 and chapter 4, verses 1-25. Basic *Tafsir* works like those of Jalalayn, A.A.Y. Ali, M. Muhammed Ali and Sayyid Qutb to be used.  
**30h (T); C**
- RIS 327 Hadith Text I 2 Credits**



Selections of the Hadith from *as-Sihabas-Sittah* and *al-Muwatta'* of Malik Bn. Anas covering representative texts on *'Ibadah* and *Mu'amalat* including basic social teachings in Islam. Forty short *ahadith* (twenty from *alMuwatta'* and twenty from others) to be studied in Arabic and fully translated.

**30h (T); C**

**RIS 328 Hadith Collectors and Commentators**

**2 Credits**

Lives and works of some important collectors of Hadith and the commentators on the collections. Collections include al-Bukhari, Muslim, Ibn Majah, - Tirmidhi, Abu Dawud, an-Nasa': Muwatta' of Malik b. Anas and Musnad of Ahmad b. Hanbal.

**30h (T); E**

**RIS 331 Islamic Institutions**

**3 Credits**

Institutions of the Caliphate, *Khilafah*, *Wizarah*, *Mazalim* and *Hisbah*. Introduction to cultural, political, judicial and social development of Islam. Examination of the views of: *al-Mawardi*, *Ibn Taymiyyah*, *Ibn Khaldun*, and the Fodio scholars on the Islamic institution.

**45h (T); E**

**RIS 332 Qur'anic Ethics**

**2 Credits**

Foundation of Qur'anic ethics as contained in the Qur'anic injunctions on truth, wisdom, justice, love, beauty and goodness. Unity as a virtue in Islam. Evils of adultery, alcoholism, oppression, rebellion, hypocrisy, indiscipline, corruption and other vices. Work ethics.

**30h (T); C**

**RIS 335 Islam in the Maghreb and Spain up to 1500 C.E**

**3 Credits**

Spread of Islam to the Maghreb through Egypt. Its spread to Spain. The consolidation of Islam in the areas. The Umayyads of Spain. Muslim dynasties in the Maghreb and Spain. The Murabitun and Muwahhidun. Resurgency of Europe and reconquest. Contribution of Islam to western civilisation through Spain.

**45h (T); E**

**RIS 336 Islam in the Nile Valley and East Africa**

**3 Credits**

Spread of Islam to Egypt and the eclipse of Roman culture. Consolidation of Islam in Egypt. Early missionary efforts southwards by the Muslims. Egypt under the Umayyads, the Abbasids, Ibn Tulun, the Ayyubids and the emergence of the Mamluks.

**45h (T); E**

**RIS 337 Prophecy and Prophetic Missions**

**1 Credit**

Meaning, essence and symbol of prophecy in Islam. Study of the lives of Prophets Adam, Nuh, Ibrahim, Musa and Isa. Relationship between them and the Prophet Muhammad.

15h (T); C

- RIS 338**      **Muʿamalat in Islamic Law**      **2 Credits**  
Law of *Muʿamalat*, the essential requisites of valid contracts and the mode of making them. Scope of contracts in Islam and the Majlisu 'l-aqd meeting-place for the formation of contracts, the parties concerned, and the subject matter. Study of special contracts and dispositions.  
**30h (T); E**
- RIS 339**      **Islamic Art and Architecture**      **2 Credits**  
Islamic concept of beauty. Calligraphy as an art in Islam. A theoretical study of the architectural masterpieces in Islamic civilization involving mosques, schools and palaces. The Abbasid mosque at Samarra, the Al-Hambra, and the Monumental Taj-Mahal. West African examples of Islamic architecture (Timbuktu, Katsina and Zaria) and calligraphy.  
**30h (T); E**
- RIS 340**      **Islamic Studies and Orientalism**      **2 Credits**  
Characteristics of Islam and its primary sources, the Qur'an and Sunnah. Orientalists and their approaches to the study of Islam: historical background, motives, objectives and their qualifications. Critical evolution of the major works of Orientalists: GuillaUME, Bernard Lewis, W.M. Watt, P.K. Hitti, and Goldziher.  
**30h (T); E**
- RIS 341**      **Comparative Studies of Religion**      **3 Credits**  
Introduction to Judaism, Christianity and Islam. Sources of the three religions with special reference to the history of the texts of: The Old Testament. The New Testament. Gospel of Barnabas. Al-Qur'an. Comparative Study of the basic theories with special reference to: Faith; Worship; Ethics. Contribution to human progress especially in the field of thought and science. Impact of Islam and Christianity in Nigeria (especially on Education). The place of African Traditional Religion. Comparative studies of religion in Islamic thought e.g. *Abu-al-Hassan al-Amin and al-Biruni*.  
**45h (T); C**
- RIS 388**      **The Research Methods of Muslim Scholars**      **2 Credits**  
Introduction to modern methods of research in Islamic studies: i) The Qur'anic guiding methods of enquiry. ii) The research methods used by:  
1. I-Muhaddithun (Mustalahu al-Hadith)  
2. Al-Faqaha' Usul-Figh).  
3. Al-Mutakallimun ('Im al-Kalam).  
4. Sirah and history (historiography).

5. Biography (Tabaqat).
6. Bibliography (e.g. Fihrsists).
7. The Sufi methods based on insight and intuition (*Basira* and *Hads*).

Choice of topic, collection of oral and written data, literature review, the main body of research work, the concluding parts, and the place of language and reference materials.

**30h (T); C**

- RIS 421      Qadiriyyah and Tijaniyyah Sufi Orders      2 Credits**  
 Sufi Orders and their contributions to the development of Islam. Impact of the Qadiriyyah and the Tijaniyyah Sufi Orders on West Africa and Nigeria, in particular.  
**30h (T); C**
- RIS 422      Sample Text on At-Tasawwuf      2 Credits**  
 Selected Arabic texts from the writings of renowned Sufis for special study: al-Ghazali; Ibn Arabi, Suhrawardi, Abdul Qadir al-Jilani and Ahmadu‘t-Tijani.  
**30h (T); C**
- RIS 423      Muslim Philosophers      2 Credits**  
 Muslim philosophers of the East and those of the West. Their contributions to philosophy and human progress. A consideration of the views peculiar to each of them.  
**30h (T); E**
- RIS 424      Sample Texts on al-Falsafah      2 Credits**  
 Selected Arabic texts on Islamic philosophy for special study. Extracts from the thoughts of studied philosophers.  
**30h (T); E**
- RIS 425      Islamic Theology      2 Credits**  
 Significance of La-ilaha-illa Allah to Muslims. Articles of faith and their significance. Classification of Tawhid: al-Uluhiyyah, Ar-Rububiyyah and Al-Asma’ wa‘s-Sifat: Views of distinguished theologians: al-Ash‘ari, al-Ghazali, Ibn Rushd, Ibn Taymiyyah and Muhammad Abduh’. Representative textual study in Arabic.  
**30h (T); E**
- RIS 426      Contributions of West African Scholars to Islamic Thoughts      2 Credits**  
 Spread of Islam and its routes to West Africa. Contributions of itinerant preachers, religious brotherhoods and rulers. Roles of scholars like Uthman b., Fudi, Muhammad al-Amin El-Kanemi, al-Hajj Umar al-Futi, Abdullah b. Fudi, Abdu ‘l-Karim al-Maghili and Adam Abdullah al-Ilori. Islamic scholarship in West Africa under colonial rule and post political independence. The role of

Islamic institutions and societies.

**30h (T); E**

- RIS 427      Modern Reforming Movements in Islam      2 Credits**  
Muhammad Abdul and Rashid Rida. Muslim brotherhood, Muhammad Iqbal, Uthman b. Fudi and the Mahdi of the Sudan and their efforts. Contributions of Imam Ayatullah al-Khumayni of Iran.  
**30h (T); C**
- RIS 428      Modern Development in Islamic Law      2 Credits**  
Application of Islamic Law in the 19<sup>th</sup> and 20<sup>th</sup> centuries C.E. Controversy over the alleged close of the gate of *Ijtihad*. Limitation of Qadi courts to the Law of personal status. The principle of Siyasah. Specific consideration of modern trends in the application of Islamic law in the Middle East (Iraq and Syria), North Africa (Egypt and Tunisia), Europe (Turkey), Asia (India and Pakistan) and West Africa (Nigeria).  
**30h (T); E**
- RIS 432      Hadith Text II      2 Credits**  
Study of some extracts from as-*Sahihan* with commentary.  
**30h (T); C**
- RIS 433      Tajwid      2 Credits**  
History of the establishment of the text of the Qur'an. Different ways of its recitation and solutions to reading problems. Study of *alamatu 'l-Waqf, an-Nunu's-Sakinah*. Tanwin and pausal apocope of caswe endings at Wuquf. Textual reading of selected chapters.  
**30h (T); C**
- RIS 434      Islamic Law of Succession      2 Credits**  
Conditions governing inheritance in Islam. Different categories of heirs and their shares. Intricacy of al-*c*Awl (pro-rata reduction). Other categories of complicated cases: *al-Malikiyyah, al-Dinariyyah al-Kabra* and *al-Himariyyah*. Sharing the properties among the heirs.  
**30h (T); C**
- RIS 435      Islam in Nigeria      2 Credits**  
Establishment of Islamic state in Kanem-Borno Kingdom. Islam in Hausa States. Uthman Dan Fodio's Jihad and its aftermath. Islam in Southern Nigeria. Modern developments among Muslims in Nigeria.  
**30h (T); E**
- RIS 436      Basis of Islamic Economic System      2 Credits**

Islamic teachings on acquisition and distribution of wealth. Islam and capitalism, socialism, communism and mixed economy. Qur'anic teachings on Ar-Riba. Agreement and its conditions. Economic ventures: *Shirkah, Mudarabah, Murabahah*.  
**30h (T); E**

- RIS 437      Shari'ah in Nigeria      2 Credits**  
Shariah legal practice in Nigeria up to 1900. Shari'ah in Nigeria from 1900 to the 1960s. Subsequent developments on the Shari'ah in Nigeria to date.  
**30h (T); C**
- RIS 438      The Mamluks and 'Uthmani Dominions      3 Credits**  
History of Mamluks of Egypt and their contributions to civilization from 1250-1517 C.E., the Uthmani rule and conflicts with their European neighbours. Decline of their rule and their contributions to Islamic civilization.  
**45h (T); E**
- RIS 439      Islamic Law of *Wasiyyah* and *Waqf*      1 Credit**  
Study of *Wasiyyah*: definition, formulation, legality and condition of validity. Effect of death-sickness on validity: definition, significance, condition of validity and administration of *waqf* in Islam, *Shurut waqf* (items of the guarantor). Legal personality and liquidation.  
**15h (T); E**
- RIS 440      Islamic Principles of Jurisprudence      2 Credits**  
Advanced study of *usulu 'l-fiqh* (principles of jurisprudence): definition scope and evolution. Al-hakim (the ruler). Nature and types of legal rules. Linguistic terms, legislative principles and the sources of Islamic legislation (primary and secondary): *al-ijtihad, at-taqlid and al-fatwa*.  
**30h (T); C**
- RIS 441      Islamic Historiography      2 Credits**  
Islamic historiography. Qur'anic concept of history. Critical assessment of Muslim history on the basis of Islamic historiography. Main characteristics of the works of early Muslim historians: Tabari, al-Biruni, and Ibn Battutah. Ibn Khaldun's historiography in *al-Muqaddimah*.  
**30h (T); C**
- RIS 442      Heretical Movements      2 Credits**  
Fundamental Islamic principles. Islamic views on heresy and its early development. Modern manifestation of heresy in Babiyyah, Baha'iyyah and Qadiyaniyyah. Need for constant dialogue to remove heresy and realize unity of the Muslim Ummah.  
**30h (T); E**

- RIS 443**      **Concept of Justice in Islam**      **2 Credits**  
 The system of justice dispensation in Islam. Al-Qadi (the judge) and his qualification. The maxim: *al-bayyinatu ala'l-Mudda l wa'l-Yaminu ola man Ankara*. The place of witness in Islamic justice dispensation. *Wakalah* and legal representation.  
**30h (T); C**
- RIS 444**      **Islamic Penal System**      **2 Credits**  
 Classification of crimes in Islam: *Hudud*, *Qisas* and *Ta'zir*. Specific penalties for Hudud and Qisas crimes. Flexibility of some Qisas penalties. Qur'anic and Hadith reference on the Islamic criminal justice system.  
**30h (T); C**
- RIS 445**      **Governance and Public Administration in Islam**      **2 Credits**  
 Quar'anic teachings on governance. Prophetic model of governance in Madinah. Qualities of 'ulu'l-Amri. Shura: meaning, mode and scope. Study of *al-adlu wa'l-lhsan* in Qur'an 16:90. Islamic perspectives on international, diplomatic, bilateral and multilateral relations. Examination of selected treaties, letters and covenants signed during the prophetic era and subsequent Islamic governments of the *salaf*.  
**30h (T); C**
- RIS 446**      **Islamic Education**      **3 Credits**  
 Development of Islamic education under the Prophet's guidance.  
 The contribution of *Sahabah* and *Tabi'un* to Islamic Education. The subsequent history and the development of Islamic education.  
 a) Institutions: Mosque (Masjid) madrasah Nizamiyyah, Cordova, al-Azhar.  
 b) Literature: al-Muhasib, al-Mawardi and al-Ghazali. Influence of maghribi writers, e.g. a) The Qur'anic School,  
 b) The Islamiyyah and the CIIm School, and  
 c) Islamic Higher Education in Nigeria.  
**45h (T); E**
- RIS 499**      **Project**      **5 Credits**  
 Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**225h (P); C**

## Summary

### 100 Level

<b>Compulsory Courses:</b>	RIS 121(2), 122(2), 123(2), 124(1), 125(3), 126(2), 127(2), 128(2), 129(2), 130(1)	<b>= 19 Credits</b>
<b>Required Courses:</b>	GNS 111(2), 112(2)	<b>= 4 Credits</b>
<b>Elective Courses:</b>	At least 7 Credits from 100 Level Courses in ARA	<b>= 7 Credits</b>
		<b>Total = 30 Credits</b>

### 200 Level

<b>Compulsory Courses:</b>	RIS 221(2), 222(3), 223(2), 224(1), 225(2), 227(2), 228(3), 229(2), 230(2), 232(2),	<b>= 21 Credits</b>
<b>Required Courses:</b>	GNS 211(2), 212(2)	<b>= 4 Credits</b>
<b>Elective Courses:</b>	At least 8 Credits from 200 Level ARA Courses	<b>= 8 Credits</b>
<b>Total = 33 Credits</b>		
<b>Direct Entry Students:</b>	GNS 111(2), 112(2)	<b>= 4 Credits</b>
	<b>Total</b>	<b>= 37 Credits</b>

### 300 Level

<b>Compulsory Courses:</b>	RIS 322(2), 323(2), 324(2), 325(2), 326(2), 327(2), 332(2), 337(1), 341(3), 388(2), RCS 329(1), RCR 304(1)	<b>= 22 Credits</b>
<b>Required Courses:</b>	GNS 311(2), GSE 301(3)	<b>= 5 Credits</b>
<b>Elective Courses:</b>	At least 4 Credits from the following: RIS 321(2), 328(2), 331(3), 335(3), 336(3), 338(2), 339(2), 340(2)	<b>= 4 Credits</b>
	<b>Total</b>	<b>= 31 Credits</b>

### 400 Level

<b>Compulsory Courses:</b>	RIS 440(2), 443(2), 444(2), 445(2), 499(5)	<b>= 13 Credits</b>
----------------------------	--	---------------------

**Elective Courses:** At least 17 Credits from the following: RIS 421(2), 423(2), 427(2),  
428(2), 432(2), 433(2), 434(2), 436(2), 437 (2), 439(1), 441(2), 442(2),  
446(3) = 17 Credits  
**Total = 30 Credits**

**Graduation Requirements:**  
**UTME= 124 Credits**  
**DE =98 Credits**

## **FACULTY OF COMMUNICATION AND INFORMATION SCIENCES**

### **Dean's Office**

J. S. Sadiku	B.Sc., M.Sc., Ph.D. (Ibadan)	Professor & Dean
A. L. Azeez	B.Sc., M.Sc. (Lagos); Ph.D. (Leeds)	Senior Lecturer & Sub-Dean
M. B. Umar	B.Sc., MPA (Ilorin)	Faculty Officer



## Department of Computer Science

R. G. Jimoh	B.Sc. (Ilorin); M.Sc. (Ibadan); Ph.D. (Utara)	Senior Lecturer & Ag. Head	
J. S. Sadiku	B.Sc., M.Sc., Ph.D. (Ibadan)	Professor	
B.A. Oluwade Ph.D. (Lagos)	B.Sc., M.Sc. (OAU);	Professor	M . P h i l . ,
P. B. Shola	B.Sc., M.Sc. (ABU); Ph.D. (Essex)	Senior Lecturer	
A. O. Babatunde Ph.D. (Ilorin)	B.Sc. (ABU); PGD;	Senior Lecturer	M . S c . ,
D. R. Aremu (Kwadlagezwa)	B.Sc., M.Sc. (Ilorin);	Senior Lecturer	P h . D .
R. O. Oladele	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer	
A. O. Ameen Ph.D. (Ilorin)	B.Tech. (FUT Minna);	Lecturer I	M . S c . ,
Tinuke. O. Oladele	B.Sc. (Benin); M.Sc., Ph.D. (Ilorin)	Lecturer I	
Oluwakemi. C. Abikoye (Ilorin)	B.Sc. (Ilorin); M.Sc. (Ibadan);	Lecturer I	P h . D .
L. B. Asaju (USM)	B.Tech. (FUT Minna); M.Sc. (Ilorin);	Lecturer I	P h . D .
Modinat. A. Mabayoje	B.Sc., M.Sc., Ph.D. (Ilorin)	Lecturer II	
A. O. Bajeh	B.Sc., M.Sc. (Ilorin)	Lecturer II	

K. S. Adewole	B.Sc., M.Sc. (Ilorin)	Lecturer II
A. R. Ajiboye	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
Abimbola G. Akintola P.O. Sadiku	B.Sc. (Bowen); M.Sc. (Ilorin) B.Sc., M.Sc. (Ilorin)	Assistant Lecturer Assistant Lecturer
A. M. Balogun	B.Tech. (LAUTECH); M.Sc. (Derby)	Assistant Lecturer
A. O. Balogun	B.Sc. (Ilorin)	Assistant Lecturer
S. O. Abdulsalam	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
Shakirat A. Salihu	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
Ayisat W. Yusuf-Asaju	B.Sc. (Al-Hikmah); M.Sc. (Bradford)	Assistant Lecturer
Latifat B. Adeoye	HND	Technologist I

#### **Department of Information and Communication Science**

Omenogo V. Mejabi	B.Sc. (Ibadan); PGD; M.Sc. (Aston); Ph.D. (Ilorin)	Senior Lecturer & Ag. Head
Rafiat A. Oyekunle	B.Sc. (ABU); M.Inf.Sc. (Ibadan)	Lecturer I
O. W. Bello	B.Sc. (OOU); M.Inf.Sc. (Ibadan); MBA (OAU)	Lecturer II
N. A. Balogun	B.Sc. (UDU); PDE; M.I.T. (IIUM, Malaysia)	Lecturer II

Oluyinka T. Afolayan	B.Sc., M.Inf.Sc. (Ibadan)	Lecturer II
A. S. Memudu	B.Sc. (Zagreb); M.Sc. (Belgrade) MBA (Maryland)	Lecturer II
A. Adedoyin	B.Eng. (Ilorin); M.Sc. (Greenwich)	Lecturer II
M. O. Oloyede	B.Eng. (Ilorin); M.Sc. (London)	Assistant Lecturer
Oluwabukola. O. Ajiboye	B.Sc. (Covenant)	Graduate Assistant
S. A. Sanni	B.Sc., M.Sc. (Ilorin)	Technologist I
Bisola T. Babalola	B.Sc., MGIS (Ilorin)	Technologist I

#### **Library and Information Science**

A. O. Issa (Ibadan)	DLS, BLS, MLS (ABU); & Ag. HOD	Senior Lecturer	P G D E ; P h . D .
L.O. Aina	B.Sc. (Lagos); PGDL; M.Phil. (London); Ph.D. (Ibadan)	Professor	
M. Ajibero	BLS (ABU); MLS, Ph.D. (Pittsburg)	Professor	
Adetoun O. Idowu	B.A. (Ilorin); MLS (Pittsburgh); Ph.D. (Ibadan)	Reader	
A. Tella	B.Ed., M.Ed., MLIS (Ibadan); Ph.D. (Botswana)	Senior Lecturer	
S. A. Ajia	BLS (ABU); MA (Ed.), Ph.D. (Loughborough)	Lecturer I	
A. A. Salman	DLS (ABU); BLIS (BUK); PGDE;	Lecturer I	

MLIS (Ibadan)

G. Olasina	B.A. (Ilorin); MLIS (Ibadan)	Lecturer I
K. T. Omopupa	DLS, BLIS (BUK); MLIS (Ibadan)	Lecturer I
M. T. Bashorun	B.Ed. (OAU); MLIS, MPA (Ibadan)	Lecturer I
L. M. Akanbi	BLS, MLS (BUK); Ph.D. (IIUM, Malaysia)	Lecturer II
A. L. Folorunsho	BLS, MLIS (Maiduguri); MPA (Ilorin)	Lecturer II
Mulikat Y. Adisa	DLS, BLS, MLIS (ABU)	Lecturer II
A. Isah	DLS, BLIS (ABU); MLIS (Ibadan)	Lecturer II
Hawwa B. Akanbi-Ademolake	B.Sc. (Ed.) (EKSU); MLIS (Ibadan)	Lecturer II
S. A. Olarongbe	BLS (BUK); MLIS (Ibadan)	Lecturer II
Nafisa Rabi	BLS (BUK)	Graduate Assistant
Lubabat A. AbdulHakeem	HND	Technologist I
Olubunmi R. Ogunlade	HND	Technologist I

#### **Department of Mass Communication**

M. Abdulraheem	B.A. (BUK); L.L.B. (Ilorin); B.L. (Abuja); M.Sc. (Lagos); L.L.M. (OAU)	Senior Research Fellow & Ag. HOD
O. O. Oyewo	B.A. (Ilorin); M.A., Ph.D. (Ibadan)	Reader

T. Liad	B.Sc. (Ibadan); PGD; M.Sc. (Lagos)	Senior Research Fellow
A. L. Azeez	B.Sc., M.Sc. (Lagos); Ph.D. (Leeds)	Senior Lecturer
Saudat S. Abdulbaqi	B.A. (BUK); M.Sc. (Lagos); Ph.D. (Utara)	Lecturer I
Kehinde K. Kadiri	B.Sc. (Lagos); M.A. (Legon)	Lecturer II
L. K. Mustahpa	B.Sc., M.Sc. (Lagos); Ph.D. (IIUM, Malaysia)	Lecturer II
R. M. Adisa	B.A. (BUK); PGDE; M.Sc. (Lagos)	Lecturer II
P. Udende	B.A., M.Sc. (BSU)	Lecturer II
O. A. La'aro	B.Sc., M.Sc. (Lagos); PGDE	Lecturer II
Aisha. I. Omoloso	B.A. (BUK); M.Sc. (Lagos)	Lecturer II
I. Y. Abubakar	B.A. (Riyadh); M.A. (BUK)	Assistant Lecturer
Aishat S. Abdulrauf	B.Sc., M.Sc. (ABU)	Assistant Lecturer
A. O. Arikewuyo	B.Sc. (Ilorin)	Graduate Assistant
Rukayat O. Adegoke	B.Sc. (Ilorin)	Graduate Assistant
Ghaniyat O. Aderinoye	HND	Technologist I
T. O. Yusuf	B.A. (BUK); MPA (Ilorin)	Technologist I
Ghaniyyat B. Balogun	B.Tech. (FUT Minna); M.Sc., MBA, Ph.D. (Ilorin)	Technologist I

A. A. Ayeni	B.Sc. (NYIT); M.Eng., Ph.D. (Ilorin)	Reader & Ag. Head
T. O. Tihamiyu	B.Sc., M.Sc. (Moscow)	Lecturer I
N. Faruk	B.Sc. (KSUW); M.Sc. (Oxford)	Lecturer I
L. A. Olawoyin	B.Eng. (FUTA); M.Sc. (Sussex)	Lecturer II
S. O. Onidare	B.Tech. (LAUTECH); M.Sc., (Karlskrona)	Lecturer II
A. A. Oloyede	B.Eng. (BUK); M.Sc. (York)	Lecturer II
M. Y. Mujahid	B.Eng. (BUK); M.Sc. (Sunderland)	Assistant Lecturer
A. O. Ajagbe	B.Eng. (FUT Minna); M.Sc. (Tu Delft)	Assistant Lecturer
O. B. Ayeni	B.Eng. (EKSU); M.Sc. (Ilorin)	Assistant Lecturer
Temitayo C. Adeniran	B.Tech. (LAUTECH); M.Sc. (Portsmouth)	Assistant Lecturer
Folayo O. Aina	B.Sc. (Ilorin); M.Sc. (Chelmsford)	Assistant Lecturer
O. A. Sowande	B.Sc. (AAU); M.Sc. (Salford)	Assistant Lecturer
J. L. Morakinyo	B.Eng. (Colchester)	Graduate Assistant
Q. R. Adebawale	B.Sc. (Ilorin)	Graduate Assistant
Q. Y. Imam-Fulani	B.Sc. (Ilorin)	Graduate Assistant

# DEPARTMENT OF COMPUTER SCIENCE

## Course Description

### B.Sc. Computer Science

- CSC 111 Introduction to Computer Science I 2 Credits**  
Historical development of computer systems. Types of Computer: Analogue and Digital. Characteristics of a digital computer. Basic components of computers: Hardware and Software. Number System: Data Representation schemes, Boolean Algebra and Karnaugh Map. Basic Logic: Gates and some simple Combinatorial Logic circuits.  
**15h (T), 45h (P); C**
- CSC 112 Introduction to Computer Science II 3 Credits**  
Problem solving techniques. Algorithm: pseudo-code and flowcharting. Programming languages: types and orientations. Language translation: Compiler and Interpreter. BASIC programming language: constants, variables, arithmetic & logical expression. Control statements: selection and iterative, jump elementary data structure, list and tables, functions and subroutines.  
**30h (T), 45h (P); C**
- CSC 114 Computer Appreciation I 2 Credits**  
Operating Systems: Windows and DOS. Application packages: DocUMENT (MS-Word) Processing, Spreadsheets (MS-Excel) and Presentations (MS- PowerPoint).  
**15h (T), 45h (P); E** (For students other than Computer Science students)
- CSC 211 Computer Programming I 2 Credits**  
History and Fundamentals of C. Standard Inputs/Outputs. Control structures. Composite Data Types: Enumeration, Array, Structure, Union, String and Pointer. Function and Macros: graph library, interrupt, Preprocessing directives, File Processing. Exception handling: C and Database, Assembly language code in C.  
**15h (T), 45h (P); C**
- CSC 212 Computer Programming II 3 Credits**  
History and Fundamentals of C++. C versus C ++. Standard Inputs/Outputs. Insertion and Extraction Operators. Control structures: Array, Structure and Union, String and Pointer. Overloading operators. Object Oriented Design Technique. Class and Object: Class and Composition. Data Member and Member Functions. Aggregation and inheritance: friendship, Polymorphism; Class Iterators.  
**30h (T), 45h (P); C**
- CSC 213 Object Oriented Programming (Using Java) 2 Credits**

Basic concepts of OOP: Data Abstraction, Data Hiding and Encapsulation, Inheritance and Polymorphism. Class, Object and Methods. Relationship between Classes and Class Hierarchy. Abstract Class. Class Libraries. Object Oriented Design Approach/ Object Modeling. Identification of Class: Class Attributes and Methods in Problem Statements.

**15h (T), 45h (P); C**

**CSC 214 Introduction to File Processing**

**2 Credits**

Introduction to Data Management Files. Job Control language application. Input/Output system Architecture. Logical file Organizations. Mapping logical organization onto Physical Storage. Backup procedure and file recovery. Data management facilities.

**30h(T); C**

**CSC 216 Assembly Language**

**2 Credits**

Data representation. CPU and Memory Organization. Simple instructions: Branching with JMP and JR (relative jump). Loops in assembly. Subroutines in assembly. Interfacing with C and C++, and processing arrays in Assembly Language. Low level bit manipulation. Intel math chip and floating point operations.

**15h (T), 45h (P); C**

**CSC 217 Computer Programming I**

**2 Credits**

History of FORTRAN programming language. Elements of FORTRAN: constants, variables and arithmetic expression. Statements: Control structure: sequential, selective, iterative and jump. Linear and multi-dimensional arrays. Subroutines with files. Writing program in FORTRAN: finding roots of an equation, computing area under a curve, matrix multiplication, solving simple system of linear equations.

**15h (T), 45h (P); E. Pr: CSC 112 (For Sciences and Engineering)**

**CSC 218 Computer Programming II**

**3 Credits**

Derived types: Pointers, dynamic structure, recursion and object oriented concepts. Abstraction, encapsulation and information hiding. Inheritance and polymorphism and their implementation in FORTRAN.

**30h (T); 45h (P); E. Pr: CSC 217 (For Sciences and Engineering)**

**CSC 219 Computer Appreciation II**

**2 Credits**

Basic concepts of networks. Internet and World Wide Web (www). TCP/IP Internet Services: E-Mail, Fax Messages, Voice Mail, Websites, Video Conferencing, Intranet, Extranet, Internet Service Provider, HTML and Internet Security.



**15h (T), 45h (P); E**

**CSC 220 Computer Architecture**

**3 Credits**

Introduction to Computer Architecture. The Von Neumann Machine, System bus, Instructions and Registers. Data Representation: Revision of Number Systems, Unsigned and Signed representation - two's Complement, Floating Point Numbers. Addition Implementation (Ripple Carry Adder). Instruction Format. Revision of Basic Logic Devices. CISC and RISC architectures. Memory System: general characteristics of memory operation, Technology- magnetic recording, semi-conductor memory, charge couple devices and Magnetic bubble. Memory addressing. Memory hierarchy. Virtual Memory control systems. Optical memory devices. Hardware control: Micro programmed control, Asynchronous control and I/O controls. Introduction to methodology of fault-tolerant computing.

**30h (T), 45h (P); C**

**CSC 222 Database Design and Management**

**3 Credits**

File management systems, Database and Database Management System, Data models: network, hierarchical and relational models, Entity-relationship model. Database design: functional dependencies, decomposition, normalization. Query languages: SQL, Relational algebra and calculus. Query processing and optimization. Study of some Standard database System i.e. Access and Oracle. MYSQL, SQL SERVER Elements of transact-query: Data Definition Language (DDL), Data Manipulation Language (DML), Data Control Language (DCL).

**30h (T), 45h (P); C**

**CSC 224 Internet Technology I**

**2 Credits**

History of XML, HTML, DHTML. Scripting language and E-commerce. Basics of XHTML, CSS, Java Scripts, and Dynamic HTML. Brief discussion of 'wysiwyg' (HTML editors including Macromedia Dreamweavers).

**15h (T), 45h (P); C**

**CSC 226 Computer Appreciation III**

**2 Credits**

Introduction to Database Management. Relational data model. MS access. Query Languages. SQL, Query by Example. Microsoft Publisher. Statistical Packages.

**15h (T), 45h (P); E**

**CSC 227 Introduction to Computer Science For Management and Social Sciences 2 Credits**

Data and information. Basic component of a computer. Classification of computers. Range and scope of computer applications. Social and economic implications of the use of computers.

**30h (T); R**

**CSC 228 Tools for Scientific Computing**

**2 Credits**

Introduction to Scientific computing. Applications of computing for fundamental science investigation. Epistemological advances of computational sciences. Evolution of scientific computing applications for modeling and simulation. Role of human-machine interactions in scientific investigation. Scientific computing and the transformation of information to knowledge. Scientific computing in pattern recognition and forensic science, scientific data analysis. MATLAB: Introduction to MATLAB as a tool for scientific computing, MATLAB optimization toolbox, curve fitting toolbox, partial differential equation toolbox and statistics toolbox.

**15h (T), 45h (P); E**

- CSC 229      NUTMERical Computation I      2 Credits**  
Number systems and Errors. Number representation, floating point arithmetic, loss of significance and Error propagation. Interpolation by polynomial. Difference table.  
NUTMERic differentiation and Integration. Solving system of equation, matrix and vector norms, matrix decomposition. Gaussian elimination approach and iterative scheme, eigen value computation. Curve fitting, (least square rational function approximations.  
**30h (T); E**
- CSC 311      Automata Theory, Computability and Formal Language      2 Credits**  
Alphabets and languages. Finite and non-finite automata. Regular expressions. Grammar and their classification. Parsing, pushdown automata. Kleene's theorem. Pumping theorem and Minsky's theorem. Turing machines. Chomsky hierarch. Complexity theory.  
**30h (T); C. Pr: CSC 211 or CSC 212**
- CSC 315      Operating Systems      3 Credits**  
Introduction: History and types, overview of hardware fundamentals. Concepts: processes, thread and deadlock, memory management, virtual memory, I/O and File Systems. Shell Programs. Systems calls. Processes and Threads: Process states, implementation, Thread-User-level, thread packages. Inter-process communication: Mutual Exclusion, Critical Regions, Semaphores, Monitors. Scheduling, Deadlocks, Memory Management: Multiprogramming, Swapping, Virtual memory, Paging, Segmentation. I/O: Device Controllers, Direct Memory Access, Interrupt Handlers, Device Drivers, Disks, Clocks. GUIs. Power Managements. File Systems, Security and Protection Issues.  
**45h (T); C**
- CSC 317      Data Structure and Algorithm      3 Credits**  
Basic Data types and their associated operations. Composite Data type: array, record, string and their implementations, string matching algorithms. Definition of Abstract data types (ADT). Concept, implementation and application of stack, queue, list, tree, set, bags, dictionary, hash table and hashing. Graphs and some graph algorithms.  
**30h (T), 45h (P); C. Pr: CSC 211 or 212 or 213**
- CSC 319      Internet Technology II      2 Credits**

Website Design: Practices and pitfalls. Overview of web/client servers. Server-side technologies including PHP. Usability issues in designing web pages.

**15h (T), 45h (P); E. Pr: CSC 224**

- CSC 321 Introduction to Digital Design and Microprocessors 3 Credits**  
Number Systems and Arithmetic: Base Conversions, Codes, BCD, Gray, ASCII and parity. Boolean Algebra: logic equation minimization and circuit implementation. DE-Morgan's Theorem. Basic logic gates: Sum of Product and Product of Sum. Karnaugh Map and circuit simplification. Multiplexers, De-Multiplexers, encoders and decoders. Basic SR Flip-flops.  
**30h (T), 45h (P); C**
- CSC 323 NUTMERical Computation II 2 Credits**  
NUTMERical solution of Ordinary Differential Equation: Initial Value Boundary problem (Taylors series, Euler Runger -Kult and multi-step approaches) and Boundary Value problem (shooting methods and finite difference approaches ). Introduction to nUTMERical solution of Partial Differential Equation (ellipse periodic and hyperbolic types).  
**30h (T); E**
- CSC 325 System Programming 2 Credits**  
Basic function of an Assembler. Features of an Assemblers: instruction format, addressing modes, program relocation, literal, symbol defining statements, control section and program linking. Study of some standard assembler (i.e MASM assembler). Loader and Linker: their functions, features and design. Some standard linkers in market, Macro processors.  
**30h (T), 45h (P); C. Pr: CSC 220**
- CSC 327 Logic Programming 2 Credits**  
Prolog language concepts and programming. Data object, matching, list representation and list operators, arithmetic expression, backtracking and its control. Input/output and some other built-in procedure. Horn clause logic and foundation.  
**30h (T);C. Pr: CSC 211**
- CSC 329 Functional Programming 2 Credits**  
Introduction to programming paradigms. Functional programming languages. Expression, functions, higher order functions recursion, list, reduction model, strictness, type systems, program synthesis and transformation.  
**30h (T); E. Pr: CSC 211**
- CSC 331 Academic writing 1 Credit**  
Understudying Academic writing, choosing research topic, statement of problem, research gap, literature review, referencing style (in-text citation and listing i.e. APA, IEEE).

15h (T); C

- CSC 322 Industrial Attachment I 6 Credits**  
Exposure of students to practical application and use of computer in solving problems within the work environment. Student should submit and defend report after completion of the industrial attachment.  
**270h (P); C**
- CSC 334 Theory of Computation 2 Credits**  
Decidability, decidable languages, halting problem, reducibility, recursion theorem, complexity theory and Lambda calculus. Applications to string matching, parsing and problem solving.  
**30h (T); E. Pr: CSC 321**
- CSC 336 Operations Research 2 Credits**  
Linear programming. Sensitivity analysis and duality. Simplex method. Transportation. Assignment. Inventory, replacement and maintenance problems. Network model. Integer and dynamic programming. Markov chain and game theory.  
**30h (T); E**
- CSC 338 Computer System Performance Evaluation 2 Credits**  
Measurement techniques, Simulation techniques and Analytical techniques. Work-load characterization. Performance evaluation in selection problems. Performance evaluation in design problem. Evaluation of program performance.  
**30h (T); E**
- CSC 420 Software Engineering 3 Credits**  
Software and software engineering, Software life cycle, Process models, Project planning, Project scheduling and tracking, requirement analysis. Software design principles, implementation, integration, testing, maintenance, quality assurance and software metric. CASE tools, UML, Object oriented paradigm, object oriented analysis, design and programming. Software management. Formal methods - Z and Raise specification languages etc.  
**45h (T); C**
- CSC 421 Algorithm Design & Analysis 3 Credits**  
Analysis of algorithms (time and storage requirements), worst, average, best cases analysis, amortization and potential methods. Various techniques for algorithms design. Divide and Conquer, greedy method, dynamic programming, recursion, basic space – searching techniques and use of invariant. NP-hard and NP-complete problems. Cook’s theorem. Back tracking, pattern matching and string/text algorithm. NUTMERIC approximation algorithm  
**30h (T), 45h (P); C. Pr: CSC 317**

- CSC 422      Data Communication and Information Theory      2 Credits**  
Introduction. Waves, Fourier analysis and measure of communication. Channel characteristics, transmission media, noise and distortion, modulation and demodulations. Multiplexing: TDM, FDM and FCM. Parallel and serial transmission (synchronous vs. Asynchronous). Bus structures and loop systems. Error detection and correction. Communication protocols. Element of Information theory.  
**30h (T); C**
- CSC 423      Programming Verification and Development      2 Credits**  
Simultaneous development and verification of correct programs. Program state, state predicate and program specification. Establishing program correctness, axioms/deduction rules for proofs of program correctness, predicate transformer, formal logic and program semantics. Actual examples of program development.  
**30h (T); C; Pr: CSC 311**
- CSC 425      Data Mining and Data Warehousing      2 Credits**  
Definitions of Data warehouse and Data mining. Application areas, pit-falls in data mining. Data warehouse architectures. Dimensional modeling. Multidimensional aggregation queries and view materialization. Data mining algorithms: association rule, classification and prediction, clustering, scalable algorithms and flexible predictive modeling. Web mining. Text and data clustering. Automated recommender systems and pattern discovery algorithms.  
**30h (T); C. Pr: CSC 336**
- CSC 426      Parallel Computing      2 Credits**  
Introduction to Parallel Systems. Parallel Programming Models. Message Passing Programming. Dependence Analysis, Open MP Programming, Evaluation of Programs, Optimizations for Scalar Architectures and Models for Parallel Computing.  
**30h (T); C. Pr: CSC 317 & CSC 330**
- CSC 427      Computer Networking      2 Credits**  
Definition of Data communication/Network, OSI Model. LAN technologies: security and applications. LAN Topology and Media: media-access methods, protocols (Ethernet, token rings, FDDI, ATM) and transmission methods. LAN devices: WLAN technologies, WAN technologies, switching methods. WAN devices. Introduction to internetworking, overview of Internetworking devices, Internetworking design models and routing.  
**30h (T); C. Pr: CSC 211**
- CSC 428      Distributed Computing      2 Credits**  
Characterization of Distributed systems, system models, distributed objects and remote method invocation. Component-based development: using UML for component-based design. JavaBeans and Enterprise Java Beans case study. Distributed transactions:

introduction, flat & nested distributed transactions, concurrency. Service-oriented architectures: characteristics of SOAs, introduction to web services, J2EE based web services study.

**15h (T), 45h (P); E**

- CSC 429      Human Computer Interaction      2 Credits**  
HCI Paradigms. History and definition of concepts. Usability Principles. User-centered design. Task/Data and requirement analysis. Goms cognitive model and other key HCI methods. Prototyping and Evaluation.  
**30h (T); C; Pr: CSC 326**
- CSC 430      Fuzzy Logic and Fuzzy Control System      2 Credits**  
Classical Sets and Fuzzy sets. Classical relations. Membership Functions. Fuzzy arithmetic; Numbers, Vectors and the Extension principle. Classical Logic and Fuzzy Logic, Fuzzy ruled based Systems, Fuzzy Classification and Fuzzy Control Systems.  
**30h (T); E. Pr: MAT 201, 211, 213 & MAT 309**
- CSC 431      Seminar      2 Credits**  
Student is expected to give seminar on some selected topics (of industrial value).  
**30h (T); C**
- CSC 432      Modeling and Simulation      2 Credits**  
Modeling (basic concept and techniques). Simulation methodology and simulation language. Random number and its generation. Monte-Carlo simulation. Simulation languages and process. Parameter estimation design of experiment. Factorial design optimization. Statistical distribution functions. Examples of simulation queuing and inventory systems.  
**30h (T); E. Pr: CSC 317 & CSC 327**
- CSC 433      Neural Networks      2 Credits**  
Basic Architectures of Neural Networks and Neural Computing. Central Nervous System. Anatomy and Physiology of the brain- Sensation, perception and cognition, Learning and Memory. Information Content of Neural signals. Spike Generation Processes. Stochastically in Neural Codes. Principal components analysis, Neural Operators that encode, analyze and represent image structure. Face recognition. Invariants and object representation.  
**30h (T); E**
- CSC 434      Expert Systems      2 Credits**  
Meaning of Expert System. Basic concept for building Expert system and architectures of expert systems. Constructing of Expert systems. Tools for building Expert system. Evaluation of expert systems. Languages and tools. Knowledge engineering. Study of some expert systems (like MYCIN, HEARSAY, HORSES).  
**30h (T); E**

- CSC 436 Computer Installation Management 2 Credits**  
 Role of computer unit in organizations. Computer hardware installation. Computer software installation. Configuration management, computer security management and computer performance management.  
**30h (T); E**
- CSC 438 Visual Programming 2 Credits**  
 Introduction to VB, VB IDE, VB Forms (SDI and MDI). Intrinsic Controls (textbox, Command Button, Label, Checkbox, etc and their property Setting). Coding: Identifier, Variable, Constant and Operators. User Defined Procedures and Functions. Event Procedures, string and control structures. Array and control array. ActiveX Control. Class. VB advance programming. Windows API. File Processing. OLE. VB and Database. Data Control and Data Bound Control.  
**15h (T), 45h (P); C**
- CSC 442 Cybernetics 2 Credits**  
 Systems theory. Control Systems: structures and properties and feedback control loop. Control objectives: specifications in time, frequency and complex domain, reference tracking and steady-state error. Control Systems properties (stability, gain and phase management, etc) and analysis. Basic Controllers PID (lead, lag and alike). Root locus and frequency loop-shaping. Limits of control software for control design. Digital signal processing. Image as signal, Image formation & Processing. Data transfer media. Distributed Systems.  
**30h (T); E**
- CSC 443 Bioinformatics 2 Credits**  
 Algorithms on strings, Sequences, Pattern matching, Text processing, Genetic engineering, Pattern Discovery, Bio computing, sequence alignment, BLAST, FASTA, Structural alignment, Multiple alignment. Computational phylogenetics. Tree building and Tree evaluation. Sequence analysis: Restriction sites, Finding genes, Predicting Protein structure. Micro arrays. Whole genome analysis. Computing with DNA Dynamic Programming, HMM, Bayesian Statistics.  
**30h (T); E**
- CSC 444 Queuing System 2 Credits**  
 Introduction. Birth-Death queuing systems. Markovian queues. The queue M/GL. Bounds. Inequalities and approximations.  
**30h (T); E**
- CSC 445 Introduction to cryptography 2 Credits**  
 History and overview of cryptography. Basic symmetric-key encryption: stream ciphers, block ciphers using DES, 3DES and AES. Pseudo random permutation. Pseudo random functions. Message integrity: definition and application, collision and resistant hashing, authenticated encryption. Public key cryptography. Arithmetic modulo primes. Cryptography using arithmetic modulo

primes. Public key encryption. Arithmetic modulo composites. Digital signatures: definition and application, signature schemes, password-based key exchange, identification protocols. Practical applications of cryptography using any programming language.  
**30h(T); E**

- CSC 446      Computer Graphics      2 Credits**  
Computer Graphics application areas. Hardware support: input, storage and output devices (including graphic plotter, light pen etc). Geometry generation: line, conics, polygon and character generation etc. Transformation and magnification: scaling, translation, rotation. Viewing (projections and their types). Windowing and clipping.  
Representing curves and surfaces: parametric curves, cubic and B-Splines etc. Hidden surfaces. Painter's algorithm. Object hierarchy and PHIGS: solid modeling, Achromatic and colored light, illumination and shading. Raster graphic architecture.  
**30h (T); C**
- CSC 447      Image Processing      2 Credits**  
Introduction to Digital Language. Data types. Characteristics of grey-level digital language. Discrete sampling model. Quantization. Noise processes and image attributes. Segmentation (threshold and thresholding algorithm performance evaluation and ROC analysis, connected components labeling). Region growing and region adjacency graph (RAG). Split and merge algorithm image transformation: gray level transformation, histogram, equalization, geometric transformation, affine transformation etc. Morphological operation: image filtering (fourier description, linear & non-linear filtering operations, image convolution, separable convolution sub-sampling and interpolation as convolution operation). Edge feature characterization, edge & curves detection.  
**30h (T); E**
- CSC 448      Artificial Intelligence      2 Credits**  
Definition of Artificial Intelligence (AI). Nature and goals of AI. Application areas. Characteristics of AI problems. Basic problem solving techniques: State-space searching and Game playing techniques. Knowledge representation using first-order logic: Proposition, Predicate, Inference rules, Clausal forms, resolution and unification. Knowledge representation using Logic. Handling uncertainty. Intelligence Agents. Prolog Language. Planning, Machine learning, Nature and goals of Neural computing. Perception. The Hopfield Model, Self Organizing Nets. Natural Language understanding.  
**30h (T); 45h (P) C**
- CSC 450      Organization of Programming Language      2 Credits**  
Language definition structure. Data types and structures. Review of basic types, including lists and tree. Control structures and flow. Run-time consideration, interpretative languages, lexical analysis and parsing.  
**15h (T); 45h (P); C. Pr: CSC 211 or CSC 212**
- CSC 452      Mobile and Cloud Computing      2 Credits**



Introduction and History. Technologies for Wireless Communication. Data in Wireless Cellular Systems. Data in Wireless LAN. Wireless LANs, IEEE 802.11, Personal Area Network, Bluetooth. High-Speed Wireless Networks; HiperLan. Wireless Application Protocols: Mobile IP, WAP, SMS, Bluetooth. Wireless Markup Language (WML): J2ME, wireless toolkit (MIDlets, MDIP, CLDC etc.) Mobile Applications. Ad-Hoc Networks.

**30h (T); C. Pr: CSC 213**

**CSC 454**

**Compiler Construction**

**3 Credits**

Introduction. Basic concepts (Grammars, classes of grammars, context-free grammars) and data structures. Lexical Analysis: Tokens, regular expressions, Finite Automata. Lexical analyzer generators. Predictive Parsing: recursive descent, LL(1) and grammar parsing. FIRST and FOLLOW sets. Error handling. LR Parsing (LR grammars and error recovery). Syntax-Directed Translation: Semantic actions, abstract parse trees, visitors, symbol tables, type-checking. Run-time Storage: Activation records, stack frames, parameter passing, frames in MiniJava. Intermediate Forms: IR trees, translation to trees, declarations, The MIPS R2000 architecture and instruction set. SPIM Code Generation Part I: Target machine, canonical trees, blocks and traces, instruction selection, tree tiling, maximal munch. Code Generation Part II.

**30h (T), 45h (P); C**

**CSC 499**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270h (P); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** CSC 111 (2), CSC 112 (2) = 4 Credits

**Required Courses:** MAT 111 (3), MAT 112 (3), MAT 113 (3), MAT 114 (3), PHY 115 (2), PHY 152  
(3), PHY 191 (1), PHY 192 (1), PBL 101 (3), STA 121 (2),  
STA 124 (2), STA 131 (2), TCS 101 (2), TCS 102 (2), ICS 101 (2), ICS 106 (2), GNS111 (2), GNS 112 (2)  
= 40 Credits

**Total = 44 Credits**

### 200 Level

**Compulsory Courses:** CSC 211 (2), CSC 212 (3), CSC 213 (2), CSC 214 (2), CSC 216 (2),  
CSC 220 (3), CSC 222 (3), CSC 224 (2) = 19 Credits

**Required Courses:** MAT 201(3), MAT 211 (3), MAT 213 (2), MAT 206 (2), MAC 251 (2),  
STA 203 (2), STA 221 (3), PHY 252 (2), GNS 211 (2), GNS 212 (2)  
= 23 Credits

**Elective Courses:** **At Least 2 Credits from the Following:**  
CSC 217 (2), CSC 228 (2), CSC 229 (2), MAT 208 (2), STA 222 (3) CSC 218  
(3), CSC 219 (2), CSC 226 (2), = 2 Credits

**Total = 44 Credits**

**Direct Entry Students:** GNS 111 (2), GNS 112 (2) = 4 Credits

**Total = 48 Credits**

### 300 Level

**Compulsory Courses:** CSC 311 (2), CSC 315 (3), CSC 317 (3), CSC 321 (3), CSC 322 (6),

CSC 325 (2), CSC 327 (2), CSC 331 (1) = 22 Credits

**Required Courses:** GNS 311 (2), GSE 301 (3) = 5 Credits

**Electives Courses:** **At Least 2 Credits from the Following:**  
CSC 319 (2), CSC 323 (2), CSC 329 (2), ICS 314 (2), CSC 334 (2),  
CSC 336 (2), CSC 338 (2), TCS 204 (3), TCS 205 (3), MAT 309 (3), MAT 318 (3)  
= 2 Credits

**Total = 29 Credits**

**400 Level**

**Compulsory Courses:** CSC 420 (3), CSC 421 (3), CSC 422 (2), CSC 423 (2), CSC 425 (2),  
CSC 426 (2), CSC 427 (2), CSC 429 (2), CSC 431 (2), CSC 438 (2), CSC 446 (2), CSC 448 (2), CSC 450 (2), CSC  
452 (2), CSC 454 (3), CSC 499 (6) = 39 Credits

**Elective Courses:** **At Least 2 Credits from the Following:**  
CSC 428 (2), CSC 430 (2), CSC 432 (2), CSC 433 (2), CSC 434 (2),  
CSC 436 (2), CSC 442 (2), CSC 443 (2), CSC 444 (2), CSC 445 (2),  
CSC 447 (2), TCS 301 (2), TCS 305 (2), TCS 311 (2), TCS 312 (2),  
TCS 411 (3), MAT 425 (3) = 2 Credits

**Total = 41 Credits**

**Graduation Requirements:**

**UTME = 158 Credits**

**DE = 116 Credits**

**DEPARTMENT OF INFORMATION AND COMMUNICATION SCIENCE**

**Course Description**

**B.Sc. Information and Communication**

**ICS 101      Information, Communication & Society      2 Credits**  
Data examination. Information and its value. Information systems: types and processing. Channels of communication. New communication technologies and its impact.  
**30h (T); C**

<b>ICS 103</b>	<b>Programming Foundation</b> Structural programming: QBasic, program looping, loading and processing data, user data and nested loops. Input range testing and range tolerance. Output formatting (variables and functions). Introduction to Visual Basic programming and program design: basic controls, common controls, array controls and ActiveX controls. Application of simple variables, array variables and database technologies in program. Multimedia technologies, menu design and toolbar design. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>ICS 104</b>	<b>Elementary Skills in IT</b> Improving use of keyboard: focus on speed, accuracy, and other techniques. Word processing: spell and grammar check, thesaurus, tabs, insertion and manipulation of pictures and graphics. Spreadsheet: data input skills, formula creation and spreadsheet manipulation. Graphics skills (e.g. Microsoft Paint, Adobe Flash, Macromedia Fireworks, etc): using the basic tool bar functions. Presentation skills: slide creation and development. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>ICS 106</b>	<b>Information Literacy for the Digital Age</b> Dynamics of the ecosystem of the ever evolving communication and information sphere. Computer and information literacy skills. Practical study skills in the digital age: use of internet, referencing, time-management and plagiarism issues. Presentation skills and software using practical demonstration. Finding, analyzing and using digitized information. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>ICS 204</b>	<b>Data Structures and Algorithms</b> Data representation and application. Use of data structures in programming languages. Data and file management using a high level language. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b>
<b>ICS 205</b>	<b>Operating Systems</b> Concepts of design and implementation of the computer operating systems. Process management, concurrent processes and process states. Communication schemes and network systems. Scheduling issues, synchronization of threads and mutual exclusion between cooperating processes. Process deadlock and handling techniques. Scheduling strategies. Memory management. Parallel processing and dynamic address translation. <b>45h (T); C</b>	<b>3 Credits</b>
<b>ICS 206</b>	<b>Client Side Web Development</b>	<b>3 Credits</b>

Fundamentals of web design. Internet concepts: creating web pages with HTML and web design software, web design practices, accessibility, web development process, media and interactivity on web. Search engine optimization: concepts and tactics. Website delivery and management. Uses of JavaScript and purpose of the Document Object Model. Variables and Programming Concepts in JavaScript and Form handling in JavaScript.

**15h (T), 90h (P); C**

- ICS 208      System Analysis and Design      3 Credits      Management requirements.**  
Best practices in eliciting, documenting, and verifying requirements. Writing effective Use Cases. Constructing UML-compliant models. Specification of user interface and data layers. Rapid prototyping. Object-oriented design best practices. Principles of system architecture. Design patterns. Requirements traceability. Construction of UML-compliant models. Refactoring and iterative development of system prototype.  
**30h (T), 45h (P); C**
- ICS 209      Information Storage and Retrieval      2 Credits**  
Overview. Information representation, organization and storage. Information retrieval systems: applications, search processes, retrieval models, performance evaluations, etc.  
**30h (T); C**
- ICS 210      Business Environment in IT      2 Credits**  
Strategies, performance and markets of business organizations. Start-ups. IT Incubators. IT Products business models (Freemium, Premium and data). Funding sources (crowd sourcing, traditional methods etc). IT idea presentation (pitching).  
**30h (T); C**
- ICS 211      Human Computer Interaction      3 Credits**  
Human Computer Interaction (HCI) as an interdisciplinary field. Current theories and practice in interface specification, design and evaluation. Methods, principles and tools for designing, programming, testing and evaluating interactive systems. Human factors and socio-cultural demands in user interface design. Usability and affordance. User-centered design: human cognitive and physical ergonomics. Information and interactivity structures, interaction styles, interaction techniques, and user interface software tools. Recent developments in HCI (emerging interaction styles and a variety of interaction techniques).  
**30h (T), 45h (P); C**
- ICS 213      Database Development and Management      3 Credits** Databases, querying and reporting. Capturing information and system modeling using relevant database software. Database administration: concepts, principles, and techniques. Design, implementation, and utilization of DBMS. File systems and DBMS. Threats to various data structures. Administrative tasks in a database management environment. DBMS: Oracle, DB2, SQL Server etc.

**15h (T), 90h (P); C**

- ICS 313      Object-Oriented Programming      3 Credits**  
Basic principles and concepts of object-oriented programming using JAVA. Classes, interfaces, operators, program control, arrays, testing, debugging, inheritance, polymorphism, and event handling. Techniques for simplifying the programming process and improving code quality. Activity-based learning. Advanced Java language features required for professional software development. Data structures. Object-Oriented design. Graphical user interfaces. Exception handling and multithreading. Web and network programming.  
**15h (T), 90h (P); C**
- ICS 315      Information Products and Services      2 Credits**  
Information products and services: development and marketing, target groups, products development processes and issues of innovation. Success factors in products development and innovation: marketing approaches, evaluation and pricing.  
**30h (T); E**
- ICS 317      Information Resources Management      2 Credits**  
Information as a resource. Information manager roles. Information security (types and human factors). Integration of internal and external sources. Auditing methodologies. Information policies, value, quality and security. Record management and legal frameworks.  
**30h (T); E**
- ICS 319      Management Information Systems      2 Credits**  
Management of computing. Demonstration of computer-based systems as tools for effective management. Nature of information systems: systems failure, competitive strategy, managing change and models of change. Strategic Planning and managing relationships with third parties.  
**30h (T); E**
- ICS 321      Research Methods      3 Credits**  
Types of research: survey, experimental, ex-post facto, historical, evaluative etc. Literature review, problem statement, research questions and hypotheses. Use of statistical software. Research proposal and final report writing. Research programme planning, data interpretation and outcome evaluation. Ethical issues in research.  
**45h (T); C**
- ICS 392      Students' Industrial Work Experience Scheme (SIWES)      6 Credits**  
Students will work in an organization during the Rain semester and long vacation and produce a report to be presented at a 400 Level Seminar.

270h (P); C

- ICS 402      Data Warehousing and Data Mining      3 Credits**  
Theories and practice for designing and constructing a data warehouse and implementing data mining. Issues and techniques involved in building an effective data warehouse: association, classification, clustering and prediction for on-line analysis.  
**30h (T), 45h (P); C**
- ICS 405      Software Engineering      2 Credits**  
Concepts. Software life cycle: process model, project planning, project scheduling and tracking. Requirement analysis. Software design principles: implementation, integration, testing, maintenance, quality assurance and software metric. Design methods and supporting tools.  
**30h (T); C**
- ICS 406      IT Project-management      2 Credits**  
Issues in Information Technology Project: management, quality assurance, risk management, cost estimation, time management, human resource management, system reliability, system testing etc.  
**15h (T), 45h (P); C**
- ICS 408      Distributed Systems      3 Credits**  
Concepts. Issues and tools for developing computing systems. Distributed systems architecture. Middleware. Internet-based systems development. Security and performance. Hands-on systems development.  
**30h (T), 45h (P); C**
- ICS 413      Application Development for Mobile Devices      2 Credits**  
Information system applications on wireless infrastructure (multimedia messaging and mobile inventory control). Location aware services: wireless technologies, mobile information systems and applications. Wireless information system challenges and architectures. Mobile application. Thin and thick client mobile application development and business case studies.  
**15h (T), 45h (P); E**
- ICS 414      Knowledge Management      2 Credits**  
Knowledge management: organisation models, decision-making, strategic role of information/knowledge, theories, intellectual capital and globalization.  
**30h (T); E**



<b>ICS 415</b>	<b>Professional Certification I</b> Preparation for certification in a relevant professional sequence from the university's I.T. Academy. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>
<b>ICS 416</b>	<b>Professional Certification II</b> Preparation for certification in a second relevant professional sequence from the university's I.T. Academy. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>
<b>ICS 417</b>	<b>Server Side Web Programming</b> Dynamic Content and the Web. Client/Server Architecture and Server applications. PHP Basics: introduction, conditional statements, Loops, Arrays, Functions, interactive Web Forms, server-side Form, validation, sessions and applications. MySQL basics. Database administration with MySQL. PHP communication with MySQL. Visual Basic and the .NET Framework. Visual Basic programming constructs: declaring and calling methods, handling exceptions, reading and writing files, creating new types, encapsulating data and methods, inheriting from Classes and implementing interfaces etc. <b>15h (T), 90h (P); Pr: ICS 206; C</b>	<b>3 Credits</b>
<b>ICS 418</b>	<b>Geographic Information Systems</b> Geographic Information System (GIS) concept and technology. Spatial data sources. Spatial data models and structures. Spatial database management. Map projection systems. Geo-coding and geo-referencing. Spatial analysis and spatial data visualization (maps). GIS applications: address-location finding, navigation, routing and commercial GIS software packages. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>
<b>ICS 419</b>	<b>Data and Communities</b> Types of communities. Trends in data driven development of the society. Open data practice. Open government data portals. Resources and tools for using data and building data portals. <b>30h (T); E</b>	<b>2 Credits</b>
<b>ICS 421</b>	<b>E-Business</b> E-business infrastructures. Types of e-business. E-business models and strategy. Setting up a business website. System analysis to understand e-business solutions. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ICS 422</b>	<b>Decision Support Systems</b>	<b>2 Credits</b>

Decision Support Systems solution to business problems. Integration of concepts and techniques from information systems. Management science and organisation behavior as a basis for the study of the theory and Application of Decision Support Systems. Information requirements for decision making and applied artificial intelligence.

**30h (T); E**

**ICS 424 Privacy and Legal Issues in an Information Age 2 Credits**

Laws governing the use of communication technologies. Access and publication of information. Laws relevant in Nigeria in relation to Europe, America and Asia. Legal issues arising in relation to the Internet. Telecommunications regulation. Intellectual property. Antitrust. Constitutional law. Challenges posed by technological change for economic regulation. Theories and laws of privacy. Impact of technologies on financial, medical, and workplace privacy.

**30h (T); C**

**ICS 426 Data Compression and Web-Based Multimedia 3 Credits**

Approaches to data and multimedia compression. Lossless technique: Huffman, dictionary, arithmetic and run length. Lossless applications: GIF, lossless JPEG, Unix compress and gzip. Lossy techniques: scalar/vector quantization, differential/subband/transform encoding. Lossy applications: JPEG and MPEG. Multimedia information systems. Hypermedia, graphics, animation, sound, video, and integrated authoring techniques and underlying technologies. Design, innovation, programming, and assessment of web-based digital multimedia information systems.

**30h (T), 45h (P); C**

**ICS 499 Project 6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270h (P); C**

**SUMMARY**

**100 Level**

**Compulsory Courses:** ICS 101 (2), 103 (2), 104 (2), 106 (2) = **8 Credits**

**Required Courses:** MAC 101 (3), LIS 101 (2), 106 (2), CSC 111 (2), 112 (2)  
TCS 111 (2), 112 (2), MAT 111 (3), 112 (3), STA 131 (2), 132 (2),  
GNS 111 (2), 112 (2) = **29 Credits**

**Total = 37 Credits**

**200 Level**

**Compulsory Courses:** ICS 204 (3), 205 (3), 206 (3), 208 (3), 209 (2), 210 (2), 211 (3), 213 (3)  
= **22 Credits**

**Required Courses:** TCS 221 (2), 208 (3), CSC 211 (3), 214 (2), LIS 218 (2), MAC 251 (2), GNS 211 (2), 212 (2)  
= **18 Credits**

**Total = 40 Credits**

**Direct Entry students:** GNS 111(2), 112(2) = **4 Credits**  
**Total = 44 Credits**

**300 Level**

**Compulsory Courses:** ICS 313 (3), 321 (3), 392 (6) = **12 Credits**

**Required Courses:** TCS 321 (3), GNS 311(2), GSE 301(3) = **8 Credits**

**Electives Courses:** At least 4 Credits from the following:  
ICS 315 (2), 317 (2), 319 (2) = **4 Credits**  
**Total = 24 Credits**

**400 Level**

**Compulsory Courses:** ICS 402 (3), 405 (2), 406 (2), 408 (3), 417 (3), 421 (2), 424 (2), 426 (3), 499 (6)  
= **26 Credits**

**Required Courses:** TCS 407 (2) = **2 Credits**

**Electives Courses:** At least 8 Credits from the following:  
ICS 413 (2), 414 (2), 415 (2), 416 (2), 418 (2), 419 2), 422 (2),  
TCS 428 (2), 429 (2) = **8 Credits**  
**Total = 36 Credits**

**Graduation Requirements:**

**UTME** = **137**  
**DE** = **104**

**DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE**  
**Course Description**

**B.Sc. Library and Information Science**

- |                |  |                  |
|----------------|--|------------------|
| <b>LIS 101</b> | <b>Introduction to Information Professions</b><br>Origin of information. Development of book. Publishing industry. Mass media, Computers and Internet. Nature of information, information cycle and information infrastructure. Scope of the information profession. Information and society. Information institutions involved in information handling. Information systems: WSIS and AISI. Professional associations.<br><b>30h (T); C</b>           | <b>2 Credits</b> |
| <b>LIS 102</b> | <b>Introduction to Libraries</b><br>History of libraries in the Western World. Evolution of Nigerian libraries. Islamic scholarship and growth of Arabic collections. Modern libraries in Nigeria. Development of Nigerian libraries by types. Issues of legislation. Library associations. Role of external agencies in Nigeria library development. Print and non-print information.<br><b>30h (T); C</b>  | <b>2 Credits</b> |
| <b>LIS 103</b> | <b>Library in its Social and Cultural Setting</b><br>Establishment and patterns of library services in developing countries. Library as medium of communication (relationship with other information and communications systems). Functions of different types of libraries. Oral traditions. Illiteracy concept and libraries. Intellectual freedom and censorship (copy right). The profession and professional responsibility.<br><b>30h (T); C</b> | <b>2 Credits</b> |
| <b>LIS 105</b> | <b>Basic Reference Sources and Services</b><br>Basic reference information sources and services. Bibliographic and access tools. Search strategy. Reference work. Online searching and use. Introduction to information literacy.<br><b>30h (T); C</b>   | <b>2 Credits</b> |

- LIS 106      The Information Users      2 Credits**  
 Information users: work environments, community analysis, users' information seeking behaviour patterns and user information. Users' studies and education. Environmental factors, social trends and social behaviour of users. Motivational aspects of human behaviour.  
**30h (T); C**
- LIS 201      Organization of Knowledge I      2 Credits**  
 Basic principles of organization of knowledge. Standard techniques (identification and description of bibliographical units). Descriptive cataloguing using ACCR 2 (subject cataloguing and classification). Types of classification schemes. Sear's List of Subject Headings. Dewey Decimal Classification. Filing rules.  
**15h (T), 45h (P); C**
- LIS 202      Organization of Knowledge II      2 Credits**  
 Cataloguing of non-book materials. Classification schemes (LC, UDC). Application of computers to cataloguing: MARC formats, cataloguing software, online catalogues and LC subject cataloging.  
**15h (T), 45h (P); C**
- LIS 203      Library and Information Services to Rural Communities      2 Credits**  
 Nigerian rural setting: people education, occupation and recreation. Needs assessment. Library and information programmes and resources. Identification of and cooperation with other change agents and local power. Introduction to oral information and archives. Indigenous knowledge.  
**30h (T); C**
- LIS 209      Introduction to Knowledge Management      2 Credits**  
 Definitions. Importance of knowledge management in an organizational setting. Processes and theories, practices techniques and tools in knowledge management.  
**30h (T); C**
- LIS 211      School and Children Libraries      2 Credits**  
 Selection and use of books and other media to meet the needs of children (kindergarten, junior and secondary school age). Brief surveys of the reading, viewing and listening experience of this group. Exploration of recreational, cultural, informational, and educational needs of children. Using resources in a variety of media formats to creatively provide information literacy activities for children.  
**30h (T); E**

<b>LIS 212</b>	<b>Information Sources and Services in Humanities, Social Sciences and Science &amp; Technology</b>	<b>2 Credits</b>
	Information sources and services. Information needs and seeking behaviours of experts. Relevant information systems. State of humanities, social sciences and science and technology in Nigeria. Agencies and stakeholders in Nigeria and Africa. Compilation of a bibliography.	
	<b>30h (T); E</b>	
<b>LIS 213</b>	<b>Government Publications</b>	<b>2 Credits</b>
	Definition. Nature and uses of government documents. Types of documents. Bibliographic control of government publications. Intergovernmental and international organizations (UN, AU, ECOWAS), their publications, acquisition control and organization in libraries and information centers. Grey Literature.	
	<b>30h (T); E</b>	
<b>LIS 214</b>	<b>Technical Services in Libraries &amp; Information Centers</b>	<b>2 Credits</b>
	Survey of current operations and techniques in acquisition and organization for access. Physical processing. Maintenance of library materials. Management aspect of technical operations and services.	
	<b>30h (T); C</b>	
<b>LIS 216</b>	<b>Information Ethics</b>	<b>2 Credits</b>
	Introduction. Ethics and applied information ethics. Ethical theories and ethical reasoning. Values/rights-truth, justice, freedom and information based rights. Privacy, access and quality of information. Ownership of information. Information Ethics fields (individual, professional and society). Information societies and development. Information and information sources: ownership, patents, property rights, plagiarism, access/use. Quality of information. Privacy and access. Emerging ethical issues: cyber warfare, new media, robotics and cloud computing. Social ethical issues: information policy, indigenous knowledge, information poverty and equity.	
	<b>30h (T); C</b>	
<b>LIS 218</b>	<b>Social Media and the Library</b>	<b>2 Credits</b>
	Introduction, definition and development. Distinction from other media. Classification, management and benefits of social media. Use of social media by the library. Creation of social media content for the library. Value of social networking in libraries and information centres.	
	<b>30h (T); C</b>	
<b>LIS 220</b>	<b>National and Public Libraries</b>	<b>2 Credits</b>

Concepts, objectives and functions of public and national libraries. History and development of public and national libraries. Organisation, staffing and financing. Problems of national and public libraries in Nigeria. Services, clientele, collection and role in national development. Nature and organisation. Collection management. Personnel selection, remuneration, staff training and development. Users' needs and services. Sources of finance, budgets and budgetary control. Public relations. Performance measurement and evaluation.

**30h (T); E**

**LIS 222**

**Academic and Special Libraries**

**2 Credits**

Origin, development and concepts of special and academic libraries. Organisation, staffing and financing. Library setting in tertiary institutions. Functions and administration of academic and special libraries. Problems of academic and special libraries in Nigeria. Nature and organisation. Collection management. Personnel selection, remuneration, staff training and development. Users' needs and services. Sources of finance, budgets and budgetary control. Public relations. Performance measurement and evaluation. Relationship to other information and international agencies library routines. Special groups.

**30h (T); E**

**LIS 301**

**Collection Development**

**2 Credits**

Criteria and responsibility for the selection of library materials. Book selection tools. Role of subject specialists. Acquisition procedures. Censorship (weeding and discarding stock). Revision and evaluation of collections. Problems of acquisition of Africana. Use of information and communication technologies in serials management.

**30h (T); C**

**LIS 303**

**Automation in Libraries and Information Centres**

**2 Credits**

Definitions and planning. Automation of library processes: serials control, acquisitions, circulation, cataloguing and reference services. Examples of successful automated bibliographic systems and library automation in developing countries. Status of library automation in Nigeria. Hands-on application of appropriate software.

**15h (T), 45h (P); C**

**LIS 305**

**Reference and Information Sources and Services**

**2 Credits**

Evolution, theory and objectives of reference service. Reference questions. Techniques of literature searching. Reference services: abstracting, indexing, current awareness, SDI, translation. Reference and information services in different types of libraries. Organisation and evaluation of reference services. Reference and information services in Nigerian libraries. Application of information technologies.

**30h (T); R**

- LIS 307      Management of Libraries and Information Centres      2 Credits**  
 Concepts of management in libraries. Librarians roles, powers and responsibilities. Delegation of authority. Staff committee. Library Committee. Evaluation. Setting goals and developing action plans. Budgeting and reporting library activities. Managing resources, time, people and money. Behavioural and communication science.  
**30h (T); C**
- LIS 309      Research Methodology in Library and Information Science      2 Credits**  
 Introduction to research. Research methodologies. Data collection instruments. Information resources in library and information science research. Writing a research proposal. Introduction to basic statistical concepts (descriptive and inferential statistics). Research proposal and report.  
**45h (T); C**
- LIS 311      Publishing and Book Trade      2 Credits**  
 Introduction. Problems of book publishing in Africa. Bookshops and bookselling. Electronic/desktop publishing. Intellectual property rights in traditional and digital environments.  
**30h (T); C**
- LIS 312      Students' Industrial Works Experiences Scheme (SIWES)      6 Credits**  
 Practical experience in libraries, archives and records management centres, publishing houses, information systems and information centres. Preparation of a detailed and analytical report for presentation and defence.  
**270h (P); C**
- LIS 401      Indexing and Abstracting      2 Credits**  
 Concepts and methods of indexing and abstracting. Design and updating of thesaurus. Types of indexes and abstracts. Indexing and abstracting services (manual and electronic data bases). Evaluation of indexes and abstracts. Practical application.  
**15h (T), 45h (P); C**
- LIS 402      Entrepreneurship in Information      2 Credits**  
 Options, openings and possibilities for self-employment. Requirement for establishing and managing enterprises. Business plan project. Small business start-up. Identifying information business opportunities. Lobbying, advocacy and fund raising for development of libraries and information centres. Branding and marketing for changing the image of libraries.  
**30h (T); C**
- LIS 403      Internet and Website Design      2 Credits**  
 Internet resources. Retrieval and searching techniques. HTML for designing WWW documents and pages. Aesthetic design principles. Consideration of potential users of web documents.



**15h (T), 45h (P); C**

- LIS 410      Records and Archival Management      2 Credits**  
Historical developments of archival practice. Archives and records management in Nigeria. Acquisition of archival materials. Records continuum. Role of records management in organizations. Records and society. Types of registries. Filing and filing equipment. Records inventory, analysis and scheduling. Classification systems. Archives and manuscript repositories.  
**30h (T); C**
- LIS 412      Preservation and Conservation of Library Materials      2 Credits**  
Definition. Care of library resources and equipment. History of paper making. Causes of damage to paper and its prevention. Preservation processes. Repair of damages to paper and library resources. Special storage facilities.  
**30h (T); C**
- LIS 415      Online information Retrieval      2 Credits**  
Theory and practice of information storage and retrieval in the online environment. History of online information industry. Types and structures of online databases. Basic search skills and search strategy development. Search techniques using commercial databases, CD-ROMs and Internet resources.  
**15h (T), 45h (P); C**
- LIS 417      Desktop Publishing      2 Credits**  
Definition and development. Desktop publishing (DTP) applications (PageMaker and CorelDraw). Practical assignments with PageMaker and CorelDraw. Distinction between DTP and word processing applications.  
**30h (T); E**
- LIS 419      Database Management      2 Credits**  
Concepts. Functions and characteristics of database. Types and users of database. Database design. Retrieval techniques. Different database software packages. Practical applications with Microsoft Access. Database industry.  
**30h (T); E**
- LIS 499      Project      6 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**270h (P); C**



## SUMMARY

### 100 Level

**Compulsory Courses:** LIS 101 (2) 102 (2), 103 (2), 155 (2) 106 (2) = 10 Credits

**Required Courses:** CSC 111 (2), CSC 114 (2), ICS 101 (2), ICS 106 (2), TSC 101 (2)  
GNS 111 (2), GNS 112 (2) = 14 Credits

**Additional courses from other Faculties:**

BUS 101(3), BUS 102(3), BUS 103(3), BUS 108(3), SOC 102(2),  
SOC 104(2), SOC 105(2), SOC 107(2), ECN 101(3), ECN 102(3),  
CHM 101(3), CHM 112(2), CHM 115(2), CHM 116(1), CHM 132(2), PLB 101(3), PLB 108(3), POS 111(2), POS  
112(2), POS 115(2),  
STA 121(2), STA 124(2) = 16 Credits

**Total = 40 Credits**

### 200 Level

**Compulsory Courses:** LIS 201 (2), LIS 202 (2), LIS 203 (2), LIS 209 (2), LIS 213 (2),  
LIS 214 (2), LIS 216 (2), LIS 218 (2) = 16 Credits

**Required Courses:** MAC 251 (2), MAC 236 (2), GNS 211 (2), GNS 212 (2) = 8 Credits

**Electives Courses:** At least 4 credits from:  
LIS 211 (2), LIS 212 (2) LIS 220 (2) LIS 222 (2) = 4 Credits

**Additional courses from other Faculties:**

BUS 211(3), BUS 202(2), BUS 212(3), ECN 201(2), ECN 202(2),  
ECN 205(3), ECN 206(2), SOC 204(2), SOC 205(2), SOC 206(2),  
SOC 207(2), POS 211(2), POS 213(3), POS 214(3), PLB 202(3),  
PLB 203(3), STA 204(2), STA 206(2) = 16 Credits

**Total = 44 Credits**

**For Direct Entry Students:** GNS 111 (2), GNS 112 (2) = 4 Credits

**Total = 48 Credits**

**300 Level**

**Compulsory Courses:** LIS 301 (2), LIS 303(2), LIS 305 (2), LIS 307 (2), LIS 309 (2),  
LIS 311 (2), LIS 312 6), **= 18 Credits**

**Required Courses:** GSE 30 (3), GNS 311 (2) **= 5 Credits**

**Additional courses from other Faculties:**

BUS 302(2), BUS 306(3), BUS 308(3), BUS 313(3), BUS 321(3),  
POS 314(2), POS 315(2), POS 322(2), POS 324(2), POS 325(2),  
SOC 301(2), 303(2), SOC 304(2), SOC 305(2), SOC 307(2),  
SOC 308(2) **= 6 Credits**

**Total = 29 Credits**

**400 Level**

**Compulsory Courses:** LIS 401 (2), LIS 402 (2), LIS 403 (2), LIS 410 (2), LIS 412 (2),  
LIS 415 (2), LIS 499 (6) **= 18 Credits**

**Required Courses:** MAC 312 (3) **= 3 Credits**

**Electives Courses:** At least 2 credits from:  
LIS 417 (2), LIS 419 (2) **= 2 Credits**

**Additional courses from other Faculties:**

BUS 401(3), BUS 402(3), BUS 429(3), BUS 430(3), PLB 406(3),  
PLB 407(3), PLB 409(3), PLB 414(3), POS 413(2), POS 415(2),  
POS 414(2), POS 418(2), SOC 401(2), SOC 402(2), SOC 406(2),  
SOC 407(2) **= 14 Credits**

**Total = 37 Credits**

**Graduation Requirements:**

**UTME = 150**  
**DE = 114**



**DEPARTMENT OF MASS COMMUNICATION**  
**Course Description**

**B.Sc. Mass Communication**

- MAC 101 Introduction to Mass Communication 3 Credits**  
Definition and scope. Concepts, models, principles and challenges. Characteristics, functions, contents, operations and impact of the mass media. National media systems and mass communication between and across nations.  
**45h (T); C**
- MAC 103 English Grammar and Journalistic Style 2 Credits**  
Development of journalistic style. Proficiency in grammar and the use of language. How to write for the print, broadcast and online media.  
**30h (T); C**
- MAC 104 History of Nigerian Mass Media 2 Credits**  
Historical development of Mass Communication: nature, emergence and growth in Nigeria. Origin and development of print and broadcast journalism in Nigeria. Multimedia and Online journalism.  
**30h (T); C**
- MAC 112 Writing for the Mass Media 2 Credits**  
The course is designed to expose students to all forms of writing for the Mass Media. It entails application of acquired writing skills to writing news, advertising copies, press releases, broadcast scripts, and interviewing.  
**30h (T); C**
- MAC 113 African Traditional Communication Systems 3 Credits**  
Cultures of different African societies and their influence on mass media practice in Africa. Traditional modes of Mass Communication: use of town-criers, markets, etc. Emergence of new modes of mass communication, modern media modes and influence on information gathering and consumption.  
**30h (T); C**

<b>MAC 201</b>	<b>News Reporting and Writing</b> Basic requirements of news writing and reporting: news definition, general writing skills, types of lead. Preparing a mélange of basic journalism news stories, covering beats, journalism style and interview techniques for newspaper, magazine, radio and television. <b>30h (T); C</b>	<b>3 Credits</b>
<b>MAC 202</b>	<b>Theories of Mass Communication</b> Analysis of the different theories of Mass Communication and their application to media industry in Nigeria. Significant phenomena and principles of mass communication. Nature, perspectives, analysis and effects of mass communication. <b>45h (T); C</b>	<b>3 Credits</b>
<b>MAC 203</b>	<b>Introduction to Broadcast Production</b> Principles and techniques of writing and producing programmes for Radio and Television: writing and news production, public paid announcements, magazine, news commentaries, documentaries, sports, discussion and interview programmes. Methods of producing television programmes: script writing, filming and directing. Duties of a producer. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b>
<b>MAC 204</b>	<b>Feature Writing</b> Types of features: histories, backgrounders, obits, how-to and explanatory, consumer information, statistical pieces, first person, and participatory. Gathering and organising feature materials. Qualities and importance of good features. <b>30h (T); C</b>	<b>2 Credits</b>
<b>MAC 205</b>	<b>Introduction to Public Relations and its Techniques</b> Basic features and defining characteristics of Public Relations techniques. Emergence and growth of Public Relations. Public Relations theories. Place of the media in Public Relations practice. <b>30h (T); C</b>	<b>2 Credits</b>
<b>MAC 206</b>	<b>Specialised Reporting</b> Writing skills for different mass communication media: Journalism (print and electronic), advertising, public relations. Specialized beats in journalism: business and finance, crime, education, politics and law. <b>30h (T); C</b>	<b>2 Credits</b>
<b>MAC 207</b>	<b>Photo Journalism</b> Aspects of photography. Importance of photography in mass communication. Use of taking correct and illustrative shots, photo cropping and captioning. Field assignment, black-and-white processing with 35-mm camera technique.	<b>3 Credits</b>

**30h (T), 45h (P); C**

- MAC 208      Editing, Graphics and Desktop Publishing      3 Credits**  
Instructions in writing and editing copies in a style appropriate to the news media. Preparation of articles and photographs in photo-editing for newspaper publication using editing symbols.  
**30h (T); 45h (P); C**
- MAC 209      Introduction to Advertising      2 Credits**  
Importance and relevance of advertising in industrial, commercial and governmental establishments. Creativity, planning and budgeting as relevant issues in advertising. Media selection and advertising.  
**30h (T); C**
- MAC 210      Basic Statistics for Communication and Information Sciences      2 Credits**  
Introduction to basic statistical techniques for data analysis in quantitative research. Techniques and/or tools of measures of central tendencies, measures of variations, correlation and various diagrams for data presentation.  
**30h (T); C**
- MAC 211      Foundation of Communication Research      2 Credits**  
Fundamentals of research procedure. Definition of scientific research, process of research, sampling procedure, design of research and research approaches.  
**30h (T); E**
- MAC 212      Advertising Media Planning      3 Credits**  
Relationship between advertising and marketing. Place of advertising and marketing theories and principles in industries, business and government functions. Marketing research, client service and consumer behaviour. Advertisers' associations. Marketing and insurance. Marketing and entertainment.  
**30h (T), 45h (P); C**
- MAC 251      Communication and Information Basics      2 Credits**  
Fundamental knowledge relevant to the field of communication and information science. Basic practices in the field of Communication and Information Sciences. Discussion and practical tasks on the process of communication. ICTs, convergence of media communication, public speaking and writing skills for communication.  
**30h (T); R**



- MAC 301      Techniques of Radio and Television Production      3 Credits**  
 Methods of producing programmes for radio broadcast. Operational techniques for script writing and recording. Approaches to programme production for television broadcast; scripting, editing (script and tape), directing, presentation and filming of programmes. Studio design, studio equipment and furnishing.  
**30h (T), 45h (P); C**
- MAC 302      Students' Industrial Works Experience Scheme (SIWES)      6 Credits**      An opportunity for students to connect academic preparation with professional practice through a 6-month study tour in a media environment.  
**270h (P); C**
- MAC 303      Development Communication      2 Credits**      Origins, principles, strategies and application of Development Communication in the developing world. Comparative analysis of the strengths and weaknesses of development communication.  
**30h (T); C**
- MAC 305      Community Broadcasting      2 Credits**  
 Analysis of community needs and problems with regard to the role and qualities of radio and television. Planning of community development projects for implementation through special radio programmes. Programme production and evaluation research.  
**30h (T); E**
- MAC 307      Community Newspaper      2 Credits**  
 Writing, editing and publishing weekly or regular newspaper for the rural community, small municipalities and urban neighbourhoods. Content analysis, readership research, and business and management procedures.  
**30h (T); E**
- MAC 309      Public Relations and Advertising Research      3 Credits**  
 Research techniques used to carry out studies concerning Public Relations and Advertising processes. Procedure for carrying out research on Advertising messages as well as evaluation of Public Relations and Advertising campaign.  
**30h (T), 45h (P); C**
- MAC 311      International and Foreign Communication      2 Credits**  
 History, channels, contents, technologies, policies and regulations of international communication systems. Divergences in media development between developed and developing nations. New world information order and the emergence of global communication. Comparative analysis of national systems of broadcasting worldwide: ownership, control, programming purposes and effects or impact. International organisations dealing with technical facilities and programmes. Purposes and impact of external radio broadcasting stations.

**30h (T); C**

- MAC 313 Mass Media Management 3 Credits**  
Management of the media in Nigeria. Government and private management of the media. Operation of media houses as business enterprise. Interplay between media work and profit. Budget and personnel management. Coordinating of processes from editorial to circulation.  
**45h (T); C**
- MAC 315 Mass Media and Society 2 Credits**  
Influence of communication technologies and media content on the society and its culture. Media representation and shaping of individual identity and values. Implications of contemporary technologies.  
**30h (T); C**
- MAC 317 Techniques of Speech Production 2 Credits**  
Effective speech writing and delivery. Skills required to anchor programmes and prepare speeches for Chief Executives. Various speech activities at both interpersonal and mediated levels to establish types of speech, styles of speech delivery and speech criticisms. Challenges to effective speech delivery (stage fright and anxieties). Building confidence. Guide to writing formal speeches and event planning and execution.  
**30h (T); C**
- MAC 321 Consumer Behaviour 2 Credits**  
Meaning of consumption, consumer behaviours and marketing strategy. Consumer motives, goals and involvements, consumption subculture and lifestyle. Consumer's decision making process and attitude. Consumer association and pressure groups.  
**30h (T); E**
- MAC 401 Advertising and Public Relations Campaign Strategies 3 Credits**  
Advertisement design and production for radio, television, newspaper and magazines. Live production of advertisement in media and other houses. Public Relations strategies. Targets of public relations. Execution of Public Relations researches. Production of public relations materials like bill-boards, press releases, house journals and video clips.  
**30h (T), 45h (P); C**
- MAC 402 Data Journalism 2 Credits**  
Precision journalism that entails specialized skills in investigating and reporting using quantitative research method of collecting and analyzing data for news stories and news analysis. Basic theory, methods and tools of data journalism. Collecting and analyzing data for opinion polls and how to contextualize findings and conclusion from data to specific situations. Creating small survey for a selected group of people, interpreting specific data set by using graphs and maps as news stories and news analysis.

30h (T); C

- MAC 403      Advanced Radio Production      3 Credits**  
Production of different programmes: news, current affairs, magazines, drama, poetry, interviews for broadcast on radio. Visits to radio stations to observe various aspects of radio production and broadcast.  
**30h (T), 45h (P); C**
- MAC 404      Advanced Television Production      3 Credits**  
Production of different programmes for broadcast on television. Visits to television houses for practical experience in various aspects of television production.  
**30h (T), 45h (P); C**
- MAC 405      Humanitarian Journalism      2 Credits**  
Critical debates on the media and the political economy of humanitarian interventions involving state and civil society actors. Comparing and contrasting human rights reporting and humanitarian or human rights journalism. National and international political, legal, economic and cultural structures that impact on the realization of the rights of people. Placing journalistic practice right at the heart of such structures. How to report various humanitarian crises in the world with a view to contributing to their quick resolutions and better understanding by the public. Critical role of the journalist (as a duty bearer) in the promotion and protection of human rights in times of peace or crisis.  
**30h (T); C**
- MAC 406      Political Communication      2 Credits**  
Classic works and fresh trends in political communication. Political organisation, electoral and legislative processes, civic engagement, media and politics, public deliberation and opinion formation. Political identity and discourse.  
**30h (T); E**
- MAC 407      Investigative Journalism      3 Credits**  
Techniques of investigative reporting. Use of high-tech record research and traditional approach. Acquiring skills in recognising corruption, conflict of interest and hypocrisy. Use of court records. Developing sources and examining advanced interview techniques.  
**30h (T), 45h (P); C**
- MAC 408      Editorial and Commentary Writing      2 Credits**  
Writing editorials and opinions. Writing newspaper editorials and columns in order to have an understanding of the gap between news and opinion content in journalism.  
**15h (T), 45h (P); E**

- MAC 409 Media Law and Ethics 3 Credits**  
Ethical issues in mass communication: philosophical positions and historical context. Issues in mass communication practice in Nigeria (code of ethics for journalists in Nigeria). Rules imposed by historical cultural, social and religious factors. Ways of evaluating and responding to moral problems in a variety of communication situations. Press Council in Nigeria. Laws and regulations governing publication and broadcast in the mass media in Nigeria (laws of libel, invasion of privacy, press freedom and freedom of information concepts, copyright, obscenity, newspaper, broadcast and advertising regulation, and matters relating to judicial reporting). The constitutional base of Nigerian press.  
**45h (T); C**
- MAC 410 Critical Issues in Mass Media 2 Credits**  
Critical analysis of significant events and personalities that have featured in and characterised the Nigerian mass media from the political, social and economic points of view. Dynamics of the mass media in Nigeria and their institutional roles.  
**30h (T); C**
- MAC 411 Data Analysis in Communication Research 2 Credits**  
Data analysis technique: use of tables, graphs and the measures of central tendency. Data presentation and interpretation.  
**30h (T); C**
- MAC 412 Newspaper and Magazine Production 3 Credits**  
Techniques of newspaper and magazine designs. Skills in newspaper and magazine production. Assessing newspaper layouts and contents. Processing of editorial materials;  
**15h (T), 45h (P); C**
- MAC 413 Foreign Correspondence 3 Credits**  
Knowledge, principles and practice of reporting from outside one's country. History of foreign correspondence, establishing its needs and its continuous relevance in the age of globalization. Preponderance of international news agencies as well as technological advancement. Peculiarities of the practice of foreign correspondence that make it different from general journalistic practice within a nation.  
**45h (T); C**
- MAC 414 Critical Review and Writing 2 Credits**  
News writing or consent of instructor. Theory and practice of reviewing the lively arts for a daily newspaper. Writing reviews of plays, movies, television programmes, musical and dance events.  
**30h (T); C**

- MAC 415 Drama and Documentary Production 2 Credits**  
Problems involved in producing drama and documentary for radio and television, blocking, casting, budgeting and performance. Focus on drama or documentary for both radio and television or drama and documentary for only radio or television.  
**15h (T), 45h (P); E**
- MAC 416 Media Policy in Nigeria- 2 Credits**  
Media system in Nigeria during the military and democratic regimes. Deregulation and liberalisation of broadcasting (NBC). Regulation of media operation through various decrees and Acts. Press Freedom in Nigeria. Regulation of the film industry (NRVCB).  
**30h (T); C**
- MAC 417 Global Journalism 2 Credits**  
This course is designed as an analysis of global journalism issues and is intended to give the students a broad and critical understanding of the principles and practice of journalism on a global platform. It also introduces students to the ways through which they can better appreciate their local cultural contexts through the prism of a global narrative of journalistic practice.  
**30h (T); E**
- MAC 418 Gender and Communication 2 Credits**  
Gender Identity. Media and Gender Identity. Communication among Men and Women. Portrayals of women and men in the media, Ideologies of media representations of women and men.  
**30h (T); E**
- MAC 419 Cross-cultural Communication 2 Credits**  
Nature of communication between different cultures. Includes the processes as they occur in sojourns, immigration, negotiations, and conversations across national boundaries. Identity formation and expression, cross-cultural ties, profiling, prejudice, and group affiliation.  
**30h (T); E**
- MAC 420 Educational Broadcasting 2 Credits**  
Educational potentialities and limitations of radio and television. Pedagogic approaches and production techniques; radio forums and clubs. Planning and production of educational programmes. Production of supplementary materials and teaching aids.  
**15h (T), 45h (P); E**

**MAC 422 Organisation and Management of Advertising and Public Relations 3 Credits**  
Guidelines for starting an enterprise in Advertising or Public Relations. Organisation and management of the various departments of a full-service agency.  
**45h (T); C**

**MAC 499 Project 6 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**270h (P); C**

### **SUMMARY**

#### **100 Level**

**Compulsory Courses:** MAC 101 (3), MAC 102 (2); MAC 103 (2), MAC 104 (3), MAC 111 (2)  
**= 12 Credits**

**Required Courses:** GNS 111 (2), GNS 112 (2), ICS 101 (2), ICS 106 (2), LIS 105 (2),  
LIS 106 (2), POS 115 (2), POS 116 (2) **= 16 Credits**

**Elective Courses:** At least 8 credits  
POS 111 (3), SOC 101 (2), SOC 107 (2), ENG 101 (2), ENG 107 (3), SOC 102 (2), SOC 110 (2), ENG 102 (2),  
ENG 106 (3) **= 8 Credits**

**Total= 36 Credits**

#### **200 Level**

**Compulsory Courses:** MAC 201 (3), MAC 202 (3), MAC 203 (3), MAC 204 (2),  
MAC 205 (2), MAC 206 (2), MAC 207 (3), MAC 208 (3),  
MAC 209 (2), MAC 210 (2), MAC 211 (2), MAC 212 (2) **=29 Credits**

**Required Courses:** MAC 251 (2), GNS 211 (2), GNS 212 (2) **= 6 Credits**

**Elective Courses:** At least 8 Credits  
MAC 211 (2), POS 213 (3), SOC 207 (2), ENG 203 (2),

ENG 205 (3), SOC 210 (2), MAC 214 (3), ENG 204 (2), ENG 210 (3)  
= 8 Credits

**Total = 43 Credits**

**For Direct Entry Student:** GNS 111(2), GNS 112(2) = 4 Credits  
**Total = 47 Credits**

**300 Level**

**Compulsory Courses:** MAC 301 (3), MAC 302 (6), MAC 303 (2), MAC 309 (2),  
MAC 311 (2), MAC 313 (2), MAC 315(2), MAC 317 (2) = 17 Credits

**Required Courses:** GNS 311 (2); GSE 301 (3) = 5 Credits

**Elective Courses:** **At least 8 credits**  
MAC 305 (2), MAC 307 (2), MAC 321 (2), MAC 320 (2), MAC 322 (2)  
= 8 Credits

**Total = 30 Credits**

**400 Level**

**Compulsory Courses:** MAC 402 (2), MAC 405 (3), MAC 409 (3), MAC 410 (2), MAC 411 (2),  
MAC 413 (2), MAC 414 (2), MAC 416 (2), MAC 499 (6) =24 Credits

**For Broadcast Sequence/Option:** MAC 403 (3); MAC 404 (3) = 6 Credits

**For Print Sequence/Option:** MAC 407 (3); MAC 412 (3) = 6 Credits

**For Public Relations & Advertising Sequence/Option:** MAC 401 (3), MAC 422 (3) = 6 Credits

**Elective Courses:** At least 6 Credits from the following:  
MAC 406 (2), MAC 415 (2), MAC 417 (2), MAC 419 (2),  
MAC 418 (2), MAC 420 (2), MAC 422 (2) = 6 Credits  
**Total = 36 Credits**

**Graduation Requirements:**

**UTME = 145**

**DE = 113**

## DEPARTMENT OF TELECOMMUNICATION SCIENCE

### Course Description

#### B.Sc. Telecommunication Science

- TCS 111      Introduction to Telecommunications      2 Credits**  
History of telecommunications. Basic components of telecommunications and benefits of telecommunications. Impact on individual and global society. Introduction to analog and digital transmissions. Introduction to networking and internet. OSI model and TCP/IP protocol suites. Network topologies. Telecommunication standards.  
**30h (T); C**
- TCS 112      Telecommunication and Networks I      2 Credits**  
Mathematics of computing and data representation. Circuit Switching and Packet Switching Networks. Signals and transmission. Transmission impairments. Modulation and Multiplexing. Error detection and correction. Optical fiber communication systems. Public Switched Telephone Network (PSTN). Introduction to LAN and WAN.  
**30h (T); C**
- TCS 204      Electromagnetic Fields and Waves      2 Credits**  
Electrostatics, Magnetostatics, Propagation of Em. wave in free space and in material media. Dielectric conductors and ionized media. Transmission line theory, including waveguide and resonators. Radiating elements and Antenna theory.  
**30h (T); C**
- TCS 205      Logic Circuit      2 Credits**  
Logic Circuit: binary system, Boolean algebra, Switching Circuit Design and analysis. Design of Combinational logic circuits. Flip Flops, Shift Registers  
**30h (T); C**
- TCS 207      Transmission Systems      2 Credits**  
Basic Concept of a Transmission System. Elements of a Transmission System. Signals and Spectra. Radio Transmission. CW Modulation Methods; AM, FM, PM. Allocation of the Electromagnetic Spectrum. Free-Space Loss of Radio Waves. Antennas. Transmission Channel., Coding; Purpose of Line Coding, Spectrum of Common Line Codes, Regeneration, Multiplexing, Frequency-Division Multiplexing (FDM) and TDM, PCM Frame Structure  
**30h (T); C**



<b>TCS 208</b>	<b>Wireless System and Cellular Communication I</b> GSM services, GSM network infrastructure and administration, base station and mobile antenna design. Channel effects, Multipath fading and attenuation. GSM multiplexing technologies. Radio coverage and power budgets. Capacity issues in 2G networks. Logical channels and burst structures. Timing advance and power control issues. Legal and environmental issues. Cell design, 2G network planning design and optimization. GSM layer3 protocols and functions. Radio resource management, mobility management and handover, security management and connection management. GSM signalling and SS7 call setup. GSM protocols. Short message service. GPRS & EDGE. Antenna design and environmental considerations. Introduction to 3G/UMTS, IMT2000. <b>30h (T); 45h (P); C</b>	<b>3 Credits</b>
<b>TCS 221</b>	<b>Telecommunication and Networks II</b> Connection-Oriented and Connectionless Protocols, Message Addressing and Transmission Methods, Network Performance Issues and Concepts. Quality of Service (QoS), Message Routing. Telecommunication link. Analog /Digital conversion. Digital/Analog conversion. Basic Information Theory. <b>30h (T); C</b>	<b>2 Credits</b>
<b>TCS 222</b>	<b>Networking I</b> Introduction to Routing and Packet Forwarding, Static Routing, Introduction to Dynamic Routing Protocols, Distance Vector Routing Protocols, RIPv1, VLSM and CIDR, RIPv2, The Routing Table: A Closer Look, EIGRP, Link-State Routing Protocols, OSPF, Detail Review of the Concepts of Classless Inter domain Routing (CIDR) and Variable Subnet Masking (VLSM) <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>TCS 224</b>	<b>Workstation and Server Applications</b> Installing, configuring, and administering server application using multiple standard operating system and Microsoft Windows utilizing the current commercial version of the product for both workstations and servers. Server applications include World Wide Web, FTP, software updates, mail, file sharing, DNS, DHCP, and terminal services. <b>15h (T); 90h (P); C</b>	<b>3 Credits</b>
<b>TCS 310</b>	<b>Students' Industrial Works Experience Scheme (SIWES)</b> Exposure of students to practical aspects of telecommunication especially in telecom or related industry. Students should submit and defend report after the completion of the industrial attachment. <b>270h (P); C</b>	<b>6 Credits</b>
<b>TCS 321</b>	<b>Wireless System and Cellular Communication II</b> UMTS services offered, network requirements, evolution from GSM, technology underpinning UMTS, network architecture. 2G-3G links, wideband CDMA, chip rates and spreading codes, correlation and de-correlation techniques, processing gain and	<b>3 Credits</b>

effects on capacity and E/N of loading, sectorisation, introduction to handover in WCDMA, voice activity, capacity limitations, link budget and load factor, transport and physical channels  
**45h (T); C**

- TCS 323      Pulse and Data Communication      3 Credits**  
Information theory. Communication system: Shannon law, Coding, Baudot Code, Hartley law. Noise and redundancy. Pulse Modulation: PWM, DPM, PCM, Quantization Noise and Multiplexing. Public Systems Telex. Telemetry. Data communication: history, characteristics, noise and crosstalk. Echo suppressors, distortion and equalizers. Error detection and correction.  
**45h (T); C**
- TCS 325      Broadband Wireless Network I      2 Credits**  
Overview of Wireless Standards and Organizations. Radio Frequency Component: measurements and mathematics. Radio Frequency Signal and Antenna Concepts. IEEE 802.11 Standards. Wireless Networks and Spread Spectrum Technologies. Wireless LAN topologies: 802.11 Medium Access and 802.11 MAC Architecture. Wireless Devices. Network design, implementation and management. WLAN Troubleshooting, 802.11 Network Security Architecture. Wireless Attacks, Intrusion Monitoring, and Policy. Radio Frequency Site Survey Fundamentals. Site Survey Systems and Devices.  
**15h (T), 45h (P); C**
- TCS 327      Network Programming      3 Credits**  
Socket API. TCP Sockets (Internet and Unix domain). UDP (Internet and Unix domain). Client/Server applications, design and implementation. Signals. Concurrent server implementation. Synchronous I/O Message Level multiplexing. Sockets in a GUI environment. Pipes. Socketpairs. Shared memory and semaphores. Performance analysis. Real-time processing (using C/C++).  
**30h (T), 45h (P); C**
- TCS 329      Networking II      2 Credits**  
LAN Design. Technologies and Protocols to design and implement a Converged Switched Network. Switches: configuration, certification, and troubleshooting. Virtual LANs, VTP, and Inter-VLAN Routing. Implementing Spanning Tree (IEEE 802.1D, PVST+, RSTP, PVRST+). Implementing Inter-VLAN Routing. Configuring a Wireless Router, Components of operation of Wireless LANs (WLANs): configuration, verification, and troubleshooting. Basic WLAN access and Security.  
**15h (T), 45h (P); C**
- TCS 331      Research Methods      2 Credits**  
Types of research: survey, experimental, ex-post facto, historical, evaluative etc. Literature review , problem statement ,research questions and hypotheses. Introduction to basic statistical concepts: descriptive and inferential statistics. Research proposal and report. Explores qualitative and quantitative research techniques. Research programme planning. Data interpretation, outcome evaluation and ethical issues.

**30h (T); C**

- TCS 407      Network Security I      2 Credits**  
Network security and cryptographic protocols. Network vulnerabilities, attacks on TCP/IP, network monitoring, security at the link, network and transport layers. Cryptography e.g. secret and public key schemes, message authentication codes and key management. WLAN security: IPSec, SSL, and VPNs. E-mail security (PGP, S/MIME), Kerberos, X.509 certificates, AAA and Mobile IP, SNMP security, firewalls, filters and gateways. Policies and implementation of firewall policies, stateful firewalls, firewall appliances. Network-related physical security, risk management and disaster recovery/contingency planning issues and housekeeping procedures.  
**15h (T), 45h (P); C**
- TCS 408      Network Security II      2 Credits**  
Network security from a manager's perspective. Threats, risks, and risk assessment. The basic concepts of data security: availability, confidentiality, authentication, non-repudiation. Network reliability, availability and downtime. Business continuity planning. Backup, hot sites and redundancy. Security policies, including acceptable use.  
**15h (T), 45h (P); E**
- TCS 410      Telecommunication Network Administration      2 Credits**  
Issues and concerns required to manage telecommunications networks and contemporary problems. Network management protocols, (in particular of SNMP and TMN network management principles, architectures and implementations. Discussion of systems analysis design and implementation of telecommunication system with a special emphasis on wide area networking and inter networking system.  
**15h (P); C**
- TCS 412      Multiservice Networks      2 Credits**  
Introduction to QoS and Integrated Services architecture. ATM, Packets vs. circuits, MPLS and media encoding. IntServ, scheduling, RSVP, IP Telephony and IPTV. Multicast, Network performance and scheduling. DiffServ and DiffServ-enabled MPLS. Multicast: protocols & implementation, research directions.  
**15h (T); 45h (P); C**
- TCS 421      Optical and Broadband Communication I      2 Credits**  
Light sources, light detectors, optical fibres, principles of light transmission, types of fibre and light transmission through a fibre. Attenuation, dispersion mechanisms and minimisation. DCF fibre and nUTMERical aperture. Fibre system testing and measurements: OTDR, power budgets, rise-time budgets and bit-error rate. Optical amplifiers: EDFA, Raman and semiconductor optical amplification architecture, operation, characteristics, noise and applications, fibre connectors, splices and couplers.

**30h (T); C**

- TCS 422      Optical and Broadband Communication II      2 Credits**  
WDM systems: system design and performance and multiplexing technologies. Transport technologies: PDH, SDH and FDDI. Broadband technologies: B-ISDN, WLL, xDSL, -theoretical concepts and comparison with fibre for use in local loop FTTC, FTTH, WAN/LAN backbone and core. All-Optical networks including optical cross connects and optical ADMs. Network applications: Core/ Metro/ Access networks.  
**30h (T); C**
- TCS 423      Wireless System and Cellular Communication III      2 Credits**  
Sectorisation, voice activity, capacity limitations, adaptive multi-rate codec, traffic and noise related dynamic adaption. Inner loop and outer loop power control, handover (soft, softer and hard), intra-mode handover, radio link structure, multiplexing, modulation in different channels and, framing channels. Full description of all channels and data carried. Data interleaving, cell searching procedure, TDD system signals and call setup procedure. Network architecture. 2G-3G links. IP, IP mobility, Mobile IP, VOIP, and 4G proposal.  
**15h (T), 45h (P); C**
- TCS 424      Satellite Communication Systems      2 Credits**  
History and current status of the satellite industry. Satellite subsystems. Orbital Mechanics. Look Angle Determination and Launch Vehicles Spacecraft and Earth Station Systems. Launch Vehicles Satellite Link Analysis Modulation and Multiplexing. FDMA Multiple Access .TDMA Multiple Access. CDMA Multiple Access. Dynamic Allocation (protocols). Error Control Coding.  
**30h (T); C**
- TCS 425      Digital Signal Processing I      2 Credits**  
Applications of DSP, Discrete-time signals, analog and digital signal processing. Time domain and Z- Transform: LTI, convolution, correlation, difference equations. Z-transform theory, transfer functions. Frequency Domain analysis. Theory of sampling, DTFT, IDTFT, DTFS and DFT.  
**30h (T); C**
- TCS 426      Digital Signal Processing II      2 Credits**  
Infinite impulse response filters (IIR). Finite impulse response filters (FIR) and filter realizations. Hardware design using DSP Chips.  
**30h (T); C**
- TCS 427      Networking III      2 Credits**  
WAN technologies and devices required for Network and Internet Communications. Implementing Data Link Protocols Including

PPP, ATM, Ethernet, Frame Relay and HDLC. Implementing IP Addressing Services for an Enterprise Network, NAT and DHCP. IPv6 addressing concepts. Use of Cisco SDM to Implement IP Addressing Services and ACLs. Implementing VPN and analyse Network Vulnerabilities. Implement Security Technologies. Implement ACLs for Traffic Control. Detecting troubleshooting and correcting common enterprise network implementation issues.

**15h (T), 45h (P); E**

**TCS 429**

**Multimedia Communication I**

**2 Credits**

Introduction and Logistics. Media Transport Protocols: Session Initiation Protocol (SIP), Real-Time Transport Protocol (RTP), Session Description Protocol (SDP). Media: Codec Operation & Selection, Generics : digitization, compression primitives. Types of Codecs. Media Transport: Security issues/techniques and compression. Firewalls, NATs, IPSec & Secure RTP. Header Compression. IP Multimedia Subsystem (IMS) architecture: standards bodies and requirements. IMS IP Core Network Nodes. Key IMS Protocols. Security, compression and services. Next-generation Network Architecture standards: Multiservice Switching Forum Architecture, ETSI, TISPAN Architecture. NGN Components, Protocols, VOIP.

**30h (T); C**

**TCS 430**

**Telecommunication Project Management**

**2 Credits**

Developing a business plan, estimating revenues and costs, sources of data, network costing issues, and interconnection. Theoretical background in economics and regulatory trends in international telecommunications.

**30h (T); C**

**TCS 499**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270h (P); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** TCS 111 (2), 112 (2) = 4 Credits

**Required Courses:** CSC 111(2) 112(2), ICS 101(2), 106(2), STA 124(2), 131(2),  
MAT 111(3), 112(3), 113(3), 114(3), PHY 115(2), 152(3), ECN 101(3), GNS 111(2), 112(2)  
= 36 Credits

**Total = 40 Credits**

### 200 Level

**Compulsory Courses:** TCS 221 (2), 222 (2), 204 (2), 205 (2), 207 (2), 208 (3), 224 (3)  
= 16 Credits

**Required Courses:** MAC 251 (2), CSC 211 (3), MAT 213 (2), ELE 201 (2) GNS 211 (2),  
ABE 263(3), CHE 264 (3), CSC 212 (3), ELE 202 (2), GNS 212 (2)  
= 24 Credits

**Total = 40 Credits**

**Direct Entry Students:** GNS 111(2), 112 (2) TCS 111 (2), 102(2) = 8 Credits  
**Total = 48 Credits**

### 300 Level

**Compulsory Courses:** TCS 321 (3), 323 (3), 325 (2), 327 (3), 329 (2), 340 (2), 310 (6)  
= 21 Credits

**Required Courses:** GSE 301 (3) GNS 311 (2) MEE 361 (3) = 8 Credits  
**Total = 29 Credits**

### 400 Level

**Compulsory Courses:** TCS 421 (2), 422 (2), 423 (2), 424 (2), 425 (2), 426 (2), 407 (2), 428 (2), 410 (6) 427 (2), 412 (2), 429 (2), 417 (2)  
= 30 Credits

**Required Course:** ICS 424(2) = 2 Credits

**Elective Courses:** At least 8 credits from the following:  
TCS 408 (2), 414 (2) ICS 405 (2), 408 (2) 413 (2) 418 (2), ICS 313(3), 408(2), 418(2),  
= 8 Credits

**Total = 40 Credits**

**Graduation Requirements:**

**UTME = 149**

**DE = 117**

**FACULTY OF EDUCATION**

**Dean's Office**

A. A. Adegoke	B.Ed., M.Ed. (Ibadan); Ph.D. (Ilorin); Professor & Dean FCASSON
T. O. Ibraheem	B.Sc.(Ed.), M.Ed. (Ilorin), Ph.D. (Ibadan) Sub-Dean
A. Abdulsalam	B.A.(Ed.), M.Ed. (Ilorin) Faculty Officer

**DEPARTMENT OF ADULT AND PRIMARY EDUCATION**

H. O. Owolabi B.Sc., M.Ed., Ph.D. (Ibadan) Senior Lecturer & Ag. Head

A. A. Fajonyomi	B.Sc. (Ed.), M.Ed., Ph.D. (Ibadan)	Professor
E. K. Ola-Alani	B.Ed., M.Ed, Ph.D. (Ibadan)	Lecturer II
O. R. Ebireri	B.Ed., M.Ed., Ph.D.(Maiduguri)	Lecturer II
R. Abdulwahab	B.Ed., M.Ed.(UDUS)	Assistant Lecturer
Y. A. Kuranga	B.Sc., M.Ed. (Ilorin)	Assistant Lecturer
S. T. Kayode	B.Ed., M.Ed.(Ilorin)	Assistant Lecturer
R. M. O. Mohammed	B.Ed., M.Ed. (Maiduguri)	Graduate Assistant
A. K. Abdullahi	B.Ed. (Maiduguri)	Graduate Assistant

**DEPARTMENT OF ARTS EDUCATION**



Folakemi O. Adeniyi-Egbeola      B.A. (Ed.), M.Ed., Ph.D. (Ilorin)      Senior Lecturer & Ag.  
Head

R. A. Lawal      B. A.(Ed.) (ABU); M.Ed., Ph.D. (Ibadan)      Professor

A. G. A. S. Oladosu      B.A., M.A. (Cairo); Ph.D. (Ilorin)      Professor

S. B.Olajide      B.A.(Ibadan) ; PGDE, M. Ed., Ph.D. (Ilorin) Senior Lecturer

A. F. Oyelade

U. A. Ajidagba B.Ed. (Jos); M.Ed., Ph.D. (OAU)

B.A. (Ed.), M.Ed., Ph.D. (Ilorin)      Senior Lecturer

Senior Lecturer

Zainab A. Abudu      B.A., PGDE, M.A., M.Ed., Matier FLE (Besancon) Lecturer I

A. Saidu      B.A. (Ed.), M.Ed., Ph.D. (Ilorin)      Lecturer II

M. I. Oniye      B.A. (Ed.) (Ilorin); M.Ed. (Ibadan)      Lecturer II

S. S. Abdulganiyu      B. A. (Ed.), M.Ed. , Ph.D. (ABU)      Lecturer II

Aminat O. Aburime      B.A. (Ed.), M.Ed. (Ilorin)      Assistant Lecturer

Oyeyemi J. Jekayinfa B.A., PGDE (Ilorin), M.A. (Ibadan), M.A. (Ed.) (Liverpool)      Assistant  
Lecturer

S. K. Olowookere      B.Th. (UMCA, Ilorin); PGDE, M.Ed. ( Ilorin)      Assistant Lecturer

O. D. Ojo      B.A. (Ed.), M.Ed. (Ilorin)      Assistant Lecturer

## DEPARTMENT OF COUNSELLOR EDUCATION

L. A. Yahaya	B.Ed., M.Ed., MPA, Ph.D. (Ilorin)	Reader & Ag. Head
A. I. Idowu	B.Sc. (Ed.) (OAU); M.S.(Ed.) (UW - W); Ph.D. (Pittsburgh), FCASSON	Professor
S. H. Umoh	B.A. (UPS); M.Sc.(TSU); Ed.D. (UTK)	Professor
A. A. Adegoke	B.Ed., M.Ed. (Ibadan); Ph.D. (Ilorin), FCASSON	Professor
J. A. Omotosho	B.Sc. (UNN), M.L.S. (ABU), Ph.D. (Ohio)	Professor
Irene A. Durosaro	B.Ed. (Ilorin), M.Ed. (Ibadan), Ph.D. (Ilorin)	Professor
Mary G. Fajonyomi	B.A. (Ed.) (Maiduguri), M.Ed. (Ibadan), Ph.D. (Maiduguri)	Professor
Mary O. Esere	B.A. (Ed.) (Calabar); CLA (Besancon); M.Ed., Ph.D. (Ilorin)	Senior Lecturer
A. O. Oniye	B.A. (Ed.)(UDUS); M.Ed., Ph.D. (Ilorin)	Senior Lecturer
Falilat A. Okesina	B.Ed., M.Ed., Ph.D. (Ilorin)	Lecturer II
S. K. Ajiboye	B.Ed., M.Ed., Ph.D. (Ilorin)	Lecturer II
Foluke N. Bolu-Steve	B.Ed., M.Ed., Ph.D. (Ilorin)	Lecturer II
Mulikat L. A. Mustapha	B.Ed., M.Ed., Ph.D. (Ilorin)	Lecturer II
Aminat A. Odebode	B.Ed., M.Ed. (Ilorin)	Lecturer II

Mariam. B. Alwajud- Adewusi	B.Sc. (Ilorin); PGDE, M.Ed. (Ibadan)	Assistant Lecturer
L. O. Adegboyega	B.Ed., M.Ed. (Ilorin)	Assistant Lecturer
Adenike Adeboye	B. A. (Ed.), M.Ed. (Ilorin)	Assistant Lecturer
D. O. Adebayo	B.Ed., M.Ed. (Ilorin)	Assistant Lecturer

**DEPARTMENT OF EDUCATIONAL  
MANAGEMENT**

Afusat T. Alabi	B.Sc. (Ed.), M.Ed., Ph.D. (Ilorin)	Senior Lecturer & Ag. Head
A. O. Sofoluwe	B. Ed. (ABU); M.Ed., Ph.D. (Ilorin)	Reader
D. O. Durosaro	B.Ed. (Ilorin); M.Ed., Ph.D. (Ibadan)	Professor
Nike Y. S. Ijaiya	B.Ed. (ABU); M.Ed., Ph.D. (Cardiff), FNAEAP	Professor
N. B. Oyedeji	BB.Ed. (ABU); M.Ed., Ph.D. (Ilorin)	Professor
A. Y. Abdulkareem	B.Ed. (Ibadan); M.Ed., Ph.D. (Ilorin)	Professor
Rhoda O. Oduwaiye	B.A. (Ed.), M.Ed., Ph.D. (Ilorin)	Senior Lecturer
Y. A. Fasasi	B.Ed.(Ibadan); M.Ed., Ph.D. (Ilorin)	Senior Lecturer
Patricia A.O. Etejere	B.A. (Ibadan); M.Ed., Ph.D. (Ilorin)	Senior Lecturer
A. S. Omosidi	B.Sc. (Ed.), M.Ed., Ph.D. (Ilorin)	Lecturer I

S. Oyeniran	B.Ed., M.Ed., Ph.D. (Ilorin)	Lecturer I
Nimota, J.K. Abdullahi	B. Ed., M.Ed.(Ilorin), Ph.D. (Sokoto)	Lecturer I
A. T. Murtala	B. Ed., M.Ed., Ph.D. (Ilorin)	Lecturer II
A. A. Sheu	B.Sc. (Ed.), M.Ed., Ph.D. (Ilorin)	Lecturer II
H. A. Umaru	B.Sc. (Ed.); BB.Ed, (ABU), M.Ed., Ph.D. (Ilorin)	Lecturer II
A. A. Atolagbe	BSc. (Ed.), M.Ed., Ph.D. (Ilorin)	Lecturer II
A. A. Tijani	B.Ed., M.Ed., Ph.D. (Ilorin)	Lecturer II
O. J. Ojo	B.Ed., M.Ed., Ph.D. (Ilorin)	Lecturer II
D. J. Kayode	B.Ed., M.Ed. (Ilorin)	Lecturer II
A. A. Lawal	B.Ed. (EKSU); M.Ed., Ph.D. (Ilorin)	Lecturer II
R. L. Abdulkareem	B.Ed., M.Ed. (Lagos)	Lecturer II
Habibat A. Yusuf	B. Ed., M.Ed. (Ilorin)	Assistant Lecturer
Ogbudinkpa C. Ijeoma	B. Ed., M.Ed. (Ilorin)	Assistant Lecturer

**DEPARTMENT OF EDUCATIONAL TECHNOLOGY**

M. O. Yusuf	B.A. (Ed.), M.A. (Ed.) (OAU); Ph.D. (Ilorin)	Professor & Head
S. A. Onasanya	B.Ed., M.Ed., PGDCS, Ph.D. (Ilorin)	Reader
O. O. Obielodan	NCE., B.A., M.Ed. (ABU), Ph.D. (Ilorin)	Senior Lecturer
M. A. Fakomogbon	NCE (Tech.), B.Sc., M.Sc. (Wisconsin); Ph.D. (Ilorin)	Senior Lecturer
Mofisoreba V. Adegbija	B.Sc., M.Sc. (Bloomington), Ph.D. (Ilorin)	Senior Lecturer
Oyeronke O. Ogunlade	B.A. (Ed.), M.Ed., Ph.D. (Ilorin)	Senior Lecturer
C. O. Olumorin	B.Ed., M.Ed., Ph.D. (Ilorin)	Senior Lecturer
Nasifat A. Adedokun	HND, BIT (Belangor), M.Ed, Ph.D. (IIUM)	Senior Lecturer
Aderonke K. Soetan	B.Ed., M.Ed., Ph.D. (Ilorin)	Lecturer I
Florence O. Daramola	B.Ed., M.Ed., Ph.D. (Ilorin)	Lecturer I
A. I. Issa	B.Tech. (FUTM); M.Ed., Ph.D. (Ilorin)	Lecturer II
A. A. Falade	NCE (Tech) B.Tech.Ed. (FUT Yola); M.Ed., Ph.D. (Ilorin)	Lecturer II
A. A. Abd-Elaziz	B.Sc.(Ed.), M.Ed., Ph.D. (UNN)	Lecturer II
A. A. Amosa	B.Ed., M.Ed. (Ilorin)	Assistant Lecturer

J. N. Alasan	B.A. (Ed.); (EKSU), MFA (ABU)	Assistant Lecturer
K. K. Oladosu	B.Ed. (Ilorin); M.Ed. (Lagos)	Assistant Lecturer
A. E. Alimi	B.Sc. (Ed.) (EKSU); M.Ed. (Ilorin)	Assistant Lecturer
T. A. Sanni	B.Tech. (FUTYola); M.Tech. (FUTM)	Assistant Lecturer
S. J. Obadoyin	B.Sc. (Ed.) (EKSU); M.Ed. (Benin)	Assistant Lecturer
S. A. Hamza	B.A. (ABU)	Graduate Assistant
K. J. Muhammed	B.Sc. (Ed.) (EKSU)	Graduate Assistant
A. M. Aderoju,	B. Ed. (Ilorin)	Graduate Assistant

#### **DEPARTMENT OF HEALTH PROMOTION AND ENVIRONMENTAL HEALTH EDUCATION**

R. A. Shehu	B.Sc. (Ed.), M.Ed. (Ilorin), Ph.D. (ABU)	Senior Lecturer & Ag.Head
E. A. Ogunsakin	B.Sc. (Fordham); NPS (Long Island); M.Sc., Ed.D. (Columbia)	Professor
O. A. Onifade	B.Sc. (Port Harcourt); M.Ed., Ph.D. (Ilorin)	Senior Lecturer

O. L. Olaitan	B.Sc. (Ed.), M.Ed., Ph.D. (Ilorin)	Senior Lecturer
S. O. Oniyangi	B.Ed., M.Ed., Ph.D. (Ilorin)	Senior Lecturer
I. Ologele	B.Sc.(Ed.), M.Ed., Ph.D. (Ilorin)	Lecturer II
D. A. Baba	B.Sc. (Ed.), M.Ed. (Ilorin)	Assistant Lecturer
Kafayat A. Jidda	B.Sc.(Ed.), M.Phil. (Ibadan)	Assistant Lecturer
Adijat M. Elias	B.Sc. (Ed.), M.Ed. (Ilorin)	Assistant Lecturer
I. I. Kperogi	B.Sc. (Ed.), M.Ed. (Ilorin)	Assistant Lecturer
Felicia J. James	B.Sc.(Ed.), M.Ed. (Ilorin)	Assistant Lecturer
Q. O. Abdulrasaq	B.Sc.(Ed.) (Ilorin)	Graduate Assistant
S. N. Akorede	B.Sc.(Ed.) (Ilorin)	Graduate Assistant

**DEPARTMENT OF HUMAN KINETICS EDUCATION**

T. O. Ibraheem	B.Sc.(Ed.), M.Ed. (Ilorin); Ph.D. (Ibadan)	Senior Lecturer & Ag. Head
----------------	--	----------------------------

A. A. Adesoye	B.Ed. (ABU); M.Ed., Ph.D. (Ibadan)	Professor
O. O. Obiyemi	B.Sc. (OAU); M.Ed., Ph.D. (Benin)	Professor
A. E. Talabi	B.Sc., M.Ed., Ph.D. (Ibadan)	Professor
Olufunmilola L. Dominic	B.Sc. (Ed.), M.Ed. (Ilorin); Ph.D. (ABU)	Senior Lecturer
S. T. Bakinde	B.Ed., M.Ed., Ph.D. (Ilorin)	Lecturer II
Memunat T. Ajadi	B.Sc. (Ed.), M.Ed., Ph.D. (Ilorin)	Lecturer II
B. S. Adebayo	B.Ed., M.Ed., Ph.D. (Ibadan)	Lecturer II
M. G. Aina	NCE, B.Ed., M.Ed. (Ilorin)	Assistant Lecturer
Y. O. Abdulraheem	B.Sc. (Ed.), M.Ed. (Ilorin)	Assistant Lecturer
M. O. Ibraheem	B.Sc. (Ed.) (Ilorin), M.Ed.(Ibadan)	Assistant Lecturer
S. A. Adeoye	B.Sc. (Ed.)(Ilorin)	Graduate Assistant

#### **DEPARTMENT OF SCIENCE EDUCATION**

Medinat F. Salman	B.Ed. (ABU); M.Ed., Ph.D. (Ilorin)	Professor &Head
-------------------	------------------------------------	-----------------



M. O. Fajemidagba	B.Sc.(Ed.) (OAU), M.Sc., Ed.D. Professor (SUNY-Albany)	
I. O. Abimbola	B.Sc.(Ed.) (OAU); M.Sc., Ph.D. Professor (Wisconsin)	
A. S. Olorundare	B.Sc. (Ed.), M.Ed. (ABU); Ph.D. Professor (Wisconsin)	
Esther O. Omosewo	B.Sc.(Ed.), M.Ed., Ph.D. (Ilorin)	Professor
Mulkah A. Ahmed	B.Ed. (ABU); M.Ed., Ph.D. (Ilorin)	Lecturer I
G. Bello	B.Sc.(Ed.), M.Ed., Ph.D. (Ilorin)	Lecturer I
O. S. Oyelekan	B.Ed.(Ibadan); M.Ed., Ph.D. (Ilorin)	Lecturer I
A. O. Akanbi	B.Sc.(Ed.), M.Ed., Ph.D. (Ilorin)	Lecturer I
Saka. K. Ameen	B.Sc.(Ed.), M.Ed., Ph.D. (Ilorin)	Lecturer II
M. A. Akanmu	B.Sc.(Ed.), M.Ed., Ph.D. (Ilorin)	Lecturer II
J. E. Upahi	B.Sc.(Ed.), M.Ed. (Ilorin)	Assistant Lecturer
S. B. Jimoh	B. Agric. (ABU), M.Sc. Agric. (Ilorin), PGDE (EKSU)	Assistant Lecturer
K. O. Afolabi	B.Sc.(Ed.), M.Sc. (UNN)	Assistant Lecturer
R. E. Mohammed	B.Sc. (Ed.), M. Ed. (Ilorin)	Assistant Lecturer
Hafsat I. Alabi	B.Sc.(Ed.), M.Ed. (Ilorin)	Assistant Lecturer
Saidat M. Salaudeen	B.Sc. (Ed.) (Ilorin)	Assistant Lecturer

#### **DEPARTMENT OF SOCIAL SCIENCES EDUCATION**

Alice A. Jekayinfa

B.A. (Ed.), M.Ed., Ph.D. (Ilorin)

Professor & Head

C.O. Daramola	B.Sc.(Ed.)(UDUS); M.Ed. (Jos), Ph.D. (Ilorin)	Professor
		Professor
O. E. Abdullahi,	B.A. (Ed.), M.Ed. (BUK), M.Ed. (Ibadan), Ph.D. (Ilorin)	
Felicia A. O. Olasehinde-Williams	B.Ed. (ABU), M.Ed. (Madras), Ph.D. (Ilorin)	Professor
A. A. Ogunlade	B.Sc., B.Ed., M.Ed.(Madras), Ph.D. (Ilorin)	Senior Lecturer
Bolanle O. Olawuyi	B.Ed., M.Ed. (Ibadan), Ph.D. (Ilorin)	Senior Lecturer
Olufunmilayo Mowaye-Fagbemi	B.A.(Ed.), M.Ed., Ph.D. (Ilorin)	Senior Lecturer
R.W. Okunloye	B.A. (Ed.) (Lagos),M.Ed., Ph.D. (Ilorin)	Senior Lecturer
A. Yusuf	B.Ed., M.Ed., Ph.D.(Ilorin)	Senior Lecturer
O. O. Amali	B.Ed., M.Ed. (Jos),Ph.D. (Maiduguri)	Senior Lecturer
Hamdalat T. Yusuf	B.Ed. (OAU), M.Ed., Ph.D. (Ilorin)	Lecturer I
Muslimat A. Nuhu	B.Ed. (ABU), M. Ed., Ph. D. (Ilorin)	Lecturer II
Muinat B. Bello	NCE, B.Ed. (ABU), M.Ed. (UDUS), Ph.D. (Ilorin)	Lecturer II

Ifeoma P. Okafor	B.A.(Ed.), M.Ed., Ph.D. (Ilorin)	Lecturer II
Dorcas S. Daramola	B.Ed., M.Ed. (Ilorin)	Assistant Lecturer
M. I. Jimoh	NCE, B.Sc.(Ed.) (Jos); M.Ed. (Ilorin)	Assistant Lecturer
A. O. Balogun	B.Sc.(Ed.), M.Ed. (Ilorin)	Assistant Lecturer
Obiageli E. Uyanne	B.Ed., MPA, M.Ed. (Ilorin)	Assistant Lecturer

### Course Description

#### FACULTY COURSES

<b>EDU 111</b>	<b>Introduction to the Teaching Profession</b> Awareness and basic information about teacher's role in communities and nation building, professionalization of teaching, ethics of teaching, unionism and other professionals in education. <b>30h (T); C</b>	<b>2 Credits</b>
<b>EDU 112</b>	<b>Foundations of Education</b> Educational development and institutions from ancient times to the present with particular reference to the evolution of modern education in Nigeria. Introduction to major sociological, philosophical and psychological ideas which have influence on education. <b>30h (T); C</b>	<b>2 Credits</b>
<b>EDU 211</b>	<b>Educational Psychology</b> Theories and conditions of learning and teaching with emphasis on individual differences: motivation; retention; transfer of learning. <b>30h (T); C</b>	<b>2 Credits</b>

<b>EDU 212</b>	<b>Tests and Measurement</b> Experiences in test construction, administration, analysis and interpretation. Meaning of test, measurement and evaluation, and their roles in education. Types of tests, characteristics, uses and methods of test construction. Basic statistical concepts and procedures: central tendency, variability, correlation, percentile and standard score. Characteristics of good tests: validity, reliability and usability. <b>30h (T); C</b>	<b>2 Credits</b>
<b>EDU 213</b>	<b>Method Courses I</b> Aims and objectives of teaching a selected subject; approaches to teaching the selected subject; trends in curricular reforms in the selected subject; lesson notes preparation and appropriate peer teaching exercise. <b>30h (T); C</b>	<b>2 Credits</b>
<b>EDU 214</b>	<b>Educational Technology</b> Eclectic approach to the design process, application and effects of technique in the teaching and learning situation. Knowledge on the systematic production, effective use and evaluation of inexpensive and locally made instructional materials for instructional purpose. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>EDU 215</b>	<b>Sociology of Education</b> Basic concepts in sociology of education and social psychology. Social structures and the socialization of the child. Dynamics of school groups, group influence, attitudes, motivation and achievement. Sociology of school education, social stratification, social mobility, social change and social problem solving. <b>30h (T); C</b>	<b>2 Credits</b>
<b>EDU 216</b>	<b>History and Policy of Education in Nigeria</b> Educational development in Nigeria with special emphasis on the evolution of current policies and practices. Traditional and modern systems of education in Nigeria. Role of commissions in educational policy making. National policy on education. Current problems of educational development. <b>30h (T); C</b>	<b>2 Credits</b>
<b>EDU 311</b>	<b>Teaching Practice I</b> Observational teaching in post-primary institutions. Well coordinated peer teaching in relevant subject combinations. <b>90h (P); C, PR: EDU 213</b>	<b>2 Credits</b>
<b>EDU 312</b>	<b>Curriculum and Instruction I</b>	<b>2 Credits</b>

Fundamental concepts of curriculum development: objectives, contents, learning opportunities and evaluation. Knowledge and skills in curriculum development. Basic theories of curriculum planning and development: agencies of curriculum development; resources and constraints in curriculum planning and development; curriculum change and evaluation. Analysis of curriculum in terms of relevance and National goals. Relationship between curriculum and instruction: objectives specification; selection of learning experiences; learning materials; methods and media of instruction and evaluation. An overview of curriculum innovation in a subject matter area with particular reference to the Nigerian experience.

**30h (T); C**

**EDU 313**

**Method Courses II**

**2 Credits**

Examination of a school certificate syllabus in appropriate subjects. Textbooks and curriculum material selection; major curricular innovations and teaching strategies in appropriate subjects. Post-analysis of previous peer teaching experiences; problems and prospects of teaching in the Nigerian school system.

**30h (T); C, PR: EDU213**

**EDU 314**

**First Aid, Hygiene and Safety Education**

**2 Credits**

Meaning and scope of first aid, hygiene and safety education. Concept and significance of hygiene and safety education. Contents and uses of first aid materials. Instruction in personal hygiene, prevention of diseases, school meal day (nutrition). Promotion of good health habits and school sanitation. Types of accidents and implications, first aid treatment of physical injuries, unconsciousness and respiratory arrest. Artificial respiration and cardiopulmonary resuscitation (practical application), emergency care for victims of foreign bodies in the ear, eyes and nose. Practical demonstration of first aid, hygiene and safety measures practices.

**30h (T); C**

**EDU 315**

**Philosophy of Education**

**2 Credits**

Historical and philosophical foundations of modern education. Education in ancient Greece and Rome, Britain, U.S.A. and West Africa. Evaluation of modern ideas and practices in education. Basic philosophical concepts. Major philosophies such as naturalism, realism, pragmatism, existentialism and democracy, and their bearing on education. Nigerian philosophical ideas on education.

**30h (T); C**

**EDU 316**

**Research Methods and Statistics**

**3 Credits**

Definition and types of research; basic steps in research; writing research proposals and reports; methods of citation, references and bibliographic styles. Foundations and applications of statistical inference and probability in education; hypothesis testing and significance tests in educational research; correlation, chi-square, analysis of variance and their uses.

**45h (T); C**

**EDU 411**

**Teaching Practice II**

**2/4 Credits**

Practical implementation of teaching and learning strategies in the classroom as applied to the subject area. Placement in post-primary institutions for the purpose of acquiring practical experiences in classroom teaching and management in major and minor teaching subjects.

**90/180h (P); C, PR: EDU 311**

- EDU 412 Principles and Practice of Instruction 2 Credits**  
Teaching and learning, and their relation to other processes of education. Subject-centered and problem-centered teaching methods. Teacher-pupil and pupil-pupil interactions. Innovations in teaching. Classroom management and discipline.  
**30h (T); C**
- EDU 413 Special Education 2 Credits**  
Meaning and nature of special education; history of special education; basic concepts of special education and their categories. Identification and education of people with special needs. Basic use of assistive technology for teaching.  
**30h (T); C**
- EDU 414 Information and Communication Technology in Education 2 Credits**  
Application of the principles of information and computer technology to education. Principles of integrating information and communication technology to strengthen standards-based curricula, instruction, and assessment. Integrating computers and various software applications (word processors, databases, spreadsheets and graphics) with instruction to facilitate learning and performance. Open educational resources and other educational software integration in instruction. Use of computer as a tool in educational research statistics.  
**15h (T), 45h (P); C**
- EDU 415 Management in Education 2 Credits**  
Broad overview of the basic principles, theories, goals and techniques of management studies in education. Concept of educational management functions of Educational Management principles, leadership in school administration, Decision-Making in schools, staff motivation, classroom management, suspension in schools, record keeping in schools e.t.c.  
**30h (T); C**
- EDU 416 Guidance and Counselling in Education 2 Credits**  
Concepts of Guidance and Counselling. Needs for Guidance and Counselling in Nigerian schools. Relationship between the Counsellor and other school personnel. School guidance programme and career guidance. Personality and adjustment theories, and integration of both for counselling purposes. Cultural influences on personality, development and adjustment processes.  
**30h (T); C**

- EDU 417**      **Developmental Psychology**      **2 Credits**  
Human development concepts and processes from conception, with emphasis on physical, intellectual, social, and emotional development. Genetic, endocrinal and environmental pre- and post-natal influences on development, personality and adjustment.  
**30h (T);C**
- EDU 499**      **Research Project**      **4 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**180h (P); C**

## DEPARTMENT OF ADULT AND PRIMARY EDUCATION STUDIES

### B.Ed. Adult Education Studies

- AES 101      Introduction to Adult Education      2 Credits**  
Concepts of adulthood and adult learner. Characteristics of adult learner. Nature and scope of adult education. Classification of adult education activities. Role and objectives of adult education. Survey of agencies and institutions of adult education. Challenges facing adult education.  
**30h (T); C**
- AES 102      Introduction to Foundation of Adult Education      2 Credits**  
Philosophical and sociological conceptual bases of adult education. Agencies, programmes and trends in the practice of adult education. Social forces bearing upon the need for and content of adult education. Factors influencing adult learning and choices.  
**30h (T); C**
- AES 103      Introduction to Community Development      2 Credits**  
Concepts of community and development. Nature and scope of community development. Processes of community development: democratic principles of self-help, self-growth and citizen participation in community development. Characteristics, typology and evolution of communities. Community structure, authority and relations. Identification and satisfaction of community felt needs.  
**30h (T); C**
- AES 104      Introduction to Continuing Education      2 Credits**  
Nature and meaning of continuing education. Principles and practice of continuing education. Importance of continuing education in Nigerian context. Typology of continuing education programmes.  
**30h (T); C**
- AES 105      Introduction to Population Education      2 Credits**  
Nature, scope and methods of population education. Issues of birth control, population and health. Population trend and population processes in Nigeria and Africa.  
**30h (T); C**
- AES 106      Introduction to Basic Education      2 Credits**  
Meaning, purposes and components of basic education. Relationships among the components. Agencies of Basic Education. Basic education and agency building.



**30h (T), C**

- AES 107 Introduction to Life-long Education 2 Credits**  
Meaning and scope of life-long education and learning. Concepts and characteristics of formal education and learning. Informal education and learning. Relationship between schooling and adult education. Institutions of life-long education and learning.  
**30h (T); C**
- AES 201 Philosophy of Adult Education 2 Credits**  
Nature and scope of philosophy. Formation of an educational philosophy. Philosophical analysis of concepts in adult education. Intensive study of the ideas of relevant philosophers such as Paulo Freire. Merits and demerits of such ideas.  
**30h (T); C**
- AES 202 Psychology of Adult Education 2 Credits**  
Adult developmental stages and the characteristics of adult learner. Cognitive development from young adulthood through old age. Current learning theories and variables of intellectual growth. Self-ego, social and personality changes from young adulthood to senescence. Learning environment and the study skills of adults.  
**30h (T); C**
- AES 203 Sociology of Adult Education 2 Credits**  
Sociology and its relevance to adult education. Structure of Nigerian society and its implications for adult education. Adult social behaviour, social relations of adults in the family, work place and educational setting. Equality and democratisation of educational opportunities.  
**30h (T); C**
- AES 204 Historical Development of Adult Education 2 Credits**  
Traditional education and training among traditional societies in Nigeria and West Africa. Islam and the spread of knowledge and learning; the emergence of western-styled adult education in Nigeria, West Africa and Africa. The colonial governments and missionary roles in West Africa. Institutionalism and development of adult education in Nigeria. Contemporary structures and organisation of adult education in Nigeria.  
**30h (T); C**
- AES 205 Management of Adult Education 2 Credits**  
Functions of management: planning, staffing, organising, controlling, motivation and coordination. Management strategies and application in adult education. Leadership style, student personal and programme sustenance. Equipment, physical plant and crises

management. Organisational and instructional supervision. Training of administrators and supervisors of adult education.

**30h (T); C**

- AES 206      Resources and Services for Adult Education      2 Credits**  
Varieties of adult education resources: museums, libraries, exhibitions, seminars, excursions, radio, films, television. Their primary and supportive roles. Advantages and limitations of each for adult education and strategies for their effective utilization.  
**30h (T); C**
- AES 207      Policy, Programme Design and Implementation      2 Credits**  
Policy making process. Principles of programme design, implementation and evaluation. Role of the private sector in policy making and programme development. Constraints in the implementation of adult education programmes in Nigeria.  
**30h (T); C**
- AES 208      Open and Distance Education      2 Credits**  
Concept of Open and Distance Education. Goals, theories and practice of Open and Distance Education. Approaches and delivery strategies. Problems of distance learning. Role of Open and Distance Education in personal and societal development. Best practices and implications for its development in Nigeria.  
**30h (T); C**
- AES 209      Introduction to Computer Education      2 Credits**  
Aims, objectives and concepts of computer education. Introduction to computer-assisted instruction. Basic appreciation of selected computer applications. Practical demonstration of the use of related computer applications.  
**15h (T), 45h (P); C**
- AES 301      Guidance and Counseling in Adult Education      2 Credits**  
Meaning and scope of guidance and counselling. Counselling theories relating to adult learning. Principles and functions of counselling in adult education programmes. Career guidance and counselling decisions. Testing and non-testing techniques; the role of counsellor of adult learner.  
**30h (T); C**
- AES 302      Principles and Methods of Teaching Adults      2 Credits**  
Learning style of adult learners. Designing, facilitating and selecting instructional materials. Characteristics of an effective facilitator. Instructional skills and performance-based instruction. Methods of instruction: simulation, role play, conscientisation, cultural cycles and andragogy. Lesson preparation and lesson planning. Printed and improved instructional materials and their applications.

30h (T); C

- AES 303 Curriculum Development and Education in Adult Education 2 credits**  
Definitions and concepts curriculum. Approaches to curriculum development. Social, economic and political context of curriculum development. Evaluation of curriculum projects and practice for improvement. Various forms and techniques of evaluation.  
30h (T); C
- AES 304 Pre-retirement Education 2 Credits**  
Concepts of retirement and pre-retirement; objectives, scope and programmes of pre-retirement education. Retirement policies and planning for retirement and post active service programmes.  
30h (T); C
- AES 305 Media and Technology in Adult Education 2 Credits**  
Concepts of educational media and technology. Mass media and their educational functions. Principles of communication and communication process. Projected and non-projected instructional materials and their roles in adult learning. Planning, designing and production techniques of materials and media. Multimedia selection and approaches in learning and teaching process.  
30h (T); C
- AES 306 Economics of Adult Education 2 Credits**  
Concepts of economics and economics of adult education. Definitions of related concepts such as benefits, cost, age earning profile, economic growth and depreciation. Measures of efficiency and productivity. Issue of demand and supply of labour and skills.  
30h (T); C
- AES 307 Social Management and Adult Education 2 Credits**  
Meaning and scope of social problems and social management. Identification, intervention and prevention of social problems. Training in problem solving and conflict resolution.  
30h (T); C
- AES 308 Comparative Adult Education 2 Credits**  
Adult education practice in selected societies with focus on historic, demographic, political and economic factors. Examination of selected ideological issues practical problems and innovations in adult education.  
30h (T); C
- AES 309 Research Methods and Data Processing in Primary and Adult Education 2 Credits**

Importance and place of research in primary and adult education. Types of research. Research samples and sampling techniques. Types of data and variables; procedure and tools for data collection and processing. Guidelines for writing reports.  
**30h (T); E**

- AES 310      Test and Measurement in Primary and Adult Education      2 Credits**  
Meaning of test, measurement and evaluation and their roles in education. Types, characteristics, uses and methods of test construction. Characteristics of good test: validity, reliability and usability. Statistical application as tools for testing.  
**30h (T); E**
- AES 401      Adult Education and Development      2 Credits**  
Nature and concepts of development. Theories of development and policy implications; Contemporary issues in development: poverty, diseases, peace, gender, debt burden, corruption and democracy. Relationship between adult education and development.  
**30h (T); C**
- AES 402      Community Education      2 Credits**  
Concept of community education. Philosophical and sociological bases of community education. Approaches to community development. Assessment of community training needs and development of corresponding learning programme. Methods of community education.  
**30h (T); C**
- AES 403      Vocational Training in Adult Education      2 Credits**  
Concept and nature of vocational training. Factors influencing selection and retention of a workforce and employability of workers. Use of adult and non-formal education techniques in forming developing and supporting income generating skills for rural and urban communities. Case studies and evaluation of experiences.  
**30h (T); C**
- AES 404      Problems and Issues in Adult Education      2 credits**  
Emerging problems and issues in adult education in Nigeria and other countries of the world. Examples: Scope and definition of adult education; measurement of literacy; participation and retention of adults in learning programmes; democratisation of educational opportunities; quality, equality and access and the role of adult education; increasing demand for education and the mounting cost of schooling; etc.  
**30h (T); C**
- AES 405      Planning and Financing of Adult Education      2 credits**

Definition and meaning of planning and financing. Planning techniques and their applications in adult education. Sources of fund for adult education programmes. Generation and conservation of resources through budgeting, budgetary control and planning. Book-keeping and preparation of simple final accounts and financial statements.

**30h (T); C**

**AES 406      Special Education for Adult      2 credits**

Meaning and objectives of special learning needs of adult. History and development of special education of adult. Categorisation and characteristics of adults with special needs. Educational programmes for the adults with special needs. Qualities of facilitators of special education. Counselling of parents and relation of special need in youths and adults.

**30h (T); E**

**AES 407      Politics and Adult Education      2 credits**

Concepts of politics. Nature and scope of politics and adult education. Contemporary relationship of adult education to political changes. Contributions of adult education to economic, social and political changes in an economy and of polity.

**30h (T); C**

**AES 408      Family Life and Women Education      2 Credits**

Concepts of family life, women education. Family structure and the place of women. Roles and status of women in society. Analysis of participation of women in development programmes including education. Approaches, constraints and challenges to the education of women.

**30h (T);C**

**AES 409      Practicum      2 Credits**

Internship programme for six weeks. Students are required to submit a written report of their experiences at the end of the programme.

**90h (P);C**

**Summary**

**100 Level**

**Compulsory Courses:** EDU 111(2), 112 (2), AES 101(2), 102(2), 103(2), 104(2), AES 105(2), 106(2), 107(2)  
**= 18 Credits**

**Required Courses:** GNS 111(2), 112(2) **= 4 Credits**

**Elective Courses:** At least 8 credits in the teaching subject **= 6 Credits**

**Total = 28 credits**

**200 Level**

**Compulsory Courses:** EDU 211(2), 212 (2), 213(2), 214(2), AES 201(2), 202(2), 203(2), 204(2), 205(2), 206(2), 207(2), 208(2), 209(2)  
**= 18 Credits**

**Required Courses:** GNS 211(2), 212(2) **= 4 Credits**

**Elective Courses:** At least 8 Credit in the teaching subject **= 6 Credits**

**Direct Entry Students:** GNS 111(2), 112(2) **= 4 Credits**

**Total = 36 credits**

**300 Level**

**Compulsory Courses:** EDU 311(2), 312(2), 313(2), 314(2), 315(2), 316(3) AES 301(2), 302(2), 303(2), 304(2), 305(2), 306(2), 307(2), 308(2),  
**= 29 Credits**

**Required Courses:** GNS 311(2), GSE 301(3) **= 5 Credits**

**Elective Courses:** At least 8 Credit in the teaching subject **= 6 Credits**

**Total = 40 credits**

**400 Level**

**Compulsory Courses:** EDU 411(4), 412(2), 413 (2), 414(2), 415(2), 416(2), 499(4)  
AES 401(2), 402(2), 403(2), 404(2), 405(2), 407(2), 408(2),  
AES 409(2), **= 34 Credits**

**Total = 34 Credits**

**Graduation Requirements:**

**UTME = 114**

**DE = 138**

## **B.Ed. Primary Education**

<b>PES 101</b>	<b>Introduction to History of Nursery/Primary Education</b> History and development of formalized early childhood education in the Western world and Nigeria. Development and relevance of different epochs in the Western world and Nigeria to the education of children at the Nursery and Primary levels. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PES 102</b>	<b>Introduction to the Sociological Foundations of Nursery/Primary Education</b> Role of early childhood education in society. Elementary sociological theories of the family and socialisation. Social stratification method and urbanisation theories and their effects on children's socialisation. Formal organisations and the socialisation of young ones. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PES 104</b>	<b>Introduction to Childhood Education Teaching Methods</b> Meaning, history, basic principles and methods of Nursery/Primary Education. Problems of early childhood education (ECE) in Nigeria and methods of helping children learn effectively despite these problems. Learners' needs, diagnosis and remediation. Classroom management. Multicultural setting and background of learners as factors affecting ECE curriculum. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PES 201</b>	<b>Philosophy of Early Childhood Education</b> Survey of the philosophy of early childhood education in Nigeria. Analysis of the national policy on nursery and primary education. Analysis of current ideas on education at nursery and primary school levels. Childhood and classification of relevant concepts. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PES 202</b>	<b>Introduction to the Nursery Education Curriculum</b> Overview of nursery education curriculum in Nigeria. Analysis of different approaches to curriculum planning <i>vis-à-vis</i> changing concepts of nursery education. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PES 203</b>	<b>Introduction to the Primary Education Curriculum</b> Analysis of primary school curriculum. Examination of issues in implementing primary school curriculum. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PES 204</b>	<b>Childhood Education</b>	<b>2 Credits</b>



Learning styles in early childhood education and principles of teaching nursery/primary school children. Theories of teaching and the organisation of learning in Nursery/Primary education. Analysis of methods of teaching specific primary school subjects.  
**30h (T); C**

- PES 205      Development of Instructional Resources for Nursery/Primary Education      2 Credits**  
Uses of instructional media for teaching and learning in Nursery/Primary education. Methods of design and development of Instructional materials for classroom application. Exposure to various media equipment.  
**30h (T); C**
- PES 206      Mother Tongue Education      2 Credits**  
Alphabets, vowels and consonants, morphological and syntactic process. Grammatical categories and semantics for effective use of mother-tongue for communication.  
**30h (T); C**
- PES 301      Issues in Nursery/Primary Education in Nigeria      2 Credits**  
Issues affecting Nursery/Primary education in Nigeria, including the family, paid employment, gender and urbanisation.  
**30h (T); C**
- PES 302      Youth Leadership      2 Credits**  
Leadership styles and authority relationships. Roles of young leaders in national integration and development. Group study of dynamics as related to some youth organisations in Nigeria including concepts of role models and ethics.  
**30h (T); C**
- PES 303      Evaluation of Achievement in Nursery/Primary Education      2 Credits**  
Development of instrUTMEnts for measuring achievement of Nursery/primary school pupils. Study of alternative methods of test administration, interpretation and reporting.  
**30h (T); C**
- PES 304      Creative Arts in Primary Education      2 Credits**  
Aims, objectives and methods of teaching creative arts. Nursery/primary education curriculum in creative arts. Drawing equipment and materials.  
**30h (T); C**
- PES 305      Elementary Mathematics      2 Credits**

Nursery/Primary school curriculum in Mathematics. Aims, objectives and methods of teaching specific components of the curriculum.

**30h (T); C**

- PES 306 Elementary Language Arts Curriculum and Methods 2 Credits**  
Nursery/Primary school curriculum in English Language. Aims, objectives and methods of teaching specific components of the English language curriculum. Language skills and basic approaches to the teaching of reading in nursery/primary schools.  
**30h (T); C**
- PES 308 Elementary Social Sciences Curriculum and Methods 2 Credits**  
Nursery/primary school Curriculum in Social Sciences. Aims, objectives and methods of teaching different components of the curriculum.  
**30h (T); C**
- PES 309 Elementary Science Curriculum and Methods 2 Credits**  
Nursery/Primary school curriculum in Elementary Science. Aims, objectives and methods of teaching components of the curriculum.  
**30h (T); C**
- PES 401 Comparative Studies of Nursery/Primary Education Projects 2 Credits**  
Comparison of pre-primary and primary education projects in Nigeria with those of advanced and developing societies including USA, UK, Australia, China, Korea, Republic of South Africa, Brazil.  
**30 h (T); C**
- PES 403 Practicum in Nursery/Primary Education 2 Credits**  
Internship programme for six weeks. Students are required to submit a written report of their experiences at the end of the programme.  
**30h (T); C**
- PES 404 Assessment of Non-cognitive Variables 2 Credits**  
Methods of developing instruments for use in measuring non-cognitive variables among Nursery/Primary school children. Observation techniques, including interview and checklist.  
**30h (T); C**
- PES 405 Nursery/Primary School Organisation and Administration 2 Credits**

Concepts and issues in nursery/primary school organisation and administration. Duties of the school administrator: liaising with statutory bodies, school-community relations, community participation, education laws, leadership, finance, record keeping and related problems.

**30h (T); C**

**PES 407**

**Teaching Reading in the Elementary School**

**2 Credits**

Basic approaches in teaching reading in elementary schools. Methods of assessing students' needs in reading and using developmental schemes.

**30h (T); E**

**Summary**

**100 Level**

<b>Compulsory Courses:</b>	EDU 111(2), 112 (2), PES 101(2),102(2), 104 (2), 114(2)	= 12 Credits
<b>Required Courses:</b>	GNS 111(2), 112(2), CED 101(2)	= 6 Credits
<b>Electives Courses:</b>	At least 12 Credits from a teaching subject	= 12 Credits
	<b>Total</b>	<b>= 30 Credits</b>

**200 Level**

<b>Compulsory Courses:</b>	EDU 211(2), 212 (2), 213(2), 214(2), 215(2), 216(2) PES 201(2), 202(2), 203(2), 204 (2), 205 (2), 206(2)	
	<b>Total</b>	<b>= 24 Credits</b>
<b>Required Courses:</b>	GNS 211(2), 212 (2)	<b>Total = 4 Credits</b>
<b>Electives Courses:</b>	At least 10 Credits from a teaching subject	= 10 Credits
		<b>Total = 38Credits</b>
<b>For Direct Entry Students:</b>	GNS 111(2), 112(2)	= 4 Credits

**300 Level**

<b>Compulsory Courses:</b>	EDU 311(2), 312(2), 313(2), 314(2), 315(2), 316(3) PES 301(2), 302(2), 303(2), 304(2), 305(2), 306(2), 308(2), 310(2), 311(2)	= 31 Credits
<b>Required Courses:</b>	GNS 311(2), GSE 301(3), PES 309(2)	= 7 Credits
<b>Electives Courses:</b>	At least 8 Credits from a teaching subject	= 8 Credits
		<b>Total =46 Credits</b>

**400 Level**

<b>Compulsory Courses:</b>	EDU411(2), 412(2),413(2), 414(2), 415(2), 416(2), 499(4) PES 402 (2), 406(2),403 (2), 404(2),	<b>Total=24 Credits</b>
<b>Required Courses:</b>	PES 421(2), 432 (2), 433(2), 452(2)	= 8 Credits
<b>Electives Courses:</b>	At least 10 Credits from a teaching subject	= 10 Credits

**Total = 42 Credits**

**Graduation Requirements:**

UTME = 120 Credits

Direct Entry = 90 Credits

## DEPARTMENT OF ARTS EDUCATION

### Course Description

#### **B.A.Ed. Arabic Education**

- AED 311 Primary and Secondary Education in Nigeria 2 Credits**  
Overview of the contemporary primary and secondary educational institutions in Nigeria. Aims, objectives, structures, curricula, methods and problems of primary and secondary education in Nigeria.  
**30h(T); E**
- AED 408 Comparative Education 2 Credits**  
Meaning and scope of comparative education. Concepts of educational system. Comparison of selected educational system. Factors affecting the character of educational system, drawing comparisons from Europe, Asia, Africa and America.  
**30h (T); C**
- AED 411 Post-secondary and Higher Education in Nigeria 2 Credits**  
Contemporary forms and structures of post-secondary and higher education in Nigeria. Aims, objectives, curricular, organization management, methods and problems of post-secondary and higher education in Nigeria. Roles of science, technology and the humanities in national development.  
**30h (T); E**

**Summary  
100 Level**

<b>Compulsory Courses:</b>	EDU 111(2), 112 (2)	<b>= 4 Credits</b>
<b>Required Courses:</b>	GNS 111(2), 112(2), ARA 121(3), 122(3), 123(3), 124(3), 125(2), 126(2)	<b>= 20 Credits</b>
<b>Electives Courses:</b>	At least 6 Credits from: RIS 121(2), 122(2), 123(1), 125(3), 126(2), 127(2)	<b>= 6 Credits</b>
	<b>Total</b>	<b>= 30 Credits</b>

**200 Level**

<b>Compulsory Courses:</b>	EDU 211(2), 212 (2), 213 (2), 214 (2), 215(2), 216 (2)	<b>= 12 Credits</b>
<b>Required Courses:</b>	GNS 211(2), 212 (2), ARA 222 (2), 223 (2), 224 (2), 226 (2) 228(2), 229 (2)	<b>= 16 Credits</b>
<b>Electives Courses:</b>	At least 6 Credits from: RIS 224(1), 225(2), 227(2), 228(2), 229(2)	<b>= 6 Credits</b>
	<b>Total</b>	<b>= 34 Credits</b>
<b>Direct Entry Students:</b>	GNS 111(2), 112(2)	<b>= 4 Credits</b>

**300 Level**

<b>Compulsory courses:</b>	EDU 311(2), 312(2), 313(2), 314,(2), 315 (2), 316 (3)	<b>= 13 Credits</b>
<b>Required courses:</b>	GNS 311(2), ARA 321(2), 325(2), 326(3), 327(2), 328(3), 332(2), 338(2), GSE 301 (3)	<b>= 21 Credits</b>
<b>Elective courses:</b>	At least 6 Credits from: RIS 332(2), 326(2), 332(2), AED 311(2)	<b>=6 Credits</b>
	<b>Total</b>	<b>= 40 Credits</b>

**400 Level**

<b>Compulsory Courses:</b>	EDU 411 (4), 412 (2), 413 (2), 414 (2)415 (2), 416 (2), 417 (2) 499 (4)	<b>= 20 Credits</b>
<b>Required Courses:</b>	ARA 423 (2)424(2), 427(2), 430(2), 434(2), 434(2), 435(3), 436(2),	

437(2)

= 19 Credits

**Total = 37 Credits**

**Graduation Requirement:**

**UTME = 143**

**DE = 117**

**Find details of other courses in the Department of Arabic, in the Faculty of Arts**

**B.A. (Ed.) Christian Studies**

**Summary**

**100 Level**

**Compulsory Courses:** EDU 111(2), 112 (2) = 4 Credits

**Required Courses:** GNS 111(2), 112(2), RCS 121(3),122(2), 123(2), 124(2), 125(2), 126(2)  
= 17 Credits

**Electives Courses:** **At least 6 Credits from the following:** RIS 121(2), RCR 121(2), 122(2), 123(2), 124(2)  
=6 Credits

**Total = 27 Credits**

**200 Level**

**Compulsory Courses:** EDU 211(2), 212 (2), 213 (2), 214 (2), 215(2), 216 (2) = 12 Credits



**Required Courses:** GNS 211(2), 212 (2), RCS 223 (2), 224 (2), 226 (1), 227 (2)228(2), 221 (2), 222 (3)  
**= 18 Credits**

**Electives Courses:** At least 6 Credits from the following: RCR 223(3), 224(1), 229(2), 221 (2), 225(2), 226(2)  
**= 6 Credits**

**Total = 36 Credits**

**Direct Entry Students:** **= 4 Credits**

**300 Level**

**Compulsory Courses:** EDU 311(2), 312(2), 313(2), 314,(2), 315 (2), 316 (3) **= 13 Credits**

**Required Courses:** GNS 311(2), RCS 321(2), 322(2), 326(2), 325(3), 328(3), 339(1)  
GSE 301(3) **= 17 Credits**

**Electives Courses:** At least 6 Credits from: RCR 321(3),323(2), 324(1), 325(2), 328 (2), AED 311(2)  
**= 6 Credits**

**Total =37 Credits**

**400 Level**

**Compulsory Courses:** EDU 411 (4), 412 (2), 413 (2), 414 (2) 415 (2), 416 (2), 417 (2) 499 (4)  
**=20 Credits**

**Required Courses:** RCS 432 (2) 423(3), 425 (2), 424(3), 434(2), **=11 Credits**

**Total = 31 Credits**

**Graduation Requirements:**

**UTME = 122**

**DE = 99**

**Find details of other courses in the Department of Religions, in the Faculty of Arts**

**B.A. (Ed.) ENGLISH**

**100 Level**

<b>Compulsory Courses:</b>	EDU 111(2), 112 (2)	<b>= 4 Credits</b>
<b>Required Courses:</b>	GNS 111(2), 112(2), ENG101 (2), 102(2), 103(2), 105(2), 106(3) 114(2), 115 (3), 116(3), 117(3)	<b>= 26 Credits</b>
<b>Elective Courses:</b>	At least 6 credits from: ENG 118(3), 119(3)107 (3)	<b>= 6 Credits</b>
	<b>Total</b>	<b>= 36 Credits</b>

**200 Level**

<b>Compulsory Courses:</b>	EDU 211(2), 212 (2), 213 (2), 214 (2), 215(2), 216 (2)	<b>= 12 Credits</b>
<b>Required Courses:</b>	GNS 211(2), 212 (2), ENG 203 (2), 204 (2), 216 (2), 218 (2)219(2), 220 (2), 223 (2), 226 (2)	<b>= 20 Credits</b>
<b>Electives Courses:</b>	At least 6 Credits from: ENG 205(3), 206(3), 209(2), 222(2)	<b>= 6 Credits</b>
	<b>Total</b>	<b>= 38 Credits</b>

**Direct Entry** **= 4 Credits**

**300 Level**

<b>Compulsory Courses:</b>	EDU 311(2), 312(2), 313(2), 314,(2), 315 (2), 316 (3)	<b>= 13 Credits</b>
<b>Required Courses:</b>	GNS 311(2), GSE 301(3), ENG 325(3),327(2), 329(2), 321(3), 326(3),304 (2), 334(3), 336(2),	<b>= 25 Credits</b>
<b>Electives Courses:</b>	AED 311(2)	<b>= 2 Credits</b>
	<b>Total</b>	<b>=40 Credits</b>

**400 Level**

<b>Compulsory Courses:</b>	EDU 411 (4), 412 (2), 413 (2), 414 (2)415 (2), 416 (2), 417 (2) 499 (4)	<b>= 20 Credits</b>
<b>Required Courses:</b>	ENG 421(3), 425(2), 424(3), 426(3),	<b>= 14 Credits</b>

**Electives Courses:** At least 2 Credits from AED 411(2), AED 408 = 2 Credits  
**Total = 36 Credits**

**Graduation Requirements**

**UTME = 144**  
**DE = 115**

**Find details of other courses in the Department of English, in the Faculty of Arts**

**B.A. (Ed.) FRENCH  
 100 Level**

**Compulsory Courses:** EDU 111(2), 112 (2) = 4 Credits

**Required Courses:** GNS 111(2), 112(2), FRE 117(2), 115(2), 119(2), 127(2), 129(2), 116(2) 1 1 8 ( 2 ) ,  
 128(2), 130 (2) = 22 Credits

**Electives Courses:** LIN 101(2), 102(2) = 4 Credits

**Total = 32 Credits**

**200 Level**

**Compulsory Courses:** EDU 211(2), 212 (2), 213 (2), 214 (2), 215(2), 216 (2) = 12 Credits

**Required Courses:** GNS 211(2), 212 (2), FRE 229 (3), 231 (3), 234 (2), 239 (3), 236 (2), 230 (3), 240  
 (3), 222 (3) = 23 Credits

**Electives Courses:** At least 3 Credits LIN 201(3), 202(2), 204(3) = 3 Credits

**Required Courses:** GNS 211(2), 212(2); = 4 Credits

**Direct Entry Students:** GNS 111(2), 112(2) = 4 Credits  
=38/42 Credits

**300 Level**  
**Compulsory Courses:** EDU 311(2), 312(2), 313(2), 314,(2), 315 (2), 316 (3) = 13 Credits

**Required Courses:** GNS 311(2), FRE 307(2), 309(2), 329(2), 333(2), 308(2), 332(2), 331(2), GSE 301  
(3) = 19 Credits

**Electives Courses:** At least 3 Credits from: LIN 301(3), 302(3), 313(3), AED 311(2)  
=3 Credits  
**Total = 35 Credits**

**400 Level**  
**Compulsory Courses:** EDU 411 (4), 412 (2), 413 (2), 414 (2), 415 (2), 416 (2), 417 (2) 499 (4)  
= 20 Credits

**Required Courses:** FRE 429 (2), 433(2), 431(2), 437(2), 430(2), 432(2), 436(2) 438(2)  
=16 Credits

**Electives Courses:** AED 408 (2), 411(2) = 4 Credits

**Total = 38 Credits**

**B.A. (Ed.) HISTORY  
100 Level**

**Compulsory Courses:** EDU 111(2), 112 (2) = 4 Credits

**Required Courses:** GNS 111(2), 112(2), HIS 101(3), 122(3), 123(2),125(3),127(3), 128(3)  
= 21 Credits

**Electives Courses:** At least 6 Credits from RCR 123(3), 121(2), RCS 123 (1), 122(2), RIS 121 (2),  
122 (2) = 6 Credits

**Total = 31 Credits**

**200 Level**

**Compulsory Courses:** EDU 211(2), 212 (2), 213 (2), 214 (2), 215(2), 216 (2) = 12 Credits

**Required Courses:** GNS 211(2), 212 (2), HIS 201 (3), 222 (3), 205 (3), 210 (3), 204 (3), 206 (3)  
= 22 Credits

**Electives Courses:** RCR 224(2), RCS 226(1) or RIS 222 (3) = 3 Credits

**Required Courses:** GNS 211(2), 212(2); = 4 Credits

**Direct Entry Student:** GNS 111(2), 112(2) = 4 Credits  
= 37/41 Credits

**300 Level**

**Compulsory Courses:** EDU 311(2), 312(2), 313(2), 314(2), 315 (2), 316 (3) = 13 Credits

**Required Courses:** GNS 311(2), HIS 301(3), 302(3), 304(3), 306(3), 309(3), 312 (3), GSE 301  
(3), = 20 Credits

**Electives Courses:** RCR 305(2), 303 (2) = 4 Credits

**Total =37 Credits**

**400 Level**

**Compulsory Courses:** EDU 411 (4), 412 (2), 413 (2), 414 (2), 415 (2), 416 (2), 417 (2) 499 (4)  
**= 20 Credits**

**Required Courses:** HIS 401 (3) 404 (3), 403(3), 413(2) **=11 Credits**

**Electives Courses:** AED 408 (2), 411(2) **Total = 35 Credits**

**B.A. (Ed.) ISLAMIC STUDIES**

**100 Level**

**Compulsory Courses:** EDU 111(2), 112 (2) = 4 Credits

**Required Courses:** GNS 111(2), 112(2), RIS 121(2), 122(2), 123(2), 124(1), 125(3), 127(2)  
= 16 Credits

**Electives Courses:** ARA 141(2), 143 (3), 144 (3), 145(2), RCR 124(2), RCS 123(2) = 14 Credits  
**Total = 34 Credits**

**200 Level**

**Compulsory Courses:** EDU 211(2), 212 (2), 213 (2), 214 (2), 215(2), 216 (2) = 12 Credits

**Required Courses:** GNS 211(2), 212 (2), RIS 222 (3), 223 (2), 225(2), 227 (2), 229 (2), 230(2), 232  
(2), RCR 224(2) = 21 Credits

**Electives Courses:** At least 6 Credits from:  
RCS 226 (1), ARA 241(2), 242(3), 243 (3) = 6 Credits

**Required Courses:** GNS 211(2), 212(2); = 4 Credits

**Direct Entry Students:** GNS 111(2), 112(2) = 4 Credits  
**Total = 39/43 Credits**

**300 Level**

**Compulsory Courses:** EDU 311(2), 312(2), 313(2), 314(2), 315 (2), 316 (3) = 13 Credits

**Required Courses:** GNS 311(2), RIS 321(2), 322 (2), 324(3), 326(2), 331 (2), 332(3), 327 (3),  
GSE 301(3) = 24 Credits

**Electives Courses:** At least 2 Credits from:  
RCR 304(1), RCS 329(1), AED 311(2), ARA 321(2) = 2 Credits  
**Total =39 Credits**

**400 Level**

**Compulsory Courses:** EDU 411 (4), 412 (2), 413 (2), 414 (2), 415 (2), 416 (2), 417 (2) 499 (4)  
= **20 Credits**

**Required Courses:** RIS 428 (2), 431(2), 432 (2), 434(2), 421(2) =**10 Credits**

**Electives Courses:** At least 6 Credits from:  
RCR 401 (3), 404 (2), AED 411(2), RIS 425 (2), 427(1), 437(2), RCS 432 (2)  
= **6 Credits**

**Total = 36 Credits**



**B.A. (Ed.) YORUBA  
100 Level**

**Compulsory Courses:** EDU 111(2), 112 (2) = 4 Credits

**Required Courses:** GNS 111(2), 112(2), LIY 101(3), 102(3), 103(3), 104 (3),107(2)  
=18 Credits

**Electives Courses:** LIN 101(3), 102 (2),105(3),107(3) = 11 Credits

**Total = 33 Credits**

**200 Level**

**Compulsory Courses:** EDU 211(2), 212 (2), 213 (2), 214 (2), 215(2), 216 (2) = 12 Credits

**Required Courses:** GNS 211(2), 212 (2),LIY 201 (2), 202 (3), 203 (3), 205 (3)207(3), 206 (3), 207(3), 206 (3),  
= 24 Credits

**Electives Courses:** At least 3 Credits from the following: LIN 203(3),  
204(3), 206(3), 207 (2), 201(3) = 3 Credits

**Total = 39 Credits**

**Direct Entry Students:** GNS 111(2), 112(2) = 4 Credits

**300 Level**

**Compulsory Courses:** EDU 311(2), 312(2), 313(2), 314(2),315 (2), 316 (3) = 13 Credits

**Required Courses:** GNS 311(2), GSE 301(3) LIY 301(3), 302(3), 303(3), 305(3),307(3)  
= 20 Credits

**Electives Courses:** At least 6 Credits from the following LIY 308(3),321(3), LIN 301(1), 302(2),308 (3), 313 (3)  
AED 311(2) = 6 Credits

**Total =39 Credits**

**400 Level**

**Compulsory Courses:** EDU 411 (4), 412 (2), 413 (2), 414 (2)415 (2), 416 (2), 417 (2) 499 (4)  
=20 Credits

**Required Courses:** LIY 403 (3) 407(3), 401 (3),405 (3), 406(3),408 (3) = 18 Credits

**Electives Courses:** AED 411(2) = 2 Credits

**Total = 40 Credits**

**Graduation Requirements**

UTME = 151

DE = 142

**NOTE:** Detailed course description relating to B.A. (Ed.) Arabic, Christian Studies, Islamic Studies, English, French, and Yoruba may be found in the appropriate sections of the Undergraduate Academic Programme in the Faculty of Arts,

## DEPARTMENTAL OF COUNSELLOR EDUCATION

### Course Description

#### B. Ed. Counsellor Education

<b>CED 101</b>	<b>Historical Development of Counselling</b> Development of Counselling as a field of human interaction and course of study. Origins of counselling in the USA and Nigeria; Psychological basis of counselling. <b>30h (T); C</b>	<b>2 Credits</b>
<b>CED 102</b>	<b>Introduction to Guidance and Counselling</b> Nature, aims and objectives of guidance and counselling in education. Counselling and the National Policy on Education. <b>30h (T); C</b>	<b>2 Credits</b>
<b>CED 103</b>	<b>Basic Principles of Counselling</b> Principles of counselling, stages of counselling and interaction with clients, parents and school administrators. Importance of counselling. Typical clients' problems in Nigeria and other parts of the world. <b>30h (T); C</b>	<b>2 Credits</b>
<b>CED 104</b>	<b>Biological Psychology</b> Biological basis of human behaviour. The role of the central nervous system and hormones in human behaviour. Effect of other biological systems on behaviour. Relevance of biology and psychology to counselling. Counselling needs of Students: Biological and environmental problems. Counselling as means of equipping clients with coping skills. <b>30h (T); R</b>	<b>2 Credits</b>
<b>CED 105</b>	<b>Fundamentals of Counselling</b> Concept of counselling and other related concepts. Role of counselling in the growth and development of school children. Fundamentals of counselling. Professionalization of counselling. <b>30h (T); C</b>	<b>2 Credits</b>
<b>CED 106</b>	<b>Teenage Counselling</b> Characteristics of teenagers, nature and forms of the needs and problems of teenagers. Various counselling psychological approaches involved in resolving teenage problems. <b>30h (T); R</b>	<b>2 Credits</b>
<b>CED 107</b>	<b>Psychology of Deviant Behaviour</b>	<b>2 Credits</b>

Concept of deviant behaviour and its identifying characteristics. Types and causes of deviant behaviour among Nigerian school children and their causes. Effects of deviant behaviour on school performance. Methods of handling deviant behaviour among in-school adolescents.

**30h (T); R**

- CED 108      Student Personnel Work and Services      2 Credits**  
Current trends and objectives of student services in higher educational institutions. Personal concerns of students of higher institutions and the organizational patterns of students services. Stress factors among higher education students.  
**30h (T); R**
- CED 201      Counselling Techniques and Practice      2 Credits**  
Techniques of effective counselling: goal setting, directive and non-directive approaches. Selection of strategies: interviewing, keeping of records and evaluation of results.  
**15h (T), 45h (P); C**
- CED 202      Adolescent Development and Counselling      2 Credits**  
Meaning and nature of early and late adolescence. Developmental tasks at the various age levels. Application of counselling principles to social problems of age groups. Concerns of adolescents. Ways of handling adolescents' problems.  
**15h (T), 45h (P); C**
- CED 203      Family Life Counselling      2 Credits**  
Meaning and types of family. Family as a basic unit of society. Elements of family life: sex, marriage and counselling. Obstacles to effective family counselling.  
**30h (T); C**
- CED 204      Introduction to Practicum in Counselling      2 Credits**  
Visits to and interviews with personnel in various counselling settings: correctional homes (prisons), social welfare offices, mental health institutions, marriage registries, rehabilitation centres, elementary and secondary schools. Exploration and demonstration of skills utilised in these settings for effective counselling and interviewing.  
**15h (T), 45h (P); C**
- CED 205      Counselling for Special Needs Clients/Population      2 Credits**  
Identification of special needs clients in Nigeria. Types of disabilities; problems and needs of handicapped and exceptional children. Place of counselling in fostering growth and development of students in regular and special schools.  
**30h (T); R**

<b>CED 206</b>	<b>Role of Religion in Counselling</b> Religious beliefs and sociology of religion as applied to the three major religions in Nigeria. Attribution theory and traditional belief systems in Nigeria. Moral and religious, development of adolescents. Role of religion in counselling. <b>30h (T); E</b>	<b>2 Credits</b>
<b>CED 301</b>	<b>Theories of Career Counselling</b> Theories of career counselling; trait-and-factor, developmental and psychoanalytic theories; careers and the work-place. Behavioural, environmental, religious and other related factors in career development. <b>30h (T); C</b>	<b>2 Credits</b>
<b>CED 302</b>	<b>Group Procedures and Group Dynamics in Counselling</b> Principles and techniques of group counselling: group procedures and dynamics. Leadership and followership in groups; individual versus group counselling <b>30h (T); C</b>	<b>2 Credits</b>
<b>CED 303</b>	<b>Rehabilitation Counselling</b> Psychological and vocational rehabilitation of handicapped and disadvantage people, diagnostic methods and techniques for categorizing the handicapped and for identifying the type of counselling and vocational training needed. <b>30h (T); E</b>	<b>2 Credits</b>
<b>CED 304</b>	<b>Practicum in Counselling</b> Observation of counselling sessions. Requirements for effective counselling; Case study procedures and analysis of tape-recorded interviews. Record keeping, role playing and supervised counselling experience. Application of principles and techniques of counselling in clinical settings. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>CED 305</b>	<b>Communication in Counselling</b> Communication techniques and processes in counselling. Verbal and non-verbal communication as they relate to counselling. Ingredients of effective communication. Importance of communication in Counselling. <b>30h (T); C</b>	<b>2 Credits</b>
<b>CED 306</b>	<b>Quantitative Methods in Counselling</b> Analysis and appraisal of statistical data in educational counselling. Evaluation of statistical packages applicable to interpretation of counselling data. Relevance of computer and other Information Technology (IT) devices to counselling. <b>30h (T); R</b>	<b>2 Credits</b>

- CED 307 Programme Development and Evaluation in Counselling 2 Credits**  
 Concepts, survey and characteristics of programme development and evaluation. Essentials of programme development. Procedure for evaluating programmes.  
**30h (T); R**
- CED 308 Sex, Marital and Family Counselling 2 Credits**  
 Pre-marital and post-marital interactions. Influence of parents on children and vice versa. Strategies for the psychological, emotional and personality disturbance originating from childhood as a result of dysfunctional patterns of parent-parent and parent-child interaction. Family and marital counselling techniques and strategies.  
**30h (T); E**
- CED 309 Managing Aged and Disabled Persons 2 Credits**  
 Problems, needs and health status of the aged and disabled. Gerontological aspects of aging. Adaptation, adjustment and management strategies for the Aged and the Disabled.  
**30h (T); E**
- CED 401 Counselling Theories and Models 2 Credits**  
 Theoretical bases and approaches to counselling; to include Psychoanalytic, Behavioural, Existential, Phenomenological and Eclectic approaches.  
**30h (T); C**
- CED 402 Principles and Practice of Test Construction and Development 2 Credits**  
 General principles of test construction; psychometric properties; item generation, selection and analysis; test-score analysis and interpretation; Uses of tests in counselling. Administration of group and individual tests.  
**15h (T), 45h (P); C**
- CED 403 Theories of Personality Development and Adjustment 2 Credits**  
 Personality and adjustment theories and their integration for counselling purposes. Cultural influences on personality development and adjustment processes.  
**30h (T); C**
- CED 404 Practicum in Counselling 2 Credits**  
 Group and individual counselling procedures and applications. Supervised experiences in group and one-to-one counselling in educational settings.  
**90h (P); C**

- CED 405      Organization of Guidance and Counselling Services in Schools      2 Credits**  
Concepts of organization and administration. Basic requirements for organization of counselling services. Examination of counselling programmes and models; selection criteria and supervision; use of paraprofessionals and other support personnel.  
**15h (T), 45h (P); R**
- CED 406      Behaviour Modification      2 Credits**  
Counselling and teaching as processes of behavioural change. Application and evaluation of counselling and teaching techniques to facilitate and modify behaviour; role of teachers, parents and significant others as behaviour change agents; shaping behaviour; principles of successive approximation and schedules of reinforcement.  
**30h (T); C**
- CED 407      Practice in Continuous Assessment and Keeping of Cumulative Records      2 Credits**  
Continuous Assessment as diagnostic and prescriptive tools in teaching and learning. Cumulative record-keeping: continuous assessment and various test scores. Use of test scores for inter and intra-school decision making especially at the end of junior and senior secondary schools.  
**15h (T), 45h (P); C**
- CED 408      Occupational Information, Job Analysis And Job Evaluation      2 Credits**  
Nature of jobs and their demands on workers. Methods of determining relative importance of jobs. Sources of occupational information; types, classification, choice and need for career and vocational counselling in the work place. Counselling in the work place.  
**30h (T); R**
- CED 409      Abnormal Psychology      2 Credits**  
Nature, causes, diagnosis, prevention and management of mal-adjustment and related behaviour disorders. Influence of culture and environment on mal-adjustment and behaviour disorders.  
**30h (T); E**
- CED 410      Educating Handicapped and Disadvantaged Children      2 Credits**  
Special education and characteristics of exceptional children. Psychological problems: mental retardation, giftedness, emotional disturbance and socio-economic problems as they affect the education of special children.  
**15h (T), 45h (P); E**
- CED 411      Human Behaviours in Organisations      2 Credits**

Assessing human behaviours in organizations. The organizational environment: structure, design, technology and individuals in the organization, formal organizations. Motivation patterns, leadership and organizational development, Communication and reward systems in organisations.

**30h (T); R**

**CED 412**

**Counselling in Out-of-School Settings**

**2 Credits**

Counselling people of all ages and diverse needs. Developing positive relationships with clients; provision of support and guidance to enhance clients' development. Counselling out-of-school clients; identification and management of their problems. Counselling in prisons, rehabilitation centres, hospitals, displacement centres etc.

**30h (T); E**

**CED 413**

**Conflict and Conflict Resolution in Work Places**

**2 Credits**

Nature of conflict and its various forms. Sources of conflicts and conflict resolution in work places, effects of conflicts between the employer and employees. Case study of conflicts work places in Nigerian.

**30h (T); E**

**CED 414**

**Introduction to Culture and Psychopathology**

**2 Credits**

Concepts of culture and psychopathology. Use of culture in defining normality and abnormality. Cultural differences and behavioural patterns of people. Common forms of psychopathology and their cultural implications. Everyday psychopathology and their effects among school children's adjustment and performance.

**30h (T); E**



## Summary

### 100 Level

**Compulsory Courses:** EDU 111(2), 112(2), CED 101(2), 102(2), 103(2) and 105(2) = **12 Credits**

**Required Courses:** CED 104(2), 106(2), 107(2), 108(2); GNS 111(2), 112(2) = **12 Credits**

**Total = 30 Credits**

**Elective Courses:** **At least 6 credits from the following:**

ACC 101(3), 102(3), 104(3)

PLB 101(3), 108(3)

CHM 101(3), 115(2), 132(2), 112(2), 131(1)

ECN 101(3), 102(3), 103(2)

ENG 101(2), 103(2), 106(3)

GPE 122(3), 131(3), 193(3)

HIS 101(3), 104(3), 123(3)

LIY 101(3), 102(3), 105(3)

MAT 112(3), 113(3), 114(3)

PHY 114(2), 124(3), 142(2), 152(3)

RAL 122(3), 123(3)

RCR 121(3), 124(3), 127(2)

RCS 121(3), 122(2), 125(2)

RIS 121(2), 122(2), 123(2), 127(2)

### 200 Level

**Compulsory Courses:** EDU 211(2), 212(2), 213(2), 214(2), 215(2), 216(2); CED 201(2), 202(2), 203(2), 204(2)  
= **20 Credits**

**Required Courses:** CED 205(2), GNS 211(2), 212(2) = 6 Credits

**Direct Entry Student:** GNS 111 (2) and GNS 112 (2)

**Electives Courses:** **At least 8 credits from minor courses:**

ACC 201(3), 204(3), 205(3) 224(3)

PLB 201(3), 202(3), 203(3), 204(3)

CHM 212(3), 213(3), 235(3), 236(3)

ECN 201(2), 202(2), 203(2), 204(2) 205(2)

ENG 205(3), 206(3), 207(3), 209(3)

GPY 221(2), 231(3), 232(3), 296(3)

HIS 201(3), 202(3), 210(3), 212(3)

LIY 201(2), 204(3), 205(2), 209(3)

PHY 215(2), 224(2), 243(2), 253(2), 291(2), 293(3)

RCR 204(1), 205(1), 224(2)

RCS 221(3), 222(2), 224(2), 226(1) 229(2)

RIS 224(1), 225(2), 227(2), 228(2), 229(1)

CED 206 (2)

**Total = 34 Credits**

**Total = 38 Credits**

**300 Level**

**Compulsory Courses:** EDU 311(2), 312(2), 313(2), 314(2), 315(2), 316(3); CED 301(2), 302(2) 304(2), 305(2)  
= 21 Credits

**Required Courses:** CED 306(2), 307(2); GNS 311(2), GSE 301(3) = 9 Credits

**Electives Courses:** **At least 6 credits from minor courses:**

ACC 301(3), 302(3), 305(3), 308(3)  
 CHM 324(3), 329(2) 331(3)  
 ECN 301(2), 302(2), 303(2), 304(2)  
 ENG 304(2), 327(2), 329(2), 334(2)  
 FRE 300(3), 316(2), 324(2)  
 GPE 322(2), 326(2), 331(3) 335(2), 342(3)  
 HIS 321(3), 332(3), 328(3), 327(3)  
 LIY 303(3), 306(3)  
 MAT 306(3), 311(3), 324(3), 327(3)  
 PHY 314(3), 331(3), 332(3), 357(2)  
 PLB 307(3), 308(3), ZLY 308(3)  
 RCR 324(1), RCS 321(2), 328(2), 329(1), 332(2)  
 RIS 324(3), 331(3), 332(2), 327(2)  
 CED 303(2) 308(2), 309(2)

**Total = 36 Credits**

**400 Level**

**Compulsory Courses:** EDU 411(2), 412(2), 413(2), 414(2), 415(2), 416(2), 417(2) 499(4)  
 401(2), 402(2), 403(2), 404(2), 406(2) and 407(2), = **30 Credits**

CED

**Elective Courses:** CED 409(2), 410(2), 412(2), 413(2) and 414(2) = **10 Credits**

**Required Courses:** CED 405(2), 408(2), 411(2) = **6 Credits**

**Total = 46 Credits**

**Graduation Requirement:** UTME = 146

DE = 120

# DEPARTMENT OF EDUCATIONAL MANAGEMENT

## Course Description

### **B.Sc. Ed. (Business Education) with the following specializations:**

- (i) B.Sc. Ed. Business Education (Office Technology and Management)
- (ii) B.Sc. Ed. Business Education (Marketing)
- (iii) B.Sc. Ed. Business Education (Accounting)

<b>BED 101</b>	<b>Introduction to vocational and Technical education</b>	<b>2 Credits</b>
	Definition, scope, philosophy and objectives of Vocational and Technical Education. Funding of VTE programmes. Development of Vocational and Technical Education in Nigeria. The role of Vocational Technical Education in National Development. Youth leadership development. Public speaking, time Management, leadership styles, organizational skills, group Dynamics, professional meetings. etc. Characteristics of Vocational and Technical Education. Problems and prospects of Vocational and Technical Education. Place of Vocational and Technical Education in Universal Basic Education.	
	<b>30h (T); C</b>	
<b>BED 102</b>	<b>Commerce I</b>	<b>2 Credits</b>
	Concept of Commerce. Human wants and satisfaction. Concept of production. Functions of Commerce. Exchange of goods and services. Home trade. Concept of Home trade. Retailers and Wholesalers. Organizational structure of Trade. Outlet and wholesale trade. Functions of Marketing Boards. Term of Sales. Trade Classification. Specialization in Business Organisations. Types of Business Units.	
	<b>30h (T); C</b>	
<b>BED 103</b>	<b>Introduction to Business Mathematics</b>	<b>2 Credits</b>
	Fractions, decimals, approximations. Progressions; Geometric and Arithmetic. Simultaneous equations (by graph, elimination, and Cramer's Rule), Algebraic expressions (fractions and graphs).	
	<b>30 (T); C</b>	
<b>EMA 103</b>	<b>Basic Theory of Management</b>	<b>2 Credits</b>
	Overview of the historical development of management theories. Classical school of management. Behavioural school of management. Management functions at various managerial levels and managerial skills.	

30h (T); C

- BED 104 Office Practice 1 2 Credits**  
Structure of office. Postal service. Communications in the office e.g. office Memo, mail handling.  
30 (T); C
- BED 105 Basic Accounting Concepts 2 Credits**  
Historical Origin of accounting, Distinction between book-keeping and Accounting, Financial Accounting, Principles and Techniques, Scope and Structure of Accounting Theory, Fundamental underlying Assumptions. Fundamental Theoretical concepts. Generally accepted Principles and Accounting procedures. Subsidiary books of accounts: ledgers and account balancing, correction of errors, petty cash book, and accounts of non-profit making organizations such as schools Bank reconciliation.  
30h (T); E
- EMA 105 Record Keeping in Schools 2 Credits**  
Meaning and types of school records. Purpose of record keeping in schools. Significance of statutory and non-statutory records. Problems of record keeping in schools. Innovations in record keeping at school level. Custodians of school records.  
30h (T); E
- BED 106 Principles of Economics 2 Credits**  
Meaning, nature and significance of economic studies. Economist tools of analysis: demand and supply theory, elasticity analysis, dynamic theory of price, production theory, output and cost. Competition (monopoly, oligopoly). Factors of production; interest rate and profit.  
30 (T); E
- EMA 106 Introduction to Human Resources Management 2 Credits**  
Fundamental principles and practices of recruiting and selecting, placing and inducting, developing, appraising, rewarding performance and utilizing human resources. Appropriate employment practices and implications for education managers.  
30h (T); C
- BED 107 Introduction to Computer Keyboarding and Words Processing 2 Credits**  
Meaning of typewriting. Types of typewriters and computers. Sitting, finger placing, insertion and removal of paper, margin setting, erasing, placing of fingers and typing techniques. Care/handling of typewriters. Sizes of paper.  
30h (T); C
- BED 108 Introduction to Shorthand (Shorthand Theory) 2 Credits**

Meaning, origin and benefits of shorthand. Basic principle/theories in shorthand. Suitable materials for shorthand studies. Areas that need shorthand skills: Consonants, alphabets, diphthongs, joining, phrasing and formation of sentences. Shorthand reading techniques.

**30h (T); C**

**BED 109**

**Consumer Education**

**2 Credits**

Basic economic principles; problems of consumption and buying choices. Elements of personal financial affairs: budgeting, saving credit, insurance and investment of funds. Knowledge of sources of aids for consumers and to make wise choice between true and false information. Government's part in protection and advancement of consumer welfare and rights.

**30h (T); C**

**BED 110**

**Introduction to National Policy on Education and Historical Development of Business Education in Nigeria**

History of Western Education in Nigeria. Business Education during the Colonia and post independent era. The 1969 constitutional curriculum conference and Business Education. The National Policy on Business Education and its implementation.

**30 (T); E**

**BED 201**

**Business Education Law**

**2 Credits**

Meaning and sources of Nigerian Law. The Law of Contract. Meaning of Tort and its relevance to Business. Agency. Nature and Legal interpretation of Sales of Goods. Definition and Types of Negotiable Instrument.

**30h (T); C**

**EMA 201**

**Introduction to Administrative Theories**

**2 Credits**

Development of administrative theories from the classical approach to the behavioural approach (Theory X and Y, Contingency Theory etc.). Organizational design. Element of Administrative behavior, decision making, planning, organizing, assembling resources, supervising, controlling, appraising and evaluating.

**30h (T); C**

**BED 202**

**Principles of Marketing**

**2 Credits**

Marketing: concepts, meaning, function, approaches, and mix. Market segmentation. Channels of distribution. Promotion mix. Roles of Marketing Boards.

30h (T); C

- BED 203 Introduction to Financial Accounting 2 Credits**  
Accounting terms: assets, liabilities, debit, credit. Basic principles of accounting: receipts, payment, income and expenditures. Double book-keeping: balance sheet, cash book, petty cash book.  
30h (T); C
- BED 204 Office Practice II 2 Credits**  
Methods of payment: imp rest accounting control. Duplicating process, Office supplies. Office equipment and machines in common use. Electronic composer, hand-processing machine. Structure of office. Postal services. Communication in the office: office memo and mail handling.  
30h (T); C
- BED 205 Principles of Small Business Management 2 Credits**  
Concepts of small business partners. Financing problems and sources of fund. Small scale production and distribution. Marketing problems: risks of operation and risk minimization techniques, planning, innovation and viability problems, governmental incentives and promotional techniques, cost analysis and feasibility problems. Nigerian environment and society in relation to operations of small business opportunities and limitations. Small business roles in national development.  
30h (T); E
- BED 206 Business and National Development 2 Credits**  
Concepts and constitute of elements of political and economic dimensions of national development. Introduction to the comparative analysis of relations between business, political and economic system. Case study of the relationship between business and development planning in some selected countries.  
30h (T); C
- BED 207 Use of Computer in Business Education 3 Credits**  
Types and components of computers: hardware and software. Basic computer operations: data and information processing and transmission. Computer Programming.  
45h (T); C
- EMA 210 Collective Bargaining and Nigeria's Educational Institutions 2 Credits**

Evolution and components of collective bargaining process. Relationships between unions and management including grievance procedures. Issues in education and bargaining.

**30h (T); E**

**(i) Office Technology and Management Option (Specialization)**

**At least 6 credits including the compulsory ones must be passed from this area of specialisation**

**BET 201 Office Systems and Procedures**

**2 Credits**

Systems: reprographic, word processing, data processing, mailing, shipping, manufacturing, customer service and accounting. Professional office career – job opportunities for office workers. Employment procedures: interview strategies and advancement procedures.

**30h (T); E**

**BET 202 Business and its Environment**

**2 Credits**

Job and work standards. Business ethnics and policies. Legal system in business organization; characteristics and types. Environmental law and energy regulation. Legal implications of electronic communications and information systems on business. Common international standards of measurement for solving business problems. Characteristics and features of an entrepreneurship: ethics, forms and ownership of ventures.

**30h (T); E**

**BET 203 Information Technologies and Business Functions**

**2 Credits**

Major components of marketing information technologies, accounting/finance, manufacturing, information, human resource management and their interrelationships.

**30h (T); E**

**BET 204 Stenography and Transcription I**

**2 Credits**

Theory and practical components of Stenography and Transcription: 24 consonants, P, B, T, D, - H; vowels; two forms of R; diphthongs; 5 Circle; ST & STR loops. Halving, downward L and double consonants. Short forms and phrases.

**15h (T), 45h (P); C**

**BET 205 Keyboarding and Word Processing II**

**2 Credits**

Printers sign and abbreviations, words and figures, layout of business letters, Carbon paper, layout of memos, column heading, speed and accuracy development.

**15h (T), 30h (P); C**



**BET 206**      **Office Information and Communication Technology**      **2 Credits**  
Advanced word processing and revise keyboarding principle. Health and safety principles when operating computers. Word processing: proof-reading, editing, formatting, graphics, records management in the office, processing mail, electronic mail, stimulation productivity, equipment use, data security, entering and verifying computer literacy and internet technology.  
**30h (T); E**

**(ii) Marketing Option (Specialization)**

**At least 6 credits including the compulsory ones must be passed from this area of specialisation**

**BEM 201**      **Principles of Marketing**      **2 Credits**  
Reasons why customers return to the same business. Ways by which companies show concern for customers. Factors that influence customer-business relationship: return policies, pricing and advertising. Successful marketing strategy and positive customer relationships. Elements of the marketing mix: price, plan and promotion. Importance of marketing in a global economy.  
**30h (T); E**

**BEM 202**      **Commerce II**      **2 Credits**  
Concept of foreign trade, import and export. Terms of trade and terms of payment. Documents used in foreign trade. Concepts of warehousing, transportation, types of transport and communication. Bank s: types and role in commerce insurance, meaning, purpose and terms. Types and importance to economy stock exchange.  
**30h (T); E**

**BEM 203**      **International Trade Relations**      **2 Credits**  
Importing and exporting goods and services. Steps in the importing and exporting process. Trade barriers and agreements. Governments trade barriers: quotas, tariffs, licensing requirements and exchange rate controls. Balance of trade.  
**30h (T); E**

**BEM 204**      **Market Research**      **2 Credits**  
Role of research in the solution of marketing problems. Available data and methods on the field of investigation.  
**30h (T); E**

**(iii) Accounting Option (Specialization)**

**At least 6 credits including the compulsory ones from the area of specialisation.  
(See Department of Accounting for detailed course outlines)**

- |                |   |                  |
|----------------|---|------------------|
| <b>BED 301</b> | <b>Case Studies in Business Education</b><br>Administrative and organizational theories as applied to the analysis of the purposes, functions and norms of education systems. Principles and practices in Business education. Actual and hypothetical cases to Business Education.<br><b>30h (T); C</b>   | <b>2 Credits</b> |
| <b>BED 302</b> | <b>Business Statistics</b><br>The nature and definition of statistics. Data collection and tabulation (frequency distribution). Graphical representation of data. Computation of the measures of central tendency and Dispersion. Introduction to probability, statistical association, simple linear regression. Correlation and elements of statistical inference. Tests of hypotheses.<br><b>30h (T); E</b>                                      | <b>2 Credits</b> |
| <b>BED 303</b> | <b>Supervision in Business education</b><br>Aims, purposes, patterns and processes of supervision in Business education. Functions and duties of a Business education supervisors. Curriculum development, analysis of classroom activities and improvement of instruction of Business education through supervisory techniques. Study of trends in supervision and accepted procedures for observation in Business education.<br><b>30h (T); E</b> | <b>2 Credits</b> |
| <b>EMA 303</b> | <b>Managerial Decision-Making</b><br>Concept of decision-making. Approaches to decision making and the decision making process. Factors affecting decision-making process. Requirements for decision-making. Decision making problems. Model building. Concepts of Management Information System (MIS). MIS in school. Problems of MIS.<br><b>30h (T); E</b>  | <b>2 Credits</b> |
| <b>BED 304</b> | <b>Management Information System</b><br>Manual method of accounting. Machine: Punched cards system (summary only). Electronics Data Processing (EDP). Computer hardware. Soft ware. Computer files. Data collection and controls and Programming (summary only). Flowcharts.  | <b>2 Credits</b> |

**30h (T); E**

**BED 305 Company Law in Business Education 2 Credits**

The nature of corporate personality, its advantages and disadvantages. Distinction between company and partnership. Kind of companies recognized under the Companies and Allied Matters Decree, 1990. Formation of companies. Promoters and their duties prospectus. Ultra-vires and indoor management doctrine. Raising and maintenance of capital, shares and debentures. Annual returns and company. Management: officers of Company, duties of directors and problems of enforcement. Protection of minority and the remedy available to the minority. Annual returns, reconstruction, Amalgamation and winding up, Insurance law and practice and banking Law. General provisions of the banking act, (as amended) and insurance act, 1976 and with amendments).

**30h (T); C**

**BED 305 Company Law in Business Education 2 Credits**

The nature of corporate personality, its advantages and disadvantages. Distinction between company and partnership. Kind of companies recognized under the Companies and Allied Matters Decree, 1990. Formation of companies. Promoters and their duties prospectus. Ultra-vires and indoor management doctrine. Raising and maintenance of capital, shares and debentures. Annual returns and company. Management: officers of Company, duties of directors and problems of enforcement. Protection of minority and the remedy available to the minority. Annual returns, reconstruction, Amalgamation and winding up, Insurance law and practice and banking Law. General provisions of the banking act, (as amended) and insurance act, 1976 and with amendments).

**30h (T); C**

**BED 306 Computer Skill Applications 2 Credits**

In-depth activities in PowerPoint, Excel and adds Access to round out the complete the Microsoft Office Pro suite. These activities will integrate databases, spreadsheets and graphics.

**30h (T); C**

<b>EMA 306</b>	<b>Change and Innovation Processes in Formal Organization</b> Deliberate and non-deliberate types of change. Administrative Strategies for promoting desired changes in organizations such as Schools, universities the military business forms, and public Bureaucracies. Focus on structural design, human relations strategies, evaluation process, long range strategic planning, political and economic dynamics. Evaluation of programmes and institutions. <b>30h (T); E</b>	<b>2 Credits</b>
<b>BED 307</b>	<b>Business Finance</b> Definition, areas and functions of finance. Goals of the firm (the business objectives). Capital budgeting: time value of money and methods of project evaluation. Financial ratio analysis and financial forecasting including percentage of sales method. Nigeria Stock Exchange. Nigerian Securities and Exchange Commission. <b>30h (T); E</b>	<b>2 Credits</b>
<b>BED 308</b>	<b>Sales Management</b> Sales management and control: sales policies and formulating personal selling strategy, organizing sales efforts, Sales executive job and distribution network relations. Sales force management: placing and conducting sales travelling programme, motivating the individual sales person, evaluating and supervising sales personnel. Sales bid fiat, control and analysis. <b>30h (T); E</b>	<b>2 Credits</b>
<b>BED 309</b>	<b>Office Management</b> Office organization. Office planning and layout. Modern office management. Record management, form design and control. <b>30h (T); E</b>	<b>2 Credits</b>
<b>BED 310</b>	<b>Business Communication I</b> Communication Skills and communication process. Organizational Communications. Organizational structures for communicating. Communicating with the public. Barriers to communication. <b>30h (T); E</b>	<b>2 Credits</b>
<b>BED 311</b>	<b>Economics and Administration of Co-operative Societies in Nigeria</b> Concept and principles of cooperative. Types and roles of cooperatives. Organisational structure. Sources of finance. Problems and prospect of cooperative. <b>30h (T); E</b>	<b>2 Credits</b>
<b>BED 320</b>	<b>S.I.W.E.S. (Industrial Attachment)</b> Students will be attached to business and industrial organization for a period of 6 months to acquire practical experience in their area of specialization <b>60h (P); C</b>	<b>4 Credits</b>

**Note:** At least 4 credits must be passed from the 300 Level elective courses.

(i) **Office Technology Option (Specialization)**

**At least 6 credits including the compulsory ones must be passed from this area of specialization**

**BET 301 Administrative Office Management**

**2 Credits**

Office organization. Office planning and layout Management processes and functions. Filing and indexing. Record Management, form designs and control. Personnel Management: staff recruitment, wages and salaries administration, staff training and development. Work management and standards.

**30h (T); E**

**BET 302 Stenography and Transcription II**

**2 Credits**

Drills on basic transcription techniques. Students' typing and English skills and knowledge determined. Typing and transcribing rates on straight copy. Use of comma, semicolon and full stop. Drills on spelling words, remedial drill on English problems. Use of dash, apostrophe and quotation marks. Capitalization rules.

**15h (T), 15h (P); C**

**BET 303 ICT Office Applications I**

**2 Credits**

This course provides a solid background in developing a higher level of proficiency in computer, application software and keyboarding skills; more advanced applications in Microsoft Office, including Word, Excel and PowerPoint. This is purely office application.

**15h (T), 15h (P); C**

**BET 304 Desktop Publishing**

**2 Credits**

Concept of word processor and applications in designing brochures (2-fold and 3 – fold), flyers, business cards, pamphlets and posters. Importance of using the right software that is appropriate for each task in the office. Difference between Word processors and desktop publishing. Basic competencies in using desktop

publishing concepts to produce a simple publication. Identification and use of appropriate software.

**30h (T); E**

**BET 305 Professional Ethics and Social Responsibility**

**2 Credits**

Concept of profession and professionalism. Concepts, ethics and professional work ethics. Ethical standards and behaviours in the office. Distinction between ethics and morals. Roles of professional bodies in promoting ethical practices. Roles of government in regulating ethical practices.

**30h (T); E**

**BET 306**

**Web Page Design**

**2 Credits**

Types of websites and information delivery using the Internet. Concepts of e-commerce and e-business and the role of successful webpage production to achieve online business success and delivering information online.

**30h (T); E**

(ii)

**Marketing Option (Specialization)**

**At least 6 credits including the compulsory ones must be passed from this area of specialization**

**BEM 301**

**Distributive Economy**

**2 Credits**

Economic concepts. Differences between marginal costs and sunk costs. Market economy characteristics. Function of price. Role profit and risk. Role of government.

**30h (T); C**

**BEM 302**

**Distributive Finance**

**2 Credits**

Determining cash needs. Projecting the total cash needed to start a business: start-up, ongoing operational expenses and cash reserves. Sources and types of funding. Types of funding for an entrepreneur: mortgage, short-term loan, long-term loan and credit line. Interpreting financial statements. Factors that cause changes in the financial picture of a business.

**30h (T); C**

**BEM 303**

**Distributive Accounting**

**2 Credits**

Business records keeping including use of computers. Types of business records. Establishing and using business records. Developing plans to manage receivable and accounts payable. Interpreting business records including evaluation of financial condition of a firm based on business records.

**30h (T); E**

**BEM 304**

**Distributive Management**

**2 Credits**

Establishing a vision including creating and developing strategies for achieving a personal vision. Goals and objectives for a planned business. Hiring employees. Organisational structure of a planned business. Alternatives to hiring permanent full-time employees. Building teams including importance of motivation, leadership and trust to members of a team. Monitoring achievement. Managing risks.

**30h (T); E**

<b>BEM 305</b>	<b>Global Markets</b> Cultural difference and similarities in business practices. Analysis and evaluation of Nigerian business practices and interaction in global marketplace. Import/Export opportunities: effects of government regulations on international trade and ways internet has impacted on trade between countries. Global trends: current trends in entrepreneurial opportunities in the global marketplace and opportunities for small business development on trends in the global \marketplace. <b>30h (T); E</b>	<b>2 Credits</b>
<b>BEM 306</b>	<b>e-Commerce</b> Design and construction of complex web sites for conducting business electronically. Skill development in advanced webpage construction and entrepreneurial applications of conducting business electronically. Economic, social, legal and ethical issues in electronic business. Plan, design, creation, publishing, maintaining and promoting electronic business website. Communication skills and critical thinking through software applications. <b>30h (T); E</b>	<b>2 Credits</b>
<b>(iii) Accounting Option(Specialization)</b>		
<b>At least 6 credits including the compulsory ones must be passed from this area of specialisation (See Department of Accounting for detailed course outline)</b>		
<b>BED 401</b>	<b>Business Communication II</b> Communication theory and practice in oral, written and non-verbal situations, communication model. Analysis of business communication and the strategies of application including take-over, merger. Distinction between acquisition and merger accounting. Review of the various SSAP statements and their impact on accounting principle and practices. Accounting for pension funds. Accounting for local authorities and Governments. <b>30h (T); E</b>	<b>2 Credits</b>
<b>BED 402</b>	<b>Policy Analysis in Business Education</b> Analysis of the decision-making process in complex business organizations. Impact of power, resources, organizational structure, information and enrolment on decision making models and their implications for business and educational administration. A critical analysis of business and educational policy documents and reports in Nigerian. Role of interest groups in the process of policy formation and review. Issues of business education in the Universal and Basic Education. <b>30h (T); C</b>	<b>2 Credits</b>
<b>EMA 402</b>	<b>Economics of Education</b>	<b>2 Credits</b>

Human resources development. Problems of manpower planning. Social and economic implications of educational planning. Education and jobs. Education and income. Private returns to investment in education. Cost analysis in education, cost effectiveness and the costing of educational plans.

**30h (T); E**

**BED 403 Personnel Administration and Evaluation in Business Education 2 Credits**

Job analysis in industries, work load analysis of workers and specification of credentials. Recruitment, selection and development of employees including teachers. Supportive staff. Administrator-employees relations. Career patterns in Nigeria industries today. Employees code of ethics. Merit rating and evaluation for advancement and promotion of officers.

**30h (T); C**

**BED 404 Contemporary issues in Business Education 2 Credits**

Discussion of current issues and problems in Business Education with a view to providing solution.

**30h (T); E**

**EMA 408 Educational Finance 2 Credits**

National and state budgets in relation to education. Government and private financing of primary, secondary, post-secondary, university and non-formal education. Principles and practice of school budgeting and salary scheduling.

**30h (T); C**

**BED 499 Research Project in Business Education 4 Credits**

A research project in Business education involving collation, analysis and interpretation of data or other types of evidence for an empirical or historical research.

**60h (T); C**

**Note:** At least 4 credits must be passed from the 400 Level elective courses

**(i) Office Technology Option(Specialization)**

**At least 6 credits including the compulsory ones must be passed from this area of specialization**

**BET 401 ICT Office Applications II 2 Credits**

Advanced word processing and keyboarding principles and techniques. Application of health and safety principles when operating computers at work. Developing skills using spreadsheet applications and keyboarding techniques to enter data accurately.

**15h (T), 30h (P); C**



- BET 402      Advanced Stenography and Transcription      2 Credits**  
 Develop ability to take down dictation passages for production work and varied materials at irregular speed of not less than 80 wpm. Compose business and other relevant documents from limited information or instructions. Know how to plan, organize and produce mail able documents. Techniques for covering meeting and recording the proceedings of a meeting; Acquire the skills for collecting relevant information from source documents.  
**15h (T) 30h (P); E**
- BET 403      Exploring Business Technologies      2 Credits**  
 Nature of business organisation in an international economy. Careers in entrepreneurship, financial services, information technology, marketing, office systems technology, public relations and promotion, and travel and tourism. Computer applications in such careers including relevant skills: problem solving, thinking skills, communication and mathematics skills  
**30h (T); E**
- BET 404      Advanced Keyboarding and Words Processing      2 Credits** Alphabetic sentence drills and remedial exercise. Procedure and layout of Business. Personal and official letters and memos. Manuscript, Insert matter Roman numerals  
**15h (T); 45h (P): C**

**(ii)      Marketing Option(Specialization)**

**At least 6 credits including the compulsory ones must be passed from this area of specialization**

- BEM 401      Markets and Prices      2 Credits**  
 Effects of different prices on buying and selling decisions of consumers and producers. Role of market in determining what, how and for whom economic goods and services are produced in the Nigerian economy. Equilibrium price changes and changes in supply or demand. Market reaction to governmental intervention.  
**30h (T); E**
- BEM 402      Market Structures      2 Credits**  
 How competition among sellers of a good or service generally results in lower price for buyers and lower profit for sellers. Characteristics of monopoly, natural monopoly and identity example in the market. Major barriers to new firms entering a market and barrier effects on level of competition in an industry. Examples of positive and negative externalities and government's role in correcting market failures including tax policies, subsidies and regulations.  
**30h (T); C**
- BEM 403      Productivity      2 Credits**

Effects of investment in research and development on productivity. Distinction between fixed, variable and explicit costs. Principle of diminishing returns and how it relates to productivity. Differentiating between lowest costs, marginal cost and average cost per unit. Short-run average costs and long-run average costs.

**30h (T); E**

**BEM 404**

**Production Management**

**2 Credits**

Concepts of operations and production. Standards as they apply to international business. Role of International Organization for Standardization. 150 standards. Human resources. Strategic Management.

**30h (T); E**

**BEM 405**

**International Marketing**

**2 Credits**

Foreign markets and consumer behavior. Marketing research. Product development. Standards and measures. Pricing strategies. Distribution channels and intermediaries. Transportation and shipping. Promotional activities.

**30h (T); C**

**BEM 406**

**International Finance**

**2 Credits**

Currency and exchange including international financial strategies: hedging, third-party help, pooling risk and diversification to manage foreign exchange risks. Financial institutions and trade agreements: growth, regulations and the impact of international banking on global business, payment methods and reporting and payment options available in international trade given situations. Risk management.

**30h (T); E**

**(iii) Accounting Option (Specialization)**

**At least 6 credits including the compulsory ones must be passed from this area of specialization  
(See Department of Accounting for detailed course outline)**



## SUMMARY

### 100 LEVEL

**Compulsory Courses:** BED101 (2), BED102 (2), BED103 (2), EMA103 (2), BED104 (2), (2), BED107 (2), BED108 (2), BED109 (2) = **18 Credits**

EMA 106

**Required Courses:** EDU 111 (2), 112 (2), 116 (2), GNS 111 (2), GNS 112 (2) = **10 Credits**

**Elective Courses:** **At least 2 credits must be passed from the following:**  
BED 105 (2), EMA 105 (2), BED 106 (2), (BED 110 (2) = **8 Credits**  
**Total = 32 Credits**

### 200 LEVEL

**Compulsory courses:** BED 201 (2) EMA 201 (2), BED 202 (2), BED 203 (2), BED 204 (2), BED207 (3)  
= **13 Credits**

**Required Courses:** EDU 201 (2), 202 (2), 203 (2), 204 (2), GNS 211(2), GNS 212 (2)  
= **12 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2) = **4 Credits**

**Elective Courses:** **At least 2 Credits must be passed from the following:**  
BED 205 (2), BED 206 (2), EMA 210 (2) = **4 Credits**

**TOTAL = 29 Credits**  
**Direct Entry = 33 Credits**

### Options (Specialisation)

**At least 6 credits from each of the following area must be passed:**

- (i) BET 201 (2), 202 (2), 203 (2), 204 (2), 205 (2), 206 (2) = **6 Credits**
- (ii) BEM 201 (2), 202 (2), 203 (2), 204 (2) = **6 Credits**
- (iii) ACC 201 (3), 204 (3), 205 (3), 214 (3) = **6 Credits**

### 300 LEVEL

**Compulsory Courses:** BED301 (2), BED302 (2), BED305 (2), BED306 (2), EMA 306 (2)  
BED 308 (2), BED 320 (2) = **14 Credits**

**Required Courses:** EDU 301(2), 302(2), 303(2), 304(2) 305(2), GNS 311(2), GSE 301 (2)  
= 14 Credits

**Elective Courses:** **At least 4 credits must be passed from the following:**  
EDU 302 (2), BED 303 (2), EMA 303 (2), BED 304 (2), BED 307 (2), BED 308 (2) BED309 (2), BED 310 (2),  
BED 311 (2) = 16 Credits

**Total = 44 Credits**

## Options (Specialisation)

**At least 6 credits including the compulsory ones from each area of the following specialization must be passed**

- |       |                     |   |         |
|-------|---------------------|---|---------|
| (i)   | Compulsory Courses: | BET 302 (2), 303 (2)  |         |
|       | Elective Courses:   | BET 301 (2), 304 (2), 305 (2), 306 (2)                              |         |
| (ii)  | Compulsory Courses: | BEM 301(2)  |         |
|       | Elective Courses:   | EMA 303 (2), BEM 304 (2), 305 (2), BEM 306 (2),<br>(2), BEM 303 (2) | BEM 302 |
| (iii) | Compulsory Courses: | ACC 301 (3)   |         |
|       | Elective Courses:   | ACC 302 (3), 303 (3), 308 (3), 310 (3), 316 (3)                     |         |
|       |                     | <b>= 18 Credits</b>   |         |

### 400 LEVEL

**Compulsory Courses:** BED 403 (2), BED 404 (2) EMA 408 (2), BED 499 (4) = 10 Credits

**Required Courses:** EDU 411 (2), 412 (2), 413 (2) 414 (2), 415 (2) 416 (2), 417 (2)  
= 14 Credits

**Elective Courses:** **At least 4 credits must be passed from the following:**  
BED 401 (2), BED 402 (2) EMA 402 (2), BED 403 (2), BED 404 (2)  
= 10 Credits  
**TOTAL = 34 Credits**

**At least 6 credits including the compulsory ones from each area of the following specialization must be passed**

- |       |                     |   |  |
|-------|---------------------|---|--|
| (i)   | Compulsory Courses: | BET 401 (2), 404 (2)                            |  |
|       | Elective Courses:   | BET 402 (2), 403(2)                             |  |
| (ii)  | Compulsory Courses: | BEM 402 (2), 405 (2)                            |  |
|       | Elective Courses:   | BEM 401 (2), 403 (2), 404 (2), 406 (2)          |  |
| (iii) | Compulsory Courses: | ACC 408 (3)                                     |  |
|       | Elective Courses:   | ACC 401 (3), 402 (3), 403 (3), 404 (3), 418 (3) |  |
|       |                     | <b>=18 Credits</b>                              |  |



## **B.Ed. Educational Management**

- EMA 101      Evolution of Educational Management in Nigeria      2 Credits**  
Origin and development of Educational Management in Nigeria from traditional education to the Western education and the contributions of Education Ordinances and Commissions to the development of education in Nigeria since 1882.  
**30h (T); C**
- EMA 102      Introduction to the National Policy on Education      2 Credits**  
History of Western education in Nigeria.Educational planning during the colonial and post-independence eras.The 1969 National Curriculum Conference.National Policy on Education and its implementation.  
**30h(T): C**
- EMA 103      Basic Theories of Management      2 Credits**  
Overview of the historical development of management theories.Classical school of management.Behavioural school of management. Management functions at various managerial levels and managerial skills.  
**30h (T); C**
- EMA 104      Introduction to Curriculum Management      2 Credits**  
Concepts of curriculum, curriculum development and Curriculum Management.Curriculum planning, implementation and evaluation. Role of school heads in curriculum management at all levels. Managing learning in schools.Problems of curriculum management in schools.Accountability and school effectiveness.  
**30h (T); E**
- EMA 105      Record Keeping in Schools      2 Credits**  
Meaning and types of school records.Purpose of record keeping in schools.Significance of statutory and non-statutory records.Problems of record keeping in schools.Innovations in record keeping at school level.Custodians of school records.  
**30h (T); C**
- EMA 106      Introduction to Human Resources Management      2 Credits**  
Fundamental principles and practices of recruiting and selecting, placing and inducting, developing, appraising, rewarding performance and utilizing human resources. Appropriate employment practices and implications for education managers.  
**30h (T);C**
- EMA 107      Introduction to Computers in Educational Administration      2 Credits**



Overview of computers as tool, tutor, tutee. Current major uses of computers in educational management tasks. Types of computers. Hardware and software. Components of computer hardware. Operating a computer system for administrative tasks.  
**15h (T), 45h (P); C**

- EMA 108 Introduction to Pupil Personnel Administration 2 Credits**  
Organization and implementation of the student services for a sound instructional programme. Administration and supervision of student activities. Student participation in school management  
**30h (T); C**
- EMA 109 Introduction to School-Community Relations 2 Credits**  
Development of school and community relations. Participation of laymen in planning school programmes. Cooperation through appropriate agents and agencies. Relationship of school personnel with the public.  
**30h (T); E**
- EMA 110 Introduction to Conflict Management in Education 2 Credits**  
Sources of organizational conflicts. Procedures and techniques of conflict management in Education.  
**30h (T); E**
- EMA 201 Introduction to Administrative Theories 2 Credits**  
Development of administrative theories from the classical approach to the behavioural approach (theory X, theory Y and contingency theory).  
**30h (T); C**
- EMA 202 Introduction to Educational Planning 2 Credits**  
History of educational planning. Types of planning: manpower requirements, social demand, and rate of return / cost benefit analysis approaches. Conditions for success in educational planning. Relationship between educational planning and economic planning. Political and economic functions of educational planning. Problems and issues in planning education in Nigeria.  
**30h (T); C**
- EMA 203 School Management Laws and Standard Procedures 2 Credits**  
Laws as the basis of educational administration. A critical analysis of the education laws of Nigeria. Issues and problems in legislation for education. Recruitment, deployment, discipline and certification of teachers. Maintenance of school buildings and supply of equipment. Purpose, and storage of equipment. Preparation of reports.  
**30h (T); C**
- EMA 204 Education and National Development 2 Credits**

Concepts and constituent elements of political and economic dimensions of educational and national development. Introduction to the comparative analysis of the relationship between educational system and the political and economic system. Case study of the relationship between educational planning and development planning in one selected country from any of the following regions of the world: Africa, Asia, North America, Latin America and Western Europe.

**30h (T); E**

- EMA 205      Historical Development of Educational Management in Nigeria      2 Credits**  
Development of educational administration in Nigeria before Lugard's period. Development of British colonial education policy in West Africa in general and Nigeria in particular.  
**30h (T);E**
- EMA 206      School Plant Planning, Operation and Management      2 Credits**  
Critical approach to the problems of school plant planning: design, siting, building materials, ventilation, space accommodation and utilization.  
**30h (T); C**
- EMA 207      Use of Computer in Educational Management      2 Credits**  
Computer and the information age. Current major uses of computers in educational management functions: data and information processing, information storing and retrieval and data transmission. Introduction to programming principle.  
**30h (T); C**
- EMA 208      Elements of Financial Accounting in Education      2 Credits**  
Accounting terms e.g. assets, liabilities, debit, credits, etc. Basic principles of accounting including receipts and payments, income and expenditure accounts. Double entry book-keeping. Balance sheet, cash book, petty cash system.  
**30h (T); C**
- EMA 209      School-Community Relations      2 Credits**  
Development of school and community relations. Participation of community members in planning school programmes. Co-operation through appropriate agents and agencies. Relationship of school personnel with the public.  
**30h (T); E**
- EMA 210      Collective Bargaining and Nigeria's Educational Institutions      2 Credits**  
Evolution of collective bargaining. Components in the collective bargaining process. Relationship between unions and management including grievance procedures. Issues in education and bargaining.  
**30h (T); E**

<b>EMA 211</b>	<b>Communication in Education</b> Communication skills, communication process, organizational communications, organizational structures for communicating. Communicating with the public. Barriers to communication. <b>30h (T); E</b>	<b>2 Credits</b>
<b>EMA 212</b>	<b>Professional Ethics in Education</b> Concept of profession in teaching. Role of training in the development of teacher professional ethics. Laws (sources, types and implications) guiding teaching profession in Nigeria. Teachers codes of conduct and discipline <b>30h (T); C</b>	<b>2 Credits</b>
<b>EMA 301</b>	<b>Case Studies in Educational Management</b> Administrative and organizational theories as applied to the analysis of the purposes, functions, and norms of educational systems. Principles and practices in educational administration. Actual and hypothetical cases to illustrate theoretical analysis. <b>30h (T); E</b>	<b>2 Credits</b>
<b>EMA 302</b>	<b>Quantitative Methodology in Educational Planning</b> Analysis and appraisal of statistical data in Education. Evaluation of techniques used in educational planning. Projections, programming and detailed allocation of costs. Feasibility testing and consideration of alternatives. <b>15h (T), 45 (P); C</b>	<b>2 Credits</b>
<b>EMA 303</b>	<b>Managerial Decision-Making</b> Concept of decision-making. Approaches to decision making and the decision making process. Factors affecting decision-making process. Requirements for decision-making. Decision making problems. Model building. Concepts of Management Information System (MIS). MIS in school. Problems of MIS. <b>30h (T); E</b>	<b>2 Credits</b>
<b>EMA 304</b>	<b>Practicum in Educational Management I</b> Uses of simple techniques: histogram, progression table, flow charts etc. Enrolment forecasting and other techniques for administrative and policy problem solving in Education. <b>15h (T), 45 (P); C</b>	<b>2 Credits</b>
<b>EMA 305</b>	<b>Leadership in Formal Organization</b> Concepts of power and authority. Problems of leadership in complex organizations: schools, universities, hospitals, business firms, the military and public bureaucracies with emphasis on role of major executives. <b>30h (T); C</b>	<b>2 Credits</b>

- EMA 306      Change and Innovation Processes In Formal Organization      2 Credits**  
 Deliberate and non-deliberate types of change. Administrative strategies for promoting desired changes in organizations: schools, universities, military, business firms, and public bureaucracies with focus on structural design, human relations strategies, evaluation process, long range strategic planning, political, and economic dynamics. Evaluation of programmes and institutions.  
**30h (T); C**
- EMA 307      School Mapping      2 Credits**  
 Rationale for school location planning. Conceptual groundwork. Choice of statistical unit and parameters. Diagnosis of enrollment, staffing conditions and facilities utilization rates. Factors influencing school location.  
**30h (T); E**
- EMA 308      Supervision of Instruction      2 Credits**  
 Aims, purposes, patterns and processes of supervision. Functions and duties of a supervisor. Curriculum development, analysis of classroom activities and improvement of instruction through supervisory techniques. Trends in supervision and accepted procedures for observation.  
**30h (T); C**
- EMA 309      Trends in Nigerian Education      2 Credits**  
 Overview of major forces influencing educational change and innovation in Nigeria. Recent trends in the development of primary, secondary and university education in Nigeria. The National Policy on Education of 1977 and other reforms in the educational system.  
**30h (T); E**
- EMA 310      Introduction to Group Dynamics in Education      2 Credits**  
 Meaning and importance of groups. Types of groups. Rationale for group formation. Technology and work group in education.  
**30h (T); E**
- EMA 401      Politics of Education      2 Credits**  
 Politics of educational reform and policy making. Case study of the politics of educational innovation in selected countries. Inter-organizational relations among local school boards, ministries of education and other governmental bodies responsible for educational policy making and implementation. Education, political recruitment and merit.  
**30h (T); E**
- EMA 402      Economics of Education      2 Credits**  
 Human resources development. Problems of manpower planning. Social and economic implications of educational planning.

Education and jobs. Education and income. Private returns to investment in education. Cost analysis in education, cost effectiveness and the costing of educational plans.

**30h (T); C**

- EMA 403      Policy Analysis in Education      2 Credits**  
Analysis of the decision-making process in complex organizations. Impact of power, resources, organizational structure, information and enrolment, decision making models and their implications for educational administration. A critical analysis of policy documents and reports in Nigerian education. Role of interest groups in the process of policy formation and review. Issues of Universal and Basic Education.  
**30h (T);C**
- EMA 404      Practicum in Educational Management II      2 Credits**  
Management techniques in Educational planning and administration. Practical work on PPBS, PERT, System Analysis, Delphi and Model Building. Analysis and grading of jobs in various sections of the educational system.  
**15h (T), 45h (P); C**
- EMA 405      Administration of Primary and Secondary Education in Nigeria      2 Credits**  
Current administrative and organizational structures in the management of Nigerian primary and secondary schools. Power, authority and functions of Local and State School Boards, Principals and teachers. Influence of Parents-Teachers Association (PTA) on School Management for potential reforms.  
**30h (T); C**
- EMA 406      Personnel Administration and Evaluation      2 Credits**  
Job analysis, work load analysis and specification of credentials. Recruitment, selection and development of teachers and supportive staff. Administrator-teacher relations. Career patterns in Nigerian education today. Code of ethics. Merit rating and evaluation for advancement and promotion.  
**30h (T); C**
- EDU 415      Educational Planning and Management in Education      2 Credits**  
A broad overview of the basic principles, theories, goals and techniques of management studies in education. Concept of Educational Management, functions of Educational Management, Management Principles, leadership in school administration management, decision making in schools, staff motivation, supervision in schools etc.  
**30h (T); C**
- EMA 408      Educational Finance      2 Credits**

National and state budgets in relation to education. Government and private financing of primary, secondary, post-secondary, university and non-formal education. Principles and practice of school budgeting and salary scheduling.  
**30h(T); C**

- EMA 409 Contemporary Issues in Educational Management 2 Credits**  
Conflict and conflict resolution. Discussion of current issues and problems of the educational system with a view to proffering solutions.  
**30h (T); C**
- EMA 410 Internship in Educational Management 2 Credits**  
Attachment to educational organizations. Students will write and submit individual reports for grading.  
**90h (P); C**
- EMA 411 Administration of Early Childhood and Primary Education in Nigeria 2 Credits**  
Organization of early childhood and primary education. Proprietorship of early childhood and primary education. Legal basis of pre-primary and primary education. Problems and prospects of early childhood and primary education.  
**30h (T); E**
- EMA 412 Establishing New Schools 2 Credits**  
Rules and regulations guiding opening of new schools: early childhood, primary, secondary and tertiary. Financing new schools. Resource requirement for starting a new school site. Human and material resources administration, supervision, quality assurance, etc. Challenges of opening new schools.  
**30h (T); E**
- EMA 413 Administration of Post-Secondary Education 2 Credits**  
Types of post-secondary educational institutions: polytechnic, colleges of technology, universities and colleges of education. Organizational and administrative structures in each type of institution. Academic and manpower factors responsible for differences in structures. Staff, student, financial and physical plant administration. Functions of major executive in these institutions.  
**30h (T); C**

## SUMMARY

### 100 Level

<b>Compulsory Courses:</b>	EMA 101(2), 102(2), 103(2), 105(2), 106 (2), 107(2), 108(2) = 14 Credits	
<b>Required Courses:</b>	EDU 111(2), 112(2), 116(2), GNS 111(2), 112(2)	= 8 Credits
<b>Electives Courses:</b>	<b>A:</b> At least 4 Credits from the following: EMA 104 (2), 109 (2), 110 (2)	= 4 Credits
	<b>B:</b> At least 6 Credits from the following teaching subjects: (i) ACC 101(3), 102(3), 104(3) (ii) PLB 101(3), 108(2), ZLY 101 (2) (iii) CHM 101(3), 112(2), 115 (2), 116 (1), 132(2) (iv) ECN 101(3), 102(3), 103(2), 104(2), 105(2), 106(2) (v) ENG 101(2), 102(2), 105 (2), 114(2) (vi) GPE 121 (3), 122(2), 131(3), 132 (3), 141(3), 193 (3), 195 (3) (vii) HIS 101 (3), 102 (3), 105(3), 106 (3) (viii) LIY 101(3), 103(3), 104(3), 107(3) (ix) MAT 111(3), 112(3), 114(3), 117(3) (x) POS 111 (3), 112(3), 114(3), 117(3) (xi) ARA 121 (3), 122(2), 124(3), 125(3) (xii) RCS 121(3), 122(2), 123(2), 124(2) (xiii) RIS 121(2), 122(2), 123(2), 124(1), 125(3) = 6 Credits	
		<b>Total = 34 Credits</b>

### 200 LEVEL

<b>Compulsory Courses:</b>	EMA 201(2), 202(2), 203(2), 206(2), 207(2), 208(2), 212(2)	= 14 Credits
<b>Required courses:</b>	EDU 201 (2), 202 (2), 203(2), EDU 214(2), GNS 211(2), 212(2)	= 12 Credits
<b>Direct Entry Students:</b>	GNS 111(2), 112 (2)	= 16 Credits
<b>Elective Courses:</b>	<b>A:</b> At least 4 Credits from the following:	

EMA 204 (2), 205 (2), 209 (2), 210(2), 211(2) = 4 Credits

**B:** At least 6 Credits from teaching subjects:

- (i) ACC 201 (3), 204(3), 205(3), 214 (3)
- (ii) ANP 205 (3), 206(2), 207 (2)
- (iii) PLB 201 (3), 202 (3), 203 (3), 204 (3), ZLY 201 (3), 202 (3), 206 (2)
- (iv) CHM 235 (3), 236 (3), 212 (3), 213 (2)
- (v) ECN 201 (3), 202 (3), 205 (2), 206 (2)
- (vi) ENG 205 (3), 206 (3), 219(2), 223 (3)
- (vii) GPE 221 (2), 222(2), 223(2), 231 (3), 232(2), 294 (2)
- (viii) HED 204(3), 205(3), 206(3), 207(3)
- (ix) HIS 201 (3), 202 (3), 205 (3), 207 (3)
- (x) LIY 201 (2), 202 (3), 203 (3), 205(3), 207(3)
- (xi) MAT 201 (3), 203(3), 206(3), 208 (2), 212 (3)
- (xii) POS 211 (3), 213 (3), 214 (3), 218 (3)
- (xiii) ARA 222 (3), 223(2), 224(2), 227( 2), 228(2)
- (xiv) RCS 221(3), 224(2), 226(1), RCR 201(3), 204(1)
- (vx) RIS 221 (2), RIS 222 (3), 223(2), 224 (1)

= 6 Credits

**Total = 36 Credits**

**Direct Entry = 40 Credits**

### 300 LEVEL

**Compulsory Courses:** EMA 302(2), 304(2), 305 (2), 306 (2), 308 (2) =10 Credits

**Required Courses:** EDU 301 (2) 302 (2), 303 (2), 304 (3), 305 (2), GNS 311(2),  
301(3), 306 (2) = 18 Credits

G S E

**Elective Courses:** **A:** At least 4 Credits from the following:  
EMA 301 (2), 303(2), 307(2), 309(2), 310(2)= 4 Credits

**B:** At least 6 Credits from the following teaching subjects:

- (i) ACC 301 (3), 302 (3), 303 (3), 305 (3), 308 (3)
- (ii) ANP 301 (2), 302 (2), 305 (3)
- (iii) PLB 301 (3), 302 (3), ZLY301 (2), 302 (3), 303 (3)
- (iv) CHM 301 (3), 302 (2), 324 (3), 325 (2), 329 (2), 331 (3)
- (v) ECN 309 (2), 310 (2), 312 (2), 314 (2)
- (vi) ENG 304 (2), 325(2), 326(2), 328 (2), 329 (2)



- (vii) EDU 301 (3), 303(3), 304 (3), 307 (2)
  - (viii) HIS 301 (3), 302 (3), 303 (3), 304 (3),305 (3) 308 (3), 309 (3), 312 (3)
  - (ix) LIY 301 (2), 303 (3), 305 (3), 306 (3), 309 (3), 310(3)
  - (x) MAT 306 (3), 311 (3), 313 (3), 327 (3), 332 (3)
  - (xi) POS 311 (2), 312 (2), 314 (2), 315 (2), 318 (2), 323(2)
  - (xii) ARA 321 (2), 325(2), 326 (3), 328 (3)
  - (xiii)RCS 321 (2), 322 (2), 325 (3), 328 (2), 329(1), 330(2)
  - (xiv)RIS 321 (2), 322 (2), 323 (2), 324 (3), 325 (2), 326 (2)
  - (xv)GPY 221 (2), 222 (2), 223 (2), 231 (3), 232 (2), 294 (2)
  - (xvi)RCR 321 (3), 324 (1), RCS 332 (2) = 6 Credits
- Total = 38 Credits**

**400 LEVEL**

**Compulsory Courses:** EMA 403 (2), 404(2), 405(2), 406(2), 408(2), 409(2), 410(2), 413 ( 2 ) ,  
499(4), EDU 415 (2), = 22 Credits

**Required Courses:** EDU 411(2), 412(2), EDU 413(2), SSE 414(2), 416(2), EDU 417(2)  
=12 Credits

**Electives Courses:** At least 4 Credits from the following: EMA  
401(2), 402 (2), 411(2), 412 (2) = 4 Credits

**Total = 38 Credits**

**Graduation Requirement:**  
UTME = 146 Credits  
DE = 116 Credits

## Course Description

### **B.A. (Ed.)/ B.Sc. (Ed.) Educational Technology**

**EDT 111 Introduction to Historical and Philosophical foundations of Educational Technology 2 Credits**

Historical and philosophical background and effects of educational technology at the global and local levels. Various philosophical schools of thought and their impact on the theory and practice in Educational Technology.

**30h (T); C**

**EDT 112 Science, Technology and Sustainable Development 2 Credits**

Impact of scientific and technological development on the cosmic and human environment and their interaction with the total environment. Impact of technology on socio-cultural and economic development: poverty alleviation, maintenance culture, agriculture, industrialization, community development, health education, sport, water supply and urbanization. Sustainability principles and ecological balance of technology. Social responsibilities of technologist to the six human needs: food, water, energy, shelter, education and health.

**30h (T); C**

**EDT 113 Introduction to Graphics in Education 2 Credits**

Fundamentals and concept development on typography, composition, and color. Differences between ordinary images and powerful and effective graphics for instruction. Color and its implications for instructional designers; ideas of space and the use of color to solve spatial problems Color quality, combination harmony and interaction for instructional purposes.

**15h (T); 45h (P); E**

**EDT 114 Computers in Education 2 Credits**

Background, types, functions, components and other relevant features of the computer and its role globally in education. Practical operations of computer in teaching and training. Integrating Microsoft Word, Excel, PowerPoint, and database software tools into teaching and learning.

**15h (T); 45h (P); C**

**EDT 115 Introduction to Photography in Education 2 Credits**

Concept and history of photography in education. Types of camera. Light and the human eye. Photographic lenses, exposure control, ISO, apertures, depth of field and shutter speeds; aperture setting, darkroom activities, processing of pictures, and post processing. Filters, extension tubes and supplementary lenses, light meter and exposure methods. Elements for good instructional photographs.

**15h (T); 45h (P); E**

- EDT 116      Educational Technology in Pre-Primary and Primary Education      2 Credits**  
Integration strategies and skills for using instructional technology and educational software, digital media, and information technologies appropriate to pre-primary and primary school teaching environments. Selection of appropriate instructional technologies for use in the classroom; production for technology-based instructional materials, evaluation and validation of a variety of instructional materials.  
**30h (T); E**
- EDT 117      Principles of Distance Education      2 Credits**  
Theories, paradigms, and the history of distance education. Distance learning technologies. Critique of current research and assessment of online learning (blended and fully online delivery). Accessibility issues, open source, best practices to facilitate learning, global trends, and mass higher education. MOOC paradigm, synchronous versus asynchronous platforms.  
**30h (T); E**
- EDT 118      Psychological and Sociological Foundation of Educational Technology      2 Credits**  
Various psychological and sociological schools of thought in educational technology; effects on the theory and design of the school curriculum and welfare of the society generally.  
**30h (T); C**
- EDT 119      Introduction to Instructional Materials Design, Production and Utilization      2 Credits**  
Project management and basic skills in instructional design and development. Project design based on major learning theories; constructivism, cognitivism, and behaviorism. Determination of instructional content, accurate identification of learner characteristics and effective instructional strategies. Class activities, collaboration and reflection on situations for which learning or other solutions may be required.  
**15h (T), 45h (P): C**
- EDT 120      Introduction to E-Learning      1 Credit**  
Concepts of e-learning, means of delivering e-learning, maintenance and evaluation of e-learning system, e-learning technique, advantages and disadvantages. Designing for the virtual classroom. Planning: technology, products, budget and marketing. Limitations and challenges of e-Learning.  
**15h (T); E**
- EDT 121      Instructional System Design      2 Credits**

Concepts and principles of instructional design (ISD). Complexities of designing instruction in the context of educational and corporate training environments. Classic ISD theories and models; application of ISD theories and models to educational or corporate context.

**30h (T); E**

**EDT 122      Introductory Computer Graphics and Imaging      2 Credits**

Image input and output devices: cameras displays, graphics hardware and software, input technologies and interactive techniques. Typography, page layout, light, colour representations, tone reproduction, image composition, imaging models, digital signal processing, aliasing and anti-aliasing, compression, 2-D and 3-D geometry and transformations. Modeling techniques: curves, surfaces, reflection and illumination algorithms. Digital graphic software application.

**15h (T); 45h (P); E**

**EDT 123      Educational Technology in Secondary Education      2 Credits**

Developing integration strategies and acquiring skills for using instructional technology and educational software; information technologies appropriate to basic school and secondary school teaching environments. Selection of appropriate instructional technologies for use in the classroom; production of technology-based instructional material, evaluation and validation of media resources.

**30h (T); E**

**EDT 124      Production Practical I      2 Credits**

Introduction to Educational Technology Workshops/Laboratories: Graphic, Audio, Video Production Studios, Computer Laboratories, Maintenance Workshops. Materials, tools and equipment in Educational Technology workshops. Safety Precautions and ethics in the workshops. Production of elementary instructional materials for pre-primary, primary and secondary school levels. Integration of instructional materials into school settings.

**90h (P); C**

**EDT 205      Introduction to Educational Technology      2 Credits**

Meaning and Scopes of Educational Technology. Models of communication and implication for Educational Technology. Types of Media Production and Basic Characteristics of Layout. Manipulation of Hardware and Audio-visual equipment.

**15h (T), 45h (P); C**

**EDT 211      Audio-Visual Techniques      2 Credits**

Audio and visual techniques and their synchronization principles and practices. Practical demonstration: audio-graphics, audio-transparency, audio-pictorial, audio-slide. production. Video recording and evaluation of the production

**15h (T), 45h (P); C**

- EDT 212      Introductions to Library Studies      2 Credits**  
Growth and development of the library: types, functions, diversion and roles. Personnel and management of the library. Visit to university, school, state and other libraries. Alternative strategies to the library in rural communities.  
**30h (T); C**
- EDT 213      Educational Audio and Radio Production      2 Credits**  
Scriptwriting for educational audio/radio production. Format and style of each type of writing. Overview of the recording studio. Basic studio electronics and acoustic principles: sound in recording, sound reinforcement, waveform analysis, microphone design and placement techniques, studio set up and signal flow. Recording console theory, signal processing concepts, tape machine principles and operation. Overview of mixing and editing.  
**15h (T), 45h (P); C**
- EDT 214      Instructional Communication Models, Media, Principles and Techniques      2 Credits**  
Communication models. Mass and instructional media: computers, internet and e-mails. Communication principles and techniques form, focus of the course in teaching and learning situation. Types, functions, structures, characteristics and relevance of instructional communications.  
**30h (T); C**
- EDT 215      Designing Instruction for Distance Education      2 Credits**  
Learning styles, learning theory, social networking and collaborative group influences, assessment, global perspectives, and diversity. Effective online educational experiences from education and the workplace. Developing, field testing, and revising a web-based unit. Engaging instructional electronic strategies to enhance design and development.  
**30h (T); E**
- EDT 216      Learning Theories and Educational Technology      2 Credits**  
Learning theories and their application to educational technology: behaviourism, cognitivism, constructivism and connectivism. Use of a variety of theories: multiple intelligences, constructivism. Computers as mind tools, brain-based learning, and connectivism to learn how technology facilitates learning. Challenges regarding the use of constructivist and collaborative activities for learning and solutions for overcoming these barriers.  
**30h (T); E**
- EDT 217      Internet in Education      2 Credits**  
Use of the Internet and the World Wide Web in educational settings; strategies for effective student and teacher use. E-mail, web-browsing, videoconferencing, implementation, ethics and issues. Alternatives in web development.

**30h (T); E**

- EDT 218      Leading and Managing Educational Technology      2 Credits**  
Leadership in the integration of technology in business and education. Strategic planning, administrative functions, systems acquisition, coordination, implementation, technology management and its implications for teaching and learning. Policies on human resource development, staff development, information access, security, management control, and evaluation.  
**30h (T); E**
- EDT 219      Print Media: Design and Technology (Printing Technology)      2 Credits**  
Historical background and development of print technology from its inception in Egypt, Mesopotamia and China to the present age of computer technology. Case studies and visit to printing press and associated sectors. Desktop publishing for education. Digital printing software. Colour: colour settings, balance, saturation and printer profiles, preparing files for print out; resolution, pixel dimensions, interpolation, print preview. Preview, prediction and proofing using profiles, and creative hand-printing techniques. Montage/composite prints, masking, pen tools and processes. High-resolution cut-outs: paths, keyboard short cuts, conversion to selections. Layers and smart filters.  
**15h (T), 45h (P); C**
- EDT 220      Media Literacy      2 Credits**  
Media literacy applied in critical thinking skills for analyzing the source of information. Media: awareness of the impact on individual and society; process of communication; critical approaches to analyze and discuss media messages; awareness of media content and the cultivation of an enhanced enjoyment, understanding, and appreciation of media content.  
**30h (T); E**
- EDT 221      Educational Technology in Teaching (Educational Technology I)      2 Credits**  
Introduction to the field of educational technology and its impact on teaching and learning. Skills, insight, and practice in selecting, using, producing, and managing instructional technology tools in the primary, secondary and higher institution setting. Strategies for integrating technology into all aspects of teaching and learning. Emerging trends and issues in educational technology for teaching.  
**30h (T); C**
- EDT 222      Cinematography Educational Video and Television Production      2 Credits**  
Storyboard and script writing, graphic design, editing, instructional design and directing; film, video and audio production. Sound engineering, animation, film editing, digital media, cinematography. Practical hands-on experience: operation of large format computer-automated mixing console and multi-track recording and computer. Production and post-production of audio and television production. Camera setup and operation, field audio, television directing, in-camera/basic continuity editing.  
**15h (T), 45h (P); C**

<b>EDT 223</b>	<b>Technologies for Special Education (Diverse Learners and Technology) 1 Credits</b> Technology to bridge achievement gap for students from culturally, economically, and linguistically diverse backgrounds. Technology for varying ability levels; assistive technologies for students with special needs; and technology as a tool to engage and motivate gifted students. Case study scenarios to demonstrate students' understanding of course content, and adaptation of curriculum to meet needs of diverse learners. <b>30h (T); E</b>
<b>EDT 224</b>	<b>Introduction to Edutainment 2 Credits</b> Overview of instructional elements in technology-based edutainment: cartoons, TV programmes, movies, digital games, and smart phones. Research on practical application of edutainment in classroom settings through experimentation and play. <b>30h (T); E</b>
<b>EDT 225</b>	<b>Educational Games and Simulations 2 Credits</b> Theory and implementation of implementation of games, simulations, and virtual environments for improved instructional engagement. Include evaluation methods and socio-cultural implications <b>30h (T); E</b>
<b>EDT 226</b>	<b>Production Practical II 2 Credits</b> Production of Audio, Visual and Audio-Visual materials for specific area of discipline. Practical demonstration of skills in tools manipulation, projection techniques and audio-visual techniques. Integration of theory and practice to simple tools maintenance. <b>90h (P); C</b>
<b>EDT 227</b>	<b>Design, Development and Evaluation of Educational Software 2 Credits</b> Overview of computer aided instruction (CAI): types of CAI, features, advantages and limitations of different CAI modes, strengths and weaknesses, and effective CAI. Learning theories application in courseware design and authoring. Planning and managing CAI projects. Designing and producing CAI. Evaluation and revision of CAI. <b>15h (T), 45h (P); E</b>
<b>EDT 228</b>	<b>E-Learning Programme Planning and Implementation 2 Credits</b> Instructional design processes in the planning and implementation of Web-based, e-learning programmes. Project-development cycle, identification of appropriate learning technologies and strategies, use of content-management systems, curriculum development and evaluation strategies. Different types of e-learning environments, and accessibility and usability for a wide range of learners. <b>15h(T), 45h (P); E</b>
<b>EDT 229</b>	<b>Learning Theories, ISD Models, and E-Learning 2 Credits</b>

Overview of learning theories and their relevance to e-learning, e-learning theories and methodology, evaluation of e-learning models and learning theories, three categories of ISD (Classroom Orientation, Product Orientation, and System Orientation) in e-learning

**30h (T); E**

- |                |   |                  |
|----------------|---|------------------|
| <b>EDT 230</b> | <b>ICT and Teacher Education</b>  | <b>2 Credits</b> |
|                | ICT in teacher education (pre-service and in-service), ICT and teachers' skills for the 21 <sup>st</sup> century, teachers' ICT skills (UNESCO ICT Competency Framework for Teachers [ICT-CFT], ISTE Educational Technology Standards for Teachers, guidelines for teacher training and professional training in ICT. |                  |
|                | <b>30h (T); E</b>   |                  |
|                |   |                  |
| <b>EDT 311</b> | <b>Microteaching and Observation</b>  | <b>2 Credits</b> |
|                | Practical observation of expertise and microteaching to develop skills in equipment manipulation and teaching events. Skills acquisition in sequencing, questioning, synchronization, overlaying, scripting and designing.  |                  |
|                | <b>15h (T), 45h (P); C</b>  |                  |
|                |   |                  |
| <b>EDT 312</b> | <b>Educational Technology I: Software</b>   | <b>2 Credits</b> |
|                | Categories of instructional software: components, design, production strategies, utilization principles and evaluation techniques. Production of instructional.   |                  |
|                | <b>15h (T), 45h (P); C</b>  |                  |
|                |   |                  |
| <b>EDT 313</b> | <b>Low-Cost Technology in Education</b>   | <b>2 Credits</b> |
|                | Design and production of improved instructional materials using locally available inputs. Basic design principles and production strategies based on the ASSURE and ADDIE and other known models. Production, utilization and evaluation of low-cost instructional packages and for use of community resources.       |                  |
|                | <b>15h (T), 45h (P); C</b>  |                  |
|                |   |                  |
| <b>EDT 314</b> | <b>Instructional Materials Design and Multimedia Application</b>  | <b>2 Credits</b> |
|                | Instructional hardware design, components, structures operation and care in line with current situations in Nigeria. Interactive multimedia application of presentation software: Power point, digital editing and use of Liquid Crystal Display.   |                  |
|                | <b>15h (T), 45h (P); C</b>  |                  |
|                |   |                  |
| <b>EDT 315</b> | <b>Distance Learning Models and Technologies</b>  | <b>2 Credits</b> |



Comparative approaches to distance learning models: historical background, open models and their technologies, associated problems, merits and philosophy. Situation similar to Nigeria will be explored closely; Youth and adult education skills, certification and technology used.

**15h (T), 45h (P); C**

**EDT 316 Administration and Management of Learning Resource Centres 2 Credits**

The basic planning, administration and management principles will be applied to resource centre. Emphasis on the different types of budgeting, theories and practices of leadership, organizational structures and functions will be related to resource centres in Nigeria.

**30h (T); C**

**EDT 317 Podcasting: Delivering Content with Audio and Video Podcasts 2 Credits**

Basics of podcasts (definition, searching for, subscribing to, listening to/watching). Audio and video editing skills for creating podcasts Creation of audio and video podcasts. Advanced video projects containing PowerPoint slides, video, still shots, text and more.

**15h (T); 45h (P); E**

**EDT 318 Managing Technology Resources for Education 2 Credits**

Installation, maintenance and troubleshooting of a variety of operating systems, data networks and distance learning systems in educational context. Focus on management, support, and delivery options.

**30h (T); E**

**EDT 319 Internship in Educational Technology 2 Credits**

Guided and supervised observation and practice in the applications of technology to a specified educational setting. Emphasis on a practical application of knowledge and skills gained throughout the programme. real-world, problem-solving project within work environment.

**90h (P); E**

**EDT 320 Educational Broadcasting 2 Credits**

History, philosophy and techniques of education broadcasting are as related to radio and television in Nigeria. Design of storyboard and use of natural effects, editing and editorial processes and the structure of the broadcast media in Nigeria and other nations.

**15h (T), 45h (P); C**

**EDT 321 Low-Cost Technology I 2 Credits**

Basic assumption, instructional systems, basic processes of learning and instruction, intellectual skills and strategies, learning capabilities, tasks and job analysis, instructional sequence and events, media selection, performance assessment, instructional delivery systems and instructional evaluation.

**15h (T), 45h (P); C**

- EDT 322 Principles of Instruction 2 Credits**  
Philosophical foundations of instruction, Psychological foundations of instruction, Concept in Education related to teaching. Basic preparation for classroom instruction. Formal instructional methods; innovation in teaching and learning.  
**30h (T); C**
- EDT 323 School Resource Management 2 Credits**  
Sources and uses of fiscal resources in education including underlying concepts from economic theory, the impact of values on fiscal policy, state funding formulas, and school budgeting and accounting practices on school resource management.  
**30h (T); E**
- EDT 324 Computer Art, Animation and Visual Effects 2 Credits**  
Advanced digital applications for producing educational films. Computer animation and visual effects, Working with 2-D and 3-D computer graphics within computer animation, visual effects and motion graphics in modeling, lighting, texturing, dynamics, character animation and motion capture. Visual effects feature in digital video, greenscreen studio production, compositing, rotoscoping and VFX animation.  
**90h (P); E**
- EDT 325 Learning Management System (LMS) 2 Credits**  
Concept of Learning Management System (LMS).Relevance of LMS to learners, teachers and institutions. Categories of LMS: proprietary (e.g. Blackboard) and free and open source (e.g.) Moodle. Practical hands-on experience on the application of LMS. Integration of other e-resources in LMS to create a communities of practice environment. LMS and Web 2.0.  
**15h (T) 45 (P); E**
- EDT 326 Social Media in the Classroom 2 Credits**  
Use of social media in education, including creating and maintaining social media, Nature and purpose of social media; Types of social media, social media promotion, social media disclosure guidelines, and ethics in educational use of social media.  
**15h (T), 45h (P); E**
- EDT 327 Production Practical III 2 Credits**

Skills and attitudes acquired in the course and designed to identify and solve any related educational problem through the principles and practices of educational technology. Production seminar on approved topic with a view to producing the final creative instructional package.

**90h (P); C**

- EDT 328      Advanced Digital Capturing and Streaming      2 Credits**  
Concepts of digital capturing and manipulations. Digital imaging and traditional photographic ideas with digital media. Use and functions of digital cameras, shooting techniques, editing operations and output options. Time-based media capture techniques and music streaming techniques. Application of photography software for online streaming  
**15h (T), 45h (P); E**
- EDT 329      Fundamentals of Interactive Design      2 Credits**  
Imaging software. Development of the basic skills needed to create digital graphic design. Software for the design solutions for various media applications such as print, web, and multimedia. Developing, designing and maintaining Web pages  
**15h (T), 45h (P); E**
- EDT 411      Advanced Library Studies      3 Credits**  
Ordering, documentation, indexing, classification, borrowing procedure, inter-library services, computerisation and other library machines, including ultra-forms, micro forms and internet/website as elements of globalise libraries.  
**15h (T), 45h (P); C PR: BET 202**
- EDT 412      Instructional Materials Evaluation Techniques      2 Credits**  
Overview of concepts of assessment, measurement, and evaluation. Evaluation approaches, techniques, tools, and philosophies as they apply to current and future applications of technology in educational environments. Evaluation for variety of technologies, strategies for evaluation, evaluation models, and identification of past and current trends in the use of technology to support learning.  
**30h (T); E**
- EDT 413      Information Management and Technology      2 Credits**  
Theories, principles and practises; gathering, processing, transmission and consumption, journalistic demands and ethics of information management will be examined. All forms of information storage and retrieval systems including the trade media, modern, photographic and reprographic systems are important requirement of the course.  
**30h (T); C**
- EDT 414      Web-Based Multimedia Instruction      2 Credits**

Principles of design and development of multimedia for online education. Knowledge and skills on how to create, capture, prepare, and publish multi-media (textual, audio, video) products using a variety of multimedia authoring tools. Multi-media streaming.  
**15h (T), 45h (P); C**

**EDT 415      Mobile Appliances for Teaching and Learning      2 Credits**  
Introduction to mobile learning (m-learning). Types of mobile devices, types of mobile apps (Free and Commercial, Installed and cloud based SaaS, integrated, etc.), advantages and limitations of mobile learning, Web 2.0 technologies and mobile learning.

**15h (T), 45h (P); C**

**EDT 416      Social Media for Learning      2 Credits**  
Collaborative and emergent pedagogies, tools, and theory related to the use of social media in learning environments. Hands-on experience with a variety of social media tools, create community of practice for learning, create a community-based resource, and have an opportunity to develop a global professional network for educational technologists.

**30h (T); E**

**EDT 417      Research and Statistics in Educational Technology      2 Credits**  
Types of research in educational technology; design and development, descriptive, experimental. Methodological factors in educational technology research, and data collection in educational technology research. Analysis of educational technology research data (measure of central tendency and variability, one and two sample tests, confidence intervals, chi-square, etc.), using statistical software, and reporting educational technology research.

**15h (T), 45h (P); E**

**EDT 418      Production Seminar      2 Credits**  
Relevant knowledge, skills and attitudes acquired in the course and designed to identify and solve any related educational problem through the principles and practices of educational technology. Production seminar on an approved topic with a view to producing the final creative instructional package.

**90h (P); C**

**EDT 419      Community Resources and Development      2 Credits**  
Community resources identification, mobilization, recruitment and utilization principles and techniques; human and non-human resources as related to education and development. Practical approach to this course will be adopted based on mini-project techniques.

**15h (T), 45h (P); C**

**EDT 420      Educational Technology III: Processes and Settings      2 Credits**

Combined effects of technological processes and settings on the learning audience, given technological hardware and software. Associated theoretical background, moderating effects of newer technologies and human interference are important; man-machine interaction and requirements for technological evolution.

**30h (T); C**

- EDT 421      Computer Mediated Communication and Collaboration      2 Credits**  
Use of computer-mediated communication (CMC) and computer-supported collaborative learning (CSCL) in online learning environments. Exploration, assessment, and utilization of a variety of current and emerging Web 2.0 technologies to collaborate, share, and deliver effective instructional resources and instruction to f2f, blended or virtual learners.  
**30h (T); E**
- EDT 422      Emerging and Future Technology in Education      2 Credits**  
Exploration of new scholarship, collaborative tools, social networking, wireless and mobile technologies, creative commons, fair use, user-created content, and virtual worlds. Multi-media presentation to analyze obsolete technology, assess new technology, and explore projections regarding future technological movements.  
**30h (T); E**
- EDT 423      Special Issues in Education Technology      2 Credits**  
Issues in media use, Ethical and fair use of instructional materials. Definitions and practices in copyright, fair use, and creative commons for media. Copyright in distance and blended learning. Copyright laws, plagiarism, intellectual property. Global trends in copyright laws. Copyright law in Nigeria. Obstacles to *educational* uses of *copyrighted* material in the digital age.  
**30h (T); E**
- EDT 424      Digital Video Fundamentals      2 Credits**  
Introduction to video production. Skills needed for video production. Videography and video editing for the creation of video based projects (documentaries, independent films, training videos and broadcasting/electronic news gathering).  
**15h(T), 45h (P); E**
- EDT 425      Practices and Applications in Online Learning and ICT in Education      2 Credits**  
Critical review of research in technology-supported education, development and design of successful education programmes, student success factors, creation and use of online courses. Solutions, best practices and emerging trends in integrating technology into the traditional and online classroom.  
**15h (T), 45h (P); E**

**Summary**  
**100 Level**

**Compulsory Courses:** EDU 111(2), 112 (2), (2), EDT 111 (2), EDT 112 (2), EDT 114 (2),  
EDT 118 (2), EDT 119 (2), EDT 124 (2) = **16 Credits**

**Required Courses:** GNS 111 (2), GNS 112 (2) EDT 113 (2), EDT 115 (2), EDT 116 (2),  
= **10 Credits**

**Elective Courses:** At least 8 Credits from the following:  
EDT 117 (2), EDT 120 (2), EDT 121 (2), EDT 122 (2), EDT 123 (2)  
= **8 Credits**  
**Total = 34 Credits**

**200 Level**

**Compulsory Courses:** EDU 211 (2), EDU 212 (2), EDU 213 (2), EDU 214 (2), EDU 215 (2),  
EDU 216,(2)EDT 203 (2), EDT 205 (2), EDT 214 (2), EDT 219 (2),  
EDT 221 (2), EDT 222 (2), EDT 226 (2) = **16 Credits**

**Required Courses:** GNS 211 (2), GNS 212 (2) EDT 211 (2), EDT 212 (2), EDT 213 (2)  
= **10 Credits**

**Elective Courses:** At least 6 Credits from the following:  
EDT 215 (2), EDT 216 (2), EDT 217 (2), EDT 218 (2), EDT 220 (2), EDT 223, (2) EDT 225 (2), EDT 224 (2),  
EDT 227 (2), EDT 228 (2), EDT 229 (2), EDT 230 (2) = **6 Credits**  
**Total = 32 Credits**

**300 Level**

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2) EDU 316  
(2).EDT 303 (2), EDT 311 (2), EDT 312 (2), EDT 313 (2), = **22 Credits**

**Required Courses:** EDT 314 (2), EDT 315 (2), EDT 316 (2), EDT 320 (2), GNS 311 (2), GSE 301  
(2) = **12 Credits**

**Electives Courses:** Any 4 Credits out of the following: EDT 321 (2), EDT 322 (2),

EDT 327 (2) EDT 317 (2), EDT 318 (2), EDT 319 (2), EDT 323 (2),  
EDT 324 (2) EDT 325 (2), EDT 326 (2), EDT 328 (2), EDT 329 (2)  
= 4 Credits

**Total = 38 Credits**

**400 Level**

**Compulsory Courses:** EDU 411 (4), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2), EDU 416  
(2), EDU 499 (4).EDT 411 (2), EDT 413 (2), EDT 414 (2), EDT 415 (2), EDT 418 (2), EDT 419 (2), EDT 420 (2),  
EDT 422 (2), = 34 Credits

**Elective Courses:** At least any 6 Credits out of the following: EDT 412  
(2), EDT 416 (2), EDT 417 (2), EDT 421 (2), EDT 423 (2), EDT 424 (2), EDT 425 (2)  
= 6 Credits

**Total = 40 Credits**

**.Graduation Requirements**

UTME = 144

DE = 114

## **B.Sc. (Ed.) Technology Education**

- TED 111 Introduction to Metal Working 2 Credits**  
Careers in metal work, safety rules and precautions in metal work laboratory. Basic hand tools and processes. Measuring and marking out.  
**30h (T); C**
- TED 112 Introduction to Woodworking Technology 2 Credits**  
Nature of wood; chemistry of wood; classification of wood into soft and hard wood; wood defects; hand tools, care and maintenance; annual rings and wood grains.  
**30h (T); C**
- TED 113 Building Construction I 2 Credits**  
Principles of design and foundation selection; design concepts and development. Constituents and properties of concrete and mortars. Building materials – rocks, stones, soils and clay products. Structural detailing.  
**30h (T); C**
- TED 114 Basic Technical Drawing 2 Credits**  
Basic drawing tools and equipment; uses and care. Basic drawing board practice. Free-hand sketching principles and processes. Roles of free-hand sketching in designing and communication in workshops. Drawing as a means of communication; Signs; Conventional representation Types of drawing; Lettering; Dimensioning; Construction; Reduction and Enlargement of Basic Geometric Shapes.  
**15h (T), 45h (P); R**
- TED 115 Electrical Technology 2 Credits**  
Nature of electricity, Electrical Units, Resistance and calculations-Ohms law, conductors and insulators, DC and DC circuits, concepts, components, units and theory. Circuit's analysis, power concepts and use of instrUTMENTS, unit symbols and abbreviation.  
**30h (T) C**
- TED 116 Basic Fundamentals of Industrial and Technology Education 2 Credits**  
Types of industrial technology education at various levels of Nigerian educational system and a few selected countries e.g. Subjects offered in Nigeria schools such as Junior Secondary School (J.S.S) which Basic Technology and Senior Secondary School (S.S.S) Technical subjects such as Technical Drawing, Woodwork, Electronics/Electricity; Technical Colleges – Electrical installation, Painting, Painting and Decoration, etc; Polytechnics – Civil Engineering, Mechanical Engineering, etc. including Vocational Technical Education Courses (Courses Offered at Colleges of Education and Universities).



**30h (T); C**

- TED 117      Introduction to Automobile Technology      2 Credits**  
Chassis: Purpose, Types, and Construction of various vehicle layouts. Engine: Different parts of engines and their functions. Types of Engine, Working principles of spark-ignition; Engine Dismantling; cleaning and assembling of simple components. The basic principles of automobile engines; its power source, transmission and compression.  
**30h (T); C**
- TED 118      Introduction to Electronics      2 Credits**  
Thermionic valves, semiconductor diodes, Power supplies – Rectification, filters, Amplification, Oscillators, Multi-vibrators, Radio Transmission and Receptions.  
**30h (T); C**
- TED 119      Introduction to Technology Education      2 Credits**  
Foundation of technical education: rationale, history and philosophy, vocational technical education. Vocational and technical institution and programmes. Career education, vocational and technology education in Nigeria; Prospects for National Development. Role of technology and its impact on educational development. Introduction to technology culture, requirements and expectations, the need for technology education for individual survival in the modern competitive world.  
**30h (T); E**
- TED 211      Building Construction II      2 Credits**  
Basic knowledge and skills in construction and finishing of simple building. Basic principles and methods of construction of foundation, methods of wall, floor, roof and stairway constructions. Introduction to parties associated with construction, introduction to methods of building (traditional building, conventional building, component building) building trades and roles, construction team and roles. Introduction to structural behavior, structural forces. Design factors in building, construction drawing and tools (site plan, plot plan, foundation plan, the elevations, electrical plan e.t.c.) shelters, sheds, and basic building operations.  
**30h (T); C**
- TED 212      Metalwork Technology II      2 Credits**  
Metal Precision measuring instrument and inspection gauges. Properties of metal, basic metal working processes. Introduction to machine tools.  
**30h (T); C**
- TED 213      Principles of Electricity      2 Credits** Measuring Instruments – Moving Iron, moving coil insulation resistance tester, Bells, Extension of Instrument ranges, Direct current generators and motors alternating current generators and motors, starting and control – losses, fault finding I.E.E Regulations.

30h (T); C

- TED 214      Woodwork Technology II      2 Credits**  
Carpentry and joinery. Machine wood working techniques; design of works and tools maintenance.  
30h (T); C
- TED 215      Auto-Engines      2 Credits**  
Principles of automotive technology. Types of automobile engines; construction of vehicle chassis and engines; engine cylinder arrangement. Differentiation of petrol and diesel engine, air and water cooled engines. Clutch and gearbox component and operating mechanisms. Functions of propeller shaft and universal joints. Introduction to engine problems, faults diagnosis and maintenance required. Decarburization of cylinder head, engine and valve timing.  
30h (T); C
- TED 216      Technical Drawing II      2 Credits**  
Fundamental concepts of pictorial, Isometric and oblique drawings; the characteristics and general application. Orthographic projection in first and third angles, multi-views and dimensioning.  
30h (T); C
- TED 218      Industrial Safety Measures      2 Credits**  
Safety measures in industrial layouts, accidents prevention, classes of fire and control, use of colours in the in industry in relation to safety. Equipment installation and operation repair and maintenance (types of maintenance). Safe handling of industrial materials. Pollution control chemicals and storage methods of promoting safety in the industry.  
Safety regulations and enforcement strategies.  
30h (T); C
- TED 219      Electrostatics/ Electromagnetism      2 Credits**  
Properties of electrostatics field, conductors in electrostatics field examples of potential difference, magnetic materials and their permeability, laws of electromagnetic induction, inductance, energy in inductors. Maxwell coulombs law.  
30h (T); E
- TED 220      Materials Technology      2 Credits**  
Introduction to types of materials for technological applications. Appropriate uses of wood, metals, plastics. Solid , liquid and gases for various technological applications. Ceramics, rubber, glass. Knowledge of various sources and properties of ceramics, rubbers and glass; methods of producing ceramics, rubbers and glass from their different sources known, the different constituents of glass and their different functions.  
30h (T); C

- TED 221      Management of Technology Education Workshop      2 Credits**  
 Planning, organizing and management of school workshop, organization structure and behavior principles and techniques of planning, organizing technical activities, manufacturing activities, utilization of resources for production including people; company structure, inventory of materials and tools/equipment, short and long term planning, human relation and industrial psychology, communication. Principles and Practices involved in the planning, organizing and control of school laboratories; responsibility of the school administrator and the teacher, selection and purchase of machine tools, equipment and materials; maintenance storage and control of machines.  
**30h (T); C**
- TED 222      Land Surveying      2 Credits**  
 Instruments for chain surveying, chain surveying procedure, leveling principles and methods of reducing level readings, application of leveling construction, transverse surveying types and uses, chain and compass methods of transverse surveying. Theodolites types, uses and operation reporting survey findings and inferences.  
**30h (T); C**
- TED 223      Quality Control      2 Credits**  
 Importance of quality control objectives and philosophy. Methods of control of quality of industrial products. Personnel's involved in quality control. Standard test procedures. Application of statistical methods in control of quality in the industry.  
**30h (T); C**
- TED 224      Students Industrial Work Experience Scheme (SIWES)      3 Credits**  
 Basic principles and practice of organization of occupational experience programmes in an any established organization.  
**135h (P); C**

**NOTE: All Courses and Summary of 100 level and 200 levels are the same for Automobile, Building, Metal work, Wood work, and Electrical/Electronic Options =79 Credits**

**Automobile Option**

- TED 311      Methods of Teaching Technology Education Courses      2 Credits**

Learning process, instructional competence, teaching methods, curriculum, syllabus, scheme of work, lesson plan basic consideration. Learning theories and lesson analysis. Lesson plan and instructional delivery systems. Typical arrangement of a multipurpose technology work shop. Writing objectives in technology education. Blooms taxonomy of education. Evaluation models formative, summative and ultimate. Product and process evaluation, shops and laboratory management.

**15h (T); C**

**TED 312 Occupational Analysis**

**2 Credits**

Analysis –needs and uses, operation-basic analysis. Division of work-major/minor divisions, related information. Analysis and cause of study, vehicle of instruction, progress charts, instruction sheets, operation, assignment and information sheets. Dictionary of occupational titles.

**30h (T); C**

**TED 313 Improvisation of Laboratory Equipment**

**2 Credits**

Identification of typical laboratory equipment and their principle; construction and operation. Methods of replication with available materials. Design and production of simple laboratory equipment by use of available materials in the workshops. Use of alternative unavailable equipment and instruments (Students are to submit comprehensive typed report).

**30h (T); C**

**TED 314 Computer Application in Industry/ Technology**

**3 Credits**

Introduction to the basic principles and use of computer; types of systems used in production/ manufacturing-computer aided design, computer numerical control, computer-aided manufacturing system, computer integrated manufacturing, computer controlled tools (equipment). Robotics technology. Advantages and disadvantages of computer use in industry

**15h (T), 45h (P); C**

**TED 315 Engineering Drawing**

**3 Credits**

Surface development of cubes, prisms, pyramids, cones etc; Perspective drawing conic sections, frustum- identification and construction of shapes orthographic projection – principles of first and third angle projections, isometric projection, sectional views, surface development, auxiliary views, perspective projection, oblique projection, Machine-drawing – piston, crankshaft, Nuts, screws, cams and gears. Fasteners and locking devices; true lengths,. Development of flat and curved surfaces- true length, rotating shafts, Keys and keyways-couplings- universal joints. Cylindrical cam, -machine tool cam. Involute gears, Assembly drawings, working drawings. Helix, cycloid, involutes, Archimedean spiral etc.

**15h (T), 45h (P); C**

**TED 316 Architectural Graphics I**

**3 Credits**

Pencil types, uses and sharpening. Scale rule-reading, the scales and application, layout. Architectural signs and symbols. Architectural representation of various parts and elements of the building from foundation to the roof, representation of various

views of the building fronts, plan, sides, section. Basic concepts in design-direction of opening of doors and position of doors, levels of floor, beam representation, basic principles of dimensioning and lettering.

**15h (T), 45h (P); C**

- |                |  |                  |
|----------------|--|------------------|
| <b>TED 321</b> | <b>Auto-Technology Fundamentals and Transmission System</b>  | <b>2 Credits</b> |
|                | Introduction to operation, construction, and maintenance of clutch and gearbox (manual and automatic). Drive-shaft and transfer, differential and rear axles. Demonstrations on each component required. Functions and construction of transmission system: clutch, gearbox, propeller-shaft, universal-joints and rear-axles. Types of each component: faults, diagnosis and repairs. |                  |
|                | <b>30h (T); C</b>  |                  |
| <br>           |  |                  |
| <b>TED 322</b> | <b>Engine Lubrication and Cooling System</b>   | <b>2 Credits</b> |
|                | Introduction to engine lubrication and cooling systems. Principles of operations, testing methods, maintenance, service and repairs. Types of cooling and lubrication system. Lubricants: properties and applications in engines, gearboxes. Viscosity, viscosity-index and additives.   |                  |
|                | <b>30h (T); C</b>  |                  |
| <br>           |  |                  |
| <b>TED 323</b> | <b>Fuel System and Carburetion</b>   | <b>2 Credits</b> |
|                | Fuel system layout and major components. Working principles and fuel pumps. Fuel and air-filter services. Engine fuel chemistry and corparative analysis. Types, construction, operation and servicing of carburetors. Construction and operation of fuel injection system.  |                  |
|                | <b>30h (T); C</b>  |                  |
| <br>           |  |                  |
| <b>TED 324</b> | <b>Auto-Shop Safety and High-Way Code</b>  | <b>2 Credits</b> |
|                | Fundamentals of automobile shop safety to include good and safe auto jacks, free air movement, control of used engine oil on the shop floor. Road signs and highway codes. Attention to manual and electrical signals when driving, proper over taking and parking. Road communication and courtesy.   |                  |
|                | <b>30h (T); C</b>  |                  |
| <br>           |  |                  |
| <b>TED 325</b> | <b>Braking, Steering and Suspension System</b>   | <b>2 Credits</b> |
|                | Braking system: methods of actuating the brakes, actuation mechanisms, servo and power operated brakes. Types of master cylinder. Types, principles and functions of steering mechanisms. Types and functions of suspension system. Wheels and tyres: merits and demerits of tube and tubeless tyres. Principle of wheel alignment and balancing.                                      |                  |
|                | <b>15h (T), 45h (P); C</b>   |                  |
| <br>           |  |                  |
| <b>TED 326</b> | <b>Power Engines</b>   | <b>2 Credits</b> |

Comparison between C.I and S.I engines. Principles of pneumatic, mechanical, hydraulic engines. Injector-pump, injector nozzles, turbo-charger of blowers and super-chargers.

**30h (T); C**

**TED 304 Computer Application in Industry/ Technology**

**3 Credits**

Introduction to the basic principles and use of computer; types of systems used in production / manufacturing-computer aided design, computer numerical control, computer-aided manufacturing system, computer integrated manufacturing, computer controlled tools (equipment). Robotics technology. Advantages and disadvantages of computer use in industry.

**15h (T); 45h (P); C**

**TED 411 Entrepreneurship in Technology Education**

**2 Credits**

Entrepreneurship: Meaning and nature. Risks and rewards of entrepreneurship. Requirements and procedure for the establishment of a business in Nigeria. Small business success. Small business management problem related to businesses in your area of specialization. Entrepreneurship challenges in your profession.

**30h (T); C**

**TED 412 Administration of Technology Education**

**2 Credits**

Philosophical, historical, social and psychological foundations underlying the organization, Administration and teaching of technology and practical arts education. Examination of existing patterns in Nigeria.

**30h (T); C**

**TED 413 Emergent Problems in Technology Education**

**2 Credits**

Retrospect of technical education in Nigeria. Analysis, discussions and possible solutions to: Issue of identity of technical education in Nigeria, low status and recognition. Merger and demerger of technical education from science and general education, facilities, problem management/administrative problems in vocational and technical education. The issue of funding for technical education, instructional and teacher training problems. Curriculum issues, evaluating problems. Government policies, legislation and implementation. Drift of technical teachers to the industries, problems of students industrial work experience programme. Technical education for the handicapped; research and development in technical education. The issue of basic technology a critical analysis. Quality issues in vocational and technical education. Maintenance culture in factory and laboratory management of resources.

**30h (T); C**

**TED 414 Introduction to Financial Management**

**2 Credits**

Introduction: Definition, Function, Elements and Problems of Financial Management, Working capital management: inventory management, receivable management, cash management and management of accounts payables. Source of Fund, Specialized areas of finance, investment appraisal, Decision-making, Risk and uncertainty, financial analyses, Budget and Budgeting.

**30h (T); C**

- TED 415 Course Construction for Technology Education 2 Credits**  
Competency based and individualized approach to principles of course construction for technology education. Planning and preparing philosophical basis for instructional programmes. Techniques for selecting and organizing the essential materials for a course. Analysis for jobs and operation to determine the skills and related technical information needed for the processes of determining the course content. Writing and organizing the course of study, scheme of work and other instructional plans.  
**30h (T); C**
- TED 416 Practical Project 3 Credits**  
A practical project should be designed early in the beginning of the final year and should be executed within the full session. The design should be innovative design of educational and technical value that could be replacement of some imported technology. A well written report should be submitted along with drawings, sketches, photographs and other graphic representations or models as necessary.  
**45h (P); C**
- TED 421 Compression Ignition Engines 2 Credits**  
Compression ignition engines: four and two stroke cycles, merits and demerits. Types of combustion chambers and principles of operation of injector, pumps and nozzles.  
**30h (T); C**
- TED 422 Thermodynamics 2 Credits**  
Principles of thermodynamics and internal combustion engines. Comparison of S.I. and C.I combustion engines. Theoretical engine cycles, fuel. Engine performance and efficiency. Basic definitions of primary and derived quantities. The concept of system boundary: energy, work and heat; laws of thermodynamics. Thermodynamics temperature scale. Reversibility and irreversibility concepts internal energy, enthalpy and entropy. Real fluids: properties, processes, mechanical and thermal efficiencies.  
**30h (T); E**
- TED 423 Auto-Workshop Practice 2 Credits**  
Engine re-conditioning and testing, use of cylinder-boring, honing machines. Uses of exhaust gas analysis, dwell-meter, vacuum-gauge, compression-gauge, stroboscopic tinning-light. Precision measurement of engine components (dial-indicator, vernier calipers, fault diagnosis and repairs, use of sensor and scan tools).  
**30h (T); C**
- TED 424 Auto-Electrical System and Air Conditioning 2 Credits**

Construction, principles, functions of auto-mobile batteries. Starting system, charging system, ignition system and electrical accessories. Principles of refrigeration. Auto-air conditioning: main components and functions.

**30h (T); C**

**Building Technology      Option**

<b>TED 331</b>	<b>Building Construction</b> Excavation, soil survey: foundation, site explore trial pits and boreholes, soil classification, grading components classification of concrete foundation, detailing of reinforcement, preparation of bar bending schedule, layout of reinforcement, damp proof course, core floors, materials and purposes, basic substructure operation. <b>30h (T); C</b>	<b>2 Credits</b>
<b>TED 332</b>	<b>Building Services</b> Drainage and sewage drawings and construction - open and close drainage and sewage testing , design, inspection, maintenance terms and applications, plumbing, water supply, treatment, electrical installation, lift installation and security service, fire risks and fighting. <b>30h (T); C</b>	<b>2 Credits</b>
<b>TED 333</b>	<b>Building Construction Super Structures</b> Basic superstructure operations, Bonds; manufacture of wall materials, types of walls, doors, windows, lintel, columns and beams, staircases, roofs ceiling, site construction; theory and practice. Doors and windows schedules. <b>30h (T); C</b>	<b>2 Credits</b>
<b>TED 334</b>	<b>Building Finishes</b> Wall plastering, Rendering, painting and decoration, materials tyro lean floor finishes- materials grading, mixing, construction methods, filing, ceiling finishes stair finishes, roof finishes. <b>30h (T); C</b>	<b>2 Credits</b>
<b>TED 335</b>	<b>Building Materials</b> Timber for building types, properties, conversion, preservation, uses of stones for building types, uses of terrazzo, marble, ceramics etc. brick and blocks, cement and concrete, setting, manufacture, components, materials for building, rubber and plastics etc. <b>30h (T); C</b>	<b>2 Credits</b>
<b>TED 336</b>	<b>Building Environments and Man</b>	<b>2 Credits</b>



Course is designed to equip the students with the necessary knowledge and skills that will enable them to teach and undertake the construction of simple buildings and the values of building environment to man including the aesthetics, convenience and the comfort that buildings provide. This will include planning, organization and preparation of site for simple projects.

**30h (T); C**

**TED 431**

**Advanced Building Technologies**

**2 Credits**

Maintenance, renovation and alterations in building including electrical, plumbing and structural faults and remedies, repairs and preventive measures. Administration and management of building construction sites, contracts and contracts and contracting-concepts and tendering, type and procedure. The Portland cement, types, characteristics and uses including laboratory tests for setting time, soundness, firmness, chemical composition test for concrete – strength, compression, tensile. Reinforcement in concrete. Pre and post tensioning of concrete structure, framed roof trusses in steel and timber. Pre-fab construction.

**30h (T); C**

**TED 432**

**Maintenance Technologies in Building**

**2 Credits**

Building maintenance geological faults which cause defects in foundation of building; effect of foundation failure on the walls defects in brick, sand-crate wall, block wall, masonry wall and penetrating damp on structure and fabric e.g walls, floors, roofs.

**30h (T); C**

**TED 433**

**Architectural Graphics II**

**2 Credits**

Drawing instruments, tools and equipment. Presentation drawing (isometric, oblique and perspective) projection plan, block plan, site plan, front elevation, rear elevation, right side elevation, left side elevation, roof plan, water fall, assess road, e.t.c) sectioning and Architectural model.

**30h (T); C**

**Electrical / Electronic Option**

**TED 341**

**Electrical Machines I**

**2 Credits**

Principles of operation and construction. Types (DC and AC) and application, single and poly phase machines. Construction and operational principles, types e.g. DC and dc motors etc. series, compound and about motors and the applications, inductive motors, motor stator circuits. Principles of construction, types and functions of transformers. Iron and copper losses and their control, transformer cooling systems. Power factor corrections and transformer efficiency. Current and voltage transformers and their applications.

**30h (T); C**

**TED 342**

**Electrical Machines II**

**2 Credits**

Power and supply systems, economics of system (current and voltage relationships in a transmission line) substation distribution, booster transformers, switch gears, power utilization. Detailed study of main features of DC machines. Generated e.m.f and terminal voltage speed/torque, characteristics of generators/motors, installing lamp High voltage lamps, public address systems and alarm system.

**15h (T), 45h (P); C**

- TED 343      Electrical Measurements and Instrumentation      2 Credits**  
Principles of operation, uses and care of various electrical and electronics measuring instruments both analogue and digital. Such as moving coiled motors, electrostatics voltmeters, dynamometers, etc.  
**30h (T); C**
- TED 344      Electrical Installation      2 Credits**  
Safety and fundamental knowledge and experiences required to function and survive within and outside the workshop while handling electrical tools and equipment. Formularization with use and care of installation tools. Electrical regulations and its importance in electrical installation. Electricity conductors and insulators. Cable- size, types, selection, joints, and maintenance. Lighting sub-circuits in domestic buildings, wiring systems generally. PVC insulated and sheathed systems, sheathed cable in wood casing, faults, protective devices- diversity factor, rating factor, fuse, circuit breakers, earthing etc.  
**15h (T), 45h (P); C**
- TED 345      Electrical Communication Network      2 Credits**  
Telephone – basic transmission theory, the construction of telephone cables (internal and external), the effect of cables on analogue and digital signals. Function and trunk circuits. Mobile systems example, ship radio, telephone, satellite dishes. Data transmission Telegraphy, Multiplex systems, Radio transmission – propagation of radio, radio receivers. Logic circuits, switching logic, digital mathematics logic circuit, synthesis, electronic switches and memory devices.  
**15h (T), 45h (P); C**
- TED 346      Radios and Television Servicing      2 Credits**  
Radio waves, propagation and transmission of radio waves. Reflection/refraction, amplitude modulation and frequency modulation. Crystal controlled transmission, multiplexing principles of the television sound and picture. Principle of colour television and general principle of receivers. Radio transmission/ reception.  
**30h (T); C**
- TED 347      Semiconductor Devices      2 Credits**  
Detailed treatment of semi-conductors material, (types and operation) dropping, single and multistage amplifiers BJT operation, characteristics and equivalent circuits.

**30h (T); C**

- TED 441      Electronic Technologies      2 Credits**  
Transistors as an amplifier, biasing arrangements, classes of amplifier (A, B, and C), push pull, and complimentary circuits, amplifier coupling methods, operational amplifiers, impedance matching, integrated circuits, field effect transistors, uni-junction transistors, measuring instrument, oscilloscope, ammeter, voltmeter , multi-meter and transistor tester. Transducers – microphone, loudspeakers, photosensitive devices, and photograph pick up. Electric control circuits,- definition and remote control for doors and T.V. Negative and positive feedback, oscillators, multi-vibrators, and logic circuits.  
**30h (T); C**
- TED 442      Electronic Communications Network      2 Credits**  
Basic principle of electronics communication, amplitude modulation FM band systems, waveguide, ionosphere/troposphere, Dipole/ antenna, reflectors/directors, MW propagation.  
**30h (T); C**
- TED 443      Transmission and Generation of Electricity      2 Credits**  
Types of generating hydro-electric, thermal, solar and nuclear power Plants  
Transmission parameters, selection of transmission voltage principles of transmission conductors and insulators their properties and use. Overhead lines, supports, wood and concrete poles, pylons, consumer service and distribution. General layout from generation to consumer.  
**30h (T); C**
- TED 444      Electrical Installation II      2 Credits**  
Conduit installations –for light and heavy gauge conduits, aluminum conductors, non-metallic conduits, advantages, disadvantages, and applications of each. Installation in industrial and commercial buildings. Switching controls-master switches, series-and parallel switches. Three-heat switches, inductive circuit switches.  
**30h (T); C**
- TED 445      Digital Electronics      2 Credits**  
The number system, logic symbols, functions and conventions; basic Boolean operations; integrated logic circuits, flip-flops and latches; counters, shift register, and shift register counters, computer arithmetic; interfacing. Industrial visitation is one of the requirements to earn a grade in this course.  
**30h (T); C**

<b>TED 446</b>	<b>Electrical Drafting</b> Electrical symbols, design of lighting features in buildings, costing estimating. Electrical regulatory bodies. The IEE Regulations, method of installing High voltage lamps, public address systems, alarm systems. <b>30h (T); C</b>	<b>2 Credits</b>
<b>TED 447</b>	<b>Radio and Television</b> Electronic Communication systems, modulation and demodulation, RF & IF amplifiers, Transmission and propagation of electromagnetic waves AM & FM receivers, television fundamentals, pictures transmission colour standards trouble-shooting and servicing of radio and television receivers. <b>30h (T); C</b>	<b>2 Credits</b>
<b>Metal work Option</b>		
<b>TED 351</b>	<b>Welding Processes</b> Science and practice of gas and arc welding. Joint designs, welding symbols. Brazing and soldering processes. Testing of welds and metallurgy of welding. Advanced welding processes/techniques of manual inert gas (MIG), Tungsten Inert Gas (TIG) and plasma. Arc Welding of non-ferrous metals. Heat treatment processes. <b>30h (T); C</b>	<b>2 Credits</b>
<b>TED 352</b>	<b>Mechanics of Machine</b> Bearing: types, fitting, removing and maintenance. Clutch: types and main parts, principles of operation, principles of bearing, clutch, gears, axle, etc, common causes of failure and their maintenance. Power Transmission: Belts, chains and gear, principle of operation and maintenance. Lubrication: Functions and properties. Types of lubricants. Function of additives, plant handling, and uses of inclined plane, lift and crane. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>TED 353</b>	<b>Manufacturing Processes (Metals)</b> Understanding of mass production including automatic processes and procedures, jigs and fixtures, interchangeable parts, time and motion study, economics of scale, quality control flow of materials, limits and fits, precision measuring equipment production-general procedure in producing typical metal products-design, estimating and purchasing of materials, and stages involved in changing the materials to a finished product. <b>30h (T); C</b>	<b>2 Credits</b>
<b>TED 354</b>	<b>Elements of Design</b>	<b>2 Credits</b>

Philosophy and practice of mechanical design, and nature of design activity, the design process,- identification, definition, form, analysis, optimization, evaluation and presentation. Factors affecting design-strength, materials, aesthetics, costs, etc. introduction to design for manufacture, standard machine. Elements and production techniques, case study and projection.

**30h (T); C**

- TED 355 Foundry Technology 2 Credits**  
Foundry tools, equipment and processes, pattern, materials designs and making. Safety in casting power metallurgy. Various metal casting processes.  
**15h (T), 45h (P); E**
- TED 356 Machine Operation I 2 Credits**  
Skills of operations and safety precautions regarding workshop power machines in doing jobs. Power Hack saw: its operation and use for cutting. The Drill Press: its operation and drilling procedure. The main parts of the drill press. Lathe operations: facing, turning between centers, centre drilling, boring etc. care and maintenance of each machine. Safety rules and precaution in the use of power machines. The names and functions of the main parts of the machines should be studied.  
**15h (T), 45h (P); R**
- TED 357 Machine Tool Processes I 2 Credits**  
Basic lathe work and milling operations. Safety precautions and maintenance of machine tools. Work holding techniques, jigs and fixtures.  
**15h (T), 45h (P); C**
- TED 358 Machine Tool Processes II 2 Credits**  
Principles and techniques involve in advanced traditional machine operations. Non-traditional machine processes. Computer application in the operation of machines.  
**15h (T); 45h (P); E**
- TED 451 Machine Operation II 2 Credits**  
Parts of operation, turning taper and cutting of screw threads on the lathe. Knurling and milling on the lathe. Different types of lathes as found in school workshops an industry. Power machines- milling or shaping machines used in industry. Instruction should include their types, parts, operations, and maintenance and safety rules.  
**30h (T); C**
- TED 452 Machine Tool Processes III 2 Credits**  
Drills- drilling and roaming processes and operations. Power Saw - types and operations. Grinder- types of grinder and wheel. Lathe types of leather, accessories, operations coolants and safety Milling machine- tools and operations.

30h (T); C

**TED 453      Mechanical Engineering Drawing II      2 Credits**  
Sectional and auxiliary projections. Interjection surfaces, tolerances and machine/assembly drawing.  
30h (T); C

**TED 454      Mechanical Engineering Design      3 Credits**  
Application of engineering theories to machine components design. Analysis and evaluation procedures in creative design. Use of codes, charts, tables, standards and empirical data. Presentation of design portfolio.  
45h (T); C

**TED 455      Metal Stamping      2 Credits**  
Press work in metalworking. Die making and design, calculations involved press work.  
30h (T); C

#### **Wood work Technology Option**

**TED 361      Introduction to Wood work Practice      2 Credits**  
Design and construction of simple living room furniture (use of machines and hand tools).  
30h (P); C

**TED 362      Manufacturing Processes (Wood work)      2 Credits**  
Understanding manufacturing process in woodworking industry ; elements of furniture manufacturing such as design principles and elements ; basic processes of design development, planning and construction, general procedure in manufacturing furniture items. Mass production of furniture items, Mass production in school workshop, students will be required to design and produce furniture items embodying carcass and frame construction. It will also involve understanding of elementary upholstery- upholstery tools and materials, making of padded seats and chairs and furniture.  
30h (T); C

**TED 363      Machines (Woodwork Technology)      2 Credits**  
Powered tools- power hand planes, route planes, jig saw, portable powered saw, orbital sander, belt sander, drill press and spray gun. Design and construction of stools, chairs, tables, cabinets, cupboard, etc. abrasives and abrading , adhesives.  
15h (T), 45h (P); C

**TED 364      Structural fittings and Fixtures      2 Credits**

Ironmongery in wood construction technology and building technology to include soak away, septic tank, basic plumbing and general construction.

**30h (T); C**

- |                |  |                  |
|----------------|--|------------------|
| <b>TED 365</b> | <b>Advanced Woodwork Technology</b><br>Carpentry and joinery and machine wood working techniques with emphasis of design work and maintenance of tools.<br><b>30h (T), 45h (P); C</b>  | <b>2 Credits</b> |
| <b>TED 366</b> | <b>Wood Finishes</b><br>Up to date hand and powered methods of finishing and advanced normal techniques. There will also be laboratory work on difficult finishes.<br><b>30h (T); R</b>  | <b>2 Credits</b> |
| <b>TED 356</b> | <b>Tools and Devices</b><br>Woodworking tools and equipment used in school workshop operations, portable powered tools, their uses and safety precautions.<br><b>30h (T); C</b>  | <b>2 Credits</b> |
| <b>TED 461</b> | <b>Introduction to Upholstery</b><br>Furniture covering and recovering practical work on the techniques of furniture designing and re-designing upholstery; tools used in upholstery work. The techniques of shoring installation, stuffing, trimming, sewing, blind stitching and fabric selection.<br><b>15h (T); C</b>  | <b>2 Credits</b> |
| <b>TED 462</b> | <b>Forestry Studies</b><br>An appreciation of the various techniques of obtaining timber from forest. Also, a study of the organs of forestry management in Nigeria. Forestry definitions and concepts, Types of forests, Importance of forestry and forest. Laws, institutions and people. Concept of sustainability in forest management.<br><b>30h (T); C</b> | <b>2 Credits</b> |
| <b>TED 463</b> | <b>Maintenance of Woodwork Equipment</b><br>Emphasis on safety regulation in machine wood working workshop. Requirements of different types of woodworking machines and their component parts. Changing of belts cutter plates and related maintenance tasks.<br><b>15h (T), 45h (P); C</b>  | <b>2 Credits</b> |
| <b>TED 464</b> | <b>Wood Design and Construction</b>  | <b>2 Credits</b> |

Contemporary and advanced methods of wood joinery, structural wood working to include: Designing and construction of doors, windows, molding staircases etc. design and research appreciation in the manufacture of school based projects by individual student.

**15h (T), 45h (P); C**



**Summary  
For all Technology Education Options**

**100 Level**

**Compulsory Courses:** EDU111 (2), 112 (2), TED 111(2), TED 112(2), TED 113(2),  
114(2), TED 115(2), TED 117 (2), TED 118(2) = **18 Credits** T E D

**Required Courses:** GNS 111(2) and GNS 112(2), CHE 101 (2), CHE 102 (2), PHY115 (2),  
(2), MAT 113 (2) = **14 Credits** PHY 152

**Elective Courses:** TED 116 (2), TED 119(2) = **4 Credits**  
**Total = 36 Credits**

**200 LEVEL**

**Compulsory Courses:** EDU 211 (2), EDU 212 (2), EDU 213 (2), EDU 214 (2), EDU 215 (2),  
EDU 216(2) TED 201(2), TED 212(2), TED 213 (2), TED 214 (2),  
TED 215 (2), TED 216 (2), TED 217 (2), TED 218 (2), TED 224(3)  
= **31 Credits**

**Required Courses:** GNS 211,(2) 212(2), TED 219 (2), (2), TED 213 (2), TED 214(2),  
= **10 Credits**

**Electives Courses:** Any 2 Credits from the following: T E D  
220(2), TED 221 (2), TED 215 (2) = **2 Credits**

**Total = 40 Credits**

**NOTE: All Courses and Summary of 100 level and 200 level are the same for Automobile, Building, Metal work, Wood work, and  
Electrical/Electronic Options =79 Credits**

**Automobile Option**

**300 Level**

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2)  
(2), = **27 Credits** EDU 316

**Required Courses:** GNS 311(2), TED 321(2), 322(2), 321(2) 323(2), 325(2), 314(2)  
= 10 Credits

**Total = 37 Credits**

**400 Level**

**Compulsory Courses:** EDU 411 (2), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2), EDU 416  
(2), EDU 499(4), TED 421(2), 412(2), 413(2), 414(2), 415(2), 416(3), 424(2)  
= 31 Credits

**Required Courses:** TED 423 (2), 421 (2) =4 Credits

**Elective Courses:** TED 421(2) TED 422(2) =4 Credits

**Graduation Requirement**

UTME = 141  
DE = 109

**Building Technology Option**

**300 Level**

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2) EDU 316  
(2). TED 304(3), TED 306(3), TED 310(2), TED 312 (2),  
= 20 Credits

**Required Courses:** GNS 311(2) TED 314 (2), TED 315 (2), TED 317(2), 319 (2)  
= 10 Credits

**Electives Courses:** Any 6 of the following: TED 302  
(2), TED 303(2), TED 305 (2), TED 313 (3), = 6 Credits

**Total = 36 Credits**

**NOTE:** TED 311(2), TED 312(2) TED 313(2), TED 314(3), TED 315(3), and TED 316(3) are offered as Compulsory or Required for all options (15 Credits)

**400 level**

**Compulsory Courses:** EDU 411 (2), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2),  
499(4) TED 430 (3), TED 431 (2), = **21 Credits**

EDU 416 (2), EDU

**Required Courses:** TED 432 (2), TED 433 (2), TED 434 (2), TED 435 (3), TED 436 (2),  
= **11 Credits**

**Total = 32 Credits**

**Graduation Requirement**

UTME = 142

DE = 112

**Electrical/Electronic Option**

**300 Level**

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2)  
(2), TED331(2) TED332(2) , TED 333 (2), TED 334 (3),  
= **26 Credits**

EDU 316

TED 335 (2), TED 336 (2), TED 331 (2)

**Required Course:** GNS 311(2) = **2 Credits**

**Electives Courses:** Any 4 credits from the following TED 332 (2), TED 333(2), TED 334 (2), TED 335 (3), TED 336 (2), TED 325 (2),  
= **4 Credits**

**Total = 34 Credits**

**400 Level**

**Compulsory Courses:** EDU 411 (2), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2),  
(2), EDU 499(4), TED 431 (2) TED 441 (2), TED 442 (2),  
= **22 Credits**

EDU 416

**Required Courses:** TED 443 (2) TED 444(2) TED 445(2) 446(2) 447 (2) = **10 Credits**

**Graduation Requirements**

UTME = 148

DE = 116

### Wood Work Technology Option

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2) EDU 316 (2), TED 301 (2), TED 304 (3), TED 350 (2), TED 351 (2) = **20 Credits**

**Required Courses:** GNS 311(2) TED 306 (3) TED 353 (2), TED 354 (2), TED 355 (2)  
= **11 Credits**

**Electives Courses:** Any 6 Credits out of the following:  
TED 302 (2), TED 303(2), TED 305 (2), TED 313 (3), TED 352 (2), T E D 3 5 6 ( 2 )  
= **6 Credits**

**Total = 37 Credits**

**Compulsory Courses:** EDU 411 (4), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2), EDU 416 (2), EDU 499 (4).TED 408 (2), TED 430 (3), TED 445 (2) = **25 Credits**

**Required Courses:** TED 451 (2), TED 452 (2), TED 453 (2), TED 454 (2), = **8 Credits**

**Electives Credits:** Any 6 Credits out of the following:  
TED 401 (2), TED 403 (2), TED 404(2), TED 405(2), TED 406 (2)  
= **4 Credits**

**Total = 37 Credits**

### Graduation Requirements

UTME = 148 Credits

DE = 108

### Metal Work Option

#### 300 Level

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2) EDU 316 (2), TED 304(3), TED 306 (3) TED 340 (2), TED 341 (2), TED 342 (2)  
= **24 Credits**

**Required Courses:** GNS 311(2) TED 343 (2), TED 344 (2), TED 345 (2), TED 346 (2), TED 347 (2)  
= **12 Credits**

**Electives Courses:** Any 4 credits from the following:  
(2), TED 303(2), TED 305 (2), TED 313 (3) = **4 Credits**

TED 302

**Total = 40 Credits**

**Compulsory Courses:** **400 Level**  
EDU 411 (4), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2),  
(2), EDU 499(4) = **18 Credits**

EDU 416

**Required Courses:** TED 451(2), TED 452(2), TED 453(2) TED 454(2), TED 455(2)  
= **10 Credits**

**Total = 28 Credits**

**Graduation Requirements**

UTME = 142 Credits

DE = 102

## B.Sc. (Ed.) Computer Science

### SUMMARY

#### 100 LEVEL

**Compulsory Courses:** EDU 111 (2), EDU 112 (2), CSC 111 (2), CSC 112 (2) = 4 Credits

**Required Courses:** MAT 111(3), MAT 112 (3), MAT 113(3), MAT 114(3), PHY 115(2), P H Y  
152(3), PHY 191(1), PHY 192(1), PBL 101(3), STA 121(2), STA 124(2), STA 131(2), TCS 101(2),  
TCS 102(2), ICS 101(2), ICS 102(2), GNS 111 (2), GNS 112(2) = 40 Credits

#### 200 LEVEL

**Compulsory Courses:** EDU 211 (2), EDU 212 (2), EDU 213 (2), EDU 214 (2), EDU 215 (2), EDU 216  
CSC 211(3), CSC 212(3), CSC 213(3), CSC 214(2), CSC 216(2), CSC 220 (2), CSC 222(3), CSC  
224(2) = 20 Credits

**Required Courses:** MAT 201(3), MAT 211(3), MAT 213(2), MAT 206(2), MAC 236(2), STA 203(2),  
STA 221(3), PHY 252(2), GNS 211(2), GNS 212(2)  
= 23 Credits

**Elective Courses:** CSC 218(3), MAT 208(2), STA 222(3) = 8 Credits (Optional  
for Computer Science students).

**Direct Entry Students:** GNS 111(2), GNS 112(2) = 4 Credits

#### 300 LEVEL

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2) 3 1 6  
(2). CSC 321(3), CSC 322(3), CSC 325(2), CSC 314(2), CSC 315(2), CSC 316(2), CSC 317(3), CSC 320(2),  
CSC 311 (2), CSC 323(2), CSC 326(2), CSC 328(2), CSC 330(3), CSC 332(2) = 32 Credits

**Required Courses:** PHY 357(2), ICS 302(2), LIS 310(0), GNS 311 (2), GSE 301(3)  
= 9 Credits

**Electives Courses:** CSC 318(2), CSC 319(2), ICS 314(2), CSC 334(2), CSC 336(2), C S C  
338(2), TCS 204(3), TCS 205(3), MAT 309(3), MAT 318(3) = 24 Credits (Optional for  
Computer Science students).

### 400 level

**Compulsory Courses:** EDU 411 (4), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2), EDU 416 (2), EDU 499 (4). CSC 420(2), CSC 421(3), CSC 422(2), CSC 423(2), CSC 424(3), CSC 425(2), CSC 426(2), CSC 427(2), CSC 429(2), CSC 431(2) = **25 Credits**

**Elective Courses:** CSC 428(2), CSC 430(2), CSC 432(2), CSC 433(2), CSC 434(2), CSC 435(2), CSC 436(2), CSC 437(2), CSC 438(3), CSC 439(2), CSC 440(2), CSC 441(2), CSC 442(2), CSC 443(2), TCS 301(2), TCS 305(2), TCS 311(2), TCS 312(2), TCS 411(3), MAT 425(3) = **43 Credits**

**NOTE: Detailed course description relating to Mathematics, Physics, Statistics and Computer Science may be found in the appropriate sections of the Undergraduate Academic Programme in the Faculty of Physical Sciences and Faculty of Computer and Information Sciences.**

## DEPARTMENT OF HEALTH PROMOTION AND ENVIRONMENTAL HEALTH EDUCATION

### Course Description

#### B.Sc. (Ed.) Health Education

- HED 106 Health Education as a Profession 2 Credits**  
Meaning and definition, general scope, purpose, history, growth and development, and career involvement in health education.  
**30h (T); C**
- HED 107 Basic Activities in Elementary Health Education 2 Credits**  
Introduction to basic activities of daily living such as simple first-aid, accident prevention and the processes of disease and occurrences in man.  
**30h (T); C**
- HED 108 Introduction to Health Education 3 Credits**  
Meaning of health education and its importance in schools. Basic determinants of health and the relationship between health and human behaviour.  
**45h (T); C**

<b>HED 109</b>	<b>Personal Health</b> Meaning and concept, selected topics related to posture, care of parts of the body, clothing, personality, personal health needs, problems and determinants of health status. <b>45h (T); E</b>	<b>3 Credits</b>
<b>HED 110</b>	<b>Organisational and Administration of School Health Programme</b> Consideration of the principles of programme planning, implementation and evaluation in relation to school health programme  <b>30h(T); C</b>	<b>2 Credits</b>
<b>HED 111</b>	<b>Family Life Education</b> Includes Sociological, psychological aspects of human sexuality in relation to family life, courtship, marriage, reproduction, child. Sex education in the home, school community. <b>30h(T); C</b>	<b>2 Credits</b>
<b>HKE 109</b>	<b>Elementary Skills and Techniques of Team and Individual Sports</b> Development of practical and theoretical methods of acquiring basic skills and techniques in athletics, fitness and gymnastics. <b>15h (T); 90h(P); E</b>	<b>2 Credits</b>
<b>HED 112</b>	<b>Emergency Care and First Aid I</b> Stresses the importance and relevance of safety programmes in schools, fundamentals of safe living, (home, occupational, public disaster preparedness) methods of safety practices, immediate and temporary care giving in emergency situation involving accidents or sudden illness, symptoms and appropriate treatment of wounds, injuries, cessation of breathing, poisoning etc. Schools, community and industrial safety practices will be emphasized. <b>45h (T); E</b>	<b>3 Credits</b>
<b>HED 113</b>	<b>Introduction to Human Biology</b> Introduction to the human and plant anatomy. The Psychology of the organs and systems in human body. These are to be taught in their relations to the health of the weakness and the environment in which man is existing. <b>45h (T); C</b>	<b>3 Credits</b>
<b>HED 114</b>	<b>International Health and Health Agencies</b>	<b>3 Credits</b>



This course will examine the organization and functions of international health bodies such as WHO, UNICEF, UNESCO, USAIFD, CIDA, DANIDA, NORIDA, UNDP, UNRO, UNEP. International health regulations will also be addressed.

**45h (T); E**

- |                |   |                  |
|----------------|---|------------------|
| <b>HED 204</b> | <b>Community Health and Health Education</b>  | <b>3 Credits</b> |
|                | Factors that contribute to healthy home environment, school environment and community. Protecting, disposal and problems of housing. Personal responsibilities at promoting healthy home, school and community. Familiarization with community health agencies. Functions of World Health Organization (WHO). |                  |
|                | <b>45h (T); C</b>   |                  |
| <br>           |   |                  |
| <b>HED 205</b> | <b>Foods and Nutrition 1</b>  | <b>2 Credits</b> |
|                | Overview of the science of nutrition and its relationship to health. Classification of foods, digestion, absorption and energy metabolism.  |                  |
|                | <b>30h (T); C</b>   |                  |
| <br>           |   |                  |
| <b>HED 206</b> | <b>Foods and Nutrition II</b>   | <b>2 Credits</b> |
|                | Study of factors affecting food habits and behaviour and means of modifying them to promote health. Identification of common nutritional diseases, causes and prevention.   |                  |
|                | <b>30h (T); C</b>   |                  |
| <br>           |   |                  |
| <b>HED 207</b> | <b>Elementary Human Anatomy and Physiology for Health Education</b>   | <b>3 Credits</b> |
|                | Review of the anatomy and physiology of the human body cells, tissues, organs and systems. Relationship of human anatomy and physiology to physical and health education.   |                  |
|                | <b>45h (T); C</b>   |                  |
| <br>           |   |                  |
| <b>HED 208</b> | <b>Communicable and Non-Communicable Diseases</b>   | <b>2 Credits</b> |
|                | Important diseases: causes, modes of transmission, prevention, and control measures.  |                  |
|                | <b>30h (T); E</b>   |                  |
| <br>           |   |                  |
| <b>HED 209</b> | <b>Career Opportunities in Health</b>   | <b>3 Credits</b> |
|                | A survey of the broad scope of occupations and the world of work. Career and manpower development and trends within the health chapter. The place of health education choosing a setting, entering the profession and being mobile.   |                  |
|                | <b>45h (T); R</b>   |                  |
| <br>           |   |                  |
| <b>HED 210</b> | <b>Field Experiences in Health Education (SIWES)</b>  | <b>2 Credits</b> |

Health/safety education practicum in a recognized setting provides opportunities for the improvement and efficiency of health promotion services. Designing a health education programmes.

**30h (T); R**

- HED 211      Environmental Sanitation      2 Credits**  
Health consideration of water resources, waste disposal systems, municipal sanitation, housing, pollution, vector control and consequences of poor municipal control. Including field trips.  
**30h (T); E**
- HED 212      Atmospheric Pollution      2 Credits**  
Descriptive Discussion of the sources, effects and states of pollutants in the atmosphere, interaction pollutants and weather systems, including and precipitation, ozone destruction, air pollution policy regulation.  
**30h (T); E**
- HED 213      Social and Emotional Health      3 Credits**  
Problem of abnormal development. Emotional problem of abnormal development during childhood and adolescence, models of development. Emotional problems, antisocial reactions, drug use, crime, sexual deviation. Interrelationship between social and emotional stability of individual to optimal health development. It examines types of adjustment demands, determinants of adjustment and demands to stress, emotional patterns accompanying stress, reaction to stress and warning signs of excessive stress in contemporary society. Personality theories in relation to social health. Various social deviant behaviours and possible corrective measures.  
**30h (T); R**
- HKE 203      Kinesiology      3 Credits**  
Structure and functions of the human biology as applied to movements especially in sports. Analysis of movements in relation to the work of muscles in various joints. Strengthening exercises for weak muscles.  
**45h (T); E**
- HED 301      Health Problems of School Children      3 Credits**  
Causes, prevention and control of childhood diseases and other health problems of school children. Overview of the work of pioneers in the conquest of diseases; Louis Pasteur, Leeuwenhoek, Jenner, etc.  
**45h (T); C**
- HED 303      Curriculum Development and Evaluation of School Health Programmes      3 Credits**  
Development of health education curriculum for elementary, secondary and teacher training colleges. Evaluation of the contents, methods and objectives of the curriculum.

45h (T); C

- HED 304      Mental Health Education      2 Credits**  
Consideration of Mental health problems in school children, child development and mental health. Identification and discussion of the values of self-knowledge and self-esteem, positive interaction with others and problem solving in character development and adjustment to real life situations. Role of the teacher in reducing mental health problems in school.  
**30h (T); C**
- HED 305      School Health Programme      2 Credits**  
School health in relation to school populations. Functions and responsibilities of stakeholders in the delivery of school health programme and services to concerned individuals who are ill at school. Recognition of children's health problems, treatment or referral to the appropriate authority and an analysis of interrelationship in the overall school programme delivery.  
**30h (T); C**
- HED 306      Comparative Health Care System      2 Credits**  
Examination of different health delivery system – (EPI, PPFN) as practiced in other countries of the world. Identification of advantages and disadvantages.  
**30h (T); E**
- HED 307      Health Counseling      2 Credits**  
Roles of interpersonal relations in behavioural change, organizational change and health education. Examination of the ways in which the health professional can detect the needs of students or clients and work co-operatively with them in meeting their needs.  
**30h (T); E**
- HED 308      Health for Atypical Child      2 Credits**  
Identifying daily living problems of children with special needs and students in educational institutions. Means of solving these problems. Roles and responsibilities of the individual teacher, head teacher, parent and community in solving these problem.  
**30h (T); E**
- HED 309      Environmental Health      2 Credits**  
Definition of Environmental Health, types of environment with common health problems associated with mismanagement of environment. Implication of environment on human health.  
**30h (T); E**
- HED 311      Occupational Health and Safety      2 Credits**

Emphasis to be placed on the background of occupational health. Why has this area of health (environment) education become imperative with special emphasis to industrial revolution in Europe, America and Nigeria. Analysis of the roles and responsibilities of the employer and employee. Specific health precautions strategies in named occupational settings.

**30h (T); E**

- HED 312      Primary Health Care System and Protective Health      3 Credits**  
Introduction of primary health care system. The principles underlying the operation of primary health care and the operational format of the programme. Nature and types of the programme. Emphasis will be placed on the relationship between the various aids and members of staff and the various levels associated with the primary health care system. A broad analysis of the goals of PHC, its origin, objectives, goals, contents and implementation worldwide with particular emphasis on the West African sub-region and Nigeria. The achievements, prospects, problems and the way forward.  
**45h (T); E**
- HED 315      Vital Statistics and Records in Schools and Hospitals      3 Credits**  
Concepts, types and significance of health records and statistics in health education. Roles of statistics in health promotion. Methods of keeping health records in schools and hospitals. Indicators of health status, interpretation of quantitative and qualitative data in determining health status of individual, group and community health for National Development. The course will also deal with different ways of presenting health information including diagrammatic presentation of data.  
**45h (T); C**
- HED 402      Administration of School Health Programme      1 Credits**  
Consideration of the principles of programme planning, implementation and evaluation in relation to school health programme.  
**30h (T); C**
- HED 403      Theory and Practice of Health Communications      3 Credits**  
Socio-economic characteristics, superstitions and human relations factors as influence on health communications.  
**45h (T); C**
- HED 404      Sex Education      3 Credits**  
Anatomy and physiology of male and female reproductive systems, conception, prenatal developmental, labour and delivery. Family planning and psychosexual development. Healthy family and parenthood.  
**45h (T); C**
- HED 405      Drug Education      3 Credits**

Consideration of social, psychological, cultural and pharmacological factors associated with drugs. Other addictions and dependencies.

**45h (T); C**

**HED 406 Consumer Health Education**

**3 Credits**

Consideration of the social economic and political forces that have led to the development of consumerism in the health sectors. Current issues and trends in consumer participation in health planning; implication for community organization and health education.

**45h (T); C**

**HED 407 Seminar in Health Education**

**1 Credit**

Group discussion on special topics relating to problems facing Health Education in the society, schools, colleges and universities.

**15h (T); C**

**HED 408 Legal Aspects of Health Care**

**2 Credits**

Legal problems that may confront health care personnel, rights of patients, crimes, record keeping, wills, liability for negligence and malpractice.

**30h (T); E**

**HED 409 Nigerian National Health Policy**

**2 Credits**

Nigerian health policies since independence. Implications for preventive care, financing and public health education.

**30h (T); E**

**HED 410 Population Education**

**2 Credits**

Introduction to the methods of teaching population issues, the problems of over population, under population, demography, birth control, and distribution in the population and implications.

**30h (T); E**

**HED 412 Health and Illness Behaviour**

**2 Credits**

Course addressing the sociological basis of health behaviour. The influence of the immediate and extended family, the cultural imperatives and traditional values on illness practices within the Nigerian society. The course will also evaluate cultural implications of the health behaviour model. Socio-cultural meaning of health and illness. The concepts of health status. Analysis of behaviour considered appropriate.

**30h (T); E**

**EDU 499**

**Research Project in Human Kinetics Education**

**4 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department culminating in the submission of a project.

**180h (T); C**

**SUMMARY**

**B.Sc.(Ed.) Health Education**

**100 Level**

**Compulsory Courses:** EDU 111 (2), 112(2), HED 106(2), 107(2), 108(3), 110 (2), 111(2)  
**=15 Credits**

**Required Courses:** GNS 111(2), 112 (2), **=4 Credits**

**Elective Courses:** HED 109(3), 112 (3), 113(3), 114 (3), HKE 109(3) **=15 Credits**

**TOTAL = 34 Credits**

**200 Level**

**Compulsory Courses:** EDU 211(2), 212(2), 213(3), 214(2), HED 204 (3), 205 (2), 206(2), 207(3)  
**= 18 Credits**

**Required Courses:** GNS 211(2), 212(2), HED 209(2), 210(2), 213(3) **= 11 Credits**

**Elective Courses:** HED 208(2), HED 211(2), 212(2), HKE 203(3) **=9 Credits**

**TOTAL = 38 Credits**

**DE TOTAL = 42 Credits**

**300 LEVEL**

**Compulsory Courses:** EDU 311(2), 312(2), 313(2), 314 (2), 315(2), 316(3), HED 301(3), 303(3), 305(2), 315(3) **=26 Credits** 3 0 4 ( 2 ) ,

**Required Courses:** GNS 311(2), GSE 301(3), **= 5 Credits**

**Elective Courses:** HED 306(2), 307(2), 308(2), 309(2), 311(2), 312(3) **=13 Credits**

**TOTAL = 44 Credits**

**400 LEVEL**

**Compulsory Courses:** EDU 411(4), 412(2), 413(2), 414(2), 415(2), 416(2), 499(4), HED 402(2),  
404(3), 405(3), 406(3), 407(1) **=33 Credits**

4 0 3 ( 3 ) ,

**Required Courses:** HED 410(2) **=2 Credits**

**Elective Courses:** HED 408(2), 409(2), 412(2) **=6 Credits**

**TOTAL = 41 Credits**

## DEPARTMENT OF HUMAN KINETICS EDUCATION

### Course Description

#### B.Sc. (Ed.) Human Kinetics

- HKE 101      Introduction to Outdoor Sports and Practice of Minor Games      2 Credits**  
Analysis of elements of school competitive and recreational education programmes with emphasis on activity types, techniques of organization and administration. Study and demonstration of local minor games and dances, lead up games and rhythmic movements for classroom activities.  
**30h (T); R**
- HKE 102      Introduction to Exercise and Sports Science      2 Credits**  
Theoretical and practical learning in the separate disciplines of sport physiology, sports psychology, sports medicine, biomechanics and motor learning. Development and Application of interdisciplinary, problem-based approach to performance analysis and performance improvement.  
**30h (T); E**
- HKE 103      Control of skill behaviour      2 Credits**  
Meaning, definition and concepts of motor skill will be explained. The structure, function of Central Nervous System (CNS), neurons and information process will be discussed.  
**30h (T); R**
- HKE 104      Physical Growth and Development      2 Credits**  
Differentiating growth from development. Factors that affect growth. Evaluation of the progress of growth and development with emphasis on physical, social, emotional and intellectual changes. Development of basic motor activities, fitness and maintenance of self awareness in performing both locomotor non-locomotor skills.  
**30h(T); R**
- HKE 105      Introduction to Human Kinetics Education and Fitness      2 Credits**  
Meaning and definition of Human Kinetics Education. Relationship of Human Kinetics Education to general education. Objectives of traditional aspect of human kinetics education in Nigeria and fitness programmes.  
**15h (T), 45h(P); C**
- HKE 106      History and Career Prospects in Human Kinetics Education      2 Credits**



Meaning, general scope, purpose, history, growth and development of human kinetics as a profession; with an overview of theoretical and practical dimensions of ancient and modern physical education with emphasis on early personalities and their contributions. Career opportunities and career assessment of human kinetics education.

**30h (T); C**

**HKE 107      Introduction to Sport Facilities, Organization and Administration      of Intramural Sports**  
**2 Credits**

An understanding of types, construction, purchase and maintenance of Sports facilities and equipment. An introduction to different types of organization and administration techniques in past and contemporary societies including Nigeria. A practical involvement of student in process or organizing/administration of sports.

**15h (T), 45h(P); R**

**HKE 108      Introduction to Movement Analysis      2 Credits**

Role of muscles in movement production; role of skeletal system and joints in contribution to movement, analysis of specific movement in games, sports and physical training activities.

**30h(T); E**

**HKE 109      Elementary Skills and Techniques of Sports and Games I      3 Credits**

Practical and theoretical approaches to understanding leading, to acquisition of basic manipulative skills, rules and regulations guiding competitive participation will be introduced in each of athletics, gymnastics and fitness.

**135 (P); E**

**HKE 110      Elementary Skills and Techniques of Sports & Games II      3 Credits**

Physical practice and analytical techniques to equip students with understanding and capacity to demonstrate and coach basic tactics; abilities in error detection and correction in the acquisition of motor skills. Promote an appreciation of the health aspects, the history, tradition, rules and etiquette of the game, and emphasize the potential for life-time involvement in Ayo, Dance and Draught.

**135(P); E**

**HKE 111      Basic Human Nutrition      1 Credit**

Food and Nutrition for sportsman, caloric requirement, right composition of nutrition, improvement of performance through recreation and sports.

**15h (T); E**

- HKE 114      Emergency Care and First Aid in Sports      2 credits**  
Immediate care of injuries-conditioning, massaging. Discussion will cover principles of accidents and their preventions, major sports injuries will be discussed e.g. Fractures.  
**30h (T); C**
- HKE 115      Social and Psychological Foundations of Sports and Physical Education      2 credits**  
An introduction to the social and psychological dimensions of sports practice and implications for recreational and competitive participation.  
**30h (T); C**
- HKE 116      Skills and Techniques of Combat sport      1 Credit**  
Physical practice and analytical techniques to equip students with understanding and capacity to demonstrate and coach basic tactics. It will also enhance students' abilities in error detection and correction in the acquisition of motor skills. Finally, this course will promote an appreciation of the health aspects, the history, tradition, rules and etiquette of the game, and emphasize the potential for life-time involvement in the sport. (2hours practical a week)  
**45h (P); E**
- HKE 117      Exercise, Rehabilitation and Health Promotion      2 Credits**  
This course will provide a multidisciplinary approach to understanding of the current epidemic of obesity and eating disorders in Nigeria and its impact on disease development throughout the lifespan; Emphasis will be on body weight intervention and prevention strategies especially with the development of lifestyle exercise habits. Rehabilitation of victims of violence through sports, recreation and fitness programmes in the community .  
**15h(T), 45h (P); E**
- HKE 201      Historical and Philosophical Foundations of Human Kinetics Education      2 Credits**  
Origin, growth and development of selected sports, historical and philosophical perspectives and promotion of physical education programmes in selected and modern nations. Sport bodies and associations.  
**30h (T); C**
- HKE 202      Psychological Foundation of Physical Education      2 Credits**  
An introductory approach to concepts of psychological aspects of physical education and sports, attraction to high performance in sports recognition and approval of groups.  
**30h (T); C**

<b>HKE 203</b>	<b>Kinesiology</b> Structure and functions of the human body as applied to movements especially in sports. Element of efficient movement and the relationship between movement and concept of good posture. Analysis of movements in relation to the work of muscle in various joints. Strengthening exercises for weak muscles. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>HKE 204</b>	<b>Human Anatomy and Physiology for Sports performance</b> Definition of anatomy and physiology, anatomical structure in relation to human body, body planes, structure of major bones of the body, physiology of human movement. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>HKE 205</b>	<b>Nutrition and Sports Performance</b> A study of nutrients and food needs of people especially as it applies to athletic performance. Basic food groups, importance of adequate diet in health, disease and sports. Planning the athlete's diet, content and meals, nutritional demand during exercise and training. Factors affecting food selection; supplementation. <b>30h (T); C</b>	<b>2 Credits</b>
<b>HKE 206</b>	<b>Pedagogical Elements of Sports</b> Investigation and determination of character of athletic training, its principles, instrument, condition and methodic rules. Pedagogies of sports in Europe and America. A study of the origin, development and philosophical foundations of sports and physical and health education times and contemporary Nigeria. <b>30h (T); R</b>	<b>2 Credits</b>
<b>HKE 207</b>	<b>Driver Education</b> Acquisition of vehicle driving skills with some knowledge of essential parts responsible for the function of motor vehicles. A study of road signs and road safety precautions and causes and prevention of automobile accident. <b>15h (T) 45h (P); E</b>	<b>2 Credits</b>
<b>HKE 210</b>	<b>Fitness for Life</b> Practical experiences in variables essential for fitness: cardio-respiratory and muscular endurance, strength, agility, etc. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>
<b>HKE 211</b>	<b>Practical Coaching and Officiating in Sports and Games</b> Skills involved in coaching and officiating of selected officiating in contemporary times. Practicum will also be undertaken in selected sports; and officiating clinics will be organized to promote entrepreneurial skills development. <b>90h (P); R</b>	<b>2 Credits</b>

<b>EDU 213</b>	<b>Subject Methodology I (Human Kinetics Education)</b> Aims and objectives of teaching a selected subject. Approaches to teaching the selected subjects. Trends in curricular reforms in the selected subjects. Lesson notes preparation and appropriate peer teaching exercise, with emphasis on Human Kinetics Education. <b>30h (T); C</b>	<b>2 Credits</b>
<b>HKE 214</b>	<b>Skills and Techniques of Swimming</b> This course introduces students to the main components of aquatics. It will equip them in understanding the basic execution of the various swimming strokes. Students will develop the ability to identify and correct errors in the execution of swimming skills and be introduced to the basic aspects of water safety and life saving skills. (2 practical hours a week) <b>45h (P); C</b>	<b>1Credit</b>
<b>HKE 215</b>	<b>Skills and Techniques of Track and Field II</b> This course introduces students to the science of track and field. They will be introduced to all track and field events and the progressions associated with each event. Students will be expected to illustrate basic movements for each event and analyze skill movements for all track and field events. (2 practical hours a week) <b>45h (P); C</b>	<b>1 Credit</b>
<b>HKE 216</b>	<b>Gymnastics II</b> Introduction to main components of gymnastic activities; understanding of the basic execution of the various gymnastic activities. Students will develop their ability to identify and correct errors in the execution of gymnastic skills and be introduced to the basic aspects of safety skills. (2 practical hours a week) <b>45h (P); C</b>	<b>1 Credit</b>
<b>HKE 217</b>	<b>Skills and Techniques of Basketball I</b> Practical and theoretical approaches to acquisition of skills needed for playing and officiating of sports of Basketball (2 practical hours a week) <b>45h (P); C</b>	<b>1 Credit</b>
<b>HKE 218</b>	<b>Skills and Techniques of Soccer I</b> Practical and theoretical approaches to acquisition of skills needed for playing and officiating of sports of Soccer. (1 theory, 2 practical hours a week) <b>45h (P); C</b>	<b>1 Credit</b>
<b>HKE 219</b>	<b>Skills and Techniques of Volleyball I</b>	<b>1 Credit</b>

Practical and theoretical approaches to acquisition of skills needed for playing and officiating of sports of Volleyball (2 practical hours a week)  
**45h (P); C**

- HED 206      Food and Nutrition II      2 Credits**  
Factors affecting food habit and behaviour and means of modifying them to promote health. Identification of common nutritional diseases, causes and prevention .  
**30h (T); E**
- HED 208      Communicable and Non-communicable Diseases      2 Credits**  
Meaning of Communicable and Non-Communicable diseases, causes, types, signs and symptoms of each, prevention, care and management.  
**30h(T); E**
- HKE 301      Problems of Physical and Health Education      2 Credits**  
Problems facing Human kinetics Education in the society; schools, colleges and universities. Theories of Play, Recreation and Physical Education, Sports and Movement Education. Constraints to Physical movement and its health implications.  
**30h (T); R**
- HKE 302      Introduction to Exercise Physiology      2 Credits**  
Body organs and systems and their reaction to different exercise programmes. Short and long range effects of exercise on muscular, respiratory, circulatory and digestive systems. Application of Physiological Principles to the development of physical activities and sports skills.  
**30h (T); C**
- HKE 304      Measurement and Evaluation in Human Kinetics Education      3 Credits**  
Measuring devices in Human Kinetics Education. Construction and use of test in human kinetics. Elementary statistical concepts. Written and performance tests in human kinetics education.  
**45h (T); C**
- HKE 305      Administration of Human Kinetics Education and Sports      2 Credits**  
A study of the methods and techniques of organizing physical education and sports programme. Budgeting and financial control. Building and maintenance of facilities. Purchase and care of equipment and supplies. Office management. Structure, functions and administration of national and international sports associations; N.F.F., A.A.A.N., S.C.S.A., etc.  
**30h (T); C**
- HKE 309      Sports and the Society      2 Credits**

Role of games, play, dance and sports in Nigeria culture. Fundamental social processes and social values of sports in contemporary society.

**30h (T); E**

- HKE 310      Advanced Fitness      2 Credits**  
Practical experience in fitness and Health Analysis of the effects of fitness on body weight, BMI and health.  
**90h (P); E**
- HKE 314      Advanced Skills and Techniques of Handball      1 Credit**  
Combining physical and analytical techniques to assist students to understand and execute hockey skills, enhance their abilities and in error detection and correction, and understand apply the strategies to the offensive, neutral, and defensive zones. It will also assist students to develop the ability to coach and officiate in handball game (2 practical hours a week).  
**45h (P); C**
- HKE 315      Advanced Skills and techniques of Coaching in Tennis      1 Credit**  
Physical practice and analytical techniques to equip students with understanding and capacity to play, coach and officiate the sport of Tennis. Abilities in error detection and correction in the acquisition of motor skills. Promotion of appreciation of the health aspects, the history, tradition, rules and etiquette of the game, and emphasize the potential for life-time involvement in the sport.  
**45h (P); C**
- HKE 316      Advanced Skills and Techniques of Hockey      1 Credit**  
Combining physical and analytical techniques to assist students to understand and execute hockey skills, enhance their abilities and in error detection and correction, and understand apply the strategies to the offensive, neutral, and defensive zones. It will also assist students to develop the ability to coach and officiate in hockey game (2 practical hours a week).  
**45h (P); C**
- HKE 317      Curriculum studies in Physical and Health Education      2 Credits**  
Methodical education of physical activities and sports, the aims, contents, organization and control of teaching physical education and sports, age group concept and continuous programme or basic concepts. Factor affecting planning, organization and development of physical education and sports programmes. Analysis of physical education Curriculum in the Nigerian Education system.  
**30h (T); E**
- HKE 318      Physiological and Artificial Limitations to Sports      2 credits**  
Participation in sports to physical development and of body build and functions of men and women, physiological capacities of men and women, sports injuries peculiar to women, possibility of masculinization of women through sports and their effects on reproductive systems of men and women  
**30h(T); E**

- HKE 319**      **Motor Learning and Human Performance**      **2 Credits**  
 Introduction to the principles and concepts of motor learning. Definition of skills. Different ways by which skills are acquired. Role of sensory organ in the acquisition of skills. Terminologies in motor learning.  
**30h (T); R**
- HKE 321**      **Advanced Skills and Techniques in Athletics II**      **1 Credit**  
 Combination of physical practice and analytical techniques to equip students with understanding and capacity to participate, coach and officiate in athletics. Abilities in error detection and appreciation of the health aspects, the history, tradition, rules and etiquette of the game and emphasize the potential for life-time involvement in the sport.  
 (2 practical hours a week)  
**45h (P); C**
- HKE 322**      **Advanced Skills and techniques of Coaching in Badminton**      **1 Credit**  
 Combination of physical practice and analytical techniques to equip students with understanding and capacity to play, coach and officiate in the sport of Badminton; enhance students' abilities in error detection and correction in the acquisition of skills and techniques of the game. Promotion of health aspects, the history, tradition, rules and etiquette of the game, and emphasize the potential for life-time involvement in the sport. (2 practical hours a week)  
**45h (P); C**
- HKE 323**      **Advanced Skills and Techniques of Basketball II**      **1 Credit**  
 Individual offensive and defensive skills, application of mental and physical training principles by which basketball performance can be enhanced, rules of the game, and awareness of strategic concepts by which individuals and teams compete. Students also develop coaching and officiating skills for playing the game. (2 practical hours a week)  
**45h (P); C**
- HKE 326**      **Sports and Ageing**      **2 Credits**  
 Concept of ageing theories and specialization of ageing problems and needs aged people, rationale for sports and recreation for the aged people. Guidelines for P.E/sports programme for ageing will be fully discussed.  
**30h (T); E**
- HED 304**      **Mental Health Education**      **2 Credits**  
 Meaning of mental health, determinants of mental health status, characteristics of a mentally healthy person, identification and discussion of the values of self-knowledge, self-esteem, positive interaction with others through physical activity. The role of the teacher in reducing mental health problems in school.  
**30h (T); E**

<b>HED 305</b>	<b>School Health Programme</b> Children's health in schools, meaning of School Health Programme, components of School Health Programme, recognition of children's health problems, treatment or referral to the appropriate authority. <b>30h (T); E</b>	<b>2 Credits</b>
<b>HKE 401</b>	<b>Psychology of Coaching</b> Theories and principles of coaching games and sports event and dealing with athletes, psyching up for games, superstitious beliefs about performances, psychometrics, sports performance and the coach. <b>30h (T); R</b>	<b>2 Credits</b>
<b>HKE 403</b>	<b>Adapted Human Kinetics Education</b> Methods of teaching human kinetics education to students with special needs. Suitable exercise for different types of students with special needs, organization of classes and assessment of progress therapeutic exercises. <b>30h (T); C</b>	<b>2 Credits</b>
<b>HKE 404</b>	<b>Dance</b> Skills and techniques of traditional and folk dances and ballroom dances. Role of dance in education and human kinetics education especially aerobic dances. Organization of dancing lessons. <b>45h (P); E</b>	<b>1 Credit</b>
<b>HKE 407</b>	<b>Seminar in Human Kinetics Education</b> Presentation of Seminars on selected research topics relating to problems facing Human Kinetics Education in the society: schools, colleges and universities. <b>45h (T); C</b>	<b>1 Credit</b>
<b>HKE 410</b>	<b>Applied Fitness</b> Practical demonstration of fitness programme for: young, elderly persons, women, obese and rehabilitation. Relationship between aging and incidence of degenerative and hypokinetic diseases (hypertension, low back pain, myocardial infraction and mobility problems) and management. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>HKE 411</b>	<b>Prevention and Care of Athletic Injuries</b> Causes, diagnosis, treatment, prevention and rehabilitation of common athletic injuries. Practical and theoretical aspects of massage, taping and bandaging; diet and conditioning of various physical therapeutic procedures. <b>30h (T); C</b>	<b>2 Credits</b>



- HKE 412 Introduction to Biomechanics 2 Credits**  
Analysis of musculo-skeletal basis of human motion. Particular reference will be made to joint, bones and muscles. Forms of locomotion. Kinetics and Kinematics of human movements. Forms of motion, laws and principles of movement.  
**15h (T), 45h (P); R**
- HKE 413 Community Recreation 2 Credits**  
Needs for and importance of community recreation in modern day living. Concepts of the organization and administration of outdoor education programmes in the school and community. Camping, leadership and citizenship training.  
**30h (T); R**
- HKE 414 Advanced Skills and Techniques of Coaching in Squash 1 Credit**  
Physical practice and analytical techniques; capacity to play and coach the sport of squash. Abilities in error detection and correction in the acquisition of motor skills. Finally, this course will promote an appreciation of the health aspects, the history, tradition, rules and etiquette of the game, and emphasize the potential for life-time involvement in the sport. (2 practical hours a week)  
**45h (P); C**
- HKE 415 Advanced Skills and techniques of Coaching in Cricket 1 Credit**  
Physical practice and analytical techniques to equip students with understanding and capacity to play the sport of Cricket. It will also enhance students' abilities in error detection and correction in the acquisition of motor skills. Appreciation of the health aspects, the history, tradition, rules and etiquette of the game, and emphasize the potential for life-time involvement in the sport. (2 practical hours a week)  
**45h (P); C**
- HKE 416 Advanced Skills and Techniques of Coaching in Table Tennis 1 Credit**  
This course will combine physical practice and analytical techniques to assist students with their understanding and their capacity to play the sport of Table Tennis. It will also enhance students' abilities in error detection and correction in the acquisition of motor skills. Finally, this course will promote an appreciation of the health aspects, the history, tradition, rules and etiquette of the game, and emphasize the potential for life-time involvement in the sport. (2 practical hours a week)  
**45h (P); C**
- HKE 417 Advanced Skills and Techniques of Athletics II 1 Credit**

Improvement of individual skills, application of mental and physical training principles by which athletic performance can be enhanced, rules of the events, and awareness of strategic concepts by which individuals and teams compete. Students also develop coaching and officiating skills involved in competition and officiating. (2 practical hours a week)

**45h (P); C**

**HKE 418      Advanced Skills and Coaching in Soccer II      1 Credit**

Physical practice and analytical techniques to equip students with understanding and their capacity to play the sport of squash. It will also enhance students' abilities in error detection and correction in the acquisition of motor skills. Finally, this course will promote an appreciation of the health aspects, the history, tradition, rules and etiquette of the game, and emphasize the potential for life-time involvement in the sport. (2 practical hours a week)

**45h (P); C**

**HKE 419      Advanced Skills and Coaching in Volley Ball II      1 Credit**

Physical practice and analytical techniques to equip students with their understanding and their capacity to play the sport of Volleyball. It will also enhance students' abilities in error detection and correction in the acquisition of motor skills. Appreciation of the health aspects, the history, tradition, rules and etiquette of the game, and emphasize the potential for life-time involvement in the sport. (2 practical hours a week)

**45h (P); C**

**HKE 420      Supervision of School Health and Physical Education Programme      2 Credits**

Practical means of planning and implementing school health and physical education in schools. This will include policy making, methods and facilities for the implementation of school health and physical education.

**30h (T); R**

**EDU 499      Research Project in Human Kinetics Education      4 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department culminating in the submission of a project.

**180h (T); C**

**SUMMARY**

**B.Sc. (Ed.) Human Kinetics**

**100 LEVEL**

**Compulsory Courses:** EDU 111(2), 112 (2), HKE 105(2), 106(2), 107(2), 109(2) 111(1) 113(1), 115(2) =18 Credits 1 1 4 ( 2 ) ,

**Required Courses:** GNS 111(2), 112(2), HKE 101 (2), HKE 103 (2), HKE 104(2), =10 Credits

**Elective Courses:** HKE 102 (2), HKE 112 (1), HKE 118 (1), HKE 114(1), HKE 116(1), HED 107 (2) HED 109(2), CHM 101(2), HKE 119(2) = 16 Credits 1 1 0 ( 2 ) ,

**TOTAL = 44 Credits**

**200 LEVEL**

**Compulsory Courses:** EDU 211(2), 212(2), EDU 213(2), 214(2), EDU 215(2),HKE 201(2), 203(2), 204 (2) 205(2), HKE 214 (1), HKE 215 (1), 216 (1), 217 (1), 218 (1), 219 (1) = 26 Credits 2 0 2 ( 2 ) ,

**Required Courses:** GNS 211(2), GNS 212 (2), HKE 211(2), 206(2), = 8 Credits

**Elective Courses:** EDU 216(2),HKE 207(2), 210(2), HED 206(2), 208(2) = 10 Credits

**Direct Entry Students:** GNS 111(2), 112(2)

**TOTAL UTME = 44 Credits**  
**DE = 48 Credits**

**300 LEVEL**

**Compulsory Courses:** EDU 311(2), 312(2), 313(2), 314(2), 315 (2), 316(3), HKE 302(3), 311(1), 312(1), 313(1), 314(1) 315(1), 316(1) 304(3), 305(2), = 27 Credits

**Required Courses:** GNS 311 (2), GSE 301(3), HKE 301(2), HKE 307 (2), 315(2) = 11 Credits

**Elective Courses:** At least 4 Credits from HKE 306(2), 309 (2), 310(2), 317 (2), 304(2), 305(2) = 12 Credits H E D

**TOTAL = 50 Credits**

#### 400 LEVEL

**Compulsory Courses:** EDU 411(4), 412(2), 413(2), 414 (2), 415(2), 416(2), 499(4), 407(1), 414(1), 415(1), 416(1), 417(1), 418(1), 419(1) = **25 Credits**

H K E

**Required Courses:** HKE 401(2), HKE 403 (2), HKE 411(2), 412(2) = **8 Credits**

**Elective Courses:** HKE 404(1), 410(2), 413(2), 414(1) EDU 417(2) = **8 Credits**  
**TOTAL= 41 Credits**

#### Graduation Requirements:

UTME = 128 Credits

Direct = 100 Credits

#### DEPARTMENT OF SOCIAL SCIENCES EDUCATION

##### SSE 111 Elements of Social Studies

2 Credits

Introduction of students to social study. It emphasizes the field. The philosophy behind its introduction, the rationale, general and specific objectives, its evolution, scope and sequence are given specific attention.

30h (T); R

##### SSE 102 Introduction to Nigerian Social Life and Culture

2 Credits

History and social studies relationships. Use of historiography in social studies, social interactions in early Nigeria up to 1500. Social studies topics in world history (the modern world) peoples of Nigeria. Concepts of culture and patterns of culture in Nigeria;

30h (T); R

##### SSE 113 Introductions to Social Studies and Nation Building

2 Credits

Analysis of the concepts of development, self reliance, Education and national building. The philosophy of social studies; Civic rights and responsibilities (means and ends in development) Social institutions (patterns, structures and functions).

30h (T); R

##### SSE 122 Family- Base of Structure of Society

2 Credits

Nature, types and structure of the family; problem of living in the family. Family as a micro-society; some social institutions that are family based.

**30h (T); R**

- SSE 123 Introduction to Nigeria Cultural Environment 2 Credits**  
Man as the focus of social studies. Socialization agencies and institutions; marriage, religion, health, legal and civic rights and responsibilities.  
**30h (T); R**
- SSE 124 The Structure and Characteristics of Man's Space 2 Credits**  
The earth, the atmosphere: hydrospheric space and lithospheric space. An analysis of space in individuals and space abstract.  
**30h (T); R**
- SSE 135 Socio-Economic Environments of Nigeria 2 Credits**  
Introduction to man's economic activities. Man and his needs and wants. Man and his ability to make choice; use of resources and spending money.  
**30h (T); R**
- SSE 206 Culture and Social Stability 2 Credits**  
Concept of culture and identity. Common heritage and national symbols. Cross cultural influences. Social change alienation and social stability.  
**30h (T); R**
- SSE 211 The Social Studies and Social Sciences 2 Credits**  
Detailed study of the relationship between social studies and its Foundation, disciplines like Economics, Geography, Political Science, Sociology and History,  
**30h (T); R**
- SSE 212 Social Studies Education and Patterns of Nation Building 2 Credits**  
Ideological basis of development Pattern of -life in urban and rural areas, Co-operation and conflict; social attitudes of development; leadership, fellowship, and the consequences of these systems in development. Nation Building in multicultural setting  
**30h (T); R**
- SSE 213 Social Interactions in Nigeria 2 Credits**  
Social interactions in Nigeria 1500 – 1800 (Grassland Zone) 1500 - 1800 (Forest Zone) Political system in the pre-colonial Nigeria  
Social interactions in Nigeria 1914 – 1960

**30h (T); R**

- SSE 221      Nigeria: Socio-political Institution      2 Credits**  
Nigerian culture, identity, socialization of man, marriage and kinship groups: primary, secondary and communities  
**30h (T); R**
- SSE 222      The Socio-Economic Structure of Nigeria      2 Credits**  
Marketing systems and organization. Prices and Income, Savings - why and how to save.  
**30h (T); R**
- SSE 222      The Socio-Economic Structure of Nigeria      2 Credits**  
Marketing systems and organization. Prices and Income, Savings - why and how to save.  
**30h (T); R**
- SSE 223      Teaching Social Studies in Senior Secondary Schools      2 Credits**  
Techniques and Methods of imparting knowledge to the Junior Secondary School Student with emphases to the use of Inquiry techniques  
**30h (T); R**
- SSE 224      Population and Economic Development in Nigeria      2 Credits**  
The concept of population and its relationship with economic development. The meaning of economic development as it relates to poverty, inequality and per capita income, the concept of population dynamics, birth rate death rate etc  
**30h (T); R**
- SSE232      Sociology of the Family      2 Credits**  
Analysis of the Principles of Kinship classifications and of the types and functions of marriage as a social institution. The family and its problems in Nigeria.  
**30h (T); R**
- SSE 234      Nigeria Political Experience      2 Credits**  
Nigeria Pre Independence Experience, Nigeria Post Independence experience, Military Rule in Nigeria, Democracy in Nigeria, Problems of Military Rule, Challenges of Democracy in Nigeria, Protecting Democracy  
**30h (T); R**
- SSE 311      Study of Event in Space      2 Credits**  
Analysis of the nature, value and distribution of events in the atmospheric, hydrospheric and lithospheric environments.

**30h (T); R**

- SSE 312      Politics, power and government in Nigeria      2 Credits**  
Study of politics, power and government. Forms of government: major generalization from political Science. Study of social order and its constituents  
**30h (T); R**
- SSE 313      Finance and Financial Institutions in Nigeria      2 Credits**  
Economic systems of Nigeria. Factors of Production, money, - history, functions and types.  
**30h (T); R**
- SSE 314      Nigerian Cultural Patterns and Historical Origin      2 Credits**  
Study of the Nigerian social and cultural relations. Sports, arts and culture. Utilization and conservation of Resources and loyalty to the nation.  
**30h (T); R**
- SSE 321      Nationalism and Patriotism in Nigeria      2 Credits**  
Indigenous political organization; the growth and development of political parties in Nigeria. Goals and- strategies of nationalists in pre- Independence Nigeria. Politics and crises in Nigeria 1960 - up date.  
**30h (T); R**
- SSE 322      Social Studies Education and Theories of Nation Building      2 Credits**  
Theories of self-reliance development. Social change alienation and personality. The role of religion in society; politics and political institutions, values technology and development education for place: a new dimension in social education  
**30h (T); R**
- SSE 323      Technology and Society      2 Credits**  
Analysis of Concepts of Values. Values vital to the acquisition of Science and Technology. Choice of values and direction of development. Utilization and conservation of the world resources.  
**30h (T); R**
- SSE 334      Comparative Trends in Social Studies Education      2 Credits**  
Comparative Study of trends in social studies among the member Countries that adopted the Africa Social- Studies Programme (ASSP) Trends in terms of aspired changes, issues the curriculum of social studies and actual classroom reality.  
**30h (T); R**
- SSE 335      Labour and Labour Unions      2 Credits**

Analysis of the Concept of Labour Union. Roles of Labour Unions. Labour Unions in Nigeria. Labour Unions and National Development. Labour Union Challenges and prospects. Labour unionists and Nigerian History.  
**30h (T); E**

- SSE 411      International and Multidimensional Interactions      2 Credits**  
Concepts of world power and types, Nigeria in international politics and economic co operations. International understanding through social studies  
**30h (T); R**
- SSE 412      Social Studies Education, Problems and Prospects of Nation Building      2 Credits**  
Concepts of culture and identity. Cross cultural influence; cultural factors militating against self reliance and development. Human rights in Nigeria and human rights education.  
**30h (T); R**
- SSE 413      Social Issues as Emerging Priorities for Social Studies Education      2 Credits**  
Analysis of social group and organisation and issues relating to such collective behaviours as terrorism, riots, thuggery, smuggling, alcoholism, drug abuse, social deliverance and other causes such as inequity, gender, under-representation of minorities, under utilisation of skills, Religions intolerance, Cultism etc.  
**30h (T); R**
- SSE 414      Marriage and Kinship      2 Credits**  
Analysis of the concept of marriage, the rationale for marriage, preparation for marriage, courtship dating, family trees and lines of descendant, blood and marriage relationship in the family.  
**30h (T); R**
- SSE 415      Social Studies Theories, Resources and Strategies      2 Credits**  
Analysis of various theories and conception of social studies. Types of resources - human, material, natural, etc. the need for resource development and utilization; resource development centres: Various strategies for social studies.  
**30h (T); R**
- SSE 421      Social Life and Party Politics in Nigeria      2 Credits**  
Nigerian major political parties; the evolution of political Parties, functions and duties of arms of government. Forms of government  
**30h (T); R**



- SSE 422      Social-Economic Activities in Nigeria      2 Credits**  
Economic activities performed by persons, firms and government; types of economy, banks and banking system. Nigeria and international economic organizations.  
**30h (T); R**
- SSE 432      Nigeria and Africa Organisations      2 Credits**  
Examination of the origins, emergence and the roles of Africa Organisations which Nigeria is a member. The problems and prospects of the organisations to be analysed and evaluated.  
**30h (T); R**
- SSE 433      Law and the Society      2 Credits**  
Analysis of the terms related to law such as rules, regulations. Etc, Law in traditional Nigerian society, Modern laws, Law making process in the modern society, roles of laws in the society. Maintenance of law in the society. Law as a prevention of crimes and other misbehaviors in the society.  
**30h (T); R**

**SUMMARY**  
**B.Sc. Social Studies**  
**100 LEVEL**

**Compulsory Courses:** EDU111 (2), 112(2), SSE 111(2), 102(2), 113(2), 112 (2), 123(2)  
= 14 Credits

**Required Courses:** GNS111 (2), 112(2), SSE124 (2), 135(2) = 4 Credits

**Elective Courses:** Any 6 Credits out of ENG 118(3), 119(3)107 (3)

**TOTAL = 24 Credits**

**200 LEVEL**

**Compulsory Courses:** EDU211 (2), 212(2), 213(2), 214 (2), 215 (2), SSE 206 (2), 211 (2), 212 (2), 213  
(2), 221 (2) 232 (2) 234 (2) = 24 Credits

**Required Courses:** GNS 211 (2), 212 (2), SSE 223 (2), 224 (2) = 8 Credits

**Elective Courses:** EDU 216 (2), SSE 222 (2) = 4 Credits

**TOTAL = 36 Credits**

**Direct Entry Students:** GNS111 (2), 112 (2) = 4 Credits

**TOTAL = 40 Credits**

**300 LEVEL**

**Compulsory Courses:** EDU 311(2), 312 (2), 313 (2), 314 (2), 315 (2), 316 (2), SSE 311(2), 312 (2), 313  
(2), 314 (2), 321 (2) = 22 Credits

**Required Courses:** GNS 311(2), GSE 301 (3), SSE 322 (2) = 7 Credits

**Elective courses:** At least four credits from:  
SSE 323 (2), 334 (2), 335 (2) = 4 Credits

**TOTAL = 33 Credits**

**400 LEVEL**

**Compulsory Courses:** EDU 411 (4), 412 (2), 413 (2), 414 (2), 415 (2), 416 (2), 499 (4), 407  
(1), SSE 411 (2), 412 (2), 413 (2), 414 (2) = 27 Credits

**Required Courses:** SSE 415 (2), 421 (2), 422 (2) = 6 Credits

**Elective Courses:** SSE 432 (2), 433 (2), EDU 417 (2) = 6 Credits

**TOTAL = 39Credits**

**Graduation Requirements:**

UTME = 126 Credits

DIRECT = 108 Credits

## Department of Science Education

### Agricultural Education

#### 100 Level

**Compulsory Courses:** EDU 111 (2), EDU 112 (2), = 4 Credits

**Required Courses:** GNS 111 (2), GNS 112 (2), SED 121 (2), SED 122 (2), SED 123 (2), CHM 101 (2), CHM 112 (2), CHM 115 (2), PLB 101 (2) =18 Credits

**Elective Courses:** PLB 108 (3), ZLY 103 (2), MAT 116 (2), ZLY 106 (2), PHY 115 (2)  
=11 Credits

**Total= 35 Credits**

#### 200 Level

**Compulsory Courses:** EDU 211 (2), EDU 212 (2), EDU 213 (2), EDU 214 (2), EDU 215 (2), EDU 216 (2), SED 211 (2). =14 Credits

**Required Courses:** GNS 211 (2), GNS 212 (2), AGY 205 (2), AGY 206 (2), AXR 201 (2), ANP 205 (2), ANP 206 (2), AEF 201 (2), SED 226 (2), ABE 208 (2)  
= 20 Credits

**Direct Entry Students:** GNS 111 (2) and GNS 112 (2)

**Elective Courses:** CPT 202 (2), AEF 202 (2), AHE 201 (2) = 6 Credits  
**Total = 40 Credits**

#### 300 Level

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2), 316 (2)  
= 12 Credits

**Required Courses:** GNS 311 (2), GSE 301 (3), ANP 301 (2), ANP 306 (3), ANP 309 (3), AGY 308 (3), AGY 309 (3), AXR 301 (2), AGY 310 (2) = 23 Credits

**Elective Courses:** Any 2 credits from: AGY 307  
(2), ABE 302 (2), ABE 321 (1) = 2 Credits  
**Total = 38 Credits**

**Compulsory Courses:** **400 Level**  
EDU 411 (4), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2),  
(2), EDU 499 (4) = 20 Credits  
EDU 416

**Required Courses:** ANP 404 (2), ANP 513 (3), AEF 517(3), AGY 516 (3), ANP 517 (2),  
(2), SED 404 (2), SED 408 (2), SED 424 (2) SED 427 (2)  
= 23 Credits  
AGY 406

**Elective Courses:** Any 3 credits from:  
AGY 514 (3), AXR 510 (3), AEF 504 (3). = 3 Credits  
**Total = 47 Credits**

### Graduation Requirements

UTME = 160

DE = 121

### Biology Education (Minor Subject: Chemistry)

#### 100 Level

**Compulsory Courses:** EDU 111 (2), EDU 112 (2), = 4 Credits

**Required Courses:** PLB 101 (2), PLB 108 (3), ZLY 106 (2), ZLY 103 (2), GNS 111 (2),  
(2), CHM 101 (3), CHM 112 (2), CHM 115 (2), CHM 132 (2)  
= 22 Credits  
GNS 112

**Elective Courses:** Any 6 Credits from the following:  
(1), CHM 116 (1), MAT 111 (3), MAT 112 (3), MAT 113 (3),  
STA 121(2) = 6 Credits  
**Total = 32 Credits**  
CHM 131

#### 200 Level

**Compulsory Courses:** EDU 211 (2), EDU 212 (2), EDU 213 (2), EDU 214 (2), EDU 215 (2),  
EDU 216 (2) = 12 Credits

**Required Courses:** PLB 201 (3), PLB 202 (3), ZLY 201 (3), ZLY 202 (3), GNS 211 (2),  
GNS 212 (2), MCB 205 (3), MCB 206 (3), CHM 212 (3), CHM 235 (3)  
= 28 Credits

**Direct Entry Students:** GNS 111 (2) and GNS 112 (2), MAT 111 (3) and MAT 112 (3)

**Elective Courses:** Any 4 credits from the following:  
(2), CHM 213 (2), MCB 204 (3), MCB 208 (3), PLB 203 (3),  
CHM 236 (2)

= 4 Credits

**Total = 44 Credits**

STA 121

### 300 Level

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2),  
EDU 316 (2). = 12 Credits

**Required Courses:** PLB 307 (3), PLB 308 (3), ZLY 301 (3), ZLY 305 (3), GNS 311 (2),  
GSE 301 (3), CHM 331 (3) CHM 307 (2), MCB 315 (3), MCB 316 (3)  
= 28 Credits

**Elective Courses:** Any 6 Credits from the following:  
(1), CHM 336 (2), CHM 328 (2) CHM 322 (2) PLB 304 (4)  
= 6 Credits

**Total = 46 Credits**

EDT 314

### 400 Level

**Compulsory Courses:** EDU 411 (4), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2),  
EDU 416 (2), EDU 499 (4). = 18 Credits

**Required Courses:** SED 427 (2), PLB 302 (3), PLB 413 (3), ZLY 403 (3), ZLY 417 (3),  
MCB 406 (2), MCB 422 (3) = 19 Credits

**Elective Courses:** At least 10 Credits from:  
PLB 303 (3), PLB 406 (3), ZLY 405 (3), SED 416 (2) = 10 Credits

**Total = 47 Credits**

### Graduation requirements

UTME = 169

DE = 127

**Chemistry Education (Minor Subject: Biology or Mathematics)**

**100 Level**

**Compulsory Courses:** EDU 111 (2), EDU 112 (2) = 4 Credits

**Required Courses:** CHM 101 (3), CHM 112 (2), CHM 115 (2), CHM 116 (1), CHM 132 (2), GNS 111 (2), GNS 112 (2). = 14 Credits

**Elective Courses:** Any 7 credits from:  
PLB 101 (3), PLB 108 (3), ZLY 101 (2), ZLY 103 (2), ZLY 106 (2)  
= 7 Credits

**OR**

MAT 111 (3), MAT 112 (3), MAT 113 (3), MAT 114 (2) = 7 Credits  
**Total = 25/25 credits**

**200 Level**

**Compulsory Courses:** EDU 211 (2), EDU 212 (2), EDU 213 (2), EDU 214 (2), EDU 215 (2), EDU 216 (2). = 12 Credits

**Required Courses:** CHM 212 (3), CHM 213 (2), CHM 235 (3), CHM 236 (3), GNS 211 (2), GNS 212 (2)

**Direct Entry Students:** GNS 111 (2) and GNS 112 (2) = 4 Credits

**Elective Courses:** Any 6 credits from:  
PLB 201 (3), PLB 202 (3), PLB 203 (3), ZLY 201 (3), ZLY 202 (3)  
= 6 Credits

**OR**

MAT 201 (3), MAT 208 (2), MAT 210 (2), MAT 211 (3), MAT 212 (3)  
= 6 Credits

**Total = 33/33 Credits**

**300 Level**

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2), EDU 316  
(2) = **12 Credits**

**Required Courses:** CHM 307 (2), CHM 322 (2), CHM 324 (3), CHM 328 (2), CHM 329 (2),  
CHM 331 (3), GNS 311 (2), GSE 301 (3) = **19 Credits**

**Elective Courses:** CHM 312 (2), CHM 345 (2), = **4 Credits**

**Any 6 credits from:**  
PLB 307 (3), PLB 308 (3), ZLY 301 (3) = **6 Credits**

**OR**

MAT 311 (3), MAT 325 (3), MAT 329 (3), MAT 332 (3), MAT 324 (3)  
= **6 Credits**

**Total = 41/41 Credits**

#### **400 Level**

**Compulsory Courses:** EDU 411 (4), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2), EDU 416  
(2), EDU 499 (4). = **18 Credits**

**Required Courses:** SED 427 (2), CHM 415 (2), CHM 423 (2), CHM 427 (2), CHM 438 (2)  
= **10 Credits**

**Elective Courses:** Any 6 credits from:  
CHM 420 (2), CHM 424 (2), CHM 430 (2), CHM 440 (2), CHM 425 (2)  
= **6 Credits**

**Total = 34 Credits**

#### **Graduation Requirements**

UTME: 133

DE: 104

#### **Mathematics Education (Minor Subject: Chemistry, Economics, Physics or Statistics)**

#### **100 Level**

**Compulsory Courses:** EDU 111 (2), EDU 112 (2), MAT 111(3), MAT 112(3), MAT 113(3),



	MAT 114 (3),	= 18 Credits	
<b>Required Courses:</b>	GNS 111(2), GNS 112 (2),	= 4 Credits	
	<b>And</b>		
	CHM 101 (3), CHM 112 (2), CHM 116 (1)	= 7 Credits	
	<b>Or</b>		
	ECN 101(3), ECN 102 (3), ECN 103 (2), ECN 104 (2)	= 10 Credits	
	<b>Or</b>		
	PHY 114 (2), PHY 124 (3), PHY 191(1),	= 6 Credits	
	<b>Or</b>		
	STA 121 (2), STA 124 (3), STA 125 (3)	= 8 Credits	
<b>Elective Courses:</b>	Any 2 credits from the following:		
	CHM 115 (2), CHM 131 (1), CHM 132 (2)	= 2 Credits	
	Or		
	ECN 105(2)	= 2 Credits	
	Or		
	PHY 142 (2), PHY 152 (2)	= 2 Credits	
	Or		
	STA 131 (2), STA 132 (2)	= 2 Credits	
			<b>Total = 31/32/30/32 Credits</b>

	<b>200 Level</b>		
<b>Compulsory Courses:</b>	EDU211 (2), EDU 212 (2), EDU 213 (2), EDU 214 (2), EDU 215 (2), (2), MAT 211 (3), MAT 212 (3), MAT 213 (3)	= 21 Credits	EDU 216
<b>Required Courses:</b>	GNS 211(2), GNS 212 (2), MAT 201 (3)	= 7 Credits	
	And		
	CHM 213(2), CHM 235 (2), CHM 212 (3),	= 7 Credits	
	Or		
	ECN 201(2), ECN 202 (2), ECN 203(2), ECN 204 (2)	= 8 Credits	
	Or		
	PHY 225 (2), PHY 291 (2), PHY 214 (2)	= 6 Credits	

Or  
MAT 201(2), STA 221(3) STA 222 (3) = 8 Credits

**Direct Entry Students:** GNS 111 (2) and GNS 112 (2)

**Elective Courses:** MAT 206 (2), MAT 208 (2) = 4 Credits

And  
CHM 236 (3) = 3 Credits

Or  
PHY 295 (1) = 1 Credit

Or  
MAT 206 (2) MAT 208 (2) STA 223 (3) STA 224(3) = 10 Credits

**Total = 35/36/34/36 Credits**

### 300 Level

**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2),  
(2) = 12 Credits

EDU 316

**Required Courses:** GNS 311(2), GSE 301 (3), MAT 311 (3), MAT 324 (3), MAT 325 (3),  
MAT 332 (3), MAT 329 (3) = 20 Credits

**Elective Courses:** MAT 307 (3), MAT 309 (3), MAT 323 (3), MAT 326 (3), MAT 328 (3),  
MAT 321 (3), MAT 322 (3) = 21 Credits

And  
Any 6 credits (5 credits for physics) from:  
CHM 307 (2), CHM 324 (3), CHM 328 (3) = 6 Credits

Or  
ECN 301(2), 302 (2), 303(2) = 6 Credits

Or  
PHY 303 (2), PHY 331 (3) = 5 Credits

Or  
STA 311 (2), STA 312 (3), STA 341 (3), STA 333 (2), STA 342 (3),  
STA 354 (3), STA 364 (3), STA 363 (3) = 6 Credits

**Total = 38/38/37/38 Credits**

### 400 Level

**Compulsory Courses:** EDU 411 (4), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2),  
(2), EDU 499 (4), SED 427 (2) = **20 Credits** EDU 416

**Required Courses:** MAT 401(3), MAT 402(3), MAT 407 (3) = **9 Credits**

**Electives Courses:** Any 6 credits from the following: MAT 403  
(3), MAT 410 (3), MAT 413 (3), MAT 432 (3) = **6 Credits**

**Total = 32 Credits**

### Graduation Requirements

UTME: 136/138/133/138 Credits

DE: 101/103/98/103 Credits

### B.Sc. (Ed.) courses for Physics Education (Minor Subject: Mathematics)

#### Summary

#### 100 Level

**Compulsory Courses:** EDU 111 (2), EDU 112 (2) = **4 Credits**

**Required Courses:** PHY 115 (2), PHY 125 (3), PHY 142 (2), PHY 152 (3), PHY 191 (1),  
(1), MAT 111 (3), 112 (3), 113 (3), 114 (3), GNS 111 (2), 112 (2) PHY 192  
= **28 Credits**

**Total = 32 Credits**

#### 200 Level

**Compulsory Courses:** EDU 211 (2), EDU 212 (2), EDU 213 (2), EDU 214 (2), EDU 215 (2),  
(2) = **12 Credits** EDU 216

**Required Courses:** PHY 225 (2), PHY 214 (2), PHY 243 (2), PHY 291 (2), PHY 252 (2),  
(3), MAT 210 (3), GNS 211 (2), 212 (2) = **20 Credits** MAT 211

**Direct Entry Students:** GNS 111 (2) and GNS 112 (2)

**Elective Courses:** MAT 202 (3), MAT 203 (3), MAT 206 (2), MAT 208 (2), MAT 212 (3), MAT 213  
(3), PHY 295 (1), PHY 296 (2), = 19 Credits  
**Total = 32 Credits**

**300 Level**  
**Compulsory Courses:** EDU 311 (2), EDU 312 (2), EDU 313 (2), EDU 314 (2), EDU 315 (2), EDU 316  
(2) = 12 Credits

**Required Courses:** PHY 324 (3), PHY 331 (3), PHY 342 (3), PHY 355 (2), PHY 357 (2), MAT 324  
(3), GNS 311 (2), GSE 301 (2) = 20 Credits

**Electives Courses:** EDT 314 (1), PHY 303 (2), PHY 314 (3), PHY 353 (3), PHY 358 (3), PHY 365  
(3), PHY 391 (2), PHY 396 (2), MAT 306 (2), MAT 307 (3), MAT 311 (3), MAT 326 (3), MAT 332 (3),  
= 29 Credits  
**Total = 32 Credits**

**400 Level**  
**Compulsory Courses:** EDU 411 (4), EDU 412 (2), EDU 413 (2), EDU 414 (2), EDU 415 (2), EDU 416  
(2), EDU 499 (4), SED 427 (2) = 20 Credits

**Required Courses:** PHY 409 (2), PHY 443 (2), PHY 457 (2), PHY 444 (2), PHY 454 (2)  
= 10 Credits

**Elective Courses:** PHY 432 (3), PHY 456 (3), PHY 462 (3), PHY 446 (2), PHY 472 (2), PHY 475  
(2), PHY 491 (2), = 10 Credits  
**Total = 30 Credits**

### **Graduation Requirements**

UTME: 122 Credits

DE: 96

**NOTE:** Detailed course description relating to Agriculture, Biology, Chemistry, Physics and Mathematics may be found in the appropriate sections of the Undergraduate Academic Programme in the Faculties of Agriculture, Life and Physical Sciences.

## FACULTY OF ENGINEERING AND TECHNOLOGY

### DEAN'S OFFICE

Y.A. Jimoh	B.Eng. (ABU); M.Eng., Ph.D. (Ilorin), FNSE, FNICE, MNGA, MASCE, MACEN, R. Engr. (Nigeria).	Professor & Dean
T. K. Ajiboye	B.Eng., M.Eng., Ph.D. (Ilorin), MNSE., R. Engr. (Nigeria)	Senior Lecturer & Sub Dean
A. K. Rufai	B.A. (Ed.) (Ilorin)	Faculty Officer

### CENTRAL (ENGINEERING) WORKSHOP

M.F. Olorunshola	HND, PGD	Chief Technologist
Blessing O. Aboyeji	B.Sc. (ABU)	Assistant Chief Technologist
E. T. Oluwole		Technologist II

## DEPARTMENT OF AGRICULTURAL AND BIOSYSTEMS ENGINEERING

C. J. Ejieji	B.Eng., M.Eng. (UNN); Ph.D. (Newcastle upon Tyne), MNSE, MNIAE, MASABE, MISTRO, R. Engr. (Nigeria)	Reader and Ag. Head
K. C. Oni	B.Sc. (ABU); B.Sc., M.Sc., Ph.D. (Kansas State), MNSE, MNIAE, MASABE, MISTRO, R. Engr. (Nigeria)	Professor
A. O. Ogunlela	B.Sc. (Ibadan); M.Sc. (Iowa State); Ph.D. (Oklahoma State); MNSE, MNIAE, MASABE, MISTRO, R. Engr. (Nigeria)	Professor
K. A. Adeniran	B.Sc., M.Sc., Ph.D. (Ibadan), MNSE, MNIAE, MISTRO, R. Engr. (Nigeria)	Senior Lecturer
F. I. Oyeleke	B.Sc., M.Sc., (Ibadan), MNSE, MNIAE, R. Engr. (Nigeria)	Lecturer I
K. O. Yusuf	B.Eng. (FUTM); M.Eng. (Ilorin), MNIAE, MASABE, R. Engr. (Nigeria)	Lecturer I
T. A. Ishola	B.Eng., M.Eng., (Ilorin); Ph.D. (UPM) MNIAE, MASABE	Lecturer II
M. O. Iyanda	B.Eng., M.Eng. (Ilorin), MNIAE, MASABE, R. Engr. (Nigeria)	Lecturer II
T. D. Akpenpuun	B.Sc., M.Sc. (Ibadan)	Lecturer II
P. O. Adewale	B.Eng. (Ilorin); M.Sc. (Ibadan)	Assistant Lecturer
A.A. Ajayi-Banji	B.Sc., M.Sc. (Ibadan) MNIAE, MASABE, MNSE	Assistant Lecturer
M. M. Odewole	B.Eng. (Ilorin), MNIAE, MASABE	Assistant Lecturer
T. O. Atoyebi	OND, HND, PGD, MNIAE	Chief Technologist

F. O. Akure	OND, HND, AMNIAE	Chief Technologist
J. A. Obiremi	OND, MNSET	Senior Technologist
Olabamibo Adeyinka- Ajiboye	OND, HND	Technologist II

**DEPARTMENT OF BIOMEDICAL ENGINEERING**

M.O. Ibitoye	B.Eng. (Ilorin); M.Eng. (Kuala Lumpur), R. Engr. (Nigeria)	Lecturer II
O. Akinola	B.Sc. (Abeokuta), M.Sc., Ph.D. (Ibadan)	Lecturer II
	B.Eng., M.Eng. (Bradford)	Assistant Lecturer
Lydia. J. Jilantikiri		
S.A. Yahaya	B.Eng. (ATBU); MNSE, MNIMechE	Graduate Assistant
Y.K. Ahmed	B.Eng. (Ilorin)	Graduate Assistant
Taiye M. Ajibola	B.Eng.(Ilorin)	Graduate Assistant
K.E. Are	B.Tech. (FUTM)	Technologist II
B.S. Adekunle	HND	Technologist II
K.O. Salaudeen	B.Eng. (Ilorin)	Technologist II
M.A. Opakunle	HND	Technologist II

A. Omosidi                      NABTEB                                      Lab Assistant

\* Lecturers from Other Departments

**DEPARTMENT OF CHEMICAL ENGINEERING**



R.O. Yusuf	B.Sc. (Lagos); M.Sc. (OAU); Ph.D. (UTM, Malaysia). MNSE, MNSChE, R. Engr. (Nigeria)	Lecturer I & Coordinator
D.S. Ogunniyi	B.Sc. (Lagos); M.Sc., Ph.D. (Loughborough); MNSChE, MCSN, FICCON, R. Engr. (Nigeria)	Professor
S.A. Abdulkareem	B.ChE., M.ChE. (Detroit); Ph.D. (Louisville), MNAICh, MNSE, MACS, R.Engr. (Nigeria)	Professor
Omodele A.A. Eletta	B.Sc., M.Sc. (Lagos); Ph.D. (Ilorin), FNSChE, MNSE, MCSN, R. Engr. (Nigeria)	Reader
F.A. Aderibigbe	B.Sc., M.Sc., Ph.D. (OAU), MNSE, MNSChE, R. Engr. (Nigeria)	Senior Lecturer
Temitope E. Odetoje	B.Tech. (LAUTECH); M.Sc., Ph.D. (Ilorin), MNSE, MNSChE, MCSN, MICCON, R. Engr. (Nigeria)	Lecturer I
J.A. Adeniran	B.Tech. (LAUTECH); M.Sc. (Lagos); Ph.D. (LAUTECH), MNSE, MNSChE, R. Engr. (Nigeria)	Lecturer I
E.O. Ajala	B.Tech.(LAUTECH); M.Sc. (OAU), R. Engr. (Nigeria)	Lecturer II
A.G. Adeniyi	B.Tech., M.Sc. (LAUTECH), MNSE	Assistant Lecturer
Latifat T. Adewoye	B.Eng. (FUTM); M.Tech. (LAUTECH), MNSE	Assistant Lecturer
M.A. Amoloye	B.Eng. (ATBU)	Graduate Assistant
I.A. Tijani	OND, HND MNSChE	Senior Technologist

**DEPARTMENT OF CIVIL ENGINEERING**

A. W. Salami	B.Eng., M.Eng., PGD. Comp Sci. (FUTM); Ph.D. (Ilorin), MNSE, MICE, MIAHS, R. Engr. (Nigeria)	Senior Lecturer & Ag. Head
A.A. Adedeji	M.Sc. (Prague); Ph.D. (ABU), MNIEM, MNICE, MACEN, MNGA, R. Engr. (Nigeria)	Professor
Y.A. Jimoh	B.Eng. (ABU); M.Eng. Ph.D. (Ilorin), FNSE, FNICE, R. Engr. (Nigeria)	Professor
J. Ben-Edigbe	B.Eng. (London); M.Sc. (Salford); Ph.D. (Glasgow)	Professor
A.A. Jimoh	B.Eng., M.Eng., Ph.D. (Ilorin), MNSE, R. Engr. (Nigeria)	Reader
S.A. Raji	B.Sc. (OAU); M.Sc., Ph.D. (Lagos), MNSE, R. Engr. (Nigeria).	Senior Lecturer
O.O. Adeleke	B.Sc., M.Sc. (Lagos); Ph.D. (Ilorin), R. Surveyor (Nigeria)	Senior Lecturer

Y.A. Abdulkareem	B.Eng. (ABU); M.Eng. (Sheffield); MSc., Ph.D. (New York), MNSE, MNIEM, R. Engr. (Nigeria)	Senior Fellow
I.T. Yusuf	B.Eng., M.Eng., Ph.D. (Ilorin), MNSE, R. Engr. (Nigeria)	Lecturer I
D.O. Oyejobi	B.Eng., M.Eng. (FUTM), R. Engr. (Nigeria)	Lecturer II
A.R. Anwar	B.Eng., M.Eng.(BUK), MNSE, R. Engr. (Nigeria)	Lecturer II
A.A. Ibiyeye	B.Sc. (ABU); M.Eng. (Ilorin), MNSE, R. Engr. (Nigeria)	Lecturer II
A.A. Oyawoye	B.Sc. (Portsmouth); M.Sc. (Sheffield)	Assistant Lecturer
S.O. Abiola	HND, PGD, MNSE, R. Engr. (Nigeria)	Chief Technologist
T.J. Tunde	OND, HND	Chief Technologist
O.M. Sayi	OND, HND, PGD R. Engr. (Nigeria)	Principal Technologist
K.A. Yusuf	OND, HND	Technologist I

**DEPARTMENT OF COMPUTER ENGINEERING**

J. F. Opadiji	B.Eng, M.Eng (Ilorin), Dr.Eng. (Kobe), MNSE, R.Engr.	Senior Lecturer & Ag. Head
Dr. A.T. Ajiboye	B.Sc. (Ibadan), M.Eng., Ph.D. (Ilorin), MNSE, R.Engr.	Senior Lecturer
S. A. Y. Amuda	B.Eng. (Yola), M.Eng., Ph.D. (Ilorin), MNSE, R.Engr.	Lecturer I
A.F. Salami	B.S. (Malaysia), M.S. (Malaysia)	Lecturer II
S.A. Olatunji	B.Eng., M.Eng. (Ilorin)	Assistant Lecturer
S.L. Ayinla	B.Eng. (Awka)	Graduate Assistant
A.R. Ajayi	B.Tech. (LAUTech.)	Graduate Assistant
O.O. Labiran	B.Eng. (Ilorin)	Senior Technologist
H.O. Mahmud	B.Eng. (Ilorin)	Technologist II

## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

M. F. Akorede	B.Eng. (Ilorin); M.Eng. (BUK); PhD (UPM Malaysia), MNSE, MIEEE, R. Engr. (Nigeria)	Senior Lecturer & Ag. Head
B. J. Olufeagba	B.Sc. (ABU); Dip. Electronics, M.E.E. (Eindhoven); Ph.D. (Texas); C. Eng., MIEE, MNSE, R. Engr. (Nigeria)	Professor
T. S. Ibiyemi	M.Sc., Ph.D. (Bradford), C.Eng., MNSE., R.Engr. (Nigeria)	Professor
Y. A. Adediran	M.Sc. (Budapest); M.Sc. (Ibadan); Ph.D. (FUTM), FNSE, MIEEE, R. Engr. (Nigeria)	Professor
I. O. A. Omeiza	B.Eng., M.Eng., Ph.D. (Ilorin), MIEEE, MNSE, R. Engr. (Nigeria)	Senior Research Fellow
A. J. Falade	B.Sc. (EKSU); M.Sc. (Ibadan); M.Eng. (Benin); Ph.D. (Ibadan), MNSE	Senior Research Fellow
N. T. Surajudeen-Bakinde	B.Eng., M.Eng. (Ilorin); Ph.D. (Liverpool), MNSE, MIEEE, MIET, R. Engr. (Nigeria)	Senior Lecturer

A. Y. AbdulRahman	B.Eng., M.Eng. (Ilorin); Ph.D. (UTM, Malaysia), MIEEEE, IELTS	Lecturer I
A. S. Afolabi	B.Eng., M.Eng. (Ilorin); Ph.D. (Kobe, Japan)	Lecturer I
J. Akanni	B.Eng., M.Eng. (Ilorin), R. Engr. (Nigeria)	Lecturer II
C. A. Adamariko	B.Eng., M.Eng. (Ilorin), R. Engr. (Nigeria)	Lecturer II
O. Ibrahim	B.Eng. (Ilorin); M.Eng. (Glasgow Caledonia), PhD (in view), MIEEEE, R. Engr. (Nigeria)	Lecturer II
A. Abdulkarim	B.Eng. (BUK); M.Eng. (Ilorin), MNSE, MIEEEE, R. Engr. (Nigeria)	Lecturer II
J. B. Ogunsakin	B.Eng., M.Eng. (Ilorin), PhD (in view), R. Engr. (Nigeria)	Lecturer II
A. O. Otuoze	B.Eng. (Ilorin); M.Eng. (Benin), MIEEEE, R. Engr. (Nigeria)	Lecturer II
O. O. Mohammed	B.Eng. (BUK); M.Eng. (Ilorin), R. Engr (Nigeria)	Lecturer II
O. Oniyide	B.Eng., M.Eng. (Ilorin), MIEEEE	Assistant Lecturer
A. B. Okunuga	B.Sc. (Lagos); M.Eng. (Ilorin)	Assistant Lecturer
A. Dainkeh	B.Eng. (BUK); M.Sc. (East London)	Assistant Lecturer

T. O. Fajemilehin	B.Eng. (OAU); M.Eng. (Ilorin)	Assistant Lecturer
O. S. Zakariyya	B.Eng. (ABU), M.Sc. (North Cyprus)	Assistant Lecturer
S. A. Olayanju	B.Tech., M.Tech (LAUTECH)	Assistant Lecturer
R. A. Alao	B.Eng. (Ilorin)	Graduate Assistant
I. E. Femi	OND, HND (Ilorin), M.Eng. (Ilorin), SMIEE, MNSE, CIT (UK)	Chief Technologist
B. C. Ekwemuka	HND, MNSE, PGD, M.Eng. (Ilorin), R. Engr. (Nigeria)	Chief Technologist
M. O. Arowolo	HND(Bulgaria), PGD (LAUTECH), MNATE, R. Engr. (Nigeria)	Chief Technologist
I. A. Oloyede	OND, HND (NIST), PGD (LAUTECH)	Chief Technologist
B. O. Ariyo	M.Eng. (in view), HND (Ilorin), PGD (LAUTECH), MNSE, R. Engr. (Nigeria)	Senior Technologist I
A. K. Oyeyiola	B.Eng. (Ilorin), M.Eng. (Ibadan)	Technologist I
D. K. Mohammed	OND, HND, PGD, M.Sc. Info Tech., R.Engr.	Technologist I
A. Olatunji	OND (KadPoly), HND (Ilorin), PGDE	Technologist II

M. O. Olaoye	ND (Ilorin), HND, PGD (Ilorin)	Higher Technical Officer
S. T. Adu	WAEC, Trade Test I (Radio Mechanic), Part II (Telecom & Technician), Part II (CT & Gate)	Principal Technical Officer I
I. S. Agboola	B.Sc. (Edu. Political Science, UNAD), C & G of London, Technician Diploma, Advance Technician Diploma, Full Technology Diploma, MNISSET	Principal Technical Officer II
M. T. Raheem	WAEC, Intermediate (Eelctr. Instal.), Trade Test Cert. (Electronics Servicing)	Senior Workshop Supervisor
A. T. Adeloye	WAEC Technical, Trade Test III, II, I, NABTEB	Senior Foreman
I. O. Oloruntele	SSCE	Laboratory Attendant

**DEPARTMENT OF FOOD AND BIOPROCESS ENGINEERING**

J. O. Olaoye	B.Eng., M.Eng., Ph.D. (Ilorin), MNSE, FNIAE, MASABE, MISTRO, MSESN, R. Engr (Nigeria)	Senior Lecturer & Ag. Head
--------------	---	----------------------------



K. Oje	B.Sc. (Ibadan); M.Sc., Ph.D. (Iowa State), MNSE, MNIAE, MASABE, R. Eng(Nigeria)	Professor
*J.K. Joseph	B.Sc.,M.Sc., Ph.D. (Ilorin)	Professor
*Adenike T. Oladiji	B.Sc.,M.Sc., Ph.D. (Ilorin)	Professor
*Olayinka R. Karim	B.Sc.,M.Sc., Ph.D. (Ilorin)	Reader
*Patricia F. Omojasola	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer
*Omolara O. Oluwaniyi	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer
M. O. Sunmonu	B.Eng., M.Eng., Ph.D. (FUTM), MNSE, MNIAE, MASABE, R. Engr (Nigeria)	Lecturer I
T. A. Ishola	B. Eng., M. Eng., (Ilorin), Ph. D. (UPM), MNIA, R.Engr (Nigeria)	Lecturer II
M. M. Odewole	B.Eng., M.Eng., (Ilorin), MNIAE, R. Engr (Nigeria)	Assistant Lecturer
O. I. Obajemihi	B.Eng., (Ilorin); M.Eng., (FUTM), MNIAE	Assistant Lecturer
Rafat O. A. Sani	B. Sc. (Maiduguri)	Technologist I

\* Lecturers from other Departments

## DEPARTMENT OF MATERIALS AND METALLURGICAL ENGINEERING

K. R. Ajao	B.Eng. (Ilorin); M.Sc. (Lagos); Ph.D. (Ilorin), R. Engr. (Nigeria)	Senior Lecturer & Ag. Head
A.G.F. Alabi	B.Sc. (OAU); M.Sc., DIC (London); Ph.D., (Pitts); FNSE; R.Engr. (Nigeria); MIEM, MNMS, MIM, MAIME, MNACE	Professor
O. K. Abubakar	M. Sc. (Donetsk); Ph. D. (FUTM); R. Eng. (Nigeria)	Professor
I.I. Ahmed	B.Eng. (Zaria); M.Sc., Ph.D. (Manchester), R. Engr. (Nigeria)	Lecturer I
I. N. Aremu	M.Sc. (Ukraine), R. Eng. (Nigeria)	Lecturer II
S.I. Talabi	B.Eng. (FUTA); M.Sc. (Lagos), R. Engr. (Nigeria)	Lecturer II
J.A. Adebisi	B.Eng. (FUTA); M.Sc. (Lagos), R. Engr. (Nigeria)	Lecturer II
T. Yahaya	B.Eng., M.Eng.(Ilorin), R. Engr. (Nigeria)	Assistant Lecturer
I.O. Ambali	B.Sc., M.Sc. (Lagos)	Assistant Lecturer
K.S. Ajao	B.Eng. (Ilorin)	Graduate Assistant
G. A. Faoni	OND, HND, R. Engr. (Nigeria)	Assistant Chief Technologist

R.A. Yahya	B.Eng. (Zaria); M.Eng. (Ilorin), R. Engr. (Nigeria)	Technologist I
Suliat M. Ismail	OND, HND	Technologist II

### DEPARTMENT OF MECHANICAL ENGINEERING

J. O. Aweda	M.Sc. (Rostov Don); Ph.D. (Ilorin), MNSE, MNIMEchE, R. Engr. (Nigeria)	Senior Lecturer & Ag. Head
J. A. Olorunmaiye	B.Sc. (Ibadan); Ph.D. (Calgary), MNSE, MAIAA, MASHRAE, R. Engr. (Nigeria)	Professor
S. M. Adedayo	B.Eng., M.Eng. (Zaria); Ph.D. (Ilorin), MNSE, R. Engr. (Nigeria)	Reader
O. A. Lasode	B.Eng., M.Eng., Ph.D. (Ilorin), MNSE, R. Engr. (Nigeria)	Reader
I. K. Adegun	B.Eng., M.Eng., Ph.D. (Ilorin) MNSE, R. Engr. (Nigeria)	Senior Lecturer
T. K. Ajiboye	B.Eng., M.Eng., Ph.D. (Ilorin), MNSE, R. Engr. (Nigeria)	Senior Lecturer
K. R. Ajao	B.Eng. (Ilorin); M.Sc. (Lagos); Ph.D. (Ilorin), R. Engr. (Nigeria)	Senior Lecturer
S. Abdulkareem	B.Sc. (Lagos); M.Eng. (FUTM); Ph.D. (IIUM), R. Engr. (Nigeria)	Senior Lecturer
I. O. Ohijeagbon	B.Eng., M.Eng. (Ilorin); Ph.D. (LAUTECH), MNSE., R. Engr. (Nigeria)	Senior Lecturer

A. S. Adekunle	B.Eng., M.Eng. (Ilorin); Ph.D. (LAUTECH), R. Engr. (Nigeria)	Lecturer I
Rasheedat M. Mahamood	B.Eng. (FUTM); M.Eng. (Ilorin); Ph.D. (Johannesburg),	Lecturer I
H. A. Ajimotokan	B.Eng. (Ilorin); M.Eng. (LAUTECH), R. Engr. (Nigeria)	Lecturer I
A. A. Adeniyi	B.Eng. (Ilorin); M.Sc. (London)	Lecturer I
O. T. Popoola	B.Eng. (BUK); M.Eng. (Ilorin), R. Engr. (Nigeria)	Lecturer I
S. O. Adeyemi	B.Eng., M.Eng. (Ilorin), MNSE., R. Engr. (Nigeria)	Lecturer II
A.B. Rabi	B.Eng. (BUK); M.Eng. (Ilorin)	Assistant Lecturer
O.K. Abdulrahman	B.Eng. (FUTM); M.Eng. (Derby)	Assistant Lecturer
O.A. Adesoye	B.Eng., M.Eng. (Ilorin)	Assistant Lecturer
P. A. Odiah	FTC, PGD	Chief Technologist
A. A. Gbadamosi	HND, NTC	Senior Technologist
U. K. Mustapha	ND, HND	Technologist II
M. Ndagi	HND	Technologist II
V.O. Ologbonsaiye	ND, HND	Technologist II
T. Ajiboye	ND, HND	Technologist II

Margret U. Bello Ochende	B.Eng. (Ilorin)	Technologist II
O. Akomolafe	B.Eng. (OAU)	Technologist II

#### **DEPARTMENT OF WATER RESOURCES AND ENVIRONMENTAL ENGINEERING**

A. S. Aremu	B.Eng. (EKSU); M.Sc. (Ibadan); Cert. Data Processing & MIS, Ph.D. (Ilorin), MNSE, R. Engr.(Nigeria)	Senior Lecturer & Ag. Head
B. F. Sule	B.Eng. (Benin); M.Sc., Ph.D. (Cornell), FNSE, R. Engr. (Nigeria)	Professor
A. W. Salami	B.Eng., M.Eng., PGD (FUTM); Ph.D. (Ilorin) MNSE, MICE, MIAHS, R. Engr. (Nigeria)	Senior Lecturer
A. M. Ayanshola	B.Eng. (FUTM); M.Eng. , Ph.D. (Ilorin), MNSE, R. Engr. (Nigeria)	Senior Lecturer
O. S. Balogun	B.Sc. (Ibadan); M.Sc., Ph.D. (UC-Davis), P.E., R. Engr. (Nigeria)	Senior Research Fellow
O. G. Okeola	B.Eng., M.Eng., Ph.D. (Ilorin), MNSE, MASCE, R. Engr. (Nigeria)	Senior Research Fellow
S. O. Bilewu	B.Eng. (ABU); M.Eng. (Ilorin), MNSE, R. Engr. (Nigeria)	Lecturer I
O. O. Olofintoye	B.Eng., M.Eng. (Ilorin); Ph.D. (Durban), MNSE, R. Engr. (Nigeria)	Lecturer I

Olubunmi A. Mokuolu	B.Eng., M.Eng. (Ilorin); Ph.D. (Ibadan), FNSE, R. Engr. (Nigeria)	Lecturer I
Olayemi K. Olanlokun	B.Eng. (Benin); M.Sc. (Leeds)	Lecturer II
Modupe O. Jimoh	B.Eng. (Ilorin); M.Eng. (FUTA), R. Engr. (Nigeria)	Lecturer II
T. S. Abdulkadir	B.Eng., M.Eng. (Ilorin), MNSE, R. Engr.(Nigeria)	Lecturer II
Victoria .O. Olorunpomi	B.Eng. (Ilorin)	Graduate Assistant
Selia .I. Adio- Yusuf	ND, HND	Principal Technologist
O.E. Erutor	ND, HND	Technologist II

## DEPARTMENT OF AGRICULTURAL AND BIOSYSTEMS ENGINEERING

### Course Description

#### B.Eng. Agricultural and Biosystems Engineering

<b>ABE 205</b>	<b>Power and Machinery Engineering for Agriculture Students</b>	<b>2 Credits</b>
	Description of major farm tools and machine parts. Farm power sources. Description of major farm equipment for primary and secondary tillage operations. Field performance evaluation and maintenance procedure of field machinery (Not for Agricultural and Biosystems Engineering Students).	
	<b>15h (T), 45h (P); C</b>	
<b>ABE 206</b>	<b>Introduction to Engineering Disciplines</b>	<b>2 Credits</b>
	Introduction to Agricultural and Biosystems Engineering profession: Definition of Agricultural and Biosystems Engineering. Specializations/ Options in Agricultural and Biosystems engineering. Use of various implements and equipment in Agricultural and Biosystems engineering for various operations/processes. Prospects and job opportunities in Agricultural and Biosystems engineering as a profession. Relevant regulatory bodies and societies in Agricultural and Biosystems engineering. The role of Agricultural and Biosystems engineers in advancement of humanity.	
	<b>30h (T); C</b>	
<b>ABE 222</b>	<b>Students Work Experience Programme</b>	<b>6 Credits</b>
	Introduction to practices and skills in general engineering through instruction in operation of hand and powered tools for wood and metal cutting and fabrication. Supervised hands – on experience in safe usage of tools and machines for selected tasks.	
	<b>270h (P); C</b>	
<b>ABE 263</b>	<b>Engineering Mathematics I</b>	<b>3 Credits</b>
	Limits, Continuity, Differentiation, Introduction to linear first order differential equations, partial and total derivatives composite functions, matrices and determinants, Vector algebra, Vector calculus, Directional Derivatives.	
	<b>45h (T); C</b>	
<b>ABE 283</b>	<b>General Engineering Laboratory Course I</b>	<b>2 Credits</b>
	Laboratory investigation and report submission for selected experiments and projects in Applied Mechanics and Applied Electricity I and Fundamentals of Fluid Mechanics.	
	<b>90 (P); C</b>	
<b>ABE 284</b>	<b>General Engineering Laboratory Course II</b>	<b>2 Credits</b>

Laboratory investigations and report submission for selected experiments and projects in fundamentals of Thermodynamics. Engineering materials, Applied Mechanics II and Applied Electricity III  
**90h (P); C**

- ABE 302 Harvest and Post-Harvest Engineering for Agriculture Students 2 Credits**  
Selection, use and maintenance of harvesting equipment. Field evaluation of harvesting equipment. Equipment and facilities for handling of agricultural products. Description of crop processing equipment. Agricultural crop storage principles and practices. (Not for Agricultural and Biosystems Engineering Students).  
**15h (T), 45h (P); C**
- ABE 306 Engineering Economics 2 Credits**  
The nature and scope of economics. Basic concepts of engineering economy. Interest formulae. Discounted cash flow, present worth, equivalent annual growth and rate of return comparisons. Replacement analysis. Breakdown analysis. Benefit-cost analysis. Minimum acceptable rate of return. Judging attractiveness of proposed investments.  
**30h (T); C**
- ABE 308 Agricultural and Biosystems Hydrology 3 Credits**  
Components of the hydrologic cycle, solar and earth radiation. Precipitation, evapotranspiration. Infiltration, rainfall – runoff relations over stream flow routing. Groundwater hydraulics. Watershed Management, Flood control.  
**45h (T); C**
- ABE 310 Soil and Water Engineering for Agriculture Students 2 Credits**  
Irrigation, methods of irrigation, measurement of water, frequency and amount of irrigation, irrigation efficiencies, quality of irrigation water. Drainage, drainage requirements of crops, surface and sub-surface drainage. Soils Conservation; Universal soil loss equation Gully control structures. Soil erosion by water and wind (Not for Agricultural and Biosystems Engineering Students).  
**15h (T), 45h (P); C**
- ABE 314 Agricultural Power and Machinery 3 Credits**  
Farm power sources. Renewable energy and conversion systems. Biomass biofuel and biogas production and storage. Farm tractor development and types. Crop production equipment. Objectives, classifications, and field performance evaluation, selection and management of farm tractors and equipment. Adjustment, maintenance and repairs of farm tractors and equipment.  
**45h (T); C, PR: ABE 206**
- ABE 376 Technical Writing for Engineers 1 Credit**



Professional use of English Language for letters, specification descriptions, presentation of charts, graphs, tables, writing of proposals in reports. Case studies of major professional presentation of reports and proposals.

**15h (T); C**

- ABE 383      Agricultural and Biosystems Engineering Laboratory Course I      1 Credit**  
Laboratory investigations and reports for selected experiments and projects in strength of materials, thermodynamics and heat transfer.  
**45h (P); C**
- ABE 384      Agricultural and Biosystems Engineering Laboratory II      1 Credit**  
Laboratory investigations and reports for selected experiments and projects in agricultural power and machinery, hydrology, mechanics of machines, metallurgy and soil mechanics.  
**45h (P); C**
- ABE 392      Student Industrial Work Experience Scheme (SIWES I)      6 Credits**  
On the job experience in industry having relevance to area of interest of the student within the discipline. (12 weeks during the long vacation following 300 level)  
**270h (P); C**
- ABE 403      Farm Mechanization Practices      1 Credit**  
Tractor systems including parts of a tractor. Maintenance procedure for agricultural tractors, tractor-mounted implements including servicing, lubrication, etc. Maintenance of agricultural equipment such as sheller, dryer, seed cleaner, etc. Tractor driving lessons including coupling of tractor and operation of tractor-mounted implements such as the plough, harrow, ridger etc in land preparation activities. (Not for Agricultural and Biosystems Engineering Students).  
**45h (P); C**
- ABE 404      Farm Workshop Practice      1 Credit**  
Cutting, bending, grinding and welding of metals. Use of common workshop tools like snipers, guillotines, files, scribes, vices, welding machines, drills, etc; Fabrication techniques and construction methods. Fabrication of simple farm equipment like rakes, hand hoe, maize shellers, incubators, etc. (Not for Agricultural and Biosystems Engineering Students).  
**45h (P); C**
- ABE 405      Soil Irrigation and Water Conservation      1 Credit**  
Introduction to use and maintenance of surveying equipment like levels, theodolites, etc. Levelling for soil conservation and irrigation purposes. Production of topographic maps through a surveying project. Introduction to construction of irrigation systems

such as sprinkler, gravity and furrow irrigation. Basic soil conservation structures (Not for Agricultural and Biosystems Engineering Students).

**45h (P); C**

- ABE 411      Irrigation and Drainage Engineering      3 Credits**  
Water requirements in an irrigation system. Methods of irrigation. Frequency and amount of irrigation. Irrigation water scheduling. Evaluation of irrigation systems and practices. Design of furrow, basin and sprinkler irrigation. Effect of poor drainage on plants and soils. Drainage requirement of crops, surface drainage, sub-surface drainage.  
**45 (T); C**
- ABE 415      Agricultural Land Surveying      3 Credits**  
Basic concepts in surveying. Introduction to basic survey equipment. Measurements of horizontal distances, angles and elevation. Errors and uncertainty. Levelling and topographic survey. Traverse surveys. Theodolite traversing. Land levelling design. Earthwork computations. Applications of global positioning systems in surveying.  
**45h (T); C**
- ABE 417      Agricultural Structures and Environmental Control      3 Credits**  
Environmental and structural requirements for crops, livestock and human housing. Design of structural members. Specifications and selection of agricultural building materials. Design of wooden beams. Stability and design of wooden columns, composite columns, mechanical fasteners. Design and testing of wooden trusses exterior structures. Water supply and sewage disposal. Environmental control systems for plants, animals and aquatic habitats. Farmstead planning and layout, planning of farm equipment and livestock houses.  
**45h (T); C**
- ABE 423      Design of Agricultural Machinery      2 Credits**  
Machine design processes and procedures. Materials for construction, selection, strength properties, stress analysis, costing, design of machine elements, machine fabrication, typical designs of low cost agricultural machinery. Problems and prospects of agricultural machinery development and commercial manufacture in Nigeria.  
**30h (T); C, PR: ABE 314**
- ABE 463      Engineering Statistics      2 Credits**  
Moments, Skewness and Kurtosis. Chi-Square test. Curve fitting and the method of least squares. Sampling theory, test of hypothesis and significance. Correlation theory. Analysis of variance. Probability and the density functions. Binomial, Poisson, Hypergeometric, Normal distributions, etc. Cumulative distribution functions. Introduction to spectral analysis. Mean value, mean square. Auto correlation function and spectral density of random signals. Introduction to statistical softwares.  
**30h (T); C**

- ABE 481      Agricultural and Biosystems Engineering Laboratory III      2 Credits**  
 Laboratory investigations and reports for selected experiments and projects in irrigation and drainage, design of agricultural machinery, agricultural land surveying, farm structures and environmental control, and in the approved elective course.  
**90h (P); C**
- ABE 492      Student Industrial Work Experience Scheme (SIWES II)      12 Credits**  
 On the job experience acquisition in industry at a higher level of responsibility than the case in ABE 392. (This would be undertaken during the second semester of 400 Level).  
**540h (P); C**
- ABE 501      Engineering Management      3 Credits**  
 Essence of management task. Pattern of leadership. Creating a viable organization. Productivity and motivation organizing task. The span of control and delegation of authority. Organizational theories and concepts. Industrial safety. Industrial relations.  
**45h (T); C**
- ABE 502      Food and Agricultural Biotechnology      3 Credits**  
 Introduction to biotechnology. Branches of biotechnology: agricultural, food, environmental, industrial, medical and pharmaceutical. Bioresources development, bioentrepreneurship, bioinformatics, genetically modified animals, plants and food. Cost analysis and economics of biotechnology. Safety standards in biotechnology. Bioreactors.  
**45h (T); E**
- ABE 503      Transportation Systems for Agricultural and Rural Development      3 Credits**  
 Farm roads, farm transportation system, development and construction of farm transport equipment. Farm transport systems standards and specifications. Ergonomics.  
**45h (T); E**
- ABE 504      Agricultural Land Clearing and Development      2 Credits**  
 Land resources and Land Use Act in relation to Nigerian Agriculture. Objectives, methods and equipment for land clearing and development. (Landscaping and levelling) Machinery selection, mechanics of operation and vegetation types. Performance criteria, economics of land clearing, machinery maintenance procedures. Site Studies requiring written reports.  
**30h (T); C**
- ABE 505      Special Problems in Agricultural and Biosystems Engineering      3 Credits**  
 Independent study within the context of the students' chosen option bordering on the application of appropriate technology for solving specific agricultural and biosystems engineering problems.

45h (T); E

- ABE 507      Application of Electricity to Agricultural and Biological Systems      3 Credits**  
Application of electricity to handling, processing and storage of agricultural and biological materials. Basic electronic applications to farm processes. Instrumentation and measurement in agricultural and biological systems. Farmstead power systems and distribution. Selection and use of electric motors, machines and transformers in agricultural and biological systems.  
**45h (T); C, PR: ELE 202**
- ABE 509      Agricultural Mechanization      3 Credits**  
Nature and objectives of agricultural mechanization. Factors affecting agricultural mechanization in the tropics. Analysis of production systems. Agricultural mechanization as a strategy for rural development. Impact on food production and on infrastructural development. Linkages with rural industrialization. Case studies of selected farms.  
**45h (T); C, PR: ABE 314**
- ABE 513      Operation and Management of Agricultural Power and Machinery Systems      3 Credits**  
Integrated approach to machinery usage and agricultural production sequence. Equipment selection, scheduling of operation, seasonality factor, machinery management. Machinery ownership and financing. Gross margin analysis. Optimization of machinery in-put combinations. Management of farm enterprise. Case studies.  
**45h (T); C, PR: ABE 314**
- ABE 514      Agricultural Machinery      3 Credits**  
Force analysis of tillage equipment. Design and performance analysis of various farm machinery. Hitching methods. Power requirements for operating farm equipment and machines. Operation and maintenance of various farm machinery. Field evaluation. Criteria for replacement.  
**45h (T); C, PR: CVE 322, ABE 314**
- ABE 516      Agricultural Power      3 Credits**  
Review of Prime movers and power trends in Nigeria agriculture. Hitches and hitch systems. Tractor power outlets. Design considerations of single-axle; two wheel drive and crawler tractors. Tractor mechanics,. Power measurements, fluid controls, ergonomic considerations. Tractor test and test codes.  
**45h (T); C, PR: ABE 314**
- ABE 522      Agricultural Land Drainage      3 Credits**

Introduction; purpose of drainage, causes of drainage problems; effect of poor drainage systems, subsurface drainage, design of drainage systems. Envelope materials and their design. Loads on conduits, drainage pumping. Well drainage, construction and installation of drains, maintenance of drains, economic and legal aspects of drainage.

**45h (T); C, PR: AGY 304**

**ABE 523**

**Rural Water Supply and Sanitation**

**3 Credits**

Water requirements, water quality standards, water borne diseases, biochemical oxygen demand. Portable water impurities, sources and treatment methods of water for rural homes, Water lifting devices, Transportation and distribution systems. Pipe conveyance, treatment and disposal of Sewage from rural homes, septic tanks, digestion ponds and family privies.

**30h (T); C, PR: CVE 431**

**ABE 524**

**Advanced Irrigation Engineering**

**3 Credits**

Factors affecting efficient farm water management. Design of irrigation systems; Basin, furrow, level and graded border, sprinkler, drip, etc. Design of irrigation structures (water measuring structures, water dividing structures, etc. Evaluating irrigation systems and practices. Irrigation water scheduling. Quality of irrigation water. Reclamation of saline and alkali soils. Feasibility studies of an irrigation projects. Economic and financial feasibility of a farm irrigated system.

**45h (T); C, PR: ABE 411**

**ABE 527**

**Advanced Hydraulic Engineering**

**2 Credits**

Energy losses in pipes. Analysis of pipe systems, series, parallel, branching and simple pipe networks. Hardy Cross method. Water hammer. Open channel flow. Hydraulic jump. Channel transitions and controls. Back water curves. Weirs and flumes. Pumps and turbines.

**30h (T); C, PR: CVE 431**

**ABE 528**

**Soil and Water Conservation Engineering**

**3 Credits**

Definition and historical background. Soil and water conservation development in Nigeria. Types of erosion. Soil erosion by water. Universal soil loss equation. Soil erosion any wind. Control of soil erosion by water Universal soil loss equation. Soil erosion by wind. Control of soil erosion by water. Design of control structures. Earth dams and farm ponds, economic and legislative principles of soil conservation. Desertification and Control Measures.

**45h (T); C, PR: AGY 304**

**ABE 533**

**Engineering Properties of Agricultural and Biological Materials**

**2 Credits**

Physical, mechanical, rheological, thermal, aerodynamic and hydrodynamic properties of agricultural and biological materials. Instrumentation and measurement of the properties of agricultural and biological materials.

**15h (T), 45h (P); C, PR: AGY 301**

- ABE 534      Application of Solar Energy to Agricultural and Biological Systems      3 Credits**  
Fundamentals of solar radiation. Solar heating and cooling. Heat transfer. Solar energy conversion efficiency. Principles of solar collectors. Solar heat storage and storage systems for tropical plant and animal products.  
**45h (T); E**
- ABE 535      Handling of Agricultural and Biological Materials      2 Credits**  
Material handling methods and systems. Design and construction of appropriate material handling equipment for agricultural and biological materials. Economics of material handling. Newtonian and Non-Newtonian fluids.  
**30h (T); C, PR: AGY 301**
- ABE 536      Processing of Agricultural and Biological Materials      3 Credits**  
Cleaning, sorting, grading and separation: principles, techniques and machine communication. Design of processing systems and machinery for plant and animal products. Particle size analysis. Heat treatment. Dehydration and drying of agricultural, food and biological materials, Psychometric. Design of dryers for tropical plant and animal products.  
**30h (T), 45h (P); C, PR: ABE 533**
- ABE 537      Bioprocess Engineering      3 Credits**  
Unit operations in food and bioproduct processing. Process measurement, observation and control. Energy and momentum balance as related to process efficiency calculations. Transesterification process. Microbial production systems. Bioreactor design. Engineering systems for product development.  
**30h (T), 45h (P); C, PR: MEE 353**
- ABE 538      Storage of Agricultural and Biological Materials      3 Credits**  
Review of indigenous and modern systems for storing agricultural and biological materials. Design of storage system and structures for tropical plants and animal products. Storage facilities, distribution criteria, economic analysis of storage systems. Statistical and computer aided approach to the development of storage systems for tropical plants and animal products. Deterioration of produce in storage. Containerization. Environmental control in storage.  
**45h (T); C, PR: ABE 533**
- ABE 541      Renewable Energy Engineering      2 Credits**  
Renewable energy resources: development, utilization and environmental impact assessment. Design of processes and equipment for biomass, biofuel and biogas production. Storage and distribution of biogas for domestic and industrial use.  
**30h (T); C, PR: MEE 353**
- ABE 542      Waste Management Engineering      3 Credits**

Thermochemical conversion of food and bioprocessing wastes to useful products. Design and analysis of waste recycling and treatment plants. Control and management of industrial waste and environmental polluting effluents. Biological waste handling and management

**45h (T); C, PR: ABE 417**

- |                |  |                  |
|----------------|--|------------------|
| <b>ABE 544</b> | <b>Bioenvironmental Engineering</b>  | <b>3 Credits</b> |
|                | Sewage disposal and water supply systems. Environmental control for plants, animal and aquatic habitats. Design and analysis of environmental control processes and equipment. Environmental laws and regulations.   |                  |
|                | <b>30h (T), 45h (P); C, PR: ABE 417</b>  |                  |
| <br>           |  |                  |
| <b>ABE 552</b> | <b>Fundamentals of Food Engineering I</b>  | <b>3 Credits</b> |
|                | Basic methods of food processing: pasteurization, sterilization, dehydration, etc. Techniques, processes and equipment for food preservation: cold storage, smoking, sun-drying, artificial drying and canning. Principles, techniques and machine communication in flour and bread making, brewing and dairy products processing. |                  |
|                | <b>30h (T), 45h (P); C</b>   |                  |
| <br>           |  |                  |
| <b>ABE 554</b> | <b>Fundamentals of Food Engineering II</b>   | <b>3 Credits</b> |
|                | Development of food preservation practices and equipment. Design of machine and equipment for material separation including distillation, solvent extraction, mechanical extraction, leaching, drying, humidification, evaporation and crystallization. Use of analytical and graphical techniques.                                |                  |
|                | <b>30h (T), 45h (P); C</b>   |                  |
| <br>           |  |                  |
| <b>ABE 562</b> | <b>Basic Aquacultural Technology</b>   | <b>3 Credits</b> |
|                | Mass balance dynamics including flow through and recirculation. Water mass balances, loading rates and how they affect fish growth and health. Sedimentation, bioinfiltration and gas transfer. Equipment and techniques for ozonation and UV irradiation. Design of aquacultural buildings and structures. Aquaponics.            |                  |
|                | <b>45h (T); C, PR: ABE 417</b>   |                  |
| <br>           |  |                  |
| <b>ABE 564</b> | <b>Aquacultural and Animal Production Engineering</b>  | <b>3 Credits</b> |
|                | Production and processing techniques for fishes and marine foods. Machines and structures for fishery operations. Design of machines for slaughtering, cutting and packaging of animals.   |                  |
|                | <b>30h (T), 45h (P); C</b>   |                  |
| <br>           |  |                  |
| <b>ABE 573</b> | <b>Engineer in Society</b>   | <b>1 Credit</b>  |

Philosophy of Science and Engineering. History of Engineering and Technology, The Engineering profession – engineering literacy professional bodies and engineering societies. Engineering code of conduct and ethics. Engineers and nation building – economy, politics, business, safety in Engineering and introduction in Risk analysis, invited lecturers from professionals.

**15h (T); C**

**ABE 581      Agricultural and Biosystems Engineering Laboratory IV      1 Credit**

Laboratory investigations and reports for selected experiments and projects in engineering properties of agricultural and biological materials, electricity in agricultural and biological systems, courses resident in the departmental options, and in the approved elective course.

**45h (P); C**

**ABE 582      Agricultural and Biosystems Engineering Laboratory V      1 Credit**

Laboratory investigations and reports for selected experiments and projects in agricultural land clearing and development, soil and water conservation engineering, courses resident in the departmental options, and in the approved elective course.

**45h (P); C**

**ABE 593      Agricultural and Biosystems Engineering Project I      4 Credits**

Original individual student project related to a prescribed agricultural and biosystems engineering problem involving literature review, identification, definition and formulation of the problem, theoretical investigations, modelling, simulation, analysis and design. Presentation of a preliminary written report.

**180h (P); C**

**ABE 594      Agricultural and Biosystems Engineering Project II      4 Credits**

Fabrication of the designed prototypes. Debugging, calibration, testing. Data collection and analysis. Presentation of a comprehensive written report of the investigations.

**180h (P); C**

**Note:** Details of other courses in the Department of Agricultural and Biosystems Engineering are available in relevant Departments as follows:

ABE courses in Agricultural and Biosystems Engineering;

GNS courses in General Studies Division;

GSE from Technical Entrepreneurship Centre;

CHE courses in Chemical Engineering Department;

CVE courses in Civil Engineering Department;

ELE courses in Electrical and Electronics Engineering Department;



MEE courses in Mechanical Engineering Department;  
STA, MAT, PHY and CHM courses in Faculty of Physical Sciences, and  
BUL in Faculty of Law.

## SUMMARY

### 100 LEVEL

**Required Courses:** GNS 111 (2), GNS 112 (2) = 4 Credits

**Elective Courses:** STA 131 (2), STA 124 (2) = 4 Credits

At least 9 credits must be passed out of the following Mathematics Courses:  
MAT 111 (3), MAT 112 (3), MAT 113 (3), MAT 114 (3) = 9 Credits

At least 9 credits must be passed out of the following Physics Courses:  
PHY 115 (2), PHY 125 (3), PHY 142 (2), PHY 152 (3), PHY 191 (1), PHY 192 (1)  
= 9 Credits

At least 6 credits must be passed out of the following Chemistry Courses: CHM 101 (3), CHM 112 (2),  
CHM 115 (2), CHM 116 (1), CHM 132 (2) = 6 Credits

### 200 LEVEL

**Compulsory Courses:** ABE 206 (2), ABE 222 (6), ABE 263 (3), ABE 283 (2), ABE 284 (2)  
= 15 Credits

**Required Courses:** GNS 211 (2), GNS 212 (2), ELE 201 (3), ELE 202 (3), MEE 217 (2), MEE 218  
(2), MEE 235 (2), CHE 241 (3), CHE 242 (3), CVE 253 (3), CVE 254 (3), CHE 264 (3), ELE 275 (1), ELE  
276 (2), MEE 272 (2) = 36 Credits

**Total = 51 Credits**

**Direct Entry Students:** GNS 111(2), GNS 112(2) = 4 Credits

### 300 LEVEL

**Compulsory Courses:** ABE 306 (2), ABE 308 (3), ABE 314 (3), ABE 376 (1), ABE 383 (1), ABE 384  
(1), ABE 392 (6) = 17 Credits

**Required Courses:** GNS 311 (2), AGY 304 (2) AGY 301 (2), ANP 307 (2), CVE 322 (3), CVE 363  
(2), CVE 334 (3), MEE 361 (3), MEE 362 (3), MEE 302 (2), MEE 356 (3), MEE 353 (3), GEM 319 (3), GSE  
301 (3)= **36 Credits**

**Total = 53 Credits**

**Direct Entry Students:** GNS 111(2); GNS 112(2); GNS 211(2); GNS 212(2) = **8 Credits**

#### **400 LEVEL**

**Compulsory Courses:** ABE 411 (3), ABE 415 (3), ABE 417 (3), ABE 423 (3), ABE 463 2), ABE 481  
(2), ABE 492 (12) = **28 Credits**

**Required Course:** AEF 405 (2) = 2 Credits

**Elective Courses:** **Only 3 credits from any of the following :**  
WEE 411 (3), CVE 421 (3), MEE 421 (3), MEE 551 (3), MEE 554 (3), MEE 561 (3)  
= **3 Credits**

**Total = 33 Credits**

**Please find details of other courses in the Department of Agricultural Economics and Farm Management and, the Departments of Civil Engineering, Mechanical Engineering and Water Resources Engineering.**

#### **500 LEVEL**

#### **COMMON COURSES**

**Compulsory Courses:** ABE 501(3), ABE 504 (2), ABE 507 (3), ABE 509 (2), ABE 528 (3), ABE 533  
(2), ABE 573 (1) ABE 581 (1), ABE 582 (1), ABE 593 (4), ABE 594 (4),  
= **26 Credits**

**Required Courses:** BUL 506 (3) = **3 Credits**

**Elective Courses:** Only 3 credits out of the following elective courses must be taken and  
any departmental option:

passed for

ABE 505 (3), ABE 503 (3), ABE 502 (3), ABE 534 (3) = **3 Credits**

**Departmental Options**

**Aquacultural Engineering Option Courses:** ABE 537 (3), ABE 541 (2), ABE 562 (3),  
ABE 564 (3) = **11 Credits**

**Total = 41 Credits**

**Food and Bioprocess Engineering Option Courses:** ABE 535 (2), ABE 537 (3), ABE 552 (3),  
ABE 554 (3) = **11 Credits**

**Total = 43 Credits**

**Power and Machinery Engineering Option Courses:** ABE 513 (3), ABE 514 (3), ABE 516 (3),  
ABE 535 (2) = **11 Credits**

**Total = 43 Credits**

**Processing and Storage Engineering Option Courses:** ABE 535 (2), ABE 536 (3), ABE 537 (3),  
ABE 538 (3) = **11 Credits**

**Total = 43 Credits**

**Soil and Water Engineering Option Courses:** ABE 522 (3), ABE 523 (3), ABE 524 (3),  
ABE 527 (2) = **11 Credits**

**Total = 43 Credits**

**Structures and Environmental Engineering Option Courses:** ABE 537 (3), ABE 541 (2),  
ABE 542 (3), ABE 544 (3)  
= **11 Credits**

**Total = 43 Credits**

### GRADUATION REQUIREMENTS (All Options)

1	Major Engineering Courses (ABE, CHE, CVE, ELE, MEE, WEE)	133 Credits
2	Courses from other Department outside the Faculty (AEF 422, AGY 301, AGY 304, ANP 307, GEM 319)	11 Credits
3	General Studies Courses: (GNS 111, GNS 112, 2 GNS 211, GNS 212, GNS 311)	10 Credits
4	Students' Industrial Works Experience Scheme (SIWES)	18 Credits
5	Students' Work Experience Programme (SWEP)	6 Credits
6	Management, Economics and Entrepreneurship Skill (GSE 301, BUL 506)	6 Credits
	Total	184 Credits

**UTME: 184 Credits**

**DE (200L): 184 Credits**

**DE (300L): 137 Credits**

### COMPUTATION OF GRADE POINT

- 100 level courses are not used for computation of CGPA except GNS 111 (2), GNS 112 (2)
- The 18 credits of SIWES I and SIWES II must be passed but they are not used for computation of CGPA
- The minimum Credits that will be used to compute the CGPA for all options are as follows:

For UTME/DE at 200 and 300 levels

Level	UTME	DE (200L)	DE (300L)
100 Level	4	-	-
200 Level	51	55	-
300 Level	47	47	55
400 Level	21	21	21
500 Level	43	43	43
<b>Total</b>	<b>166 Credits</b>	<b>166 Credits</b>	<b>119 Credits</b>

## DEPARTMENT OF BIOMEDICAL ENGINEERING

### Course Description

#### B.Eng. Biomedical Engineering

- BME 201      General Anatomy      2 Credits**  
Structure and functions of the cell. General histology and basic tissues of the body. Body systems: composition, structure and functional adaptations. Basic comparative anatomy of major organ systems in vertebrates. Introduction to radiological anatomy as related to structures of the human body such as musculo-skeletal system, respiratory system, cardiovascular system and other body systems.  
**15h (T), 45 (P); C**
- BME 222      Students' Work Experience Programme (SWEP)      6 Credits**  
Practices and skills in general engineering through instruction in operation of hand and powered tools for wood and metal cutting and fabrication. Supervised hand on experience in safe usage of biomedical tools and machines for selected tasks.  
**270h (P); C**
- BME 283      General Engineering Laboratory Course I      2 Credits**  
Laboratory investigation and report submission for selected experiments and projects in Applied Mechanics and Applied Electricity I and Fundamental's of Fluid Mechanics.  
**90h (P); C**
- BME 284      General Engineering Laboratory Course II      2 Credits**  
Laboratory investigations and report submission for selected experiments and projects in Fundamentals of Thermodynamics, Engineering materials, Applied Mechanics II, Applied Electricity III.  
**90h (P); C**
- BME 303      Molecular and Cellular Biology      2 Credits**  
Introduction to modern molecular and cellular biology: reaction between molecules, including receptor-ligand, antigen-antibody, specificity, protein structure, enzyme catalysis, genetic information, protein processing and secretion, cell physiology and cell functions. Multi-state kinetics.  
**30h (T); C**

- BME 310 Human Physiology 2 Credits**  
General principles of physiology, Cell membrane; transport mechanisms; Membrane potentials homeostasis; Introduction to blood, body fluids and principles of energy metabolism.  
**30h (T); C**
- BME 304 Computer Programming 2 Credits**  
Programming and Simulation languages; application of computers to solving engineering problems such as C/C++, JAVA, MATLAB etc; data types; Operators and reserved words; Input and output statements; Control of program flow; Arrays and Pointers; Functions; File operations, Objected-Oriented Programming.  
**30h (T); C, PR: ELE 276**
- BME 305 Biological Systems and Control 2 Credits**  
Introduction to physiological, cardiovascular, pulmonary, eye movement and neuromuscular reflex control systems.  
**30 (T); C**
- BME 306 Biomedical Measurements and Instrumentation 3 Credits**  
Definition of metrology; Biomedical quantities and measuring techniques e.g., temperature, pressure, stress, force etc; Theory of errors; Indicating instruments; Transducers; gauges and recorders; Analog and digital electronic measuring instruments; Display devices; Magnetic Resonance Imaging; Endoscopes; Data acquisition, interfacing of computers with A/D card.  
**45h (T); C, PR: ELE 202**
- BME 307 Biomedical Engineering Thermodynamics and Statistical Mechanics 2 Credits**  
Basic principles of Thermodynamics, chemical equilibrium and thermodynamics of reactions in solution, and elementary statistical mechanics  
**30h (T); C, PR: CHE 242**
- BME 308 Biological Systems and Modelling 3 Credits**  
Linear model of physiological system, cardiovascular system modelling, pulmonary mechanics modelling, eye movement and Wetheimer's saccade eye model, simple model of muscle stretch reflex action. Transient response analysis of neuromuscular reflex model, analysis of linearized model of lungs mechanics, circulatory model and glucose insulin regulation model.  
**45h (T); C**

<b>BME 309</b>	<b>Systems Bioengineering I</b> Molecular and Cellular physiology, System cardiovascular physiology, Cardiovascular and horizons challenges for biomedical engineers including heart failure and its investigation/treatment <b>30h (T); C</b>	<b>2 Credits</b>
<b>BME 381</b>	<b>Biomedical Engineering Laboratory I</b> Laboratory investigations and report submission for selected experiments and prescribed projects drawn from first semester courses. <b>90h (P); C</b>	<b>2 Credits</b>
<b>BME 382</b>	<b>Biomedical Engineering Laboratory II</b> Laboratory investigations and report submission for selected experiments and prescribed projects drawn from second semester courses. <b>90h (P); C</b>	<b>2 Credits</b>
<b>BME 392</b>	<b>Student Industrial Work Experience Scheme (SIWES I)</b> On the job experience in the industry chosen for its relevance to students' major. (12 weeks during long vacation following 300 level) <b>270h (P); C</b>	<b>6 Credits</b>
<b>BME 401</b>	<b>Systems Bioengineering II</b> Organizational patterns of biological networks, analysis of metabolic networks, gene regulatory networks, and transduction networks, inference of pathway structure and behavior of cellular molecular circuits. <b>45h (T); C</b>	<b>3 Credits</b>
<b>BME 403</b>	<b>Biomedical Engineering Design</b> Operational environments of biomedical equipment; Analysis and principles of material selection, design and fabrication; Safety and failure analysis; Use of codes, tables, standards and empirical data; Application of engineering theories to machine components design. <b>45h (T); C</b>	<b>3 Credits</b>
<b>BME 405</b>	<b>Bioinformatics</b> Molecular genetics; Data structures, lists, trees, graphs, etc; Database management system and software design; Algorithms for bioinformatics. <b>45h (T); C, PR: BME 304</b>	<b>3 Credits</b>
<b>BME 407</b>	<b>Biomedical Manufacturing Processes</b>	<b>3 Credits</b>



Principles of casting, metal cutting and welding. Principles of operation of presses: Blanking, drawing, bending, extrusion, etc. Tool design and economics; Milling, grinding, planning etc. Operation of computer control machine.  
**45h (T); C**

**BME 409 Biomechanics**

**3 Credits**

Continuum concepts of solid mechanics (soft and hard tissues); Molecular and skeletal mechanics; Modelling and finite element analysis; Motors and motorized parts; advance medical devices and human bionics devices.  
**45h (T); C**

**BME 411 Biomaterials**

**3 credits**

Properties of materials used in medicine, synthesis and properties of polymeric materials, polymeric biomaterials, natural and recombinant biomaterials, biodegradable materials, hydrogels, stimuli-sensitive materials, characterization of biomaterials.  
**45h (T); C, PR: MEE 272**

**BME 481 Biomedical Engineering Laboratory III**

**2 Credits**

Laboratory investigations and report submission for selected experiments and prescribed projects drawn from second semester courses.  
**90h (P); C**

**BME 492 Student Industrial Work Experience Scheme (SIWES II)**

**12 Credits**

On the job experience in the industry at a higher level of responsibility than BME 392. (Six months during the second Semester of 400Level)  
**540h (P); C**

**BME 501 Cellular Engineering**

**3 Credits**

Molecular biology, protein/ligand binding, receptor/ligand trafficking, cell-cell interactions, cell-matrix interactions, and cell adhesion and migration at both theoretical and experimental levels. Effects of chemical and electrical stimuli on cell function, gene regulation and signal transduction processes. Enzyme evolution, polymeric biomaterials.  
**45h (T); E**

**BME502 Biomedical Engineering Industries**

**3 Credits**

Maintenance, Repairs and sustainability of equipment and infrastructure in Hospitals; Pharmaceutical Industry; Food processing industry; Medical equipment manufacturing industry  
**45h (T); C**

- BME 503 Principles of Biomedical Engineering Instrumentation 3 Credits**  
Fundamental of biomedical sensors and instrumentation, FDA regulations, design with electronics, biopotentials and ECG amplifier design, recording from heart, muscle, brain, diagnostic and therapeutic devices, application in prosthetics and rehabilitation, and safety.  
**45h (T); C, PR: BME 306**
- BME 504 Models of the Neuron 3 Credits**  
Thermodynamics of ion flow in aqueous environment , biology and biophysics of ion channels, gating, non linear dynamics in membrane, synaptic transmission, integration of electrical activity in multi-compartment, dendritic tree models, and properties of neural networks.  
**45h (T); C**
- BME 505 Nanomedicine 3 Credits**  
Introduction to nanoscience and nanotechnology; synthesis, structure and properties of nanostructures. Design principles of constructing nanomaterials for use in drug delivery, diseases diagnosis and imaging, and tissue engineering, supramolecular scaffolds for tissue engineering and regenerative medicine. Case studies on commercialized Nanomedicine.  
**45h (T); E**
- BME 506 Transport Phenomena 3 Credits**  
Dimensional analysis and dimensionless groups. Laminar boundary layer, introduction to turbulent flow. Definition of the friction factor. Macroscopic mass, momentum and mechanical energy balances, Metering of fluids. Convective heat and mass transfer. Boiling and condensation. Interface mass transfer.  
**45h (T); E**
- BME 508 Modelling Dynamic/ Control 3 Credits**  
Introduction to modelling, dynamics and control, unsteady of biomolecular and chemical process control systems. State space and Laplace transform techniques, block diagram algebra, and transfer functions. Feedback and feedforward control. Frequency response and stability analysis. Model construction for biomolecular and cellular systems.  
**45h (T); E**
- BME 509 Bioengineering in Regenerative Medicine 3 Credits**  
Introduction to regenerative medicine, bioreactors, scaffolds in tissue engineering, methods of analyzing tissues, stem cell culture, adult and pluripotent stem cells  
**45h (T); E**

- BME 511      Image Processing and Analysis      3 Credits**  
 Fundamental methods for the processing and analysis of images: element of visual perception, sampling and quantization, image transforms, image enhancement, colour image processing, image restoration, image segmentation, and multi resolution image representation,  
**30h (T), 45h (P); E**
- BME 512      Medical Imaging System      3 Credits**  
 Introduction to physics, instrumentation, and signal processing methods used in general radiography, X-ray computed tomography, ultrasound imaging, magnetic resonance imaging, and digital linear accelerator.  
**45h (T); E**
- BME 515      Advanced Simulation      3 Credits** Stochastic model: classical time series,  
 Markov chain and diffusion model. Sample generation of random variable, vectors, and Stochastic processes. Bayesian computation technique.  
**45h (T); E**
- BME 593      Biomedical Engineering Project I      4 Credits**  
 Original individual student project related to a prescribed biomedical engineering problem involving literature review, identification, definition and formulation of the problem, theoretical investigations, analysis, modeling, design and simulation.  
**15h (T), 135h (P); C**
- BME 594      Biomedical Engineering Project II      4 Credits**  
 Second phase of research investigations involving the implementation of the designed model; debugging; calibration, testing, data collection and analysis; presentation of a comprehensive written report of the investigation  
**15h (T), 135h (P); C, PR: BME 593**

## SUMMARY

### 100 Level

**Required Courses:** GNS 111 (2), GNS 112 (2) = 4 Credits

**Elective Courses:** STA 131 (2), STA 124 (2) = 4 Credits

At least 9 credits must be passed out of the following:  
 MAT 111(3), 113 (3), 112 (3), 114 (3) = 9 Credits

At least 9 credits must be passed out of the following:  
 PHY 115 (2), 125 (3), 142 (2), 152 (3), 191 (1), 192 (1) = 9 Credits

At least 6 credits must be passed out of the following:  
 CHM 101 (3), 112 (2), 115 (2), 116 (1), 132 (2) = 6 Credits

**Total = 4 Credits**

### 200 Level

**Compulsory Courses:** BME 201 (2), 222 (6), 283 (2), 284 (2) = 12 Credits

**Required Courses:** ABE 206 (2), 263 (3), CHE 241 (3), 242 (3), 264 (3), CVE 253 (3), 254(3), ELE 201 (3), 202 (3), 275 (1), 276 (2), MEE 217 (2), 218 (2), 235 (2), 272 (2), GNS 211 (2), 212 (2), = 41 Credits

**Total = 53 Credits**

**Direct Entry Students:** GNS 111 (2), GNS 112 (2) = 4 Credits

### 300 Level

**Compulsory Courses:** BME 303 (2), 310 (2), 304 (2), 305 (2), 306 (3), 307 (2), 308 (3), 309 (2), 381 (2), 382 (2), 392 (6) = 28 Credits

**Required Courses:** ABE 306 (2), 376 (1), ELE 321(3), 324(3), 331 (3), MEE 356 (3), 361 (3), 362 (3), GNS 311 (2), GSE 301 (3), = 26 Credits

**Total = 54 Credits**

**Direct Entry Students:** GNS 111 (2), GNS 112 (2), GNS 211 (2), 212 (2) = 8 Credits

**400 Level**

<b>Compulsory Courses:</b>	BME 401 (3), 403 (3), 405 (3), 407 (3), 409 (3), 411 (3), 481 (2), 492 (12)	<b>= 32 Credits</b>
<b>Required Courses:</b>	ABE 463 (2)	<b>= 2 Credits</b>
	<b>Total</b>	<b>= 34 Credits</b>

**500 Level**

<b>Compulsory Courses:</b>	ABE 501 (3), ABE 573 (1), BME 502 (3), 504 (3), 593 (4), 594 (4),	<b>= 18 Credits</b>
<b>Required Courses:</b>	BUL 506 (3), ELE 502 (2), MEE 551 (3)	<b>= 8 Credits</b>
<b>Elective Courses:</b>		
1. <b>Option A:</b>	Biomedical Instrumentation and Micro/Nano System Option BME 503 (3), 505 (3), 512 (3)	<b>= 9 Credits</b>
2. <b>Option B:</b>	Cell and Tissue Engineering Option BME 501 (3), 506 (3), 509 (3)	<b>= 9 Credits</b>
3. <b>Option C:</b>	Computational Bioengineering Option BME 508 (3), 511 (3), 515 (3)	<b>= 9 Credits</b>
	<b>Total for each Option</b>	<b>= 35 Credits</b>

**Graduation requirements (For all Options):**

1.	Engineering Courses (ABE, CHE, CVE, ELE, MEE, BME)	<b>131 Credits</b>
2.	Students' Industrial Works Experience Scheme (SIWES I and II)	<b>18 Credits</b>
3.	Students Work Experience Programme (SWEP)	<b>6 Credits</b>
4.	General Studies Courses: (GNS 111, 112, 211, 212, 311)	<b>10 Credits</b>
5.	Minimum Electives	<b>9 Credits</b>
6.	Law and Entrepreneurial Skill courses (GSE 301 (3), BUL 506 (3))	<b>6 Credits</b>

**Total = 180 Credits**

**UTME: 180 Credits**

**DE (200L): 180 Credits**

**DE (300L): 131 Credits**

**Computation of Grade Point**

4. 100 level courses are not used for computation of CGPA except GNS 111 (2), GNS 112 (2)
5. The 18 credits of SIWES must be passed but they are not used for computation of CGPA
6. The minimum Credits that will be used to compute the CGPA for all options are as follows:  
For UTME/DE at 200 and 300 levels

<b>Level</b>	<b>UTME</b>	<b>DE (200L)</b>	<b>DE (300L)</b>
100 Level	4	-	-
200 Level	53	57	-
300 Level	48	48	56
400 Level	22	22	22
500 Level	35	35	35
<b>Total</b>	<b>162 Credits</b>	<b>162 Credits</b>	<b>113 Credits</b>

## DEPARTMENT OF CHEMICAL ENGINEERING

### Course Description

#### B. Eng. Chemical Engineering

- CHE 222      Students Work Experience Programme I      6 Credits**  
Introduction to practices, and skills in general engineering through instruction in operation of hand and powered tools for wood and metal cutting and fabrication. Supervised hands- on experience in safe usage of tools and machines for selected tasks.  
**270h (P); C**
- CHE 241      Fundamentals of Fluid Mechanics      3 Credits**  
Dimensions and Unit, Properties of fluids, Fluids Statics, Newtonian and Non-Newtonian fluids, Fluids statics and application, Bernoulli equation, fluid measurement, types of flow and flow regimes, Basic conservation laws, friction effect and losses in laminar and turbulent flows in ducts and pipes. Dimensional analysis and dynamic similitude, principles of construction and operation of selected hydraulic machinery. Hydropower systems.  
**45h (T); C**
- CHE 242      Fundamentals of Thermodynamics      3 Credits**  
Basic concepts, quantitative relations of zeroth, first, second and third laws of thermodynamics. Behaviour of pure substances and perfect gases. Ideal gas cycles. . Isothermal isentropic and polytropic expansion. Carnot cycle. Thermodynamic cycles. Refrigeration. Steam and gas turbines.  
**45h (T); C**
- CHE 264      Engineering Mathematics II      3 Credits**  
Second order differential equations, linear integral, multiple integral and their applications. Analytical functions of complex variables. Transformation and mapping. Special functions.  
**45 (T); C**
- CHE 283      General Engineering Laboratory Course I      2 Credits**  
Laboratory investigations and report submission for selected experiments and projects in Applied Mechanics, Applied Electricity I and Fundamentals of Fluid Mechanics.  
**90 (P); C**
- CHE 284      General Engineering Laboratory Course II      2 Credits**

Laboratory investigations and report submission for selected experiments and projects in Fundamentals of Thermodynamics, Engineering materials, Applied Mechanics II and Applied Electricity II

**90 (P); C**

- CHE 311      Chemical Engineering Thermodynamics      3 Credits**  
Systems of variable composition. Ideal and non-ideal behaviours. Gibbs–Duhem equation. Phase behaviour at low to moderate pressures. Partial molar quantities. Vapour Liquid Equilibrium (VLE) from equation of state. Chemical reaction equilibria. Multi component system. Non ideal systems. The Euler equation.  
**45h (T); C, PR: CHE 242**
- CHE 312      Process Instrumentation      2 Credits**  
Measuring instruments for level, pressure, flow, temperature and physical properties. Chemical composition analyzers. Gas Chromatography. Mass Spectrometry, Sampling systems. Elements of Process Instrumentation Diagram (PID).  
**30h (T); C**
- CHE 322      Transport Phenomena II      2 Credits**  
Boundary layer theory and turbulence, Navier-Stoke’s universal velocity profile, eddy diffusion, numerical solution of Navier-Stoke’s equation, condensation and boiling. Theory of mass transfer. Fick’s law. Mass transfer with chemical reactions.  
**30h (T); C, PR: CHE 331**
- CHE 331      Transport Phenomena I      3 Credits**  
Introduction, definitions and principles. Fluid statics and its applications. Basic equations of fluid flow. Bernoulli’s equation. Flow of incompressible fluids. Flow past immersed bodies. Fluid frictions in one dimensional flow. Momentum balance. Transportation and metering of fluids. Agitation and mixing of fluids. Pumps, compressors and turbines. Flow through porous media. Non-Newtonian fluids. Normal shock waves. Laminar and turbulent flows. Shell and momentum balances and velocity, Interphase mass transfer.  
**45h (T); C, PR: CHE 241**
- CHE 341      Introduction to Chemical Engineering      3 Credits**  
Introduction to equipment of chemical plants. The chemical equation and stoichiometry: limiting reaction, excess reactant, conversion, selectivity and yield. Material balances. Calculations for steady state systems involving inert recycle, by pass and purges. Energy balances: Forms of energy and overall energy balance for a chemical system. Heat capacities. Calculation of



enthalpy changes: heat of fusion, vaporization, reaction, formation and combustion. Solution and mixing. Combined material and energy balances. Enthalpy concentration charts application and construction.

**45h (T); C, PR: CHM212**

- CHE 342      Kinetics and Catalysis      3 Credits**  
Introduction, classifications of reaction, Variables affecting reaction rate, Definition of reaction rate; Rate equations and constants; Arrhenius relationships, orders of reaction, activation energy, frequency factors and determinations. Introduction to catalysis. Kinetics of homogenous reaction. Kinetics of heterogeneous catalytic non-catalytic reaction. Heterogeneous Catalysis Characterization of the physiochemical properties of deactivation models.  
**45h (T); C**
- CHE 344      Particle Technology      2 Credits**  
Properties of particles. Motion of particles in a fluid. Stokes and Newton's law. Flow through packed beds. Fluidization, sedimentation and flocculation, filtration, screening, classification and size reduction.  
**30h (T); C**
- CHE 362      Polymer Engineering I      2 Credits**  
Introduction of polymer and their characteristics. Sources of monomers. Condensation and chain growth polymerization. Ziegler-Natta polymerization systems. Metallocene-induced polymerization. Molecular weight and its distribution and their measurement. Structure and properties of polymers. Plasticity and elasticity.  
**45h (T); C, PR: CHM 112**
- CHE 381      Chemical Engineering Laboratory I      2 Credits**  
Laboratory investigations and report submission for selected experiments in distribution coefficient, cooling tower, sedimentation, fluid flow in packed columns and flow measuring apparatus.  
**45h (P); C**
- CHE 382      Chemical Engineering Laboratory II      2 Credits**  
Laboratory investigations and report submission for selected experiments in fluid circuit system, saponification in a batch reactor, vortex tube, fluid particle system and double pipe heat exchanger.  
**45h (P); C**
- CHE 392      Student Industrial Work Experience Scheme (SIWES I)      6 Credits**  
On the job experience in industry having relevance to area of interest of the student within the discipline. (12 weeks during the long vacation following 300 level)

270h (P); C

- CHE 411**      **Loss Prevention in the Process Industries**      **2 Credits**  
Hazard in chemical process industries. Safety in process plants. Causes of accidents in process plants. Prevention of accident. Safety and risk assessment. Maintenance of plants to minimize losses. Waste disposal and effluent treatment. Pollution and corrosion control.  
**45h (T); C**
- CHE 421**      **Transport Phenomena III**      **3 Credits**  
Boundary layer theory and turbulence. Navier Stokes' equation. Universal velocity profile, Eddy diffusion, numerical solution of Navier–Stokes' equation, condensation and boiling. Theory of mass transfer. Fick's law, Fourier's and Newton's. Mass transfer with chemical reaction.  
**30h (T); C, PR: CHE 331**
- CHE 461**      **Biochemical Engineering**      **3 Credits**  
Chemicals of Life. Kinetics of enzyme–catalyzed reactions. Applied enzyme catalysis. Metabolic stoichiometry and energetic. Molecular genetics and control systems. Kinetics of substrate utilization. Product yield and biomass production in cell cultures. Transport phenomena in microbial systems.  
**30h (T); C, PR: CHM 212**
- CHE 431**      **Process Design I**      **2 Credits**  
Introduction to factors relating to process design. Process diagrams: block diagrams, process flow diagram. Process engineering diagrams. Process instrumentation Diagrams (PID). Heat balances. Use of Microsoft excels in calculating material and energy balances. Use of commercial software (Chem. CAD or Design 2000) in material and heat balances calculations. Use of Auto CAD to generate process flow diagrams. Specification and selection of process equipment. Specification of process utilities: water, air, electricity, steam. Economic analysis: capital and manufacturing cost estimation break – even analysis; depreciation, discounted cash flows, rate of return on investment, discounted cash flow rate of return, sensitivity analysis.  
**30h (T); C, PR: CHE 341**
- CHE 441**      **Separation Processes I**      **4 Credits**  
Equilibrium stage operations. Distillation: binary distillation, McCabe-Thiele method of determining number of stages. Plate and packed column; simplified binary equation. Humidification operations and **water cooling**. Drying of solids, evaporation: multiple effect evaporators.  
**60 h (T); C**
- CHE 451**      **Chemical Engineering Computer Applications and Analysis**      **3 Credits**

Use of mathematical tools for the analysis of chemical engineering operations, Process modeling and dynamics. Design of Experiments: Statistical tests, regression analysis using statistical packages. Solution of chemical engineering problems using computer packages. User defined functions and other advanced calculation options in Microsoft excel. Optimization of chemical processes using excel. Process simulation using commercial computer packages (ChemCAD, Hysys, etc.). Computer aided drawing of process equipment, flow diagrams and process instrUTMEnt diagrams. Neural Networks.

**30h (T), 45h (P); C, PR: ELE 276**

**CHE 471      Chemical Reaction Engineering I**

**3 Credits**

Classification and types of reactions and their rate equations. Kinetics of reaction in gas and liquid phases. Design equations of single reactors. Single ideal reactors: Batch, mixed flow and plug flow reactors. Space time, Space velocity, holding time, mean residence time. Size comparison of single reactors. Design of multiple reactors. Rate equation for heterogeneous reactions. Fluid particle reactions, progressive conversion model, unreacted core (shrinkage core) model.

**45h (T); C, PR: CHE 342**

**CHE 481      Laboratory Workshop Practice**

**2 Credits**

Laboratory experiments designed to teach basic and advanced laboratory techniques and practice in chemical engineering. Design of experiments. Errors in measurement of experimental results. Selected experiments in heat transfer, mass transfer, simultaneous heat and mass transfer, chemical reaction engineering, biochemical engineering process. Environmental management and assessment.

**90h (P); C, PR: CHE 382**

**CHE 492      Student Industrial Work Experience Scheme (SIWES II)**

**12 Credits**

On the job experience in the industry at a higher level of responsibility than CHE 392. (six months during the second semester of 400 level and the long vacation)

**540h (P); C**

**CHE511      Biochemical Engineering I**

**2 Credits**

Design and analysis of biological reactor. Instrumentation and control of bioreactors. Microbial culture processes in manufacturing processes. Product recovery operations. Bioprocess economics. Microbial populations. Reaction with multiple cell populations.

**45h (T); E, PR: CHE 461**

**CHE 513      Petroleum Processes**

**2 Credits**

Terminologies employed in the petroleum industry. A typical refinery flow sheet overall refinery operations. Properties and types of crude oils and the effects on refinery operations. Refinery products. Crude oil processing: desalting, atmospheric vacuum distillation. Processes for improving motor fuel yields: reforming, catalytic cracking, hydro – cracking, alkylation, polymerization and

isomerisation. Product blending to meet specification: Octane and octane number, flash point and viscosity. Sulphur removal and recovery in refineries. Processing sour crudes. Water and air pollution control.

**30h (T); E, PR: CHM235**

- |                |  |                  |
|----------------|--|------------------|
| <b>CHE 514</b> | <b>Technology of Coal Processing</b>   | <b>2 Credits</b> |
|                | Introduction to coal formation. Physical and chemical properties of coal. Carbonization of coal. Gasification of coal. Liquefaction of coal. Environmental aspect of coal utilization.   |                  |
|                | <b>30h (T); E</b>  |                  |
| <b>CHE 521</b> | <b>Process Optimization</b>  | <b>2 Credits</b> |
|                | Maximizing of functions through the use of calculus. Unconstrained peak seeking methods. Single and multi – variable search techniques. Constrained optimization techniques. Linear programming application to Chemical processing. Numerical optimization techniques. Discrete events.  |                  |
|                | <b>45h (T); C, PR: MEE 362</b>   |                  |
| <b>CHE 522</b> | <b>Process Integration</b>   | <b>2 Credits</b> |
|                | Introduction to process integration, role of thermodynamics in process design, targeting of energy, area, number of units, and cost, super targeting, concept of pinch technology and its application. Heat exchanger networks analysis, Maximum Energy Recovery (MER) networks for multiple utilities and multiple pinches, design of heat exchanger network. Heat integrated distillation columns, evaporators, dryers, and reactors. Waste and waste water minimisation, flue gas emission targeting, heat and power integration. Case studies. |                  |
|                | <b>30h (T); C</b>  |                  |
| <b>CHE 523</b> | <b>Technology of Inorganic Chemicals</b>   | <b>2 Credits</b> |
|                | Manufacture of soda ash, chlorine and caustic soda. Sodium chloride and other sodium salts. Portland cement. Lime and gypsum. Sulphuric and phosphoric acid. Types and chemical conversion of clays. Ceramic products from clay and their structures. Refractoriness. Kilns for clay processing. Design of kilns ceramic composites. Ferroelectric and ferromagnetic ceramics. Porcelain. Energy saving in furnaces.   |                  |
|                | <b>30h (T); E</b>  |                  |
| <b>CHE 524</b> | <b>Technology of Pulp and Paper</b>  | <b>2 Credits</b> |
|                | Properties of raw materials for pulp and paper. Preparation of pulp wood. Pulping processes. Bleaching of pulp and stock preparation. Utilization of by – products. Energy recovery.   |                  |
|                | <b>30h (T); E</b>  |                  |
| <b>CHE 531</b> | <b>Process Design II</b>   | <b>2 Credits</b> |

Scope of design project. Source of design data. Equipment design and specification. Mechanical design of process and piping. Site location and lay – out. Process services. Environmental consideration.

**30h (T); C, PR: CHE 431**

**CHE 532 Process Design III (Project)**

**2 Credits**

Students are divided into groups. Each group is assigned a chemical engineering design problem involving the study of a process. Each group is allowed two months to complete the design project. The project will involve the choice and preparation of process flow sheet, calculation of material and energy balances, equipment selection and specification, detailed design of some plant items, plant layout and instrumentation, economic analysis and safety considerations. A design report is required to be submitted by each individual student at the end of the two months period.

**30 h (T); C, PR: CHE341, CHE 431, CHE 451**

**CHE 533 Technology of Household Chemical Products**

**2 Credits**

The chemical composition, equipment selection and design of some household products: paint, adhesives, cosmetics, food and beverages, disinfectant, polish, soap and detergents, etc.

**15h (T), 45h (P); E, PR: CHM 318**

**CHE 564 Polymer Engineering II**

**2 Credits**

Polymerization reactions and manufacturing methods. Rheology of polymer melts. Practical Rheometer and the analysis of flow data. Batch and continuous mixers. Extrusion principles and practice: extrusion processes profile, wire – covering film blowing. Injection moulding, Blow moulding, Compression moulding, Calendering joining, plating, machining and finishing.

**30h (T); E, PR: CHE 362**

**CHE 541 Separation Processes II**

**3 Credits**

Gas absorption, Solvent extraction, Multicomponent gas absorption, Extractive and azeotropic distribution, Evaporation: Multiple effect evaporator, Adsorption. Crystallization. Ion exchange. Reverse osmosis. Membrane separation processes.

**45h (T); C, PR: CHE 441**

**CHE 544 Environmental Pollution and Control**

**2 Credits**

Water pollution. Types and sources. Analysis of dispersed pollutants in water. Effects of water pollutants on the environment. Streams and effluent standards. Water treatment processes for domestic and industrial uses. Air pollution: the theory, principles and practices related to engineering control of particulate and gaseous emissions from natural, industrial, agricultural, commercial and municipal sources of atmospheric pollution. Effect of atmospheric pollution on the various forms of life. Atmospheric pollutant dispersal modeling. Solid waste collection and management. Refuse processing: recovery and conversion to useful products.

**30h (T); C**

- CHE 552      Process Dynamics and Control      3 Credits**  
 Introduction: introduction to process dynamics and control. Process dynamics: Review of Laplace transforms and transient behaviour of 1st, 2nd and higher order systems. Process control: Transfer functions. Block algebra, feed forward and feedback control. Frequency response analysis. Proportional Integral Derivative (PID) algorithm. PID controller tuning. Introduction to multi - variable control.  
**45h (T); C, PR: ELE202, MEE362**
- CHE 571      Chemical Reaction Engineering II      3 Credits**  
 Determination of rate controlling steps, modeling and simulation of polymerization reactors. Design of fixed and fluidized bed reactors. Fluid – Fluid reactions. Slurry reactor. Choice of reactors. Temperature and pressure effects. Single reaction heat effect, optimum temperature progressions. Adiabatic operations and non-adiabatic operations. Exothermic reactions in mixed flow reactor. Multiple reactions: product distribution and temperature. Temperature and vessel size for maximum production. Non ideal flows: Residence time distribution of fluids in vessel. Models for non-ideal flow. Tank in series models. Mixing of fluids.  
**30h (T); C, PR: CHE 342, CHE 471**
- CHE 593      Chemical Engineering Project I      3 Credits**  
 Original individual student project related to a prescribed Chemical Engineering problem involving literature review, identification, definition and formulation of the problem, theoretical investigations, modelling simulation, analysis and design.  
**135h (P); C**
- CHE 594      Chemical Engineering Project II      3 Credits**  
 Second phase of investigations involving the implementation of the designed model. Debugging, calibration, testing, data collection, analysis and presentation of a comprehensive written report of the investigations.  
**135h (P); C**

**Note:** Details of other courses in the Department of Chemical Engineering are available in relevant Departments as follows:

ABE courses in Agricultural and Biosystems Engineering;

GNS courses in General Studies Division;

GSE from Technical Entrepreneurship Centre;

CVE courses in Civil Engineering Department;

ELE courses in Electrical and Electronics Engineering Department;

MEE courses in Mechanical Engineering Department;

BUS courses in Department of Business Administration, Faculty of Management Sciences

STA, MAT, PHY and CHM courses in Faculty of Physical Sciences, and

BUL in Faculty of Law.



## SUMMARY

### 100 Level

**Required Courses:** GNS 111 (2), GNS 112 (2) = 4 Credits

**Elective Courses:** STA 124 (2), STA 131 (2) = 4 credits

At least nine (9) credits must be passed out of the following mathematics courses:  
MAT 111(3), MAT 112(3), MAT 113(3), MAT 114(3) = 9 credits

At least nine (9) credits must be passed out of the following physics courses:  
PHY115 (2), PHY125 (3), PHY 142 (2), PHY152 (3), PHY 191 (1), PHY 192 (1)  
= 9 credits

At least six (6) credits must be passed out of the following Chemistry Courses:  
CHM101 (3), CHM 112 (2), CHM 115 (2), CHM 116 (1), CHM 132 (2)  
= 6 credits

**Total = 4 Credits**

### 200 Level

**Compulsory Courses:** CHE 222 (6), CHE 241 (3), CHE 242(3), CHE 264 (3), CHE 283 (2), CHE 284  
(2) = 19 credits

**Required Courses:** ABE 206 (2), ABE 263 (3), CVE 253 (3), CVE 254 (3), ELE 201 (3), ELE 202  
(3), ELE 275 (1), ELE 276 (2), MEE 217 (2), MEE 218 (2), MEE 235 (2), MEE 272 (2), GNS 211 (2), GNS  
212 (2) = 32 credits

**Total = 51 Credits**

**Direct Entry Students:** GNS 111 (2), GNS 112 (2) = 4 Credits

### 300 Level

**Compulsory Courses:** CHE 311 (3), CHE 312 (2), CHE 322 (2), CHE 331 (3), CHE 341 (3), CHE 342  
(3), CHE 344 (2), CHE 362 (2), CHE 381 (2), CHE 382 (2), CHE 392 (6)  
= 30 credits

**Required Courses:** ABE 306 (2), ABE 376 (1), CHM 212 (3), CHM 235 (3), CHM 318 (2), CHM 325  
(2), MEE 361 (3), MEE 362 (3), GNS 311 (2), GSE 301 (3)  
= 24 credits



**Total = 54 Credits**

**Direct Entry Students: GNS 111 (2), GNS 112 (2), GNS 211 (2), GNS212 (2) = 8 credits**

**400 Level**

**Compulsory Courses:** CHE 411 (2), CHE 421 (3), CHE 431 (2), CHE 441 (4), CHE 451 (3), CHE 461 (3), CHE 471 (3), CHE 481 (2), CHE 492 (12) = **34 credits**

**Required Course:** ABE 463 (2) = **2 credits**

**Total = 36 Credits**

**500 Level**

**Compulsory Courses:** CHE 521 (2), CHE 522 (2), CHE 531 (2), CHE 532 (3), CHE 541 (3), CHE 544 (2), CHE 552 (3), CHE 571 (3), CHE 593 (3), CHE 594 (3) = **26 credits**

**Required Courses:** ABE 573 (1), BUL 506 (3), BUS 501(3) = **7 Credits**

**Elective courses:** At least eight (8) credits must be passed out of the following Elective Courses:  
CHE 511 (2), CHE 513 (2), CHE 514 (2), CHE 523 (2), CHE 524 (2), CHE 533 (2), CHE 534 (2), CHE 562 (2)  
= **8 credits**

**Total = 41 Credits**

**Graduation requirements:**

1. Major Engineering courses (ABE, CHE, CVE, ELE & MEE) **127 Credits**
2. Sciences courses (CHM: 235,212,318, 325) **10 Credits**
3. Students' Industrial Works Experience Scheme (SIWES I and II) **18 Credits**
4. Students Work Experience Programme (SWEP) **6 Credits**
5. General Studies Courses: (GNS 111, 112, 211, 212, 311) **10 Credits**
6. Minimum Electives **8 Credits**
7. Economics, Law, Management and Entrepreneurship courses

(GSE 301 (3), BUL 506 (3), BUS 501(3))

**9 Credits**  
**Total = 186 Credits**

**UTME: 186 Credits**  
**DE (200L): 186 Credits**  
**DE (300L): 139 Credits**

**Computation of Grade Point**

1. 100 level courses are not used for computation of CGPA except GNS 111 (2), GNS 112 (2)
2. The 12 credits of SIWES must be passed but they are not used for computation of CGPA
3. The minimum Credits that will be used to compute the CGPA for all options are as follows:  
For UTME/DE at 200 and 300 levels

<b>Level</b>	<b>UTME</b>	<b>DE (200L)</b>	<b>DE (300L)</b>
100 Level	4	-	-
200 Level	51	55	-
300 Level	48	48	56
400 Level	24	24	24
500 Level	41	41	41
<b>Total</b>	<b>168 Credits</b>	<b>168 Credits</b>	<b>121 Credits</b>

## DEPARTMENT OF CIVIL ENGINEERING

### Course Description

#### B. Eng. Civil Engineering

- CVE 222 Students Work Experience Program (SWEP) 6 Credits**  
Introduction to practices and skills in general engineering through instruction in operation of hand and powered tools for wood, metal cutting and fabrication; Supervised hands-on experience in safe usage of tools and machines for selected tasks; General practices on automobile repairs, survey, civil and electrical engineering works; Micro-structural examination of materials.  
**270 h (P); C**
- CVE 253 Engineering Mechanics I 3 Credits** Forces, moments, couples.  
Equilibrium of simple structures and machine parts. Friction. First and second moments of area. Centroids. Kinematics of particles and rigid bodies in plane motion. Newton's laws of motion. Kinetic energy and momentum analyses.  
**45h (T); C**
- CVE 254 Engineering Mechanics II 3 Credits**  
Hooke's law: stresses and strains due to loading and temperature changes. Torsion. Stress circle. Deflection of beams with symmetrical and combined loadings. Elastic buckling of columns. Shear forces and bending moments. Analytical methods for structures.  
**45h (T); C**
- CVE 322 Soil Mechanics 3 Credits**  
Physical and mechanical properties. Structure and classification of soils. Formation of soils. Soil mineralogy. Phase relationships. Shear strength, consolidation, stress distribution, settlement, compaction and permeability.  
**30h (T), 45h (P); C**
- CVE 341 Civil Engineering Materials 3 Credits**  
Production, structure and physical properties of major civil engineering materials: cement, concrete, bitumen, metals, timber, masonry, ferrocement. Applications for construction purposes.  
**45h (T); C**
- CVE 351 Engineering Surveying I 3 Credits**

Basic principles of surveying, instruments, methods and computations of distance, angles and elevations and stadia measurements: Theodolite traversing. Computation of areas by analytical and planimeter methods. Fieldwork, pacing, basic line measurement, leveling and compass traversing. Introduction to Theodolite traversing.

**30h (T), 45h (P); C**

- CVE 352      Engineering Surveying II      3 Credits**  
Theodolite traversing, tacheometry, analysis, design and methods of setting horizontal and vertical curves on transportation routes. Longitudinal mass-Haul diagram. Introduction to photogrammetry field work; curve-setting and earthwork computation.  
**45 (T); C, PR: CVE 351**
- CVE 353      Survey Camp      2 Credits**  
Use of knowledge of levelling and theodolite/compass traversing for detailed topographical mapping of areas (2 week during Harmattan Semester break).  
**90h (P); C, PR: CVE 351**
- CVE 362      Structural Design I      2 Credits**  
Structural design concepts. Basic design of structural elements in concrete. Limit state design for strength, serviceability and economy, Design of rectangular beams, T-beams, slabs and columns. Reinforcement details. Bond, anchorage and crack control.  
**30h (T); C, PR: CVE 365**
- CVE 363      Strength of Materials      2 Credits**  
Generalized stress-strain relationship. Biaxial and triaxial state of stress. Stress transformation. Mohr's circle. Failure theories. Theories of bending of beams. Assymmetrical bending and shear centre. Strain energy application. Torsion of non-circular and thin-walled hollow members.  
**30h (T); C, PR: CVE 254**
- CVE 365      Structural Analysis I      2 Credits**  
Theory and problems in determinate structures. General structural analysis as applied to beams, trusses and frames. Deflection analysis. Influence lines and applications.  
**30h (T); C, PR: CVE 254**
- CVE 366      Structural Analysis II      2 Credits**  
Theory and problems in determinate structures. Statics and kinematics. Indeterminacy. Classical methods of analysis. Virtual work and energy methods. Slope deflection and moment distribution method. Influence line for statically indeterminate structures.  
**30h (T); C, PR: CVE 365**

<b>CVE 378</b>	<b>Elements of Architecture</b> Introduction – Dimensional awareness, Graphical communication, relation to environments, Free hand drawing – form in terms of shades, light shadow. Common Curves. Orthographics; dimetrics, perspective projections. Applications, Elementary Designs. <b>15h (T); 30h (P), C, PR: MEE 218</b>	<b>2 Credits</b>
<b>CVE 383</b>	<b>Civil Engineering Laboratory I</b> Laboratory investigations and report submission for selected experiments in Civil Engineering Materials and Hydraulics. <b>90h (P); C</b>	<b>2 Credits</b>
<b>CVE 384</b>	<b>Civil Engineering Laboratory II</b> Laboratory investigations and report submission for selected experiments in surveying II and soil mechanics. <b>90h (P); C</b>	<b>2 Credits</b>
<b>CVE 392</b>	<b>SIWES I</b> On the job experience in industry hose for its relevant e Student’s major. (10 weeks during the long vacation following 300 level) <b>270h (P); C</b>	<b>6 Credits</b>
<b>CVE 421</b>	<b>Applied Soil Mechanics and Foundation</b> Stress in soils. Consolidation, compaction, CBR and soil improvement. Stability of slopes. Earth pressure analysis, bearing capacity and settlement analysis of shallow and deep foundations. Design of footings, foundations, retaining walls. Analysis and control of groundwater. <b>45h (T); C, PR: CVE 322, CVE 362</b>	<b>3 Credits</b>
<b>CVE 463</b>	<b>Structural Analysis III</b> Matrix methods of structural analysis. Flexibility and stiffness methods. Elastic instability. Introduction to plastic theory of bending. Collapse loads. <b>30h (T); C, PR: CVE 366</b>	<b>2 Credits</b>
<b>CVE 465</b>	<b>Structural Design II</b> Design philosophies for steel and wood structures. Design of members subjected to tension, compression, flexure, shear, torsion, combined flexure/torsion/axial load. Design of connections. Introduction to prestressed concrete design. <b>30h (T); C, PR: CVE 362, CVE 366</b>	<b>2 Credits</b>
<b>CVE 473</b>	<b>Transportation Engineering I</b>	<b>3 Credits</b>

Definition and components of transportation engineering. Types and components of fixed transportation facilities. Ride function of facilities. Effects of vehicle loads and water on performance of ride function of railways, runways and roads. Characteristics of highway materials and their improvement methods. Traffic characteristics and application in geometric design. Laboratory experiments on soil stabilization and testing of bituminous materials.

**45h (T); C; PR: CVE 341, CVE 351**

- |                |   |                   |
|----------------|---|-------------------|
| <b>CVE 481</b> | <b>Civil Engineering Laboratory III</b><br>Laboratory investigations and report submission for selected experiments in environment. Demonstrations drawn from topics in prescribed areas.<br><b>90h (P); C</b>  | <b>2 Credits</b>  |
| <b>CVE 485</b> | <b>Civil Engineering Practice</b><br>Legal, professional and ethical aspects of engineering contracts. Contract documents including specifications and competitive bidding. Negotiated contracts. Civil Engineering Quantities: standard method of measurements, applications of the classification of coding and numbering of items. Bill of quantities.<br><b>30 (T); C</b> | <b>2 Credits</b>  |
| <b>CVE 492</b> | <b>SIWES II</b><br>On the job experience in industry at a higher level of responsibility than CVE 392. (During the Rain Semester of 400 Level and long vacation).<br><b>540 h (P); C</b>  | <b>12 Credits</b> |
| <b>CVE 524</b> | <b>Geotechnical Engineering</b><br>Techniques of site investigation for geotechnical engineering, <i>in-situ</i> testing. Sub-surface stratigraphy and its interpretation for foundation of structures. Analysis and design of foundations. Design of de-watering systems.<br><b>30h (T); C, PR: CVE 421</b>  | <b>2 Credits</b>  |
| <b>CVE 562</b> | <b>Design of Structures</b><br>Analysis and design of multi-storey buildings, prestressed concrete, hydraulic structures: culverts, water and earth-retaining structures. Composite construction. Design considerations for bridges. Standards and codes of practice. Methods of construction.<br><b>45h (T); C, PR: CVE 465, CVE 362</b>                                     | <b>3 Credits</b>  |
| <b>CVE 565</b> | <b>Structural Analysis IV</b><br>Approximate method of analysis for frame structures, yield line analysis of slabs. Structural Forms. Plastic analysis of multi-bay and multi-storey frame buildings.<br><b>30h(T); C, PR: CVE 463</b>  | <b>2 Credits</b>  |

- CVE 567      Advanced Structural Analysis and Design I      3 Credits**  
Advanced topics of matrix methods of structural analysis. Finite difference and finite element methods. Structural vibrations and model analysis. Introduction to the theory of plates and sheets.  
**30h (T), 45h (P); E, PR: CVE 463, CVE 465**
- CVE 568      Advanced Structural Analysis and Design II      3 Credits**  
Planning and design of structures. Analysis and design of prestressed concrete and composite steel-concrete structures. Modern structural forms and methods of construction. Design projects for complete structure will be assigned in groups or individually.  
**30h (T), 45h (P) ; E, PR : CVE 473**
- CVE 575      Transportation Engineering II      2 Credits**  
Road pavement characteristics. Simple design method. Construction and maintenance of roads including labour-based methods. Study of Nigerian highways design policies, standard and specifications. Comparisons with international standards.  
**30h (T), 30h (P); C, PR: CVE 473**
- CVE 577      Transportation Systems Analysis and Design I      3 Credits**  
Roads and railways traffic analysis and design, including definition and determination of level of service and capacity for different types of roads and railways. Design of traffic control schemes.  
**30h (T), 45h (P); E, PR: CVE 473**
- CVE 578      Transportation System Analysis and Design II      3 Credits**  
Planning and management methods for roadways, waterways, runways and railways. Pavement analysis and design methods.  
**30h (T), 45h (P); E, PR: CVE 473, CVE 577**
- CVE 581      Construction Engineering      2 Credits**  
Introduction to estimating cost, time and materials, construction methods, planning and scheduling. Critical Path Methods, PERT. Equipment selection and quality control. Economic and financial problems in construction and execution of public works.  
**30h (T); C**
- CVE 582      Civil Engineering Services      2 Credits**  
Water supply and installation. Hot water systems, Sanitary appliances. Methods of refuse disposal. Equipment for air conditioning and ventilation. Installations for industrial buildings: gases, liquids, refrigeration, vacuum cleaning, fire fighting systems, electrical and high circuits and standby power sources.  
**30h (T); C**

- CVE 584 Computer Applications in Civil Engineering 2 Credits**  
 Review of computer programming and programming languages (FORTRAN, BASIC, C++, etc). Computer applications in structural and highway engineering. Individual or group projects on computer solutions of specific problems.  
**15h (T), 45h (P); C**
- CVE 585 Advanced Geotechnical Engineering I 3 Credits**  
 Review of structural foundations: types, choice and design. Slope stability analysis: total stress, parallel slope, tension crack, Swedish circle, Taylor's technique, Bishop conventional and resource methods, factor of safety. Bearing capacity: ultimate, safe and allowable. Lower and upper bound theorems and applications.  
**45h (T); E, PR: CVE 421, CVE 524**
- CVE 586 Advanced Geotechnical Engineering II 3 Credits**  
 Earth pressure design: types of walls, limiting equilibrium equations, earth pressure at rest, active and passive pressure equations and applications to gravity and Counterforts walls. Coulomb methods and applications. Sheet pile walls: cantilever and propped/anchored, Revised safety factor, examples of design. Reinforced earth theory and application to walls. Pile foundations: types, design approaches, empirical and analytical design, skin frictions, piles in clay and granular soils. Buried structures and tunnels. Ground improvement techniques.  
**45h (T); E, PR: CVE 421, CVE 524**
- CVE 593 Civil Engineering Project I 4 Credits**  
 Original individual student project related to a prescribed Civil Engineering problem, involving literature review, identification, definition and formulation of the problem, theoretical and/or experimental investigations, modeling, simulation analysis and design.  
**15h (T), 135h (P); C**
- CVE 594 Civil Engineering Project II 4 Credits**  
 Second phase of project work involving the implementation of the designed mode, debugging, calibration, testing, data collection, analysis, and presentation of a comprehensive written report of the investigation.  
**15h (T); 135h (P); C**

Note: Details of other courses in the Department of Civil Engineering are available in relevant Departments as follows:

ABE courses in Agricultural and Biosystems Engineering;

GNS courses in General Studies Division;

GSE from Technical Entrepreneurship Centre;

CHE courses in Chemical Engineering Department;



ELE courses in Electrical and Electronics Engineering Department;  
 MEE courses in Mechanical Engineering Department;  
 STA, MAT, PHY, GEM and CHM courses in Faculty of Physical Sciences, and  
 BUL in Faculty of Law.

### SUMMARY

#### 100 LEVEL

<b>Required Courses:</b>	GNS 111 (2), 112 (2)	<b>= 4 Credits</b>
<b>Elective Courses:</b>	STA 131 (2), 124 (2)	<b>= 4 Credits</b>
	At least 9 Credits must be passed out of the following: MAT 111 (3), 112 (3), 113 (3), 114 (3)	<b>= 9 Credits</b>
	At least 9 Credits must be passed out of the following: PHY 115 (2), 125 (3), 142 (2), 152 (3), 191 (1), 192 (1)	<b>=9 Credits</b>
	At least 6 Credits must be passed out of the following: CHM 101 (3), 112 (2), 115 (2), 116 (1), 132 (2)	<b>= 6 Credits</b>
		<b>Total = 4 Credits</b>

#### 200 LEVEL

**Compulsory Courses:** CVE 253 (3), CVE 254 (3), CVE 222 (6), CVE 283 (2), 284 (2)  
**= 16 Credits**

**Required Courses:** GNS 211 (2), 212 (2), MEE 217 (2), 218 (2), 235 (2), 272 (2),  
 (3), 242 (3), 264 (3), ELE 201 (3), 202 (3), 275 (1), 276 (2), ABE 263 (3), 206 (2)  
**= 35 Credits**

CHE 241

**Total = 51 Credits**

**Direct Entry Students:** GNS 111 (2) and 112 (2) = 4 Credits

**300 LEVEL**

**Compulsory Courses:** CVE 322 (3), 341 (3), 351 (3), 352 (3), 353 (2), 362 (2) 363 (2), 365 (2), 366 (2),  
CVE 378 (2), CVE 383 (1), 384 (1), 392 (6) = **32 Credits**

**Required Courses:** MEE 361 (3), MEE 362 (3), GEM 217 (1), 319 (2), GNS 311 (2), GSE 301  
(3), ELE 312(3), ABE 376 (1), 306 (2) = **20 Credits**

**Total = 52 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2), 211 (2) and 212 (2) = 8 Credits

**400 LEVEL**

**Compulsory Courses:** CVE 492(12), 421(3), 463(2), 465(2), 473(3), 481(2), 485(2)  
= **26 Credits**

**Required Courses:** ABE 463 (2), WEE411 (3), WEE 431(3), WEE433 (2) = **10 Credits**

**Total = 36 Credits**

**500 LEVEL**

**Compulsory Courses:** CVE 565 (2), 575 (2), 581 (2), 593 (4), 524(2), 562(3), 582(2), 584(2), 594 (4)  
= **23 Credits**

**Required Courses:** ABE 501(3), 573 (1), BUL 506 (3), WEE 511 (2) = **9 Credits**

**Elective Courses:**

Students are expected to choose any two from the following, one in each semester:

WEE 515 (3), WEE 516(3), CVE 567(3), 568(3), CVE 577(3), 578(3), CVE 585 (3) and 586(3)

**= 6 Credits**

**Total = 38 Credits**

### **GRADUATION REQUIREMENTS**

1	Major Engineering Courses (ABE, CHE, CVE, ELE, MEE, WEE)	<b>138 Credit</b>
2	Courses from other Department outside the Faculty (GEM 217, GEM 319)	<b>3 Credits</b>
3	General Studies Courses: (GNS 111, 112, 211, 212, 311)	<b>10 Credits</b>
4	Students' Industrial Works Experience Scheme (SIWES)	<b>18 Credits</b>
5	Students' Work Experience Programme (SWEP)	<b>6 Credits</b>
6	Management, Economics and Entrepreneurship Skill	<b>6 Credits</b>
7	Total Credits Required	

**181 Credits**

**UTME: 181 Credits**

**DE (200): 181 Credits**

**DE (300): 134 Credits**

Graduation Requirements (Option 2)

Computation of Grade Point

1. 100 level courses are not used for computation of CGPA except GNS 111 (2), GNS 112 (2)
2. The 6 credits of SWEP must be passed and used for computation
3. The 18 credits of SIWES must be passed but they are not used for computation of CGPA
4. The minimum credits that will be used to compute the CGPA for all options are as follows:

For UTME / DE at 200 and 300 levels

<b>Level</b>	<b>UTME</b>	<b>DE (200 L)</b>	<b>DE (300L)</b>
100 Level	4	-	-
200 Level	51	55	-
300 Level	46	46	54
400 Level	24	24	24
500 Level	38	38	38
<b>Total</b>	<b>163</b>	<b>163</b>	<b>116</b>

**DEPARTMENT OF COMPUTER ENGINEERING**  
**Course Description**

**B. Eng. Computer Engineering**

- |                |  |                  |
|----------------|--|------------------|
| <b>CPE 222</b> | <b>Students Work Experience Programme</b><br>Introduction to practices and skills in general engineering through instruction in operation of hand and powered tools for wood and metal cutting and fabrication. Supervised hands – on experience in safe usage of tools and machines for selected tasks.<br><b>270h (P); C</b> | <b>6 Credits</b> |
| <b>CPE 283</b> | <b>General Engineering Laboratory Course I</b><br>Laboratory investigation and report submission for selected experiments and projects in Applied Mechanics, Applied Electricity I and Fundamentals of Fluid Mechanics.<br><b>90h (P); C</b>   | <b>2 Credits</b> |
| <b>CPE 284</b> | <b>General Engineering Lab Course II</b><br>Laboratory investigations and report submission for selected experiments and Projects in fundamentals of Thermodynamics. Engineering Materials, Applied Mechanics II and Applied Electricity II.<br><b>90h (P); C</b>  | <b>2 Credits</b> |

- CPE 311      Electric Circuit Theory      3 Credits**  
 Electric quantities: Voltage and current sources, resistor, inductor and capacitor. Circuit laws and theorems. Signals and waveforms. Alternating current behavior in R, L and C circuits. Phasor analysis with complex algebra, Two terminal networks - impedance, admittance and their real and imaginary parts. Resonance: series and parallel resonance, half power points, bandwidth, Q-factors. Power Quantities. First order LR and RC circuits. Complementary function and particular integral. Network topology. Nodal and mesh network analysis. Impedance transformations, Norton's transformation, Bartlett theorem. CAD circuit analysis and simulation.  
**45h (T); PR: ELE201; C**
- CPE312      Measurement and Instrumentation      2 Credits**  
 General Instrumentation, Basic Meter in DC measurement, Basic meter in AC measurements; DC and AC bridges and their applications; Electronic instruments for the measurement of voltage, current resistance and other circuit parameter, electronic voltmeters, AC voltmeters using rectifiers, electronic multimeter, digital voltmeters; oscilloscope: vertical deflection system, horizontal deflection system, probes, sampling CRO; square-wave and pulse generator, signal generators, function generators, wave analysers, Electronic counters and their applications: time base circuitry, universal counter measurement modes; Analog and digital data acquisition systems.  
**30h (T); C**
- CPE 321      Analogue Electronic Circuits      3 Credits**  
 Atom, Energy-band, electrons and holes, P and N doping, impurity level, Transport phenomena in semiconductor. Open-circuited p-n junction, diode currents, V-I characteristics, ideal diode, diode resistance, piecewise linear model, breakdown diodes, diode capacitance. Field Effect Transistor: JFET, MOSFET, Biasing, Small-signal model, FET amplifier analysis, FET as voltage-variable resistor. Transistor current components, Common-base configuration, Common-emitter configuration, Common-collector configuration, Q point, Fixed bias, Emitter bias, bias stability, thermal stability. Analysis of CE configuration, Cascading transistor amplifiers, Miller's Theorem. Half-wave rectifier, full-wave rectifier, choke and capacitor filters, peak detector, clipping circuits, Pulse shaping, clamping circuits, voltage doubler.  
**45h (T); C**
- CPE 331      Electromagnetic Fields & Waves      3 Credits**  
 Review of Vector Algebra & Calculus. Gauss's, Stokes, Hemholtz and Green's integral theorems, integral of scalar and vector fields. Electrostatics. Coulomb's Law. Concept of fields. Electric flux density and electric field intensity. Gauss's Theorem and applications. Voltage and electric potential. Conductor, dielectrics. Polarization, susceptibility, permittivity. Electrostatic boundary condition. Capacitance calculation and electric energy. Magnetostatics. Magnetic flux density and magnetic field intensity. Biot-Savart Law and Ampere's Law, Faraday's Law. Self and mutual induction. Inductance calculation and magnetic energy. Magnetic Circuits: B and H, Magnetic materials. Saturation and hysteresis, Hysteresis, eddy current loss, analysis of linear magnetic circuits. Maxwell's Equations. Faraday's Law and Lorentz force law. Uniform plane waves and wave equation. Time harmonic fields.

Polarization of waves. Poynting's Theorem and the conservation of energy, the field definitions of impedance, admittance. Wave Propagation and Transmission Theory.

**45h (T); C**

**CPE 336**

**Digital Electronics**

**3 Credits**

Boolean algebra, theorems, switching functions, truth tables, derivation of canonical forms. Switching circuits. Electronic logic gates, basic functional components. Analysis of combinational circuits. Synthesis of combinational logic circuits. Characteristics of minimization methods. Karnaugh maps. Quine-McCluskey tabular minimization method. Computer-aided minimization of switching functions. Algebraic methods for determining prime implicants. Digital vs. analog systems. Mixed signal design, analogue and digital grounding. Digital system design hierarchy. Logic devices: TTL and CMOS families. Interference and noise. Number Systems and Codes. Memory devices. Latches: set-reset latch, gated SR latch, delay latch. Flip-flops. Timing circuits. Modular Design. Decoders and Encoders.

**45h (T); C**

**CPE 341**

**Software development Techniques**

**3 Credits**

Software development life cycle. Top-down design. Program design using pseudo-code, flowchart. Flowchart ANSI symbols and usage. Extensive examples, and exercises using pseudo-code/flowchart to solve practical problems in engineering. Debugging and documentation techniques. Programming using a structured language such as C: Symbols, keywords, identifiers, data types, operators, various statements, operator precedence, type conversion, conditional and control structures, function, recursive functions. Parameters passing in functions. Arrays. Pointers. Structure, union and enumerated types. Dynamic memory allocation. File Handling: Concept of a file, files and streams, standard file handling functions, binary files, random access files. Advanced Topics: Command line parameters, pointers to functions, creation of header files, stacks, linked lists, bitwise manipulation.

**45h (T), 45h (P), PR: ELE 276; C**

**CPE 342**

**Software Engineering**

**3 Credits**

Introduction: Principles of software engineering. Software life cycle. Project management. Computer based system engineering. Requirements and specification: Analysis, definition, specification, software prototyping, formal specification, algebraic specification and mode-based specification. Software Design Architectural design. Object-oriented design. Function-oriented design. Real-time system design. User interface design. Dependable Systems. Reliability and reusability. Safety-critical consideration. Good programming practice. Computer-aided Software Engineering (CASE). Verification and Validation: Validation and testing. Problems of assessing and quantifying the system reliability. Test case and test data design. Management: People and organization issues. Cost estimation. Quality management. Process improvement. Maintenance, Configuration and re-engineering of software.

**30h (T), 45h (P), PR: ELE 276, CPE 341; C**

- CPE 372      Data Communications and Computer Network      3 Credits**  
 Introduction to Data Communication: Transmission definitions, transmission codes, transmission modes, parallel transmission, serial transmission, bit synchronization, character synchronization, synchronous transmission, asynchronous transmission, efficiency of transmission. error detection methods and data compression. Introduction to network protocol. Seven layer ISO-OSI standard protocols and network architecture. Local Area Networks Distributed system, PBX and cable based LANs. Topology, Medium access control methods. High speed and bridged local area networks. Cyclic redundancy check (CRC). Network operating system. Wide Area Networks. Internet architecture and protocols. LAN network-control centre.  
**30h (T); C**
- CPE 381      Laboratory Course I      1 Credit**  
 Laboratory experiments drawn from all engineering courses offered in Harmattan semester.  
**135h (P); C**
- CPE 382      Laboratory Course & Mini-Project      2 Credits**  
 Laboratory experiments drawn from all the engineering courses offered in Rain semester. Mini-projects to illustrate understanding of the courses.  
**90h (P); C**
- CPE 392      SIWES: Industrial Training I      6 Credits**  
 On the job experience in industry chosen for its relevance to student's major. (12 weeks during the long vacation following 300 level).  
**270h (P); C**
- CPE 424      Introduction to Digital System Design with VHDL      2 Credits**  
 Finite State Machine: definition, mealy and moore models, state diagram, state table, transition table. Sequential circuits design using flip-flops, asynchronous, and synchronous circuit design. Algorithm State Machine. Design examples and exercises. Structured Design: Design constructs, Design Levels, Geometry-based interchange formats, Computer aided electronic system design tools, Schematic circuit capture, Hardware description languages, Design process (simulation, synthesis), Structural design decomposition. Introduction to VHDL: VHDL language abstractions, Design hierarchies, VHDL component, Lexical description, VHDL source file, Data types, Data objects, Language statements, Concurrent VHDL, Sequential VHDL.  
**30h (T), 30h (P), PR: CPE 336; C**
- CPE 436      Prototyping Techniques & Packaging      2 Credits** Introduction: Grounding, ground plane, digital ground, analogue ground, power decoupling, inductance and capacitive effects, feedthrough capacitors. Soldering techniques for pass-through and surface mount components, desoldering. Breadboarding, veroboarding. Wire wrapping techniques. Radio Frequency design and implementation techniques. Printed Circuit Board techniques, and production of PCB. Use of PCB CAD



packages. Construction exercises using different prototyping techniques. Packaging techniques. Documentation and Manual writing.

**30h (T), 30h (P); C**

**CPE 438 Artificial Intelligence & Application**

**2 Credits**

Artificial Neural Networks (ANN), Genetic Algorithm (G.A.) Concepts, Simulated Annealing, theories and Applications; Agent-based Systems, supervised and unsupervised learning; reinforcement learning.

**30h (T); C**

**CPE 442 Control Theory I**

**3 Credits**

Definition, examples of control systems. Open-loop and closed-loop control systems. Review of Laplace and inverse Laplace transforms. System modeling: Signal flow graph, block diagram. Transfer function. Poles and zeros. Block diagram reduction using signal flow graph and block diagram reduction techniques. Mechanical, electrical and electromechanical systems. First and second order models, higher order models. Definitions of transient response parameters. Analysis of second-order system as prototype. Routh-Hurwitz stability criterion. Classification of systems based on steady-state characteristics, steady-state error coefficient.

**45h (T), PR: ELE 311; C**

**CPE 444 Assembly Language Programming**

**2 Credits**

Language level of abstraction and effect on machine, characteristics of machine code, advantages, justifications of machine code programming, instruction set and dependency on underlying processor. Intel 8086 microprocessor assembly language programming: Programming model as resources available to programmer, addressing modes, instruction format, instruction set- arithmetic, logical, string, branching, program control, machine control, input/output, etc; assembler directives, hand-assembling, additional 80x86/ Pentium instructions. Modular programming. Interrupt and service routine. Interfacing of assembly language to C. Intel 80x87 floating point programming. Introduction to MMX and SSE programming. Motorola 680x0 assembly language programming. Extensive practical engineering problems solving in assembly language using MASM for Intel, and cross-assembler for Motorola.

**30h (T), PR: CPE 341, CPE 336; C**

**CPE 452 Communication Principles**

**2 Credits**

Principles and historical development of Communications. Block diagram of a communication system. The frequency spectrum. Signals and vectors, orthogonal functions, Fourier series, Fourier integral, signal spectrum, convolution, power and energy, correlation. Reasons for modulation. Types of modulation. Amplitude modulation systems. Vestigial sideband. Frequency mixing and multiplying, frequency division multiplexing, applications of AM systems. Frequency modulation systems. Frequency deviation, modulation index, Bessel coefficients. Phase-lock loop; limiter, pre-emphasis and de-emphasis, stereophonic FM broadcasting. Noise waveforms and characteristics. Cascade network, experimental determination of noise figure. Effect of noise on

AM and FM systems. Block diagram of a superheterodyne AM radio receiver, AM broadcast band and specification. Antenna: TV broadcast band and specification. Signal format, transmitter and receiver block diagrams of Black and White TV, and Color TV.  
**30h (T), PR: CPE 311; C**

- CPE 472      Microprocessor System & Interfacing      3 Credits**  
INTEL8086 microprocessor system: CPU, memory, I/O, and buses subsystems, basic operation of a microprocessor system, signal pinouts. Hardware & Software interrupts. Assembly language programming. Interfacing to memory, I/O devices, 8255 PPI, 8251USART, keyboard, keypad, serial LCD, ADC/DAC chips. Memory address decoding techniques, serial port & USB interfacing. Motorola MC68000 microprocessor system: CPU, memory, I/O, and buses subsystems, basic operation of a microprocessor system, signal pinouts. Assembly language programming. Interfacing to memory, I/O devices, 6850 ACIA, 6821 PIA USART, keyboard, keypad, serial LCD, ADC/DAC chips.  
**45h (T), PR: CPE321, CPE372; C**
- CPE 482      Laboratory Course III      2 Credits**  
Laboratory experiments on Computer hardware and software, Electronics, communication and Assembly Language Programming  
**90h (P); C**
- CPE 492      SIWES: Industrial Training I      6 Credits**  
On the job experience in industry chosen for its relevance to student's major. (12 weeks during the long vacation following 400 level).  
**270h (P); C**
- CPE 501      Design & Installation of Electrical & ICT Services      2 Credits**  
Introduction to Health and safety at work act in Nigeria. Electrical safety and First aid. Electricity supply regulations. NCC and FCC Codes of Practice, Lighting and Illumination: Design and calculations for different situations and applications both domestic and industrial. Electrical Installation material selection and ratings: Cables, fittings, motors, generators, equipment. etc. Glare. Conduiting, Trucking and overhead Installation. Telecommunication Design & Installation: Telephone, PABX, cables, cablings, trucking, calculations, etc. Computer Networking: Design, Calculations, topology, cables, cabling, etc. Satellite and VSAT installation. Surge and lightning protections. Earthing: earth resistivity measurement, surge and lightning equipment selection and installation. Contract proposal and document preparation. Costing and preparation of BEME.  
**30 (T); C**
- CPE 502      Reliability and Maintainability of Computer Systems      2 Credits**  
Introduction to reliability, maintainability, reliability specification and metrics. Application to computer hardware system, communication equipment, power systems, electronic components. Basic maintenance types, and procedures of computer and digital communication system. Fault troubleshooting techniques. QoS and time of availability of data communication. Quality control techniques. Design for higher reliability, fault tolerance. Software Reliability: software reliability specification, software reliability Metrics, fault avoidance, fault tolerance, programming for reliability, software safety and hazard analysis. Comparison of hardware and software reliability. Software Quality and Assurance: definition of software quality, software quality factors, quality

control, cost of quality, quality assurance. SQA activities, formal technical reviews, software quality metrics, statistical quality assurance. ISO Standards, Requirements and Certification

**30h (T); C**

**CPE 531**

**Digital Signal Processing**

**3 Credits**

Introduction: Advantages of digital over analogue signal processing, problems of digitization, overview of application of DSP, basic elements of DSP system. Digital Processing of analogue signals. Discrete Time Signals & systems: Discrete time sequences (signals), classification and determination of discrete time system, discrete time i/o description (difference equation), solution of difference equations, convolution, correlation, impulse response. z-transform. Discrete Fourier Analysis: Discrete Fourier Transform and properties, inverse DFT, truncated fourier transform, windowing, FFT algorithms. Digital Filters. Practical application of DSP in audio, and video.

**45h (T); C**

**CPE532**

**Computer Security Techniques**

**2 Credits**

History of cryptographic System, Public Key Systems, Digital Signature. Information Theory: Entropy, Perfect Secrecy, Unicity Distance, Complexity Theory, NP Completeness, Number Theory. Data Encryption Method Ciphers, Knaspsack Ciphers, Breakable NP-Complete Knapsack, Encryption Standards DES, RSA, Elliptic Curves. Cryptographic Techniques: Block and Stream Ciphers, Autokey, Endpoints of Encryption, One-Way Ciphers, Password and Authentication, Secret Keys and Public Keys, Threshold Scheme. Video Scrambling techniques, Digital video encryption techniques: principle, IRDETO, Viaaccess, Videoguard, etc. Security and Legality Issues: Copyrights, Patents, Trade Secret, Ownership of Products, Computer Crimes, Ethnical Issue in Computer Security.

**30h (T); C**

**CPE 541**

**Control Theory II**

**2 Credits**

Definition of Root locus, Properties of root locus, sketching of root locus plots. Effect of open-loop zeros and poles. Root locus design concepts. **Frequency response analysis and design:** Bode diagram, Polar plot, Nichols plot. Nyquist stability criterion: non-mathematical description of Nyquist criterion, interpretation of stability. Relative stability - Gain and phase margins. Closed-loop frequency response analysis - M and N contours, Nichols chart. Compensation techniques: lag, lead and lag-lead compensation, PD, PI and PID controllers. Cascade compensation based on root-locus method. Introduction to Feedback compensation. Computer-aided design and analysis of control system.

30h (T), PR: CPE 442; C

**CPE 543**

**Technopreneurship & CyberLaw**

**2 Credits**

Creativity and Innovation. Trends in technology development. Entrepreneurship. Business Plan Development. Financing business. Entrepreneurship case studies. Discussion of Nigerian business environment, and illustrated with successful Nigerian entrepreneurs. Intellectual property and copyright and licensing. Corporate social responsibility.

**30h (T); C**

- CPE 544 Introduction to Robotic & Automation 2 Credits**  
 Robot classification and manipulation. Technology and history of development of robots. Applications. Direct and inverse kinematics: arm equation. Workspace analysis and trajectory planning. Differential motion and statics. Manipulator dynamics. End-of arm tooling. Automation sensors. Robot vision. Work-cell support systems. Robot and system integration. Safety. Human interface. Robot control system. Circuit and system configuration. Task oriented control. Robot control programming. Fuzzy logic and AI based robot control. Fundamentals of automation. Strategies and economic consideration. Integration of systems. Impact to the production factory. Evaluation of conventional processes. Analysis of automated flow lines. Assembly systems and line balancing. Automated assembly systems. Numerical control and adaptive control. Robot applications.  
**30h (T), PR: CPE 442; E**
- CPE 545 Control Theory III 2 Credits**  
 Digital control: Concept of sampling: Z-transform, inverse zero-order-hold, transfer functions of sampled data systems, stability analysis. Finite word length effect. Digital 3-term PID design. State Space: State variables of dynamic system, formulation of state vector differential equation, solution state equation, transition matrix, eigenvalues and eigenvectors. System response and stability. Nonlinear control: Common types and effects of nonlinearities, phase plane and describing function analysis, closed loop response, limit cycle, and stability. Introduction to Fuzzy control system  
**45h (T), PR: CPE 442; E**
- CPE 546 Embedded System and Design 2 Credits**  
 Introduction to embedded system, components, characteristics, applications. Intel 8051/8031 Micro-controller: Features of the 8051/8031 family, block diagram and definitions of the pin of the 8051, I/O port structure, memory organization. Interfacing to external memory, keypad, seven-segment LED display, ADC and DAC chips, and input / output port expansion, description and uses of hardware development tools. MOTOROLA M6811 Micro-controller: Features of the M6811 family, block diagram and definitions of the pin of the M6811, I/O port structure, memory organisation: general purpose RAM, bit addressable RAM, register bank, special function registers, external memory, memory space mapping and decoding, bus control signals timing. Assembly Language Programming. On-chip peripheral devices and I/O interfacing. Introduction to PIC microcontrollers.  
**30h (T), PR: CPE 444; C**
- CPE 547 Power Electronics 2 Credits**  
 Overview of Power Semiconductor Switches: Power diodes, Thyristors, Power MOSFET, G.T.O., IGBT, Field controlled switches (SiT and SiTH), Comparison of Semiconductor Switches, Desired Characteristics in Controllable Switches, Drive and Snubber Circuits. Line-Commutated Diode Rectifiers: Uncontrolled rectifier, Single-Phase Diode Bridge Rectifiers, Three-Phase Full-Bridge Rectifiers, Inrush Current and Over-voltages at Turn-On, Line-Current Harmonics and Power Factor, Phase-Controlled Rectifiers

and Inverters. DC-DC Switch-Mode Converters: Basic Topologies, Buck converter, Boost converter, Buck-Boost Converter, Flyback Converter. Switch-Mode DC-AC Inverters: Pulse-Width Modulation, Single-Phase Inverters, Three-Phase Inverters, Effect of Blanking Time on Output Voltage in PWM Inverters. Resonant Converters. Power Supply: Switching Power Supplies, Electrical Isolation, Protection Circuits, Power Supply Specification, Power Line Disturbances, Power Conditioners, Uninterruptible Power Supplies.

**30h (T), PR: CPE 321; E**

**CPE 548 Fuzzy Logic & Programming**

**2 Credits**

Fuzzy set theory, set theoretic operations, comparison between crisp sets and fuzzy sets. Fuzzy operators. Fuzzy relations and compositions on the same and different product spaces. Max-Min composition, Max-Product composition, fuzzy relational matrix, sup-star composition. Hedges or modifiers of linguistic variables, fuzzy logic vs. probability. Fuzzy reasoning and implication, the fuzzy truth tables, traditional propositional logic and the rule of inference, the Modus Ponens and Modus Tollens, fuzzy modeling with causal IF-THEN statements. Fuzzy Models, fuzzy logic systems, combination of fuzzy basis functions, universal approximator, fuzzy neural network, fuzzy associate memory matrix, self-learning fuzzy systems. Fuzzy logic system applications.

**30h (T); E**

**CPE 549 Mobile Communication & Network**

**2 Credits**

Evolution of mobile radio communications. Examples of mobile radio systems: radio paging, cordless telephones, cellular radio. A basic cellular system, Frequency reuse, Roaming, Hand-off strategies, Co-channel interference, Traffic and Grade of service, System capacity, Improving capacity of cellular system. Propagation path loss, multipath propagation problem, Raleigh fading, Rician distribution. Doppler effect. Field strength prediction models, co-channel interference and reduction, adjacent channel interference, near-far problem. Standards and overview of analogue and digital cellular systems: AMPS, TACS, GSM, CT2, PCN, DECT, PHS. Frequency management and channel assignment, multiple access techniques. GSM; CDMA; W-CDMA; UWC-136; Global Positioning System.

**30h (T); E**

**CPE 551 PARALLEL PROCESSING**

**2 Credits**

Parallelism in uniprocessors. Multiprocessing and Time-sharing. Parallel computer structures. Pipeline computers. Classification Scheme. Application of parallel processors. Trends towards Parallel computers. Principles of pipelining. Performance and cost. Instruction & Arithmetic Pipelining. Data dependencies. Internal forwarding. Multistreaming. Reservation tables & pipeline scheduling. CISC characteristics. RISC characteristics. RISC Vs CISC. RISC examples. RISC architectures. Design philosophy. Multiprocessor Architecture and Programming: Multiprocessor classification. Parallel Memory. Multiprocessor Operating Systems. Language features. Detection of parallelism in software. Multiprocessing Control. Data Flow Computers, VLSI computing structure.

**30h (T); E**

- CPE552      Advanced Digital Design      2 Credits**  
 Advanced features of VHDL (library, package and subprograms). Structural level modeling, Register-Transfer level modeling, FSM with datapath level modeling, Algorithmic level modeling. Introduction of ASIC, Types of ASIC, ASIC design process, Standard cell ASIC synthesis, FPGA Design Paradigm, FPGA synthesis, FPGA/CPLD Architectures. VHDL Design: Top-down design flow, Verification, simulation alternatives, simulation speed, Formal verification, Recommendations for verification, Writing RTL VHDL code for synthesis, top-down design with FPGA. VHDL synthesis, optimization and mapping, constraints, technology library, delay calculation, synthesis tool, synthesis directives. Computer-aided design of logic circuits.  
**30h (T); E**
- CPE 553      DIGITAL IMAGE PROCESSING      2 Credits**  
 Introduction: definition, problems, and applications of digital image processing. Digital image acquisition devices. Digital image formats. Spatial filters, Edge detection techniques, segmentation methods. Image Morphology. Image enhancement. Image restoration techniques. Morphology. Fourier transform and Wavelet transform in image processing. Image registration techniques. Shape analysis. Image understanding. Artificial neural network and image understanding. Colour representation standards, equations, processing, quantization, and dithering. Case study: face recognition, fingerprint, iris, etc. Introduction to image compression techniques.  
**30h (T); E**
- CPE 554      Cryptography Principles & Applications      2 Credits**  
 History of cryptographic System, Public Key Systems, Digital Signatures. Information Theory: Entropy, Perfect Secrecy, Unicity Distance, Complexity Theory, NP Completeness, Number Theory. Data Encryption Methods: Transposition Ciphers, Substitution Ciphers, Product Ciphers, Exponentiation Ciphers, Knapsack Ciphers, Breakable NP-Complete Knapsack, Encryption Standards DES, RSA, Elliptic Curves. Cryptographic Techniques: Block and Stream Ciphers, Autokey, Endpoints of Encryption, One-way Ciphers, Password and Authentication, Secret Keys and Public Keys, Threshold Scheme. Video scrambling techniques. Digital video encryption techniques: principle, IRDETO, Viaaccess, Videoguard, etc. Security and Legality Issues: Copyrights, Patents, Trade Secret, Ownership of Products, Computer Crimes, Ethical Issue in Computer Security.  
**30h (T); E**
- CPE 556      Multimedia Technology & Programming      2 Credits**  
 Definition of multimedia communication: asymmetry of content. Multimedia structures: Interactive TV, video-on-demand, video servers and set-up boxes. Virtual reality on the internet, virtual reality tool standards. Transmission techniques for business multimedia and kiosks. Design of multimedia services. Multimedia Programming: How pictures are encoded, how sound is encoded, text as unimedia. Techniques for multimedia coding: the MHEG model. Composition of multiple media. Referencing, Services, Technology and standards for broadcast-related multimedia. Digital video broadcasting standards, MPEG architecture,

physical interfaces. Servers for interactive TV services. Overview of transmission systems: the ADSL concept, broadband multimedia delivery over copper, the hybrid fiber/copper concept.

**30h (T); E**

**CPE 557**

**Digital Speech Processing**

**2 Credits**

Mechanism of speech production and acoustic phonetics. Acoustic theory of speech production. Lossless tube models. Time-domain models for speech processing: short-time energy and average magnitude, speech versus silence discrimination using energy and zero-crossings, short-time average magnitude difference function, Pitch-period estimation. Digital representations of the speech waveform: Adaptive quantization, adaptive delta modulation, Differential PCM, PCM-to-ADPCM conversion. Short-time Fourier analysis: filter bank summation method of short-time synthesis. Design of digital filter banks using IIR and FIR filters. The complex cepstrum of speech. Format estimation. Linear predictive coding of speech.

**30h (T); E**

**CPE 558**

**Mobile Applications Development**

**2 Credits**

Mobile devices operating systems; Android, ios and windows mobile; Java apps; objective C apps.

**30h (T); E**

**CPE 560**

**Electromagnetic Interference**

**2 Credits**

Concern for electromagnetic compatibility, Circuit theory approach and field theory approach. Comparative analysis. Coupling and Shielding: Capacitive (electric) coupling. Inductive (magnetic) coupling. Shielding of cables. Balanced circuits. Grounding: Grounding of multiple-chassis systems. Signal ground connections. Safety ground connections. Layout and grounding of printed circuit board: layout consideration, current return path, power distribution within a PCB. Radiation: Radiation coupling between distant devices. Superposition of multiple electric and magnetic sources. Cabinet shielding. Absorption losses and reflection losses for nonmagnetic shields. Effects of shield apertures: current flow in shields, slot antenna theory, waveguide theory. Shield penetration by wires and cables. Interconnecting leads as antennas, treatment of power, low frequency and high frequency leads. EMC Regulations and Measurements: Civilian regulations. Measurement of radiated emissions. Anechoic Chamber. Test site calibration. Measurement of conducted emissions.

**30h (T); E**

**CPE 561**

**Computer Organisation and Architecture**

**2 Credits**

Von-Neuman architecture vs Harvard architecture. Single address machine. Introduction to CISC and RISC architecture: principle of operation, merits, demerits. Storage and Input/Output Systems: Computer function (fetch and execute cycles), interrupts, interconnection structures (Bus structure and bus types), Overview of memory system, memory chip organization and error correction, cache memory, memory storage devices. Overview of I/O, programmed and interrupt-driven I/Os, DMA, I/O channel and I/O processor. Control Unit: Micro-operations, control of the CPU, hardwired implementation, control unit operation, micro-instruction sequencing and execution, micro-programmed control. Use INTEL family, and MOTOROLA family. Instruction Sets

and Registers. Achieving high performance: pipelining, storage hierarchy, units with function dedicated for I/O. RISC processors.  
Operating System: Overview of operating systems.

**45h (T), PR: CPE 336; C**

**CPE 593**

**Project I**

**4 Credits**

Original individual student project related to a prescribed electrical engineering problem involving literature review, identification, definition and formulation of the problem, theoretical investigations, modelling simulation, analysis and design.

**30h(T), 150h (P); C**

**CPE 594**

**Project II**

**4 Credits**

Second phase of investigations involving the implementation of the designed model, debugging, calibration, testing, data collection and analysis, and presentation of a comprehensive written report of the investigations.

**180h (P); C**

## **OPTIONS**

1. Embedded Systems & Automation
2. Computer Hardware & Software Systems



**SUMMARY  
100 LEVEL**

**Required Courses:** GNS 111 (2), GNS 112 (2) = 4 Credits

**Elective Courses:** STA 131 (2), STA 124 (2) = 4 Credits

At least 9 credits must be passed out of the following:

MAT 111(3), 113 (3), 112 (3), 114 (3) = 9 Credits

At least 9 credits must be passed out of the following:

PHY 115 (2), 125 (3), 142 (2), 152 (3), 191 (1), 192 (1) = 9 Credits

At least 6 credits must be passed out of the following:

116 (1), 132 (2) = 6 Credits

CHM 101 (3), 112 (2), 115 (2),

**200 LEVEL**

**Compulsory Courses:** CPE 283 (2), CPE 222 (6), CPE 284 (2) = 10 Credits

**Required Courses:** ELE 201 (3), ABE 263 (3), CHE 241 (3), ELE275 (1), CVE 253 (3), GNS 211  
(2), MEE 217 (2), MEE 235 (2), ABE 206 (2), CHE 242 (3), CHE 264 (3), ELE 202 (3), ELE 276 (2), CVE  
254 (3), GNS 212 (2), MEE 218 (2), MEE 272 (2) = 41 Credits

**Total = 51 Credits**

**Direct Entry Students:** GNS 111 (2), GNS 112 (2) = 4 Credits

**300 LEVEL**

**Compulsory Courses:** CPE 311 (3), CPE 321 (3), CPE 331 (3), CPE 341 (3), CPE 381 (1),  
(2), CPE 336 (3), CPE 342 (2), CPE 372 (3), CPE 382 (2), CPE 392 (6)  
**= 31 Credits**

CPE 312

**Required Courses:** GNS 311 (2), GSE 301 (3), MEE 361 (3), MEE 362 (3), ABE 306 (2), ABE 376 (1)  
**=14 Credits**

**Total = 45 Credits**

**Direct Entry Students:** GNS 111 (2), GNS 112 (2), GNS 211 (2), and GNS 212 (2) **= 8 Credits**

#### 400 LEVELS

**Compulsory Courses:** CPE 424 (2), CPE 436 (2), CPE 438 (2), CPE 444 (2), CPE 442 (3),  
(2), CPE 472 (3), CPE 482 (2), CPE 492 (6) **= 24 Credits**

CPE 452

**Required Course:** ABE 464 (2) **= 2 Credits**

**Total = 26 Credits**

#### 500 LEVEL

**Compulsory Courses:** CPE 501 (2), CPE 531 (3), CPE 543 (2), CPE 561 (2), CPE 593 (4),  
(2), CPE 532 (2), CPE 546 (2), CPE 594 (4), CPE 541 (2)  
**= 25 Credits**

CPE 502

**Required Courses:** ABE 501 (3), ABE 573 (1), BUL 502 (3) **= 7 Credits**

**Elective Courses:** Students are expected to choose four of the courses in any of their  
option, two in each semester in addition to MME 524 (3).

preferred

#### **Embedded Systems and Automation Option**

CPE 545 (2), CPE 547 (2), CPE 544 (2), CPE 548 (2)

#### **Computer Hardware and Software Systems**

Only 8 credits must be passed out of the following courses in this option:  
557 (2), CPE 552 (2), CPE 554 (2), CPE 556 (2)

CPE 551 (2), CPE 553 (2), CPE  
= 11 Credits

**Total = 43 Credits**

## **GRADUATION REQUIREMENTS**

1. Major Engineering Courses (ABE, CHE, CVE, ELE, MEE, MME)	<b>124 Credits</b>
2. Students' Industrial Works Experience Scheme (SIWES)	<b>12 Credits</b>
3. Students Work Experience Programme (SWEP)	<b>6 Credits</b>
4. General Studies Courses: (GNS 111, 112, 211, 212, 311)	<b>10 Credits</b>
5. Minimum Electives	<b>11 Credits</b>
6. Management, Law, Economics and Entrepreneurial Skill courses (GSE 301 (3), BUL 506 (3))	<b>6 Credits</b>
<b>Total</b>	<b>= 169 Credits</b>

**UTME: 169 Credits**

**DE (200L): 169 Credits**

**DE (300L): 122 Credits**

## **COMPUTATION OF GRADE POINT**

- 100 level courses are not used for computation of CGPA except GNS 111 (2), GNS 111 (2)
- The 12 credits of SIWES must be passed but they are not used for computation of CGPA
- The minimum Credits that will be used to compute the CGPA for all options are as follows:  
For UME/DE at 200 and 300 levels

<b>Level</b>	<b>UTME</b>	<b>DE (200L)</b>	<b>DE (300L)</b>
100 Level	4	-	-
200 Level	51	55	-
300 Level	39	39	47

400 Level	20	20	20
500 Level	43	43	43
<b>Total</b>	<b>157 Credits</b>	<b>157 Credits</b>	<b>110 Credits</b>

## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

### Course Description

#### B.Eng. Electrical and Electronics Engineering

- ELE 201      Applied Electricity I      3 Credits**  
Fundamental concepts – Electric fields, charges, magnetic fields. Current, B – H curves, Kirchhoff's laws superposition. Thévenin, Norton theorems, Reciprocity, RL, RC, RLC circuits. DC, AC bridges, Resistance, capacitance, Inductance measurement, Transducers. Single phase circuits, complex j–notation, AC circuits, impedance, admittance, susceptance.  
**45h (T); C**
- ELE 202      Applied Electricity II      3 Credits**  
Basic machines – DC, synchronous alternators, transformers, equivalent circuits. Three- phase balanced circuits, PN junction diode, Bi-polar junction Transistors, Field effect transistors, fundamentals of communication Engineering, introduction of TV, Radio, and Telephone systems.  
**45h (T); C, PR: ELE 201**
- ELE 222      Students' Industrial Work Experience Programme (SWEP)      6 Credits**  
Introduction to practices and skills in general engineering through instruction in operation of hand and powered tools for wood and metal cutting and fabrication. Supervised hands-on experience in safe usage of tools and machines for selected tasks.  
**270h (P); C**
- ELE 275      Computer Programming I      1 Credit**  
Identification, functions, applications, and use of PC parts and peripheral devices. Safety precautions and preventive maintenance of PC. Filing system: Word processing applications and use. Internet: available services, principle of operation, applications, demonstrations. Spreadsheet: applications and how to use. Database Management package: applications, demonstrations. Report Presentation Software Packages: applications, demonstrations, and use. Mini-project to test proficiency in use of these software packages.  
**10h (T); 20h (P); C**
- ELE 276      Computer Programming II      2 Credits**  
Program design using pseudo-code/flowchart. Extensive examples and exercises in solving engineering problems using pseudo-code/flowchart. Computer programming using structured BASIC such as QBASIC: symbols, keywords, identifiers, data types, operators, statements, flow of control, arrays and functions. Extensive examples and exercises in solving engineering problems using QBASIC. Use of Visual programming such as Visual BASIC in solving engineering problems.

15h (Teaching & Demonstrations),  
**10h (T); 20h (P); C**

- ELE 283      General Engineering Laboratory Course I      2 Credits**  
Laboratory investigation and report submission for selected experiments and projects in Applied Mechanics and Applied Electricity I and Fundamentals of Fluid Mechanics.  
**90h (P); C**
- ELE 284      General Engineering Lab Course II      2 Credits**  
Laboratory investigations and report submission for selected experiments and Projects in of Thermodynamics. Engineering Materials, Applied Mechanics II and Applied Electricity II.  
**90h (P); C**
- ELE 311      Electric Circuit Theory I      3 Credits**  
Circuit: elements, sources, circuit theorems and applications. Networks: Nodal and Loop Analysis. Network response to steps ramp and impulse excitations. Network functions. Response to exponential, sinusoidal inputs. Resonance. Two-port analysis, T and  $\pi$  Networks, Star-Delta transformation. Laplace transform, pole-zero analysis  
**45h (T); C, PR: ELE 201**
- ELE 312      Measurement and Instrumentation      2 Credits**  
Fundamental concepts, definitions in metrology, Theory of errors. Indicating instruments: Moving coil, iron devices. I, V, kWh, PF instruments. Dynamometer, Frequency measurement, AC bridges, analogue and digital electronic measuring instruments. Cathode Ray Oscilloscope. Transducers, Gauges, Recorders.  
**30h (T); C, PR: ELE201**
- ELE 316      Electric Circuit Theory II      3 Credits**  
Network synthesis, ladder network, Network functions, Chebyshev filters, Active network synthesis and analysis, Non-linear circuit analysis.  
**30h (T) C, PR: ELE 311**
- ELE 321      Electronics Circuits I      3 Credits**

Bipolar and field-effect transistors: models, characteristics and applications. Small signal amplifiers. Large signal amplifiers: class A, AB, B, C, and push-pull design. Basic digital electronics: Boolean algebra, switching circuit design. Analysis, design of combinational circuits.

**45h (T); C, PR: ELE 202**

- ELE 324      Electronics Circuits II      2 Credits**  
Operational amplifiers, Feedback amplifiers. Oscillators, power amplifiers, tuned amplifier. Wave shaping sequential circuits. Definition, characteristics and design of flip flops and memory circuits. Logic families – TTL, ECL, RTL, DTL, LSI, VLSI digital systems design.  
**30h (T); C, PR; ELE 321**
- ELE 331      Electromagnetic Fields and Waves I      3 Credits**  
Electrostatics: electric field, potential, Coulomb's Gauss law, Laplace, Poisson equations, electric displacement, dipoles, boundary conditions, uniqueness theorem, image method. Magnetostatics: magnetic fields, flux, field strength, vector potential, Ampere's law, Magnetic force, moving charge, electromagnetic induction, Maxwell's equations, free space wave propagation.  
**45h (T); C, PR: ELE 202;**
- ELE 342      Applied Computer Programming      2 Credits**  
Software development life cycle. Top-down design. Programme design using pseudo-code, flowchart. Flowchart ANSI symbols and usage. Programming using a structured language such as C: Symbols, keywords, identifiers, data types, operators, various statements, operator precedence, type conversion, conditional and control structures, array, function, recursive functions parameter passing, pointers, structure, union. File Handling. Software development in C in MS Windows, UNIX/LINUX environments.  
**30h (T); C, PR: ELE 276**
- ELE 361      Electrical Machines I      3 Credits**  
Energy conversion concepts, DC machines: generators, motors, shunt and series characteristics, design and construction. Transformers: equivalent circuits, design, construction and characteristics. Open/Short circuit, polarity tests. Regulation, Auto-transformers, three-phase transformer Connections.  
**30h (T), 45 (P); C, PR: ELE 202**
- ELE 362      Electrical Machines II      2 Credits**  
Electromechanical energy conversion, emf equations, Synchronous machines, 3-phase alternator. Instability, mathematical representation of characteristics, polar diagram. Synchronous motor: construction, characteristics, circuit diagram. Induction motor: construction, characteristics, torque/slip relations, speed control, induction generator, single phase induction motor, applications.  
**30h (T); C, PR: ELE 202, ELE 361**
- ELE 381      Laboratory and Mini-project I      1 Credit**

Laboratory investigations and report submission for selected experiments and prescribed project drawn from first semester courses.  
**45h (P); C**

- ELE 382      Laboratory and Mini-project II      2 Credits**  
Laboratory investigations and report submission for selected experiments and prescribed project drawn from second semester courses.  
**90h (P); C**
- ELE 392      Students Industrial Work Experience Scheme I (SIWES I)      6 Credits**  
On the job experience in industry chosen for its relevance to student's major; the student is expected to spend three months during the long vacation in an industrial establishment relevant to Electrical Engineering discipline for practical exposure.  
**270h (P); C**
- ELE 425      Digital Electronics      2 Credits**  
Boolean algebra and truth table. Switching circuits. Electronic logic gates, basic functional components. Analysis of combinational circuits. Synthesis of combinational logic circuit. Karnaugh maps. K-maps of four or more variables. Simplification of switching functions. Computer-aided minimization of switching functions. Algebraic methods for determining prime implicants. Digital vs. analogue systems. Analogue to digital converters. Mixed signal design, analogue and digital grounding. Digital system design hierarchy. Logic devices: TTL and CMOS families, technology, applications. Memory devices. Latches, Flip-flops. Modular Design. Decoders. Implementing Logic Functions Using Decoder. Encoder Circuit Structures. Multiplexer circuits. Computer-aided Design of Modular Systems.  
**45h (T); C, PR: ELE321, ELE324**
- ELE 431      Electromagnetic Fields and Waves II      3 Credits**  
Time varying Electric and magnetic fields. Propagation of electromagnetic waves in free space. Polarization of waves. Poynting's theorem and the conservation of energy. Phase and group velocity. EM Wave propagation in material media: dielectric, conductors and ionized media. Transmission line theory including wave- guides and resonators, the Smith Chart. Radiating elements and antenna theory.  
**45h (T); C, PR: ELE 311**
- ELE 443      Control Engineering I      3 Credits**  
Basic control Engineering concepts: system classification, feedback, open loop and closed loop systems. Functional block diagrams. Mathematical modelling of mechanical, electronic, hydraulic, thermal and pneumatic systems. System transfer functions. Block diagram algebra. Signal flow graphs. Transient analysis of servo-mechanisms. Regulator versus follow-up systems. Compensation techniques. PID Controllers. Stability: Routh-Hurwitz criteria.  
**45h (T); C, PR: ELE 311**



- ELE 447      Assembly Language Programming      2 Credits**  
Introduction: Language level of abstraction and effect on machine, characteristics of machine code, advantages, justifications of machine code programming, instruction set and dependency on underlying processor. Intel 8086 microprocessor assembly language programming: Programming model as resources available to programmer, addressing modes, instruction format, instruction set-arithmetic, logical, string, branching, program control, machine control, input/output, etc. assembler directives, hand-assembling, additional 80x86/Pentium instructions. Modular programming. Interrupt and service routine. Interfacing of assembly language to C. Intel 80x87 floating point programming. Introduction to MMX and SSE programming. Motorola 680x0 assembly language programming. Extensive practical engineering problems solving in assembly language using MASM for Intel, and cross-assembler for Motorola.  
**30h (T); C, PR: ELE 341**
- ELE 451      Principles of Communication Engineering      3 Credits**  
Brief historical development on communications. Types of transmission. Block diagram of a communication system. The frequency spectrum. Signals and vectors, orthogonal functions, Fourier series, Fourier integral, signal spectrum, convolution, power and energy, correlation. Modulation: Reasons for, types of (analogue/digital). AM systems: DSB, BSBSC, SSB, ISB, VSB and their generation, detection, spectrum, power, applications. FM systems: frequency deviation, modulation index, significant sideband criteria, bandwidth of a sinusoidally modulated FM signal, power of an FM signal, narrowband FM, direct and indirect FM generation, various methods of FM demodulation: discriminator, phase-locked loop, limiter, pre-emphasis and de-emphasis. Noise waveforms and characteristics. Effect of noise on AM and FM systems. Pulse modulation systems: PAM, PWM, PPM and their generation, detection and applications. Multiplexing techniques: FDM and TDM. Pulse code modulation (PCM). Antenna principle and design. Block diagram of a super heterodyne radio receiver, broadcast band and specification.  
**45h (T); C, PR: ELE 311**
- ELE 453      Data Communications and Computer Networking      2 Credits**  
Introduction to Data communications. LAN topology, access methods, signalling methods. WAN systems. Protocols: Introduction to network protocol. Seven Layer ISO-OSI standard protocols and network architecture. Peer-to-peer, Client Server. Client-Server Requirements. Information Network Software. Features and benefits of major recovery mechanisms. Network Operating Systems. Internet protocol, IPv4, IPv6. Internet programming, Intranet. System administration, and security issues.  
**30h T, 45 (P); C, PR: ELE 202**
- ELE 471      Electric Power Principles      3 Credits**  
Types of power station, operation, auxiliaries, economics of operation – stations, substations power supply economics, tariffs, Power factor correction. Polyphase theory. DC, AC power distribution, network calculations. Overhead line conductors. Corona effect, voltage control, circuit breakers, load forecast, siting of generating plants.  
**45h (T); C, PR: ELE 364**

<b>ELE 481</b>	<b>Laboratory Course III</b> Laboratory experiments for Electronics, control, communication, Power and assembly language programming. <b>90h (P); C</b>	<b>2 Credits</b>
<b>ELE 492</b>	<b>Student Industrial Work Experience Scheme (SIWES)</b> The student is expected to spend six months in an industrial establishment relevant to Electrical and Electronics Engineering discipline for practical exposure.	<b>6 Credits</b>
<b>ELE 505</b>	<b>Design of Electrical and ICT Services</b> Basic electrical installations. Distribution system. Regulation-IEE, NSE, Nigeria standard. Illumination. Cables-types, ratings, wiring systems, earth protection. Auxiliary electrical system-Fire alarm, telephone, elevator circuit. Design of electrical installation-Domestic, industrial, commercial air-conditioning. Telecommunication Design & Installation: Telephone, PABX, cables, cablings, trucking, calculations, etc. Computer Networking: Design, Calculations, topology, cables, cabling, etc. Satellite and VSAT installation. Surge and lighting protections. Earthing: earth resistivity measurement, surge and lighting equipment selection and installation. Contract proposal and document preparation. Costing and preparation of BEME. Basic Law of Contract. Commissioning. Environmental Impact Assessment (EIA). <b>45h (T); C</b>	<b>3 Credits</b>
<b>ELE 506</b>	<b>Reliability and Maintainability of Electrical Systems</b> Introduction to reliability, maintainability and metrics. Application to computer hardware systems, communication equipment, power systems, electronic components. Basic maintenance types. Fault troubleshooting techniques. QoS and time of availability of data communication. Quality control techniques. Design for higher reliability, fault tolerance. Software Reliability: specification, and metrics. Programming for reliability, software safety and hazard analysis. Comparison of hardware and software reliability. Software Quality and Assurance. Software quality metrics, Ensuring Quality and Reliability: verification and validation, measurement tracking and feedback mechanism, total quality management, risk management. <b>45h (T); C</b>	<b>3 Credits</b>
<b>ELE 523</b>	<b>Power Electronics</b> Rectification and smoothing techniques. Voltage and current regulation, regulator circuits, the thyristor or SCR and its applications: timing circuits, motor speed control, welding and heating. Power transistor and integrated circuits. <b>30h (T); C, PR: ELE 364, 324</b>	<b>2 Credits</b>
<b>ELE 541</b>	<b>Microcomputer Hardware and Software Techniques</b>	<b>2 Credits</b>

Comparison of hard-wired versus programmable digital systems. Von Neuman architecture. Block diagram of digital computer and description of its components. Single Address machine. Micro-processor system: CPU, memory, I/O, and buses subsystems using INTEL & MOTOROLA families and their programming models. Interrupt system. Memory system: static, dynamic, VRAM and applications. Memory inter-facing and address decoding. 8031 microcontroller and programming. PIC micro-controller and programming. Interfacing to microcomputer, microprocessor, microcontroller, and PIC. Software: monitor, and device driver for embedded system.

**30h (T); C**

**ELE 542      Digital System Design & VHDL Programming**

**2 Credits**

Finite State Machine. Sequential circuits design. Structured Design: Design constructs, Design Levels, Geometry-based interchange formats, Computer aided electronic system design tools, Schematic circuit capture, Hardware description languages, Design process. Introduction to VHDL: language, design. Concurrent VHDL, Sequential VHDL, Advanced features of VHDL. Structural level modelling, Register-Transfer level modelling, FSM with data-path level modelling, Algorithmic level modelling. Introduction of ASIC, FPGA Design. Paradigm, FPGA synthesis, FPGA/CPLD Architectures. VHDL synthesis, optimization and mapping, constraints, technology library, delay calculation, synthesis tool, synthesis directives. Computer-aided design of logic circuits.

**30h (T); C, PR: ELE425**

**ELE 545      Control Engineering II**

**2 Credits**

Frequency domain analysis, Nyquist plots, criterion, relative stability, M- and N- circles, Inverse Nyquist plots. Bode diagrams, determination of transfer function from asymptotic plot, Nichols chart. Root locus plots. Closed loop response and stability. Series and parallel compensation methods, PID controllers Design using Bode, Nichols and Root locus methods. Computer Aided Analysis and Design of Control Systems. Introduction to Nonlinear control system: Types of nonlinearities, Describing function, Phase plane, limit cycle, Case study design and analysis.

**30h (T); C, PR: ELE 443**

**ELE 546      Digital and Modern Control Engineering**

**2 Credits**

Digital control; concept of sampling, Z – transform, zero-order- hold, stability analysis. State variables of dynamic systems, formulation of state vector differential equation, solution state equation, transition matrix, eigenvalues and eigenvectors. System response and stability. Finite word length effect. Digital 3-term PID design. Introduction to Neural Network. Introduction to Fuzzy control system. Introduction to mechatronics and robotics.

**30h (T); C, PR: ELE 545**

**ELE 551      Satellite Communications**

**2 Credits**

Satellite Communication: Types (LEO, GEO, etc.), orbits, frequency bands, applications, and services. Antennas: types, gain, pointing loss, G/T, EIRP; high power amplifiers; low noise amplifiers. BUC/LNB: conversion process, polarization hopping,

redundancy configurations; earth station monitoring and control. Basic link analysis, attenuation, sources of interference, carrier to noise and interference ratio, system availability, frequency reuse, link budget, link design. **Multiple access techniques. VSAT networks:** Technologies, network configurations, multi-access and networking, network error control, polling VSAT networks. Mobile Communication: Introduction. Mobile radio systems: radio paging, cordless telephones, cellular radio. Trends in cellular radio and personal communications. Standards and overview of analogue and digital cellular systems: AMPS, TACS, GSM, CT2, PCN, DECT, PHS. Frequency management and channel assignment. **GSM:** Architecture, elements, and standard interfaces; FDMA/TDMA structure. **Third Generation Wireless Standard.** Global Positioning System: principles, and applications.

**30h (T); C, PR: ELE 451**

**ELE 556**

**Broadcasting and Internet Technology**

**2 credits**

Elements of broadcasting system. Studio: Design, acoustic, and equipment. Broadcasting regulations. Frequency spectrum: allocation, assignment, and licencing. Regulatory bodies. Design, configuration, and services of CATV, MATV, MMDS systems. Multipath problems. Polarization, field strength, and footprint. Transmitter power rating, beam width, interference and minimum separation. Frequency spectrum management of digital and analogue broadcasting. Antenna design and installation for radio, television, and satellite. Antenna support: Mast, Tower, high altitude design and application. Digital Audio Broadcasting. Analogue television standards. Digital Television standards: MPEG, DVB, channel coding techniques. TV broadcast band and specification. Signal format, transmitter and receiver block diagrams of Black and White TV and Colour TV. Introduction to digital broadcasting. HDTV. Digital television/Monitor set: LCD, and Plasma technology. Internet Technology: The Internet, definition and services. Internet architecture, OSI layers, TCP/IP, Internet addressing, IPv4, IPv6. Internet broadcasting: principles, components, standards, and applications.

**30h (T); C, PR: ELE 451**

**ELE 557**

**Mobile and Personal Communication Systems**

**2 Credits**

Evolution and examples of mobile radio communications. Basic cellular system, Frequency reuse, Roaming, Hand-off strategies, Co-channel interference, Traffic and Grade of service. System capacity and improvement. Propagation path loss, multipath propagation problem, Raleigh fading, Rician distribution. Doppler Effect. Field strength prediction models. Standards and overview of analogue and digital cellular systems: AMPS, TACS, GSM, CT2, PCN, DECT, PHS. Frequency management and channel assignment. GSM: Architecture, elements, and standard interfaces. Third Generation Wireless Standards. Paging & SMS services and technologies. Call Processing. Signalling; Roaming and mobility management; Route optimization.

**30h (T); C, PR: ELE 451**

**ELE 560**

**Digital Signal Processing**

**2 Credits**

Overview of signals, systems and signal processing. Discrete time systems and difference equation. Linear time invariant systems. Z-transform, inverse z-transform and their properties. Transfer function of discrete time systems. Sampling theorem, aliasing, quantization, noise and coding. Analysis of discrete-time signals and systems in z-domain. Stability and causality criteria. Discrete Fourier analysis: DTFT, IDTFT and FFT. Digital filters: definitions and types, structure and design, FIR and IIR filters. Software

implementation of DSP algorithms. DSP microprocessors: architecture, fixed point and floating point DSP; signal segmentation effect, DSP chips. Practical application of DSP in audio and video.

**30h (T); C**

- ELE 562      Use of Engineering Software Packages      2 Credits**  
Introduction to MATLAB and their engineering applications. Introduction to AUTOCAD and their engineering applications. Introduction to simulation packages.  
**30h (T); C, PR: ELE 447**
- ELE 574      Electrical Energy Conversion and Storage      2 Credits**  
Electromechanical energy conversion, sources of motive power. Waste heat recovery. Solar energy nuclear power other sources of energy. Wind, geothermal, primary and secondary cells, cars and heavy vehicle batteries, testing, fault diagnosis, repairs effect of environmental factors on battery life, small-scale power sources.  
**30h (T); C, PR: ELE 471**
- ELE 575      Power Systems Communication and Control      2 Credits**  
Review of transmission line theory, high frequency communication on power lines. Carrier systems and power line carrier applications. Multiplexing. Telemetry, signal processing and data transmission. Control of power generation. Voltage control, system stability, automatic voltage regulators, regulating transformers.  
**30(T); C, PR: ELE 431, ELE 451**
- ELE 577      Electrical Power System Engineering      2 Credits**  
Power system modelling, load-flow analysis, static flow equations, classification of system variables, generalized n-bus system, network model formulation, use of network analyser and digital computer, optimum operating strategies. Fault analysis. Control strategy. System protection switchgear, circuit breaker.  
**30 (T); C, PR: ELE 471**
- ELE 582      Computer Application in Power Systems      2 Credits**  
Revision of linear algebra and numerical methods. Iterative method. Newton Raphson methods. Gauss elimination method, Gauss-Seidel method. Euler method, Runge-Kutta 4<sup>th</sup> order method. Node admittance matrix. Load flow analysis. State estimation. Load forecasting technique. Time series, Kalman filter. MATLAB applications in power system.  
**30h (T); C**
- ELE 593      Electrical Engineering Project I      4 Credits**  
Original individual student project related to a prescribed electrical engineering problem involving literature review, identification, definition and formulation of the problem, theoretical investigations, modelling simulation, analysis and design.

**135h (P); C**

**ELE 594**

**Electrical Engineering Project II**

**4 Credits**

Second phase of investigations involving the implementation of the designed model. Debugging, calibration, testing, data collection, analysis and presentation of a comprehensive written report of the investigations.

**135h (P); C**

## SUMMARY

### 100 LEVEL

**Required Courses:** GNS 111 (2), GNS 112 (2) = 4 Credits

**Elective Courses:** STA 131 (2), STA 124 (2) = 4 Credits

(3) At least 9 credits must be passed out of the following: MAT 111(3), 113 (3), 112 (3), 114  
= 9 Credits

At least 9 credits must be passed out of the following:  
PHY 115 (2), 125 (3), 142 (2), 152 (3), 191 (1), 192 (1) = 9 Credits

At least 6 credits must be passed out of the following:  
CHM 101 (3), 112 (2), 115 (2), 116 (1), 132 (2) = 6 Credits

**Total = 4 Credits**

### 200 LEVEL

**Compulsory Courses:** ELE 201 (3), 202 (3), 275 (1), 276 (2), 283 (2), 284 (2), 222 (6)  
= 19 Credits

**Required Courses:** ABE 206 (2), 263 (3), CHE 241 (3), 242 (3), 264 (3), CVE 253 (3), 254 (3),  
MEE 217 (2), 218 (2), 235 (2), 272 (2), GNS 211 (2), 212 (2)  
= 32 Credits

**Total = 51 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2) = 4 Credits

### 300 LEVEL

**Compulsory Courses:** ELE 311 (3), 312 (2), 316 (3), 321 (3), 324 (3), 331 (3), 342 (2), 361 (3), 362 (2), 381  
(1), 382 (2), 392 (6) = 33 Credits

**Required Courses:** ABE 306 (2), 376 (1), GNS 311 (2), GSE 301 (3), MEE 361 (3), 362 (3)  
= 14 Credits

**Total = 47 Credits**





### 500 LEVEL

**Compulsory Courses:** ELE505 (3), 506 (3), 523 (2), 562 (2), 593 (4), 594 (4) = 18 Credits

**Required Courses:** ABE 501 (3), 573 (1), BUL 506 (3), = 7 Credits

**Elective Courses:** At least 2 credits must be passed out of the following: CVE 486  
(2), MEE 543 (3) = 2 Credits

### COMPUTER AND CONTROL COURSES

ELE 541 (2), 542 (2), 545 (2), 546 (2) = 8 Credits

**Total = 35 Credits**

### COMMUNICATION ENGINEERING COURSES

ELE 551 (2), 556 (2), 557 (2), 560 (2) = 8 Credits

**Total = 35 Credits**

### POWER SYSTEM AND MACHINE COURSES

At least 12 credits must be passed out of the following

ELE 574 (2), 575 (2), 577 (2), 582 (2) = 8 Credits

**Total = 35 Credits**

### GRADUATION REQUIREMENTS

1. Major Engineering Courses (ABE, CHE, CVE, ELE, MEE, MME) 122 Credits
2. General studies courses (GNS 111, 112, 211, 212, 311) 10 Credits
3. Student's Industrial Work Experience Scheme (SIWES) 18 Credits
4. Student's Work Experience Programme (SWEP) 6 Credits
5. Minimum Electives 10 Credits
6. Law and Entrepreneurial Skill 6 Credits

**Total = 172 Credits**

### COMPUTATION OF GRADE POINT FOR GRADUATION

1. 100 level courses are not used for computation of CGPA except GNS 111 (2), GNS 112 (2).
2. The 12 credits of SIWES must be passed but are not used for computation of CGPA.
3. The minimum credits that will be used to compute the CGPA for all options are as follows for all UTME/DE at 200 and 300 Levels.

Level	UTME	DE (200 Level)	DE (300 Level)
-------	------	----------------	----------------

100	4	-	-
200	51	55	-
300	41	41	49
400	22	22	22
500	35	35	35
<b>Total</b>	<b>153</b>	<b>153</b>	<b>106</b>

## DEPARTMENT OF FOOD ENGINEERING

J. O. Olaoye	B.Eng., M.Eng., Ph.D. (Ilorin), MNSE, FNIAE, MASABE, MISTRO, MSES, R. Engr (Nigeria)	Reader & Ag. Head
K. Oje	B.Sc. (Ibadan); M.Sc., Ph.D. (Iowa State), MNSE, MNIAE, MASABE, R.Eng (Nigeria)	Professor
J. K. Joseph	Professor / Associate Lecturer  B.Sc. (Ilorin) M.Sc., Ph.D. (Ibadan)	Food Science
Adenike T. Oladiji	Professor / Associate Lecturer  B.Sc. M.Sc., Ph.D. (Ilorin)	Agricultural Biochemistry
Olayinka R. Karim	Professor / Associate Lecturer  B.Sc. (FUNAB), M.Sc. (Ibadan), Ph.D. (FUNAB)	Food Additive, Toxicology and Packaging
Patricia F. Omojasola	Senior Lecturer / Associate Lecturer  B.Sc., M.Sc., Ph.D. (Ilorin)	Food Microbiology
Omolara O. Oluwaniyi	Senior Lecturer / Associate Lecturer  B.Sc., M.Sc., Ph.D. (Ilorin)	Food Chemistry
M. O. Sunmonu	Lecturer I  B.Eng., M.Eng., Ph.D. (Minna), MNSE; MNIAE; MASABE; R.Engr (Nigeria)	Food Storage and Packaging; Food Preservation.
T. A. Ishola	Lecturer I / Associate Lecturer  B. Eng., M. Eng., (Ilorin), Ph. D. (UPM), MNIA, R.Engr (Nigeria)	Food Machine Design, System Design and Automation

M. M. Odewole	Lecturer II B.Eng., M.Eng., (Ilorin), MNIAE, R.Engr (Nigeria)	Food Processing; Machine Design
O. I. Obajemihi	Lecturer II B.Eng., (Ilorin), M.Eng., (FUT Minna), MNIAE, R.Engr.	Food Engineering
R. O. A. Sanni	B. Sc. (Maiduguri)	Technologist I
I. Duniya	B. Sc. (Ibadan)	Technologist II

## **B. Eng. Food and Bioprocess Engineering**

### **FBE 206 Introduction to Engineering Disciplines**

**2 Credits**

Introduction to engineering disciplines: Definition of agricultural, biomedical, chemical, computer, civil, electrical, food and bioprocess, mechanical, material, metallurgical engineering and water resources and environmental engineering : Specialization/ Options in various departments in engineering: Use of various implements and equipment in engineering for various operations/ processes: Prospects and job opportunities in various disciplines in engineering: Relevant regulatory bodies in engineering: The role of engineers in advancement of humanity.

**15h (T), 45h (P); C**

### **FBE 222 Students Work Experience Programme (SWEP)**

**6 Credits**

Introduction to practices and skills in general engineering through instruction in operation of hand and powered tools for wood and metal cutting and fabrication. Supervised hands – on experience in safe usage of tools and machines for selected tasks.

**270h (P); C**

### **FBE 263 Engineering Mathematics I**

**3 Credits**

Limits, Continuity, Differentiation, Introduction to linear first order differential equations, partial and total derivatives composite functions, matrices and determinants, Vector algebra, Vector calculus, Directional Derivatives.

**45h (T); C**

### **FBE 283 General Engineering Laboratory Course I**

**2 Credits**

Laboratory investigation and report submission for selected experiments and projects in Applied Mechanics and Applied Electricity I and Fundamental's of Fluid Mechanics.

90 (P); C

**FBE 284      General Engineering Lab Course II      2 Credits**

Laboratory investigations and report submission for selected experiments and projects in fundamentals of Thermodynamics. Engineering materials, Applied Mechanics II and Applied Electricity III

90h (P); C

**FBE 301      Food Manufacturing Techniques I      2 Credits**

Preliminary and preparative operations including: Cleaning, Sorting, washing, peeling, deskinning, cutting, blanching etc. Ancillary Operations including: Size reduction, sieving and sifting, centrifugation, Flootation, Filtration, mixing, emulsification. Water and waste water treatment, solid waste disposal. Materials handling systems in food processing.

30h (T); C

**FBE 302      Food Manufacturing Techniques II      2 Credits**

Selected food manufacturing procedures such as blanching, pasteurization heat sterilization, evaporation, distillation, extrusion, dehydration, baking, roasting, frying, freezing and packaging at pilot scales – lectures is to be supplemented by visits to food factories.

30h (T); C

**FBE 303      Food Engineering I      2 Credits**

Basic principles of food process engineering – Conservation of mass and energy. Units and dimensions. Conversion factors, Dimensional consistency and analysis. Material balances. batch and continuous processes. General mass balance equations, algebraic unknowns, basics for calculation. Thermodynamic properties of food materials. Sensible and latent heat, Enthalpy. Energy balances. Fluid mechanics . Viscosity. Laminar and turbulent flow. Fluid flow in pipes, pressure drop, friction. Reynolds number, Bernoulli equation.

30h (T); C

**FBE 304      Food Engineering II      2 Credits**

Engineering properties of Food and biological materials. Study of various physical,mechanical, thrermal and other properties of food& biological materials. Importance of such property values on the design & operation of various food and bioprocess

engineering systems. The strength of food materials: tensile, compressive and shear stress measurements of foods and biomaterials. The use of Young modulus, the shear modulus and poisson's ratio in the evaluation of food strength. Food emulsions- Basic emulsion types. Fundamentals of rheology and rheological evaluations of foods and biomaterials, structure/ function relationships. Newtonian and Non Newtonian fluids, viscosity, Viscoelasticity, Physico-Chemical properties of food materials: Density, specific heat, thermal conductivity.

**30h (T); C**

**FBE 305 Heat and Mass transfer 2 Credits**

General principles and mode of heat transfer: conduction, convection and radiation as applied to food processing and engineering. Types of heat exchangers. Steady state and Unsteady state heat transfer; Microwave Heating. Introduction to mass transfer; The diffusion process; Membrane Separation Systems; Mass Transfer in Packaging Materials and Permeability Material to Fixed Gases.

**FBE 308 Biorefining Engineering 2 Credits**

Energy and products for renewable resources; Concepts, processes, status and future direction of Bioresources Engineering (Fuels, Chemicals and materials for biomass) with emphasis on chemical, biological and Engineering aspect of biorefinery

**30h (T), 45h (P);C**

**FBE 311 Food Chemistry 2 Credits**

Naturally occurring constituents of foods. Their structure, chemical and physical properties and significance. Food additives Rancidity of fats and oils. Food pigments. Enzymatic and non enzymatic browning. Chemical, physical and biochemical changes that occur in food during handling, processing and storage. Toxic constituents of foods and their mode of degradation in the body. The use of enzymes in food industry.

**30h (T), 45h (P); C**

**FBE 312 Food Microbiology 3 Credits**

Food Microbiology :Microbiology of foods and their raw materials , fermented foods ,food sanitation ; sanitary aspects of food-borne diseases, water microbiology. Control of pathogens in foods. Insects and rodents in food and their control. Water disinfection and requirements for water in the food industry . Most Portable Number(MPN) and its use in microbial analysis. Microbial toxin: Malting and brewing of alcoholic beverages.

**30h (T), 45h (P); C**

**FBE 313**

**General Microbiology**

**2 Credits**

Microorganisms and their functions in food spoilage, preservation and processing. Classification of bacteria, fungi and yeast important in foods. Relation between structures and functions of prokaryotic and eukaryotic protists, Microbial growth. Microbial metabolism. Mechanism of pathogenicity. Factors that influence microbial activities (moisture, oxidation-reduction potential, temperature). Effects of microorganisms on processing equipment .Alcoholic beverages production and aromatic products. Laboratory methods of assessing microbiological status of different classes of food commodities: beverages, cereals, roots and tubers, fruits and vegetables, meat, fish and dairy products.

**30 h (T); C**

**FBE 314**

**Human Nutrition**

**3 Credits**

Situation of nutrition in Nigeria. Protein-calorie malnutrition, Biochemistry of human nutrition in context of physiological systems. Metabolism of carbohydrates, proteins, lipids, metabolism. Important mineral and vitamin deficiencies, their etiology and control. Antinutritional factors in food. Food balance sheets, food composition tables and recommended dietary allowance. Food and nutrition problems. Policy and programme on food as they relate to developing countries.

**30h (T), 45h(P); C**

**FBE 383**

**Food and Bioprocess Engineering Laboratory Course I**

**1 Credit**



Laboratory investigations and reports for selected experiments and projects in strength of materials, thermodynamics and heat transfer.

**45h (P); C**

**FBE 384      Food and Bioprocess Engineering Laboratory II      1 Credit**

Laboratory investigations and reports for selected experiments and projects in food microbiology, food processing techniques and manufacturing, food preservation, food chemistry, mechanics of machines, metallurgy, handling process and storage.

**45h (P); C**

**FBE 392      Students' Industrial Work Experience Scheme I(SIWES) I      6 Credits**

On the job experience in industry chosen for its relevant in the Student's major. (3 months during the long vacation following 300 level).

**270h (P); C**

**FBE 405      Food Biotechnology      3 Credits**

Definition and role of biotechnology. Biotechnology and food production. General characterization of bioprocesses (microorganisms, products). Bioreactors/fermentors and living cell as bioreactor. Kinetics of cell growth and product formation. Bioprocess regulation and control. Ethanol and alcoholic beverages production. Microbial production of enzymes and their applications in food industry.

**15h (T), 90h (P); C**

<b>FBE 407</b>	<b>Principles of Food Analysis I</b>	<b>3 Credits</b>
	<p>Theoretical consideration of proximate analysis. Detailed analysis of moisture, carbohydrates, lipids, proteins and amino acids, vitamins, crude fiber and ash in foods. Paper chromatography, thin layer chromatography. Elementary ideas of spectrophotometry.</p> <p><b>15h (T), 90h (P); C</b></p>	
<b>FBE 409</b>	<b>Cereals and Tubers Technology</b>	<b>2 Credits</b>
	<p>Types of cereals and tubers – botanical characteristics, composition, and properties, flour milling from maize, sorghum, millet, cassava, yams, cocoyams, etc. Chemical, physical and physiological changes in cereals and tubers during storage and handling. Methods of preservation. Technology of composite flours and flour confectionery products (e.g. macaroni, spaghetti, etc). Processing technology for cereals (maize, rice, sorghum, wheat) and tubers (cassava, yams and cocoyams). Cereals and tuber enrichment technologies.</p> <p><b>15h(T), 45h(P); C</b></p>	
<b>FBE 411</b>	<b>Fermentation Technology</b>	<b>3 Credits</b>
	<p>The range and type of fermentation processes. Microorganisms involved in fermentation. Biochemical basis of fermentation. Nature and types of fermentation substrates. Microbial growth kinetics and its application to fermentation types. Culture improvement for industrial processes. Fermentor types and design. Instrumentation and control product recovery and purification. Fermentation economics, selected examples of industrial fermentations.</p> <p><b>15h(T), 45h(P); C</b></p>	
<b>FBE 413</b>	<b>Design of Food Machinery</b>	<b>3 Credits</b>
	<p>Design of various components of food machines. Design features and functions of equipment used in food industry e.g equipment for cleaning, sorting, grading, size reduction, mixing, homogenization, filtration, distillation, centrifugation etc. electric motors.</p>	

30h(T), 45h(P); C

**FBE 481      Food and Bioprocess Engineering Laboratory III      2 Credits**

Laboratory investigations and reports for selected experiments and projects in food engineering, design of food machinery, agricultural structures and environmental control, and in the approved elective course.

90h (P); C

**FBE 492      Students' Industrial Work Experience Scheme (SIWES) II      12 Credits**

On the job experience in industry at a higher level of responsibility than FBE 392. (During the Second Semester of 400 Level).

540h (P); C

**FBE 501      Food Standards and Quality Control      3 Credits**

The importance of food standards and legislation. Coded Alimentarius. The food standards and legislation of Nigeria. Principles and methods of food quality control. Effect of raw material quality and the various types of processes of yield and quality of the products.

30h (T), 45h (P); C

**FBE 502      Food Process Design      3 Credits**

Definition and objectives of food process design. The roles of process engineer safety and hazard consideration in food process design. Contrast food process design from chemical process design. Block diagrams, process and engineering flow diagrams. Flow sheet construction. Process assessment review, selection and preparation of detailed flow sheets. Flow sheet symbols. Materials and energy balances. Unit processes and operations. Process Calculations. Instrumentation and feedback control systems in process design. Process optimization and quality specifications. Sizing and selection of process equipment.

**15h (T), 45h (P); C**

**FBE 503      Food Process Plant Design and Economics      2 Credits**

Plant layout in the food industry. Economics of process design .Feasibility Analysis and optimization techniques. Optimum design of food processing plant to include well defined spaces for the following: raw materials storage, spaces for processing equipment, semi and finished products, source of water supply, by-products and waste water disposal, sanitation consideration of the plant, parking spaces for vehicles, etc .Industrial visitation to food industries to help draw attention to certain aspects of food plant location, layout design and sanitation. A group plant design project will be given to students.

**15h (T), 45h (P); C**

**FBE 505      Milk and Dairy Technology      3 Credits**

Technology of milk and milk products, condensed and dehydrated filled milk, ice cream, cheese, cultured milk, butter. Machine milking. Milk processing. Dairy waste management and processing. Dairy plant sanitation.

**30h (T), 45h (P); C**

**FBE 506      Meat and Meat Products Technology      3 Credits**

Processing meat, fish, sea foods, poultry, eggs. Ageing, tenderizing, curing of meat. Manufacture of sausages and other table meats. Smoking, freezing, canning, irradiation of meat, fish, poultry. Intermediate moisture meats, eg pasteurization, freezing, dehydration.

**30h(T), 45h(P); C**

<b>FBE 511</b>	<b>Biochemical Engineering II</b>	<b>3 Credits</b>
	Design and analysis of biological reactor. Instrumentation and control of bioreactors. Microbial culture processes in manufacturing processes. Product recovery operations. Bioprocess economics. Microbial populations. Reaction with multiple cell populations.	
	<b>30h(T), 45h(P); C</b>	
<b>FBE 513</b>	<b>Principles of Food Analysis II</b>	<b>3 Credits</b>
	Advanced aspects of the analysis of lipids, proteins, polysaccharides and toxicants. Consideration of special techniques in food analysis with specific examples from literature. Gas liquid chromatography, including gel permeation and ion exchange chromatography, electrophoresis, ultracentrifugation, polarography, refractometry, spectrophotometry (visible, ultraviolet, infrared) fluorimetry, radioisotope tracer techniques.	
	<b>15h (T), 90h (P); C</b>	
<b>FBE 521</b>	<b>Process Optimization</b>	<b>3 Credits</b>
	Maximizing of functions through the use of calculus. Unconstrained peak seeking methods. Single and multivariable search techniques. Constrained optimization techniques. Linear programming application to chemical processing. Numerical optimization techniques. Discrete events.	
	<b>30h(T), 45h(P); C</b>	
<b>FBE 523</b>	<b>Process Control and Automation</b>	<b>3 Credits</b>
	Introduction to process control and instrumentation – measuring instruments including oscilloscopes, graphics, thermocouples, sensors, accelerometers, AC and DC motors. Process requirements in the food industry. Methods of control – block diagrams, open and feedback systems, stability problems; Laplace transform, transfer function and application. Types of controllers and control actions; frequency – response analysis of elements; transient and steady state solutions; prediction of transient response, optimum control setting methods, control of processes with time delay; electrical devices and applications in food processing. Forms of	

signals; damping factor and critical conditions, control valves and transmission lines; process dynamics e.g. control of heat exchanger, error detector and transducers, electric alarms, heat detection alarm, time relay, temperature relay, remote control, etc – applications of these control devices in food processing operations.

**45h (T); C**

**FBE 522      Engineering Measurement Systems      3 Credits**

Principles of instrumentation systems, including sensing, signal conditioning, computerized data acquisition, test design, data analysis and synthesis. Includes laboratory.

**45 h (T); C**

**FBE 524      Process of Miscellaneous Food Commodities      3 Credits**

Botanical characteristics, composition, properties and processing of non-alcoholic beverages from cocoa, tea, coffee, kola, herbs and spices, sugar confectionery and soft drinks. Selected legumes and their products. Recent advances in the manufacture of non-alcoholic beverages in Nigeria. Nutritional value of non-alcoholic beverages. Classification of Nigeria's food and agro-industrial raw materials. Constraints to local raw material utilization. Local sourcing of raw materials; problems and prospects, processing characteristics and requirements; quality evaluation and specifications for household/industry use. Methods of processing on chemical composition and storage stability; nutritive value of Nigeria's food raw materials. Entrepreneurship in the raw material development area; resource utilization; upgrading of traditional harvesting and processing methods; conservation practices; conventional and unconventional raw materials. Role of government in promoting local raw materials.

**30h (T), 45h(P); C**

**FBE 531      Food Process Engineering      3 Credits**

Thermodynamics properties of food materials. Basic concepts of fluid flow. Power requirements for pumping fluids in the food industry. Pipeline design. Application of the theory of heat, mass, momentum transfers in the food industry. Fuel utilization in the food industry.

**30h(T), 45h (P); C**

**FBE 532      Fruits and Vegetable Processing      3 Credits**

Preservation of fruits and vegetables. Harvesting and pre-processing operations. Use of chemicals to control enzymatic and non enzymatic changes in processed fruits.

**30h (T), 45h(P); C**

**FBE 533      Technology of Household Chemical Products      3 Credits**

The chemical compositions, equipment selection and design of some household products: paints, adhesives, cosmetics, food and beverages, disinfectant, polish, soap and detergents.

**30h (T), 45h(P); C**

**FBE 538      Sugar Technology      3 Credits**

Description of the equipment and the consideration of the processes involved in the manufacture of the retained sugar from cane. Utilization of the by-products of the refining operation. Safety, economics and environmental consideration. Energy recovery.

**30h (T), 45h(P); C**

**FBE 564      Fundamentals of Food Processing      3 Credits**

A detailed study of food processing with emphasis on line and staff operation, including physical facilities, pre and post processing operations; processing line development and sanitation. A study of the basic methods of food preservation (pasteurization, sterilization, dehydration) chilling, freezing, concentration, fermentation and irradiation.

**30h (T), 45h (P); C**

**FBE 541      Food Packaging Engineering      3 Credits**

Cross-disciplinary study of the materials, machinery, research, design, techniques, environmental considerations, ethics and economics used in the global packaging industry with emphasis on the implementation of improved technologies for the problems unique to food packaging. An emphasis on the broad, systems-based nature of packaging will be maintained throughout the course.

**45 h (T); C**

**FBE 542      Food and Pharmaceutical Separations      3 Credits**

Basic principles of production-scale separation processes in the food and pharmaceutical industries including gravity sedimentation and centrifugation, extraction adsorption, chromatography, precipitation, conventional and membrane filtration, crystallization and drying.

**30h (T), 45h (P); C**

**FBE 543:      Bioproducts Processing and Packaging Techniques      3 Credits**

Introduction to bioproducts-Definition, benefits and categories of bioproducts (bioenergy, biomaterials and biochemicals); Development of bioreactor for biofuel processing, microalga production (photobioreactor) and biochemical products. Types of foam stabilising agents and foam break-up methods in controllable foam formation . Basic knowledge on modern packaging techniques for processed bioproducts; New development of modified atmosphere packaging (MAP). MAP technology applied to processed bioproducts; Different characterization methods used for packaging materials for processed bioproducts; packaging materials and machineries for different processed bioproducts., Current use of novel packaging techniques;Antimicrobial bioproduct



packaging: Constructing an antimicrobial packaging system; Factors affecting the effectiveness of antimicrobial packaging; Principles of flexible and rigid packaging of processed bioproducts.

**30h (T), 45h (P); C**

**FBE 552      Fats and Oils Technology      3 Credits**

Status of the oils and fats industry in Nigeria; oil seeds of Nigeria – characteristics, composition and uses. Raw materials for the vegetable oil industries – palm, coconut, groundnut, soybeans, cottonseed, sunflower seed; effect of climatic conditions, harvesting and storage on quality of glycerides. Processing equipment and machineries of oil production. Refining of oil and storage quality indices.

**30 h (T); 45h (P), E**

**FBE 553      Special Problems in Food and Bioprocess Engineering      3 Credits**

Independent study within the context of the students' chosen option bordering on the application of appropriate technology for solving specific agricultural and biosystems engineering problems.

**45h (T); E**

**FBE 555      Biological Nano-engineering      3 Credits**

Nano-device design through organization of functional biological components; bio-molecular function and bio-conjugation techniques in nanotechnology; modulation of biological systems using nanotechnology; issues related to applying biological nanotechnology in food energy, health, and the environment.

**30 h (T); 45h (P), E**

**FBE 557      Food Engineering III      3 Credits**

Novel technologies involving advances in food processing. Use of cryogenic freezing systems. Application of irradiation and safety issues. Use of on-line moisture meters. Boiling characteristics of organic liquids and applications involving boilers, cookers and

cryogenic freezers. High pressure sterilization, ohmic and other novel heating systems. Membrane processing. Ultrafiltration processing. System Analysis.

**30 h (T); 45h (P), E**

**FBE 581      Food and Bioprocess Engineering Laboratory Course IV      2 Credits**

Laboratory investigations and reports for selected experiments and projects in Electrification, Agricultural Mechanization and in three courses in the student's option.

**90h (P); C**

**FBE 582      Food and Bioprocess Engineering Laboratory Course V      2 Credits**

Laboratory investigations and reports for selected experiments and projects in soil and water conservation. Agricultural Land Clearing and Development, and in three courses in the student's option.

**90h (P); C**

**FBE 593      Food and Bioprocess Engineering Research project I      4 Credits**

Original individual student project related to a prescribed food or agricultural engineering problem involving literature review, identification, definition and formulation of the problem, theoretical investigations, modeling, simulation, analysis and design.

**15h (T), 135h (P); C**

**FBE 594      Food and Bioprocess Engineering Research project II      4 Credits**

Second phase of project investigations involving the fabrication of the designed model, debugging, calibration, testing data collection and analysis and presentation of a comprehensive written report of the investigation.

**15h (T), 135h (P); C**

**Note:** Details of other courses in the Department of Food and Bioeocess Engineering are available in relevant Departments as follows:

ABE courses in Agricultural and Biosystems Engineering;  
GNS courses in General Studies Division;  
GSE from Technical Entrepreneurship Centre;  
CHE courses in Chemical Engineering Department;  
CVE courses in Civil Engineering Department;  
ELE courses in Electrical and Electronics Engineering Department;  
MEE courses in Mechanical Engineering Department;  
MME courses in Material and Metallurgical Engineering Department;  
AGY and ANP courses in Faculty of Agriculture, and  
BUL in Faculty of Law.

## **SUMMARY**

### **100 LEVEL**

#### **COMPULSORY COURSES: NIL**

#### **Required Courses**

GNS 111 (2), GNS 112 (2) = 4 Credits

#### **Elective Courses:**

STA 131 (2), STA 124 (2) = 4 Credits

At least 9 credits must be passed out of the following:

MAT 111(3), MAT 113 (3), MAT 112 (3), MAT 114 (3) = 9 Credits

At least 9 credits must be passed out of the following:

PHY 115 (2), PHY 125 (3), PHY 142 (2), PHY 152 (3), PHY 191 (1), PHY 192 (1)= 9 Credits

At least 6 credits must be passed out of the following:

CHM 101 (3), CHM 112 (2), CHM 115 (2), CHM 116 (1), CHM 132 (2) = 6 Credits

**Total = 4 Credits**

### **200 LEVEL**

#### **Compulsory Courses:**

FBE 283 (2), FBE 284 (2), FBE 222 (6) = 10 Credits

#### **Required Courses:**

FBE 206 (2), FBE 263 (3), ELE 201 (3), ELE 202 (3), MEE 217 (2), MEE 218 (2), MEE 235 (2), CHE 241 (3), CHE 242 (3), CVE 253 (3), CVE 254 (3), CHE 264 (3), ELE 275 (1), ELE 276 (2), MME 272 (2), GNS 211 (2), GNS 212 (2), GSE 202 (3), = 44

**Credits**

**Total = 54 Credits**

**DE: GNS 111 (2), GNS 112 (2) = 4 Credits**

### **300 LEVEL**

#### **Compulsory Courses:**

FBE 301 (2), FBE 303 (2), FBE 305 (3), FBE 311 (3), FBE 313 (2), FBE 383 (1), FBE 302 (2), FBE 304 (2), FBE 308 (2), FBE 312(3), FBE 314 (2), FBE 384 (1), FBE 392 (6)

**= 25 Credits**

**Required Courses:**

GNS 311 (2), AGY 301 (2), ANP 307 (2), MEE 361 (3), MEE 362 (3), ABE 306 (3), ABE 376 (1), GSE 301 (3)

**= 19 Credits**

**Total = 44 Credits**

**DE:** GNS 111 (2), GNS 112 (2), GNS 211 (2), 212 (2) GSE 202 (3)

**= 11 Credits**

**400 LEVEL**

**Compulsory Courses:**

FBE 405 (3), FBE 407 (3), FBE 409 (2) FBE 413 (3), FBE 407 (3), FBE 481 (2), FBE 492 (12)

**= 28 Credits**

**Required Courses:**

ABE 463(2)

**= 2 Credits**

**Elective Courses:**

At least 3 credits must be passed out of the following:

MEE 421 (3), ABE 538 (3), ABE 5376(3)

**= 3 Credits**

**Total = 33 Credits**

## 500 LEVEL

### Common Courses

#### Compulsory Courses:

FBE 501(3), FBE 502 (3), FBE 503 (2), FBE 505 (3), FBE 506 (3), FBE 581 (1), FBE 582 (1), FBE 593 (4), FBE 594 (4)  
= 24 Credits

#### Required Courses:

BUL 506 (3), ABE 501 (3), ABE 573 (1) = 7 Credits

#### Elective Courses:

At least 3 credits must be passed out of the following:

FBE 553 (3), FBE 555 (3), FBE 511 (3), FBE 521 (3), FBE 533 (3)

FBE 552 (3), FBE 538 (3), FBE 546 (3), ABE 534 (3) = 3 Credits

#### Food Machine Design Optional Courses:

FBE 513 (3), FBE 523 (3), FBE 522 (3), FBE 524 (3) = 12 Credits

**Total = 42 Credits**

#### Food Process Design Optional Courses:

FBE 523 (3), FBE 531 (3), FBE 522 (3), FBE 532 (3) = 12 Credits

**Total = 42 Credits**

**Bioproduct Processing and Engineering Optional Courses:**

FBE 541 (3), FBE 543 (3), FBE 542 (3), FBE 524 (3) = 12 Credits

**Total = 42 Credits**

**Graduation Requirements for all Options**

1. Major Engineering Courses (ABE, CHE, CVE, ELE, FBE, MEE) = 128 Credits
2. Students' Industrial Works Experience Scheme (SIWES I and II) = 18 Credits
3. Students Work Experience Programme (SWEP) = 6 Credits
4. General Studies Courses: (GNS 111, 112, 211, 212, 311) = 10 Credits
5. Minimum Electives 6 Credits
6. Management, Law, Economics and Entrepreneurial Skill courses (GSE 202 (3) GSE 301 (3), BUL 506 (3)) 9 Credits
7. Agricultural Science, Food Science and Life Science Courses (AGY 301 (2), ANP 307 (2)) 4 Credits

**Total = 181 Credits**

**UTME: 181 Credits**

**DE (200L): 181 Credits**

**DE (300L): 134 Credits**

**Graduation Requirements (Option 2)**

**Computation of Grade Point**

1. 100 level courses are not used for computation of CGPA except GNS 111 (2), GNS 111 (2)
2. The 18 credits of SIWES must be passed but they are not used for computation of CGPA
3. The minimum Credits that will be used to compute the CGPA for all options are as follows:

For UTME, DE at 200 and 300 levels

<b>Level</b>	<b>UTME</b>	<b>DE (200L)</b>	<b>DE (300L)</b>
100 Level	4	-	-
200 Level	54	58	-
300 Level	38	38	49
400 Level	21	21	21
500 Level	42	42	42
<b>Total</b>	<b>159 Credits</b>	<b>159 Credits</b>	<b>112 Credits</b>



## DEPARTMENT OF MATERIALS AND METALLURGICAL ENGINEERING

### Course Description

#### B.Eng. Materials and Metallurgical Engineering

**MME 222 Students Work Experience Program (SWEP)**

**6 Credits**

Introduction to practices and skills in general engineering through instruction in operation of hand and powered tools for wood, metal cutting and fabrication; Supervised hands-on experience in safe usage of tools and machines for selected tasks; General practices on automobile repairs, survey, civil and electrical engineering works; Micro-structural examination of materials.

**270 h (P); C**

**MME 272 Engineering Materials**

**2 Credits**

Introduction to electronic configuration, atomic structures, inter-atomic bonding mechanisms, crystal and microstructure; Relationship between structure and properties of metals, alloys, ceramics and plastics; Principles of the behaviour of materials in common environments; Fabrication processes and applications.

**30h (T); C**

**MME 311 Materials Deformation**

**2 Credits**

One, two and three dimensional stress and strain; Application of Mohr's Circle for analysis of stress and strain; Tensor analysis of stresses and strain; Elastic Deformation: Young Modulus, Poisson's ratio, Stress-strain relation, stiffness/compliance Matrix; Dislocations: Edge/screw/mixed dislocation; Burgers vectors, twinning, stress field of dislocation, dislocation interaction; Plastic deformation of single and polycrystalline materials, Schmid's law, plastic flow; Inelastic deformation: Viscosity, deformation of inorganic glasses, deformation of non crystalline and crystalline polymers; Testing methods: compression, impact, bending, torsion, hardness, fatigue, creep, Visco-elasticity and non-destructive evaluation.

30h (T); C

- MME 331 Heat and Mass Transfer 3 Credits**  
Basic heat transfer equation and mechanisms; Steady and unsteady state heat transfer; Application of dimensional Analysis to heat flow; Basic equation of mass Transfer; Mass transfer coefficient and Models; Mass transfer between multiple phases; Application of heat and flow analysis in process of metallurgy e.g. continuous casting, casting in general, and reheating of slabs and ingots, etc; Use of finite element method of estimating heat distribution in a slab.  
**30h (T), 45h (P); C, PR: CHE 241, CHE 242**
- MME 332 Principles of Extractive Metallurgy 2 Credits**  
Important processes in extractive metallurgy of primary and secondary metals; Sources of metals; Ore dressing; Smelting and refining by pyro-metallurgical, hydrometallurgical and electrometallurgical methods; Fuels and Refractories; By-products of extractive metallurgy.  
**30h (T); C, PR: CHE 241, MME 272, CHE 242**
- MME 341 Energetics I 2 Credits**  
Thermodynamic laws and relationship, concept of entropy and its relationship to heat, strategy for deriving thermodynamic relationships, general criterion for equilibrium, physical and chemical equilibria; Statistical thermodynamics: micro-states, partition function.  
**30h (T); C, PR: CHE 242**
- MME 342 Energetics II 2 Credits**  
Phase equilibria in one-component systems, reactions involving pure condensed phase and gaseous phase; behaviour of solutions; fugacity, activity and equilibrium constant; Raoult's and Henry's Laws, Free energies of mixing, Gibbs-Duhem equation; Sievert's Law; Free energy/composition and phase diagrams of binary systems; reaction equilibrium in systems containing components in condensed solutions. Gibbs phase rule, chemical kinetics, elementary mechanisms; reaction rate constant, atomistic activation energy; diffusion in liquids and solids.  
**30h (T); C, PR: CHE 242**
- MME 351 Physical Metallurgy I 2 Credits**  
Wave theory of the atom; Schrodinger wave equation and simple applications; Wave-particle duality; Uncertainty principle; Electron diffraction; Nucleation of phase changes; homogeneous and heterogeneous nucleation; Diffusion in solids; Grain growth; Solid solution hardening; Precipitation and dispersion hardening; Fibre reinforcement; Martensitic strengthening; Grain size strengthening; Thermal treatments; Thermo-mechanical treatments; Diffusion coating or metallic cementation; Radiation strengthening; Ion implantation.  
**30h (T); C, PR: MME 272, CHE 242**

- MME 352 Physical Metallurgy II 2 Credits**  
 Theory of alloying; Liquid-Solid Transformations; Solid-Solid Transformations; Metal ingot structure; Strengthening mechanism and processes; Mechanical treatments; Crystal imperfection; Theoretical strength of crystals; actual strength of crystals; Point defects; effect of point defects on mechanical properties; observation of point defects; Lines defects, dislocation theory; observation of dislocation; behaviour of stress field around dislocation; energy of curved dislocation; forces acting on dislocation; dislocation forces. Slip phenomena; Planar defects; grain boundaries, domain boundaries, stacking faults, twin and twin boundaries.  
**30h (T); C, PR: MME 272, CHE 242**
- MME 354 Fracture Mechanics 3 Credits**  
 Structure of solids, strength of solids, shear, cleavage, defects in solids, concept of elastic cracks and theory of elasticity; Crack initiation and propagation, stress intensity factor, fracture of solids; Griffith-Orowan's and Irwin's theories; Elastic and plastic fracture, stress concentration and design consideration; Fracture mechanics for ductile materials; plastic zone correction; crack-opening displacement; J-contour integral; R-curve; Fatigue crack growth; Probabilistic aspect of fracture mechanics.  
**45h (T); C**
- MME 372 Mineral Processing 2 Credits**  
 Occurrence and nature of major metalliferous ores; Comminution theory; criteria for selection of crushing, grinding and screening equipments; metallurgical accounting; Laboratory sieve analysis; Classification; Mineral concentration techniques; Gravity concentration, Heavy medium separation, Froth floatation, Magnetic and electrostatic separation; Selection of mineral concentration equipments; De-watering and tailings disposal; Design, testing and evaluation of mineral beneficiation flow sheets.  
**30h (T); C, PR: MME 272**
- MME 381 Material Laboratory I 2 Credits**  
 Principle and technique of optical metallography: specimen preparation, etching; Qualitative and quantitative microscopy; introduction to photography and photomicrography; and other specialized techniques. Mechanical testing: tensile, compression, torsion, Hardness and creep.  
**90h (P); C, PR: MME 272**
- MME 382 Material laboratory II 2 Credits**  
 Experiments in mineral identification (chemical/physical), sieve analysis and beneficiation; Simple experiments on extraction processes; Experiments on mechanical behaviour of different engineering materials; Experiments on refractories. Gas chromatography, mass spectrometry and sampling.  
**90h (P); C, PR: MME 281, MME 282**

- MME 392 Student Industrial Work Experience Scheme (SIWES) I 6 Credits**  
On the job experience in the industry chosen for its relevance to student's major. (12 weeks) during long vacation following 300 levels)  
**270h (P); C**
- MME 431 Foundry Technology I 3 Credits**  
Fundamental of metal casting, mechanism and rate of solidification of metals and alloys. Directional solidification and methods of control. Moulds and Pattern types and materials, riser and gating design, core making, metal fluidity, stress-strain relations in casting during cooling and heat treatment. Casting defects, sources and preventions. Sand moulding: constituents and properties of moulding sands, types of sands, binders and additives. Core making and mould assembly. Melting and pouring: melting furnaces, pouring ladles.  
**45h (T); C, PR: MME 311/MEE 311, MME 351/352**
- MME 441 Phase Diagrams in Metallic Systems 2 Credits**  
Introduces nature and importance of phase diagrams; reviews unary systems; binary or two-component systems; isomorphous systems, the order-disorder transformation, the eutectic and eutectic-like systems, the peritectic and peritectic-like; monotectics and synthectic systems; and elements of ternary phase diagrams and complex systems. Methods for determination of phase diagrams.  
**30h (T); C, PR: MME 341, MME 342**
- MME 451 Heat-Treatment of Metals 2 Credits**  
Heat-treatment processes: annealing, normalizing, quenching, tempering, austempering, case hardening, precipitation hardening, solution treatment. Basic principles of selection of heat-treatment conditions using the phase diagram. Heat-treatment of ferrous metals and alloys, cast-irons, carbon steels, low alloy steels, tool steels, stainless and heat resisting steels. Heat-treatment of non-ferrous metals, aluminium and alloys, copper and alloys. Heat-treatment defects. Safety consideration in heat treatment plant.  
**30h (T); C, PR: MME 351/352**
- MME 461 Fundamentals of Corrosion 2 Credits**  
Qualitative application of electrochemical principles to corrosion reactions. Effect of metallurgical factors, atmospheric, soil or aqueous environments. Oxidation and tarnish. Stray current, cathodic anodic protection, metallic, inorganic coatings, inhibitors. Selection of materials.  
**30h (T); C, PR: CHE 242, MME 272**
- MME 471 Manufacturing Processes 3 Credits**  
Review of basic manufacturing processes of casting, welding, rolling, drawing, forging, extrusion, and machining. Fabrication characteristics of materials - the relationships among materials properties, manufacturing processes and product properties.

Functional characteristics of manufacturing equipments. Powder metallurgy processing: blending, briquetting, and sintering processes; secondary operations. Advantages and limitations of powder metallurgy.

**45h (T); C, PR: MME 372**

**MME 473**

**Fuels, Furnaces and Refractories**

**2 Credits**

Classification and properties of fuels. Fossil fuels, analysis, coal and coke. Charring chemistry, heat treatment and pyrolysis. Flames, chemical kinetics, heat and mass transfer, mathematical models, burning velocities, flame temperatures. Classification of metallurgical furnaces and reactors, e.g., reverberatory furnaces, converters, fluidized-bed reactors. Refractories: Classification, properties and manufacture of aluminosilicates. Polymorphic transformation in SiO<sub>2</sub>. Important refractory materials: alumina, silica, magnesite, graphite, and silicon carbide.

**30h (T); C, PR: MME 311**

**MME 481**

**Materials Laboratory III**

**2 Credits**

Heat treatment: Effect of heat treatment on the microstructure of low carbon steels; Metallography of phase transformation. Precipitation ageing and reversion experiments. Phase diagram determination by thermal stress analysis method. Foundry practice and casting defect, corrosion with measurement, non-destructive evaluation of corrosion.

**90h (P); C, PR: MME 381, MME 382**

**MME 483**

**Experimental Techniques**

**3 Credits**

Principles and techniques of optical microscopy, electron microscopy, and scanning-probe microscopy. X-ray diffraction and neutron diffraction. Production and choice of X-rays and electrons with matter; Bragg's Law; reciprocal lattice; diffraction methods, including powder, Laue and rotating crystal techniques; Fluorescent analysis; applications of diffraction methods in metallurgy and materials. production and choice of X-rays and electrons with matter; Bragg's Law; reciprocal lattice; diffraction methods, including powder, Laue and rotating crystal techniques; Fluorescent analysis; applications of diffraction methods in metallurgy and materials. Materials Analytical InstrUTMEnts: Principles and applications of X-ray spectrometry; Atomic absorption spectroscopy; Pyrometry; Dilatometry; Thermogravimetry (TG); Differential thermal analysis (DTA); and Thermomechanical analysis (TMA) in material engineering. Technique of surface examination [touch, microscopy (optical and electron), surface profilometry (contact and optical)]. Experimental Stress Analysis, statistical design of experiments and interpretations of results.

**45h (T); C**

**MME 492**

**Student Industrial Work Experience Scheme (SIWES) II**

**12 Credits**

On the job experience in the industry at a higher level of responsibility than MME 392. (6 months after the second semester of 400 levels).

**540h (P); C**

**MME 502**

**Materials Process and Plant Design**

**3 Credits**

Technical and economic problems of planning, commissioning and operation of material and mineral processing plants with particular reference to developing countries. Fundamental principles of material process and plant design. The design steps: definition of the design problem; development of basic design module; information sources; conceptualization; development of flow diagrams; selection of processes and equipment; evaluation of design. Materials-design interaction. Decision theory. Optimization of design. Linear programming, replacement, stock control and scheduling problems. Problem of safety, hazardous effluent disposal and environmental pollution in material plant. Computer- Aided-Design (CAD) and Computer-Aided-Manufacturing (CAM). Selected case studies in mineral processing, furnace design, plastic forming of ceramic products, electroplating, mechanical metallurgy and extrusion of plastics.

**45h (T); C, PR: MME 472**

**MME 521 Introduction to Polymers**

**3 Credits**

Classification of polymers, polymer structure, molecular weight distribution; Basic synthetic and characterization methods; Amorphous state and glass transition, crystalline state; General properties of polymers: physical, chemical, mechanical and electrical; Engineering and specialty polymers: processing and applications; Polymer-based composite materials: fabrication, structure and properties.

**45h (T); C**

**MME 522 Material Failure Analysis**

**3 Credits**

Importance of failure analysis. Procedures and methods of failure analysis. Mode of failure. Types of failure. Causes of failure. Stages of failure. Root cause analysis. Theoretical and experimental techniques in failure prediction, monitoring and analysis. Fractography. Relationship of failure analysis to design and material selection. Legal issues involved in failure analysis. Selected case studies.

**45h (T); C, PR: MME 354**

**MME 523 Ceramics Science and Technology**

**3 Credits**

Overview of ceramics and classification; Structure and stability of ceramics; Phase formation and development of microstructures; Basic synthesis, processing and characterization methods; Processing of advanced ceramics and applications; General properties and applications of advanced ceramics: electronic, mechanical, optical.

**45h (T); C**

**MME 524 Materials Selection and Economics**

**3 Credits**

Criteria for material selection. Material for structural application, and for electrical, electronics, chemical and nuclear applications. High temperature, creep resistant materials and materials for cryogenic applications. Corrosion resistant materials and materials for use in energy conversion systems. Fatigue-resistant materials. Materials for special applications, insulating materials, refractory and composite materials. Technical and economic considerations in materials selection – availability, durability, properties and cost.

Material recycling: principles and economics. Economics of materials exploitation and usage with special regards to present and future availability.

**45h (T); C, PR: MME 354, MME 462**

- MME 525 Composite Materials 2 Credits**  
Fundamental aspects including principles, strength, fracture behavior and interfacial reactions. Whisker technology and properties. Fabrication and properties of various reinforcement fibers, behavior of metal-metal, ceramic-metal and fiber-reinforced plastic composites. Applications of composite-glass structures polymeric composites and dispersion strengthened metals.  
**30h (T); E**
- MME 526 Introduction to Biomaterials 2 Credits**  
The objective of this module is to give students a strong material science and engineering base to biomaterials engineering. The principles of materials science and engineering with particular attention to topics most relevant to biomedical engineering will be covered. This would include atomic structures, heat treatment, fundamental of corrosion, manufacturing processes and characterization of materials. The structure-property relationships of metals, ceramics, polymers and composites as well as hard and soft tissues such as bone, teeth, cartilage, ligament, skin, muscle and vasculature will be described. Behaviour of materials in the physiological environment..  
**30h (T); E**
- MME 527 Nuclear Materials 2 Credits**  
Fuels materials for nuclear reactors. Material selection in reactor design. Behavior of nuclear fuels and cladding materials in reactor environments. Theory of atomic displacements, cascades and spike phenomena products in metals and ceramics by high energy radiation.  
**30h (T); E**
- MME 528 Introduction to Nanomaterials 2 Credits**  
Techniques that are used in synthesis and growth of nanostructures, including clusters, nanodots, nanowells, nanotubes, nanowires, nanocomposite particles, nanostructured thin films and multi-layers; patterning and self-assembly techniques; thermodynamics and kinetics of nanostructures; characterization techniques for nanostructures. Unique properties of nanomaterials: mechanical, electronic, magnetic, optical.  
**30h (T); E**
- MME 531 Ferrous Extractive Metallurgy 2 Credits**

Iron making – Review of raw materials, Blast furnace design, reactions and process control; Post-production treatment of the products of the iron blast furnace. Direct reduction method- process description, reactions, products, and process control. Steelmaking- review of raw materials. Basic oxygen steelmaking: design of converter, physic-chemical reactions, process and quality control. Electric arc method: reactor design, continuous feeding, power programme, process and quality control. Alloy steel production e.g. stainless steelmaking. Secondary steelmaking: clean steel production e.g. vacuum induction melting, electroslag remelting, and degasser.

**30h (T); E, PR: MME 332**

**MME 532 Non-ferrous Extractive Metallurgy**

**2 Credits**

Raw material preparation – blending, roasting, agglomeration. Factors governing the choice of extraction process route. Assessment of the application of carbon, silicon, hydrogen and other reductants in metallic production. Condensation of metal vapour; Simple blast furnace and reverberatory processes. Principle of metal refining; methods of metal refining. Principles of electrochemistry, electrowinning, and electro-refining. Slag's structure and properties, and their roles in extraction and refining. Process routes and methods of extraction and refining of common non-ferrous metals – Al, Cu, Pb, Zn, Sn, Au. Process routes and methods of extraction and refining of less-common, non-ferrous metals – Mg, Ni, Co, Ag. Production of ferroalloys – ferrosilicon, ferromanganese, ferroniobium, ferrotitanium.

**30h (T); E, PR: MME 332**

**MME 533 Hydrometallurgy**

**2 Credits**

Leaching: In-situ leaching, percolation leaching, counter-current bath leaching, microbial leaching, pressure leaching. Examples from extraction of gold, nickel, cobalt, aluminium, copper etc. Chemical precipitation: Principles and examples. Solvent extraction: Principles and examples of single stage process, counter-current multistage process. Resin extraction: principles and examples.

**30h (T); E, PR: MME 331**

**MME 534 Foundry Technology II**

**2 Credits**

Casting properties of metals and alloys. Fluidity- characteristics of metals and alloys of good fluidity, factors affecting fluidity of metals. Shrinkage: linear shrinkage, volumetric shrinkage, casting shrinkage, factors affecting shrinkage of metals and alloys, linear shrinkage curve of a given alloy; Segregation- mechanism of formation and implication. Melting practice: Furnace charges and their calculations- trial and error method, analytical method and graphical method. Gating system: Gating elements and their significance, gating methods, design of gating system. Risering – design of risers. Casting design: solidification and design- section geometry, cross-sectional area, thickness, draft, machining and shrinkage allowance. Multiple cavity casting, cored holes. Casting defects; Quality control.

**30h (T); E, PR: MME 431**

**MME 561 Electrochemistry and Chemical Kinetic**

**2 Credits**



Structure of the electrical double layer: Helmholtz, Gony-Chapman and Stern model. Electric potential difference for Galvanic cell, electromotive force (EMF) of a cell. Polarity of an electrode: reversible cells; free energy and reversible EMF. Types of half-cells (electrodes). Classification of cells. The standard EMF of cells; standard electrode potential; calculation of EMF of a cell. Electrode concentration of cell. Electrode kinetics: homogeneous chemical reactions; rate of electrochemical reactions; overpotential; transport or concentration overpotential. The hydrogen evolution reaction; rate-determining step; transfer coefficient; symmetry factor and stoichiometric number. evaluation of rate –determining step and mechanism of hydrogen evolution reaction. Basic principles of corrosion: definition; types and factors affecting corrosion; passivation; polarization; Pourbaix diagrams.

**30h (T); E, PR: CHM 101**

**MME 562 Corrosion Engineering**

**2 Credits**

Principles of corrosion: classification, mechanism, factors affecting corrosion and types of corrosion. Typical manifestations and types of corrosion found in marine, chemical/manufacture, transport and off shore industries. Strategies to mitigate corrosion in the environments. Mechanism of corrosion in various environments including stress corrosion cracking and microbiologically induced corrosion, corrosion in reinforced concrete based structures. Corrosion mitigation mechanisms including materials selection, cathodic protection, coatings and inhibitors. Corrosion monitoring and testing techniques: gravimetric resistance and electrochemical methods of testing.

**30h (T); E, PR: MME 461, MME561**

**MME 563 Surface Phenomenon and High Temperature Oxidation**

**2 Credits**

Surface free energy, Gibbs adsorption equation, adsorption by surfactants, physisorption and chemisorption on metals. Electroplating: Crystallization, addition agents, electroforming, electrodeposition on metals. Electrochemical machining: metal pickling, restrainers, friction, boundary lubrication, wear and fretting. Factors governing oxidation reactions; shapes of oxidation curves (linear, parabolic, logarithmic, breakaway). Mechanism of formation of oxide films, rate of formation of oxide films, defect structure of oxide lattice in films (positive and negative holes), effect of alloying on oxidation rate.

**30h (T); E**

**MME 564 Materials and Tribology**

**2 Credits**

Friction: Introduction, laws of friction, origin of friction, theories of friction, friction of metals and non-metallic materials. Wear and surface damage: introduction, mechanism of wear, oxidation dominated wear, mechanical wear processes (adhesive, abrasive, delamination wear, etc.); third bodies and wear (e.g. contaminants, debris, etc.). Lubricants and lubrication. Tribological properties of solid materials.

**30h (T); E, PR: MME 372**

**MME 571 Production Metallurgy**

**2 Credits**

Wire Drawing and limiting reduction, Welding Techniques, Heat Affected Zone and Welding Defects, Weldability of metals and alloys, High-Energy-Rate Forming (HERF), High-Velocity Forming (HVF), High Temperature Metal Forming, their advantages and

the limitations. Finishing Processes to include Mechanical, Chemical, Electrical techniques, Vapourized Metal Coating and Painting.

**30h (T); E, PR: MME 471**

- MME 572 Processing of Ceramics 2 Credits**  
Methods used in ceramics fabrications and their relationships to the structure and properties. Processing operations including materials preparation, forming and sintering. Manufacturing processes for refractories, glasses, and special ceramics. Macro and microstructures of ceramics. Effect of thermal and chemical treatments.  
**15h (T), 45h (P); E**
- MME 573 Powder Metallurgy 2 Credits**  
Introduction to powder metallurgy, Powder properties. Diffusion processes in powder metallurgy. Forming of metal powder, hot pressing and sintering kinetics. Engineering components, processing and properties bearing and friction materials. Cemented carbides. Porous metals, electrical and magnetic materials.  
**30h (T); E**
- MME 574 Processing of Polymers 2 Credits**  
Overview of methods used in forming polymers. Application of engineering principles to processing of polymers by commercial fabrication techniques. Rheology, flow phenomena in extruders and dies, extrusion theory, thermal and power requirements, extrusion applications, injection moulding and calendaring.  
**15h (T), 45h (P); E**
- MME 593 Materials and Metallurgical Engineering Project I 3 Credits**  
Original individual student project related to a prescribed Materials and Metallurgical Engineering problem involving literature review, identification, definition, and formulation of the problem, theoretical investigations, modeling, simulation analysis and design.  
**135h (P); C**
- MME 594 Materials and Metallurgical Engineering Project II 3 Credits**  
Second phase of research investigation involving the fabrication of the designed model, debugging, calibration, testing, data collection and analysis, and presentation of a comprehensive written report of the investigation.  
**135h (P); C**

**Note:** Details of other courses in the Department of Materials and Metallurgical Engineering are available in relevant Departments as follows:  
ABE courses in Agricultural and Biosystems Engineering;  
GNS courses in General Studies Division;

GSE from Technical Entrepreneurship Centre;  
 CHE courses in Chemical Engineering Department;  
 CVE courses in Civil Engineering Department;  
 ELE courses in Electrical and Electronics Engineering Department;  
 MEE courses in Mechanical Engineering Department, and  
 BUL in Faculty of Law.

## SUMMARY

### 100 LEVEL

<b>Required Courses:</b>	GNS 111 (2), GNS 112 (2)	<b>= 4 Credits</b>
<b>Elective Courses:</b>	STA 131 (2), STA 124 (2)	<b>= 4 Credits</b>
	At least 9 credits must be passed out of the following: MAT 111(3), 113 (3), 112 (3), 114 (3)	<b>= 9 Credits</b>
	At least 9 credits must be passed out of the following: PHY 115 (2), 125 (3), 142 (2), 152 (3), 191 (1), 192 (1)	<b>= 9 Credits</b>
	At least 6 credits must be passed out of the following: CHM 101 (3), 112 (2), 115 (2), 116 (1), 132 (2)	<b>= 6 Credits</b>
	<b>Total = 4 Credits</b>	

### 200 LEVEL

<b>Compulsory Courses:</b>	MEE 217 (2), 235 (2), 283 (2), 218 (2), MME 272 (2), 284 (2), 222 (6)	<b>= 18 Credits</b>
<b>Required Courses:</b>	ABE 263 (3), 206 (2), CHE 241 (3), 242 (3), 264 (3), CVE 253 (3), ELE 201 (3), 275 (1), 202 (3), 276 (2), GNS 211 (2), 212 (2)	<b>254 (3),</b>
	<b>= 33 Credits</b>	
	<b>Total = 51 Credits</b>	
<b>Direct Entry Students:</b>	GNS 111 (2), GNS 112 (2)	<b>= 4 Credits</b>

### 300 LEVEL

**Compulsory Courses:** MME 311 (2), 331 (3), 341 (2), 351 (2), 381 (2), 372 (2), 332 (2), 342 (2), 352 (2), 354 (3), 382 (2), 392 (6) = **30 Credits**

**Required Courses:** ABE 306 (2), 376 (1), CHE 341 (3), GSE 301 (3), GNS 311 (2), MEE 361 (3), 362 (3) = **17 Credits**

**Total = 47 Credits**

**Direct Entry Students:** GNS 111 (2), GNS 112 (2), GNS 211 (2), 212 (2) = **8 Credits**

### 400 LEVELS

**Compulsory Courses:** MME 491 (12), 421 (3), 431 (3), 441 (2), 451 (2), 461 (2), 471 (3), 473 (2), 481 (2) = **31 Credits**

**Required Courses:** ABE 463 (2), MEE 445 (2) = **4 Credits**

**Total = 35 Credits**

### 500 LEVEL

**Compulsory Courses:** MME 521 (3), 523 (3), 593 (3), 502 (3), 522 (3), 524 (3), 594 (3) = **21 Credits**

**Required Courses:** ABE 501 (3), ABE 573 (1), MEE 505 (3), BUL 506 (3) = **10 Credits**

**Elective Courses:** Students are expected to choose any four from the following, two in each semester MME 525 (2), 527 (2), 531 (2), 533 (2), 561 (2), 563 (2), 571 (2), 573 (2), 526 (2), 528 (2), 532 (2), 534 (2), 562 (2), 564 (2), 572 (2), 574 (2) = **8 Credits**

**Total = 39 Credits**

### GRADUATION REQUIREMENTS

1. Major Engineering Courses (ABE, CHE, CVE, ELE, MEE, MME) **128 Credits**
2. Students' Industrial Works Experience Scheme (SIWES) **18 Credits**
3. Students Work Experience Programme (SWEP) **6 Credits**
4. General Studies Courses: (GNS 111, 112, 211, 212, 311) **10 Credits**
5. Minimum Electives **8 Credits**

6. Law and Entrepreneurial Skill courses  
(GSE 301 (3), BUL 506 (3))

**6 Credits**  
**Total = 176 Credits**

**UTME: 176 Credits**  
**DE (200L): 176 Credits**  
**DE (300L): 129 Credits**

### COMPUTATION OF GRADE POINT

- 100 level courses are not used for computation of CGPA except GNS 111 (2), GNS 111 (2)
- The 18 credits of SIWES I and SIWES II must be passed but they are not used for computation of CGPA
- The minimum Credits that will be used to compute the CGPA for all options are as follows:  
For UTME/DE at 200 and 300 levels

Level	UTME	DE (200L)	DE (300L)
100 Level	4	-	-
200 Level	51	55	-
300 Level	41	41	49
400 Level	23	23	23
500 Level	39	39	39
<b>Total</b>	<b>158 Credits</b>	<b>158 Credits</b>	<b>111 Credits</b>

## DEPARTMENT OF MECHANICAL ENGINEERING

### Course Description

#### B. Eng. Mechanical Engineering

**MEE 217 Engineering Graphics I**

**2 Credits**

Lettering, Geometrical construction, dimensioning, orthographic projection, auxiliary and sectional views, true lengths, graphical calculus and architectural drawings.

**15h (T), 45h (P); C**

- MEE 218      Engineering Graphics II      2 Credits**  
Advanced topics in auxiliary and sectional views, development, intersection of surfaces, isometric projection, dimensioning and tolerances: Introduction to computer-aided graphics. Blue – print reading.  
**15h (T), 45h (P); C**
- MEE 222      Students' Work Experience Programme (SWEP)      6 Credits**  
Introduction to practices and skills in general engineering through instruction in operation of hand and powered tools for wood and metal cutting and fabrication. Supervised hands- on experience in safe usage of tools and machines for selected tasks: General practices on automobile repairs, survey, civil and electrical engineering works.  
**270h (P); C**
- MEE 235      Engineering Technology      2 Credits**  
Introduction to workshop practice, industrial safety, machine tools and fabrication technology. Use of hand tools and engineering approach to design.  
**15h (T), 45h (P); C**
- MEE 272      Engineering Materials      2 Credits**  
Introduction to electronic configuration, atomic structures, interatomic bonding mechanisms, crystal and microstructure. Relationship between structure and properties of metals, alloys, ceramics and plastics. Principles of the behaviour of materials in common environments. Fabrication processes and applications.  
**30h (T); C**
- MEE 283      General Engineering Laboratory I      2 Credits**  
Laboratory investigation and report submission for selected experiments and projects in Engineering Mechanics I, Applied Electricity I and Fundamentals of Fluid Mechanics.  
**90h (P); C**
- MEE 284      General Engineering Laboratory II      2 Credits**  
Laboratory investigation and report submission for selected experiments and projects in Fundamentals of Thermodynamics, Engineering Materials, Engineering Mechanics II and Applied Electricity II.  
**90h (P); C**

<b>MEE 302</b>	<b>Metallurgy</b> Metals and alloys: production and use. Phase diagrams, iron carbon system, nature, origin and control of structure in metallic systems and their relations to mechanical properties. Tool steels, diffusion, deformation, hardening and transformation phenomena, heat treatment, metallographic laboratory practice. <b>30h (T); C, PR; MEE 272</b>	<b>2 Credits</b>
<b>MEE 311</b>	<b>Mechanics of Deformable Bodies I</b> Three dimensional stress and strain. Theories of failure. Stress concentration factor. Moments and products of inertia and area. Mohr's strain and inertia circles. Unsymmetrical bending, shear center and curved beams. <b>30h (T); C, PR: CVE 251</b>	<b>2 Credits</b>
<b>MEE 313</b>	<b>Engineering Experimentation</b> Fundamentals of instrUMENTation and techniques for measurement of mechanical phenomena, such as temperature, flow, pressure, force, stress, displacement, velocity and acceleration. Transducers design techniques and construction of simple measuring devices. <b>30h (T), 45 (P); C</b>	<b>3 Credits</b>
<b>MEE 324</b>	<b>Dynamics</b> Applied vector mechanics of particles and rigid bodies. Kinetics of rigid and non-rigid bodies in space. Moment and product of inertia of masses. Euler and Lagrange equations. <b>30h (T); C, PR: CVE 253</b>	<b>2 Credits</b>
<b>MEE 333</b>	<b>Machine Drawing</b> Part assembly and detailed drawing of machine components. Sketching and use of standards, design features, symbols, screws, fasteners, couplings, clutches, gears etc. Introduction to Computer-aided drawing <b>15h (T), 45 (P); C, PR: MEE 217 or 218</b>	<b>2 Credits</b>
<b>MEE 334</b>	<b>Machine Design</b> Application of mechanical engineering theories to machine component design. Analysis, synthesis and evaluation procedures in creative design. Use of codes, charts, tables, standards and empirical data. Presentation of design portfolio. <b>15h (T); 45h (P); C</b>	<b>2 Credits</b>
<b>MEE 342</b>	<b>Manufacturing Processes I</b>	<b>3 Credits</b>

Fundamental principles of metal cutting, welding, casting and forming. Machining process: milling, grinding, planning, turning, drilling and shaping. Welding methods, features and principles of operation for arc welding, gas welding, resistance welding. Casting methods, features and principle of operations for sand casting, gravity casting, metal mould casting, squeeze casting, die metal casting. Forming methods, features and operation for shearing, bending, blanking, drawing. Tool economics and principle of operation of presses.

**45h (T); C**

- |                |  |                  |
|----------------|--|------------------|
| <b>MEE 344</b> | <b>Tribology</b><br>Principles of friction, lubrication and wear, viscosity, dry and boundary friction. Surface studies, topography and quality. Hydrostatic, hydrodynamic and air lubrication, lubricants and materials for tribological applications.  | <b>2 Credits</b> |
|                | <b>30h (T); C</b>  |                  |
| <b>MEE 353</b> | <b>Thermodynamics and Heat Transfer</b><br>Steam, gas turbines and jets engines. Thermodynamics of pure gases and vapour, non-reactive mixtures and psychrometry. Principles of conduction, convection and radiation. Conduction in extended surfaces. Thermal convection and use of dimensional analysis. Relative heat transfer: black bodies and grey surfaces. | <b>3 Credits</b> |
|                | <b>45h (T); C, PR: MEE 242</b>   |                  |
| <b>MEE 356</b> | <b>Mechanics of Machines I</b><br>Velocity and acceleration diagrams of link mechanism. Force and motion relationship in constrained mechanisms. Analysis of cam, gear, linkage, belt drive and chain drive systems for motion and power transmission. Vehicle mechanics, brake and clutch systems, flywheels. Balancing of rotating and reciprocating masses.     | <b>3 Credits</b> |
|                | <b>45h (T); C</b>  |                  |
| <b>MEE 358</b> | <b>Fluid Mechanics I</b><br>Incompressible fluid flow, conservation of mass, energy and momentum, constitutive relations and boundary conditions. Navier-Stokes' equations. Flow through pipes and ducts. High and low Reynolds number flows. Two dimensional potential flow.  | <b>3 Credits</b> |
|                | <b>45h (T); C, PR: CHE 241</b>   |                  |
| <b>MEE 361</b> | <b>Engineering Mathematics III</b><br>NUMERICAL analysis and its application to engineering problems. Operational methods, Laplace transform, series and special functions in engineering.   | <b>3 Credits</b> |
|                | <b>45h (T); C, PR: ABE 263</b>   |                  |
| <b>MEE 362</b> | <b>Engineering Mathematics IV</b>  | <b>3 Credits</b> |



Mathematical modelling of physical systems, numerical techniques, boundary value problems. Fourier integral. Fourier series. Orthogonal functions and Sturm-Louville systems. Partial differential equations including theory, classification and solution by various methods.

**45h (T); C, PR: ABE 264**

- MEE 373 Mechanical Behaviour of Materials 2 Credits**  
Design, processing and environmental influence on engineering materials. Deformation, fatigue, creep-rupture and stress-corrosion. Strengthening mechanisms. Elasticity, plasticity and dislocations in fabrication of engineering materials. Metallurgical considerations in metal processing. Material selection, service failure and corrections.  
**30h (T); C, PR: MEE 272**
- MEE 381 Mechanical Engineering Laboratory I 2 Credits**  
Laboratory investigations and report submission for selected experiments in Mechanics of Deformable Bodies I, Engineering Experimentation, Thermodynamics and Heat Transfer, Fluid Mechanics I and Mechanical Behaviour of Materials.  
**90h (P); C**
- MEE 382 Mechanical Engineering Laboratory II 2 Credits**  
Laboratory investigations and report submission for selected experiments in Metallurgy, Dynamics, Mechanics of Machines I and Manufacturing Process I.  
**90h (P); C**
- MEE 392 Student Industrial Work Experience Scheme (SIWES) I 6 Credits**  
On the job experience in industry chosen for its relevance to student's major. (12 weeks during the long vacation following 300 level)  
**270h (P); C**
- MEE 403 Dynamics of Machinery 3 Credits**  
Free and forced vibrations of lump mass-spring systems with and without damping, whirling of shafts, critical speed, vibration isolation and transmissibility, two-degrees of freedom system, dynamic absorbers, continuous systems and balancing of rotors.  
**45h (T); E**
- MEE 405 Electrical Machines for Mechanical Engineers 3 Credits**  
Electromechanical energy conversion concepts. Construction and operating characteristics of DC machines: series, shunt and compound. Construction and operating characteristics of AC machines: Induction, synchronous. Three-phase alternators,

mathematical representation of its characteristics. Three-phase induction motors: torque/slip relations, speed control, open circuit and blocked rotor tests. Single phase induction motors. Industrial applications of motors: selection of type and size of motor.  
**45h (T); C, PR: ELE 202**

- MEE 407 Industrial Management 2 Credits**  
Work study, payment systems and performance levels including job evaluation, production control, Gantt Charts and manual scheduling, labour and organization Critical Path Analysis and resources allocation and inventory control.  
**30h (T); E**
- MEE 421 Mechanics of Machines II 3 Credits**  
Kinetics of rotating and reciprocating masses and the balancing of their out-of-balance forces. Elements of vibratory systems, free and forced vibrations of first and second degree systems. Critical speed, whirling of shafts, vibration isolation and transmissibility.  
**45h (T); C, PR: MEE 356**
- MEE 431 Design of Machine Elements 3 Credits**  
Application of stress analysis, failure theories and material selection to design of mechanical elements and systems. Fatigue resistance, stress concentration, contact stress, lubrication in design of shafts and bearings. Operational, environmental and manufacturing considerations.  
**45h (T); C, PR: MEE 334**
- MEE 441 Metrology, Quality Control and Reliability 2 Credits**  
Standards. instrumentation for precision measurements. Flatness and precision surface inspection. Application of statistics and probability theory to the design and analysis of procedures for control of production processes. Sampling, design and management of reliability engineering.  
**30h (T); C**
- MEE 443 Fluid Mechanics II 3 Credits**  
Thermodynamic and dynamic principles applied to fluid behaviour, stream function and velocity potential, ideal, viscous and compressible fluids under internal and external flow conditions. Inviscid flow, boundary layer, vorticity and rotation of fluid particles. Shock. Flow machines and cavitation.  
**45h (T); C, PR: MEE 355**
- MEE 445 Industrial Engineering I 2 Credits**  
Work study, payment systems, job evaluation, production planning and control. Resource allocation, inventory control, ordering and motion study.  
**30h (T); C**

<b>MEE 451</b>	<b>Advanced Thermodynamics</b> Thermodynamics of gases, vapour, reactive and non-reactive mixtures. Process relations. Concepts of equilibrium, reversibility and irreversibility. <b>45h (T); C, PR: MEE 353</b>	<b>3 Credits</b>
<b>MEE 463</b>	<b>Energy Conversion Systems</b> Primary and secondary types of energy and their interconvertibility: physical and chemical Magneto-Hydrodynamics (MHD): wind, geothermal, thermo mechanical, nuclear biomass, etc. Principal fuels for energy conversion. Direct and indirect conversion of primary energy. Power station economics, power load estimation and forecasting. <b>45h (T); C</b>	<b>3 Credits</b>
<b>MEE 473</b>	<b>Metallurgical Thermodynamics</b> Essential concepts of thermodynamics. Chemical reaction equilibria. Fugacity activity and free energy. Partial and integral molar thermodynamic functions. Gibbs – Durhem equations. Ellingham’s diagrams for metal-oxide, metal-chloride and metal-sulphide systems. Theory of solutions: Raoult’s and Henry’s Laws. Activity in multi-components systems. Phase equilibria. Equilibria of two and multi-components systems. Free energy composition diagrams and construction of phase diagrams. Metallurgical reactions.  <b>30h (T); E</b>	<b>2 Credits</b>
<b>MEE 475</b>	<b>Welding Processes</b> Basic principle of Gas Metal Arc, Gas Tungsten Arc, Shielded Metal Arc, Pipe welding by SMAW, Resistance Spot Welding and Submerged Arc Welding Processes. Gas Welding and Cutting Operations. Solid state and other welding processes: Forge welding, cold welding, ultrasonic welding, friction welding, explosion welding, thermit welding, electron beam welding and laser welding. Welding design and process selection: welded joint, weld quality and weldability. Welding temperature changes and metallurgical reactions in welding. Fluxes, gases and slags for weld shielding. Weld defects. Weld inspection and testing. <b>30h (T); C</b>	<b>2 Credits</b>
<b>MEE 481</b>	<b>Mechanical Engineering Laboratory Course III</b> Laboratory investigations and report submission for selected experiments in major departmental courses of the production, design, thermofluid and metallurgical options. <b>90h (P); C</b>	<b>2 Credits</b>
<b>MEE 492</b>	<b>Students’ Industrial Work Experience Scheme (SIWES) II</b>	<b>12 Credits</b>

On the job experience at a higher level of responsibility than MEE 342. (six months during the second semester 400 level and long vacation).

**540h (P); C**

- MEE 502 Special Topics in Mechanical Engineering 2 Credits**  
Independent study under the guidance of a lecturer in the specialized Department in the subject area of an analytical or experimental mechanical problems.  
**15h (T), 45h (P); C**
- MEE 503 Control Theory 3 Credits**  
Review of differential equations. Laplace transform. Feedback control: servo mechanisms, block transfer functions and signal flow diagram. Control systems stability: Nyquist, Bode, Nichola and Root-locus plots (Routh-Hurwitz, Liapnunov). Analogue computer fundamentals and analogue computer simulations.  
**30h (T), 45h (P); C, PR : ELE 201, MEE 361**
- MEE 505 Applied Computer Programming 3 Credits**  
Development of programming languages such as FORTRAN, BASIC, ALGOL, etc. Application of computers to solving nUTMERical, statistical and a variety of mathematical/ engineering problems. Simulation and optimization techniques.  
**30h (T), 45h (P); C**
- MEE 506 Auto-Mechanical System Engineering 3 Credits**  
Production, assembly line and power systems control techniques. Principle of automation in mechanized systems. Application of thermal, pneumatic, hydraulic and fluidic systems to automatic control in plant processes and machinery.  
**30h (T), 45h (P); C (Compulsory for Design Engineering only)**
- MEE 511 Mechanics of Deformable Bodies II 3 Credits**  
Rotating disks. Contact stresses. Thick walled cylinders Energy methods, Elementary plasticity torsion of non-circular sections. Creep fatigue.  
**30h (T), 45h (P); C, PR: MEE 311**
- MEE 513 Elasticity 3 Credits**  
Introduction to elasticity, stress-strain relations of elasticity. Basic equations of the plane. Theory of elasticity. Plane elasticity in polar co-ordinates. Two dimensional problems in rectangular co-ordinates. Two – dimensional problems in polar co-ordinates. Introduction to photoelasticity.  
**30h (T), 45h (P); E, PR: MEE 311**

<b>MEE 514</b>	<b>Plasticity</b> Introduction to plasticity. Stress-strain yield criteria of metals. Stress-strain equation. Applications to compression, bending and torsion. Determination of spherical problems and plane strain condition. Upper and lower bound theorems and their applications to simple problems. <b>30h (T), 45h (P); E, PR: MEE 311 (Not to be taken with MEE 511)</b>	<b>3 Credits</b>
<b>MEE 516</b>	<b>Gas Dynamics and Turbomachinery</b> One directional flow. Continuity, momentum and energy equations for steady inviscid, compressible, one dimensional flow and isentropic flow. Wave phenomenon. Turbomachine theory. Centrifugal compressor. Axial flow compressors, blowers and their design aspects. <b>30h (T), 45h (P); C, PR : MEE 443</b>	<b>3 Credits</b>
<b>MEE 524</b>	<b>Mechanical Vibrations</b> Transverse vibration of beams. Non-linear vibrations Lagrange's equations. Approximate methods for multi-degree of freedom systems. Matrix methods for multi-degree of freedom systems. Vibration of continuous systems. <b>45h (T); C</b>	<b>3 Credits</b>
<b>MEE 541</b>	<b>Manufacturing Processes II</b> Welding, brazing, soldering and weld design. Forming from liquid and particle states. Design practice for casting. Mould materials and types. Defect categories. Economics and application of various casting processes. Introduction to special manufacturing processes. Safety and manufacturing. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b>
<b>MEE 543</b>	<b>Industrial Engineering II</b> Principles of accountancy, standard costs including overhead determination. Budgetary control. Variable analysis, company balance sheet, sources of finance. Ergonomic design of man-machine systems. Plant layout and design site selection. Concepts, techniques and application of operations research, linear programming, queuing theory and Monte Carlo techniques. <b>45h (T); C</b>	<b>3 Credits</b>
<b>MEE 545</b>	<b>Mechanical Handling of Materials</b> Economics of material handling in industry. Constructional details and working principles of appliances for labour saving. Theory of handling equipment, capacity, resistance to motion, power requirements etc. pneumatic handling, hydraulic handling, automatic feed devices, intermittent handling devices and their specific applications. <b>45h (T); C</b>	<b>3 Credits</b>
<b>MEE 551</b>	<b>Refrigeration and Air Conditioning</b>	<b>3 Credits</b>

Application of thermodynamics theory and design principles to conform cooling, food refrigeration and cryogenic systems. Characteristics of refrigeration control systems. Economic aspects and optimization, krypton-refrigeration.

**30h (T); 45h (P); PR: MEE 353**

- MEE 554      Heat and Mass Transfer      3 Credits**  
Transient heat conduction, convection in laminar and turbulent flow. High velocity flow. Boiling and condensation. Analysis, type and design of heat exchangers. Operations of heat exchanger and boiler. Mass transfer between phases. Humidification of gases. Types of dryers, evaporator and cooling tower.  
**30h (T), 45h (P); C, PR: MEE 353**
- MEE 561      Internal Combustion Engines      3 Credits**  
Characteristics and performance of internal combustion engines. Piston engines of the Otto and diesel types, gas turbines. Thermodynamics of cycles, combustion, fuel metering, injection, supercharging and compounded engines.  
**30h (T), 45h (P); C, PR: MEE 353**
- MEE 562      Alternative Power Sources      3 Credits**  
Energy conversion, transmission and storage. Alternative sources of energy: solar energy, nuclear, wind and tides. Direct energy conversion systems. Economics, environmental and other considerations. (Compulsory for Thermofluids)  
**30h (T), 45h (P); C, PR: MEE 353**
- MEE 574      Fracture Mechanics and Failure Analysis      3 Credits**  
Types of fracture and fractography. Structure of solids, shear and cleavage defects in solids. Crack initiation and propagation. Stress intensity factor. Griffith, Orowan's and Irwin's theories. Stress concentration and design consideration in machine elements. Role of microstructure in various kinds of failure. Environmental effects and time dependent failures. Fatigue and creep failure.  
**30h (T), 45h (P); C**
- MEE 582      Casting and Solidification      2 Credits**  
Principles of metal casting, including melting practice. Casting design and economics of casting. Heat transfer and solidification. Fluid flow and gating design. Introduction to computer simulation techniques for mould filling, solidification and development of residual stress. Structure-property relations in cast metals. Cast testing and defect analysis.  
**30h (T), C, (Not to be taken with MEE 547)**
- MEE 584      Ceramics and Polymeric Materials      3 Credits**

Ceramic materials. Crystalline ceramics: structure, processing and thermal treatments, glasses and glazes. Phase equilibria and ternary diagrams. Properties: mechanical, thermal, optical, electrical and magnetic. Refractories and thermal shock. Testing and quality control. Use of refractories. Polymers: basics and synthetic polymer industries. Economic and chemical development. Molecular architecture and polymerization reactions. Property: chemical properties, correlations, thermal stability, degradation, uses and application of polymers.

**30h (T), 45h (P); C**

- MEE 586      Iron and Steel Metallurgy      2 Credits**  
Manufacturing processes of pig iron, wrought iron, cast iron carbon and alloy steels. Heat treatment of steels and hardening. Low-alloy, high strength, heat-resistant and tool steels. Deep drawing steels. Stainless steels. Surface treatments, structure and properties of cast irons.  
**15h (T), 45h (P); C, PR: MEE 481**
- MEE 588      Corrosion and Protection      3 Credits**  
Qualitative application of electrochemical principles to corrosion reactions. Effect of metallurgical factors: atmospheric, soil or aqueous environments. Oxidation and tarnish. Stray current. Cathodic and anodic protection Metallic and inorganic coatings and inhibitors. Selection of materials.  
**30h (T), 45h (P); C**
- MEE 593      Mechanical Engineering Project I      3 Credits**  
Original individual student project related to a prescribed Mechanical Engineering problem involving literature review, identification, definition and formulation of the problem, theoretical investigations, modelling simulation, analysis and design.  
**135h (P); C**
- MEE 594      Mechanical Engineering Project II      3 Credits**  
Second phase of investigations involving the implementation of the designed model. Debugging, calibration, testing, data collection, analysis and presentation of a comprehensive written report of the investigations.  
**135h (P); C; PR: MEE 593**
- MEE 595      Material Selection and Application      2 Credits**  
Metallurgical and mechanical factors governing the selection of metals of various services. Analysis of service requirements and the selection and fabrication of metals to fulfill such requirements. Analysis of service failures. Study of methods and equipment.  
**15h (T), 45h (P); C**
- MEE 596      Nuclear Materials      3 Credits**

Fuel materials for nuclear reactors. Selection of Materials in reactor design. Behaviour of nuclear fuels and cladding materials in reactor environments. Theory of atomic displacements, cascades and spike phenomena products in metals and ceramics by high energy radiation.

**30h (T), 45h (P); E**

**MEE 597 Composite Materials**

**3 Credits**

Fundamental aspects including principles, strength, fracture behaviour and interfacial reactions. Whisker technology and properties. Fabrication and properties of various reinforcement fibres. Behaviour of metal-metal, ceramic-metal and fiber-reinforced plastic composites. Applications of composite-glass structures, polymeric composites and dispersion strengthened metals.

**30h; (T), 45h (P); C**

**MEE 598 Elements of Powder Technology**

**2 Credits**

Powder properties. Forming of metal powder. Hot pressing and sintering kinetics. Engineering components, processing and properties bearing and friction materials. Cemented carbides. Porous metals, Electrical and magnetic materials.

**15h (T), 45h (P); E**

**MEE 599 Furnace, Refractories and Fuel Technology**

**2 Credits**

Classification of metallurgical furnaces and reactors. Mineralogy. Manufacture and service characteristics of acid refractories alumino-silicate refractories: firebricks, types. Basic refractories (magnesite-chromite refractories (magnesite, dolomite, and chrome-magnesite), neutral refractories (carbon, chromite and foresters). Special refractories. Applications in furnaces. Metallurgical fuels. Choice of fuel and energy resources. Basic fuel and combustion stoichiometry. Economics of fuel and energy utilization.

**15h (T), 45h (P); E**

**Note:** Details of other courses in the Department of Mechanical Engineering are available in relevant Departments as follows:

ABE courses in Agricultural and Biosystems Engineering;

GNS courses in General Studies Division;

GSE from Technical Entrepreneurship Centre;

CHE courses in Chemical Engineering Department;

CVE courses in Civil Engineering Department;

ELE courses in Electrical and Electronics Engineering Department;

STA, MAT, PHY and CHM courses in Faculty of Physical Sciences, and

BUL in Faculty of Law.



## SUMMARY

### 100 LEVEL

<b>Required Courses:</b>	GNS 111 (2), GNS 112 (2)	= 4 Credits
<b>Elective Courses:</b>	STA 131 (2), STA 124 (2)	= 4 Credits
	At least 9 credits must be passed out of the following: MAT 111(3), 113 (3), 112 (3), 114 (3)	= 9 Credits
	At least 9 credits must be passed out of the following: PHY 115 (2), 125 (3), 142 (2), 152 (3), 191 (1), 192 (1)	= 9 Credits
	At least 6 credits must be passed out of the following: CHM 101 (3), 112 (2), 115 (2), 116 (1), 132 (2)	= 6 Credits
	<b>Total = 4 Credits</b>	

### 200 LEVEL

<b>Compulsory Courses:</b>	MEE 217(2), 218(2), 222(6), 235(2), 272(2), 283(2), 284(2)	= 18 Credits
<b>Required Courses:</b>	ABE 206(2), 263(3), 241(3), CHE 242(3), 264(3), CVE 253(3), 254(3), 202(3), 275(1), 276(2), GNS 211(2), 212(2)	= 33 Credits
		ELE 201(3),
	<b>Total = 51 Credits</b>	
<b>Direct Entry Students:</b>	GNS 111 (2), GNS 112 (2)	= 4 Credits

### 300 LEVEL

<b>Compulsory Courses:</b>	MEE 302(2), 311(2), 313(3), 324(2), 331(2), 334(2), 342(3), 344(2), 353(3), 358(3), 361(3), 362(3), 373(2), 383(1), 384(1), 392(6)	= 43 Credits	356(3),
<b>Required Courses:</b>	ABE 306(2), 376(1), GNS 311(2), GSE 301(3)	= 8 Credits	
		<b>Total = 51 Credits</b>	
<b>Direct Entry Students:</b>	GNS 111(2), 112(2), 211(2), and 212(2)	= 8 Credits	

### 400 LEVEL

**COMMON COURSES**

**Compulsory Courses:** MEE 405(3), 443(3), 445(2), 481(2), 492 (12) = 22 Credits

**Required Courses:** ABE 463(2) = 2 Credits

**ENGINEERING DESIGN, PRODUCTION AND MANUFACTURING OPTIONS:**

MEE 421(3), 431(3), 441(2), 463(3), 403(3), 407(2), 475(2)

= 18 Credits

**Total = 42 Credits**

**THERMOFLUID OPTION:**

MEE 432(3), 452(3), 464(3), 473(2) = 11 Credits

**Total = 35 Credits**

**500 Level**

**COMMON COURSES**

**Compulsory Courses:** MEE 505(3), 503(3), 593(3), 594(3) = 12 Credits

**Required Courses:** ABE 501(3), 573(1), BUL 506(3) = 7 Credits

**Elective Courses:** At least 2 Credits from: CVE 341(2), ELE 312(2) = 2 Credits

**ENGINEERING DESIGN OPTIONS:**

MEE 511(3), 524(3), 541(3), 551(3) = 12 Credits

**Total = 33 Credits**

**PRODUCTION OPTION:**

MEE 524(3), 541(3), 543(3), 551(3) = 12 Credits

**Total = 33 Credits**

**THERMOFLUID OPTION:**

MEE 516(3), 551(3), 554(3), 561(3), 524(3) = 15 Credits

**Total = 36 Credits**

**GRADUATION REQUIREMENTS FOR ALL OPTIONS:**

	<b>ENGINEERING DESIGN</b>	<b>PRODUCTION</b>	<b>THERMOFLUID</b>
Major Engineering Courses (ABE, CHE, CVE, ELE, MEE)	<b>139</b>	<b>139</b>	<b>135</b>
Minimum Electives	<b>2</b>	<b>2</b>	<b>2</b>
General Study Courses	<b>10</b>	<b>10</b>	<b>10</b>
SWEP	<b>6</b>	<b>6</b>	<b>6</b>
SIWES ( I & II)	<b>18</b>	<b>18</b>	<b>18</b>
Law and Entrepreneurship skill Courses (GSE, BUL)	<b>6</b>	<b>6</b>	<b>6</b>
<b>UTME</b>	<b>181</b>	<b>181</b>	<b>177</b>
<b>DE (200L)</b>	<b>181</b>	<b>181</b>	<b>177</b>
<b>DE (300L)</b>	<b>134</b>	<b>134</b>	<b>130</b>

**COMPUTATION OF GRADE POINT FOR ALL OPTIONS**

<b>Departmental Options</b>	<b>ENGINEERING DESIGN</b>			<b>PRODUCTION AND MANUFACTURING</b>			<b>THERMOFLUID</b>		
	<b>UTME</b>	<b>DE (200L)</b>	<b>DE (300L)</b>	<b>UTME</b>	<b>DE (200L)</b>	<b>DE (300L)</b>	<b>UTME</b>	<b>DE (200L)</b>	<b>DE (300L)</b>
100 Level	<b>4</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>-</b>	<b>-</b>

200 Level	51	55	-	51	55	-	51	55	-
300 Level	45	45	53	45	45	53	45	45	53
400 Level	30	30	30	30	30	30	23	23	23
500 Level	33	33	33	33	33	33	36	36	36
<b>Total</b>	<b>163</b>	<b>163</b>	<b>116</b>	<b>163</b>	<b>163</b>	<b>116</b>	<b>159</b>	<b>159</b>	<b>112</b>

## DEPARTMENT OF WATER RESOURCES AND ENVIRONMENTAL ENGINEERING

### Course Description

#### B. Eng. Water Resources and Environmental Engineering

##### WEE 222 Students' Work Experience Programme

**6 Credits**

Introduction to practices and skills in general engineering through instruction in operation of hand and powered tools for wood and metal cutting and fabrication. Supervised hands - on experience in safe usage of tools and machines for selected tasks.

**270h (P); C**

##### WEE 283 General Engineering Laboratory Course I

**2 Credits**

Laboratory investigation and report submission for selected experiments and projects In Applied Mechanics and Applied Electricity I and Fundamental's of Fluid Mechanics.

**90 (P); C**

##### WEE 284 General Engineering Laboratory Course II

**2 Credits**

Laboratory investigations and report submission for selected experiments and projects in fundamentals of thermodynamics. Engineering materials, Applied Mechanics II and Applied Electricity II

**90h (P); C**

##### WEE 383 Water and Environmental Engineering Laboratory I

**1 Credit**

Laboratory Investigations and report submission for selected experiments in Engineering materials and Hydraulics

**45h (P); C**

- WEE 384 Water and Environmental Engineering Laboratory II 1 Credit**  
 Laboratory Investigations and report submission for selected experiments in Surveying, soil mechanics and Environmental Chemistry.  
**45h (P); C**
- WEE 392 SIWES I 6 Credits**  
 On the job experience in industry relevant to Water Resources and Environmental Engineering (10 weeks during the long vacation following 300 level )  
**270 h (P); C**
- WEE 411 Environmental Engineering 3 Credits**  
 Design of unit operations and processes in water and wastewater treatment, sedimentation, chemical coagulation, ion exchange, filtration, dis-infection. Water supply; treatment and distribution. Physical, chemical and microbiological factors in water quality measurements. Wastewater handling, treatment and disposal. Solid waste disposal, Air pollution and control.  
**45h (T); C**
- WEE 425 Design of Hydraulic Structures 2 Credits**  
 Fundamentals of hydraulic structures design. Design criteria and procedures for measuring structures, regulating structures, conveyance structures and energy dissipators. River diversions and canal intakes. Structures on permeable foundations. Canal outlet structures. Sediment control and exclusion. Channel functions, classification and layout. Irrigation and drainage channel alignment, layout and design. Seepage from canals and canal lining.  
**30h (T); C**
- WEE 431 Hydraulics 3 Credits**  
 Viscous flow, pressure drop, shear stress, viscosity, Reynold's number, applications, ideal fluid flow, flow patterns, superposition of flows. Fluid measurements and flows in parallel plates, pipes and circular spaces, velocity and pressure distribution, relative roughness. Pumps and turbines, Open channel flow, weirs.  
**45h (T), C, PR: CHE 241**
- WEE 433 Engineering Hydrology 2 Credits**  
 Elements of hydrology, precipitation, infiltration subsurface percolation. Evapotranspiration, energy balance. Analysis of stream flow, peak and low flows, frequency analysis, mass diagram, hydro graph analysis, flood routing. Groundwater, confined and unconfined aquifers. Hydrological data collection and analysis.

**30h (T); C**

- WEE 471 Watershed Systems Management 2 Credits**  
Examination of methods in watershed management with a focus on integrated water resources management (IWRM). Topics include: integration, participatory management, water resources assessment, modeling, planning, adaptive management, transboundary management, and transition management.  
**30h (T); C**
- WEE 481 Water and Environmental Engineering Laboratory III 2 Credits**  
Laboratory investigations and report submission for selected experiments in Environmental, Hydraulics / Hydrology and Transportation Engineering demonstrations drawn from topics in prescribed areas.  
**90h (P); C**
- WEE 485 Engineering Practices and Quantities 2 Credits**  
Legal, Professional and ethical aspects of engineering contracts and contract document including specifications and competitive bidding. Negotiated contracts. Civil, Water Resources and Environmental Engineering Quantities - Standard method of measurements, applications of the classification of coding and numbering of items. Bill of Quantities.  
**30h (T); C**
- WEE 492 SIWES II 12 Credits**  
On the job experience in industry at higher level of responsibility than WEE 392. (During the second semester of 400 Level).  
**270h (P); C**
- WEE 511 Engineering Hydraulics 2 Credits**  
Water distribution networks, analysis and design, steady uniform flow, steady gradually varied flow, classification and computation of water surface profiles, hydraulic jump, stilling basins, unsteady flow in closed conduits, water hammer, surge and surge control, hydraulic models.  
**30h (T); C, PR: WEE 431**
- WEE 515 Water and Wastewater Engineering 3 Credits**  
Application of design principles for a variety of water purification systems, including drinking water, municipal wastewater, industrial wastewater and agricultural wastewater. Design of physical, chemical and biological unit operations, and evaluating the optimum combination to satisfy the given design constraints and criteria. The optimum designs integrate engineering science, basic science, economics, and occupational health and safety for the workers and the public.  
**30h (T); 45h (P); C, PR: WEE 411**

- WEE 516 Water Resources Engineering 3 Credits**  
Application of principle of hydraulic and hydrology to problems in the control, conservation and usage of water, flood control, water power, water supply, irrigation, navigation, and river basin planning. Basic concepts of systems and economic analysis as applied to water resources.  
**30h (T); 45h (P); C, PR: WEE 433**
- WEE 517 Solid Waste Engineering and Management 2 Credits**  
Detailed engineering and management considerations related to the design and operation of solid wastes collection and disposal system, solid wastes survey, systems approach design, of land disposal operations; incinerator evaluations and design.  
**30h (T); C, PR: WEE 334, WEE 411**
- WEE 519 Air Quality 2 Credits**  
The study of the transport, transformation and deposition processes associated with air pollutants. The chemical and biological nature, impacts, and sources of air pollutants. The physical aspects of the atmospheric boundary layer. The mathematical treatment of diffusion in a homogeneous field in a boundary layer. Regulatory approaches worldwide and their use in air quality modeling. The use of models for the design of stacks and monitoring networks.  
**30(h); C**
- WEE 521 Irrigation and Drainage 3 Credits**  
Water requirements in an irrigation system, Methods of irrigation, Frequency and amount of irrigation, Irrigation water scheduling, Evaluation of irrigation systems and practices. Design of furrow, basin and sprinkler irrigation. Effect of poor drainage on plants and soils, Drainage requirement of crops, surface drainage, sub-surface drainage.  
**45(h); C**
- WEE 524 Urban Water System Design 3 Credits**  
Estimation of water quantity and quality needed for urban water supply and drainage, Design of water supply, pumping systems, pipe networks and distributed storage reservoirs from analysis of steady and transient, pressurized and free surface flow. Rates of generation of flows and pollutants to sanitary and storm sewers, design of buried pipe and open channel drainage systems with structures for flow and pollution control, Modeling of water systems for sustainable urban development.  
**45h (T); C, PR: WEE 411, WEE 431**
- WEE 526 Groundwater Hydrology 3 Credits**  
This course provides a general understanding of the physical and chemical processes that operate in the groundwater zone under natural and human-induced conditions. The interrelations between the groundwater regime and the other components of the hydrological cycle are studied. Considerable emphasis is placed on the applied aspects of topics such as exploration, testing and development of aquifers for water supply, the chemical quality of groundwater, and the hydrogeological aspects of waste disposal.

**45h (T); C, PR: WEE 433**

**WEE 528 Elements of Public Health**

**2 Credits**

Introduction of the concept of interdependence of man and other forms of life in the ecosystem, the process adaptation, community structure and organization. How the relationship of man to his social environment influences health and the occurrence of disease. Human ecology, medical sociology, social psychology and anthropology.

**30h (T); C, PR: WEE 411**

**WEE 584 Computer Applications in Water Resources and Environmental Eng. 2 Credits**

Review of Computer programming and programming languages (Fortran, Basic, Visual Basic etc). Computer applications in hydraulics, hydrology, environmental engineering and surveying. Individual or group projects on computer solutions of specific problems.

**15h (T), 45h (P); C, PR: ELE 275, ELE 276**

**WEE 593 Water Resources and Environmental Engineering Project I 4 Credits**

Original individual student research project related to a prescribed water resource, hydraulic, hydrology and environmental Engineering problem, involving literature review, identification, definition and formation of the problem, theoretical and or experimental investigations, modelling, simulation analysis and design.

**15h (T), 180h (P); C**

**WEE 594 Water Resources and Environmental Engineering Project II 4 Credits**

Second phase of project work involving the fabrication of the designed model, debugging, calibration, testing, data collection and analysis and presentation of a comprehensive written report of the investigation.

**15h (T), 180h (P); C**

**Note:** Details of other courses in the Department of Water Resources and Environmental Engineering are available in relevant Departments as follows:

ABE courses in Agricultural and Biosystems Engineering;

GNS courses in General Studies Division;

GSE from Technical Entrepreneurship Centre;

CHE courses in Chemical Engineering Department;

CVE courses in Civil Engineering Department;

ELE courses in Electrical and Electronics Engineering Department;

MEE courses in Mechanical Engineering Department;

STA, MAT, PHY, GEM and CHM courses in Faculty of Physical Sciences, and

BUL in Faculty of Law.



## SUMMARY

### 100 LEVEL

<b>Required Courses:</b>	<b>GNS 111 (2), GNS 112 (2)</b>	<b>= 4 Credits</b>
<b>Elective Courses:</b>	STA 124 (2), STA 131 (2) At least 9 credits must be passed out of the following Mathematics Courses:  MAT 111(3), MAT 112(3), MAT 113(3), MAT 114(3)  At least 9 credits must be passed out of the following Physics Courses: PHY 115(2), PHY 125(3), PHY 142(2), PHY 152(3), PHY 191(1), PHY 192(1)  At least 6 credits must be passed out of the following Chemistry Courses: CHM 101(3), CHM 112(2), CHM 132(2), CHM 115(2), CHM 116(1)	
		<b>Total = 4 Credits</b>

### 200 LEVEL

<b>Compulsory Courses:</b>	<b>WEE 222 (6), WEE 283(2), WEE 284 (2)</b>	<b>= 10 Credits</b>
<b>Required Courses:</b>	GNS 211(2) , GNS 212(2) , CVE 253(3), CVE 254(3), ELE 201(3), 202(3), MEE 217(2), MEE 218(2), MEE 235(2), CHE 241(3), ELE 276(2), MEE 272(2), ABE 263(3), ABE 206(2)	ELE CHE 242 (3), CHE 264 (3), ELE 275(1), <b>= 41 Credits</b>
		<b>Total = 51 Credits</b>
<b>Direct Entry Student:</b>	GNS 111(2) and GNS 112(2)	<b>= 4 Credits</b>

### 300 LEVEL

<b>Compulsory Courses:</b>	<b>WEE 383(1), WEE 384(1), WEE 392(6)</b>	<b>= 8 Credits</b>
<b>Required Courses:</b>	CVE 322(3), CVE 341(3), CVE 351(3), CVE 352(3), CVE 362(2), 363(2), CVE 365(2), CVE 366(2), CVE 353(2), MEE 361(3), 319(2), GNS 311(2), GSE 301(3), ABE 376(1), ABE 306(2), MEE 362(3)	CVE GEM 217(1), GEM 319(2), CHM <b>= 41</b>
<b>Credits</b>		<b>Total = 49 Credits</b>

**Direct Entry Students:** GNS 111 (2), 112 (2), 211 (2) and 212 (2) = 8 Credits

#### 400 LEVEL

**Compulsory Courses:** WEE 411(3), WEE 425(2), WEE 431(3), WEE 433(2), WEE 471(2),  
WEE 481(2), WEE 485(2), WEE 492(12) = 28 Credits

**Required Courses:** ABE 463(2), CHM 415(2), CVE 473(2) = 6 Credits  
**Total = 34 Credits**

#### 500 LEVEL

**Compulsory Courses:** WEE 511(2), WEE 515(3), WEE 516(3), WEE 517(2), WEE 519(2),  
WEE 521(3), WEE 524(3), WEE 526(3), WEE 528(2), WEE 584(2), WEE 593(4), WEE 594(4)  
= 33 Credits

**Required Courses:** ABE 501(3), ABE 573(1), BUL 506(3) = 7 Credits  
**Total = 40 Credits**

### GRADUATION REQUIREMENTS

1	Major Engineering Courses (ABE, CHE, CVE, ELE, MEE, WEE)	131 Credits
2	Courses from other Department outside the Faculty (CHM 319, CHM 415, GEM 217, GEM 319, BUL506)	10 Credits
3	General Studies Courses: (GNS 111, 112, 211, 212, 311)	10 Credits
4	Students' Industrial Work Experience Scheme (SIWES)	18 Credits
5	Students' Work Experience Programme (SWEP)	6 Credits
6.	Survey Camp (CVE 353)	2 Credits
6	Entrepreneurship Skill (GSE301)	3 Credits
7	Total Credits Required	180 Credits

**UTME: 180 Credits**

**DE (200): 180 Credits**

## DE (300): 133 Credits

### COMPUTATION OF GRADE POINT

1. 100 level courses are not used for computation of CGPA except GNS 111 (2), GNS 112 (2)
2. The 18 credits of SIWES must be passed but they are not used for computation of CGPA
3. The 2 credits of Survey Camp must be passed but they are not used for computation of CGPA
4. The minimum credits that will be used to compute the CGPA for all options are as follows:

For UTME / DE at 200 and 300 levels, credits that will be used to compute the CGPA are as follows:

#### (a) UTME / Direct Entry at 200 level

To qualify for the award of Bachelor of Engineering (B.Eng) Water Resources and Environmental Engineering, a student for the 4/5 years programme will require 161 credits for computation of final grade while Direct Entry at 300 level will require 114 credits for computation of final grade.

100 Level	4 Credits
200 Level	45 Credits
300 Level	41 Credits + SWEP (6) =47 Credits
400 Level	22 Credits
500 Level	40 Credits
<b>Total</b>	<b>158 Credits</b>

#### (b) Direct Entry at 300 Level

100 level	4 Credits
200 level	4 Credits
300 level	41 Credits
400 level	22 Credits
500 level	40 Credits
<b>Total</b>	<b>111 Credits</b>

## FACULTY OF ENVIRONMENTAL SCIENCES

### FACULTY OFFICE

A. Babalola.	B. Tech., M. Tech. (MAUTECH); PGDE; Ph.D. (Malaysia)	Senior Lecturer & Ag. Dean
A. I. Bako	HND; PGD; MURP (Ibadan); MBA (LAUTECH); Ph.D. (FUTA); MNITP; RTP	Lecturer I & Sub-Dean
Taiwo K. Afolayan	B.A. (Ibadan)	Faculty Officer

### DEPARTMENT OF ARCHITECTURE

T. A. Giwa	B. Tech., M.Tech. (ATBU); Ph.D. (Sheffield)	NUC Fellow & Coordinator
A.M.O. Atolagbe	B.Sc., M.Sc. (ABU); Ph.D. (Ilorin); MNIA	Visiting Reader
T.O. Bakare	B.Sc., M.Sc. (Lagos); FNIA	Senior Research Fellow
H.I. Alege	B.Sc., M.Sc. (ABU); MNIA	Adjunct Senior Research Fellow
Z.I. Adedo	B.Sc., M.Sc. (ABU); PGDE.	Lecturer II
S.Y. Sulaiman	B.Sc., M.Sc. (ABU); MNIA	Lecturer II
U.T.O. Moyo	B.Sc., M.Sc. (ABU); MNIA	Lecturer II
Aisha T. Abubakar-Kamar	B. Tech., M. Tech. (FUTM)	Assistant Lecturer
H. A Tanimu	B. Tech. (ATBU)	Graduate Assistant
Bukola M. Alaya	B.Tech. (FUTM)	Technologist II

## DEPARTMENT OF ESTATE MANAGEMENT

M.T.A. Ajayi	B. Tech., M. Tech, Ph.D. (FUTM); ANIVS; RSV	Adjunct Senior Lecturer & Ag. Head
B.T. Aluko	B.Sc., M.Sc., Ph.D. (OAU); RSV	Adjunct Professor
G.O. Olayonwa	B.Sc., M.Tech. (FUTM); Ph.D. (Malaysia); ANIVS; RSV	Adjunct Senior Lecturer
T.A. Ibrahim	B.Sc., MBA (Ilorin); M.Sc. (OAU); ANIVS; RSV	Lecturer I
N.A. Bello	B.Sc., M. Sc. (Ibadan); M.Sc. (OAU); ANIVS; RSV	Lecturer I
A. S. Adeogun	B. Tech., M. Tech. (FUTM); ANIVS; RSV	Lecturer II
W. A. Durosinmi	B. Tech. (FUTM); ANIVS	Graduate Assistant
A. Na'Allah	HND	Technologist II
K. F. Muyideen	HND	Technologist II

## DEPARTMENT OF QUANTITY SURVEYING

P.O. Lawal	B.Sc. (ABU); M.Sc. (Loughborough); Ph.D. (Jos); FNIQS; RQS	Reader
Ganiyu Amuda- Yusuf	B.Sc. (ABU); M.Sc. (Salford); Ph.D. (Malaysia); FNIQS; RQS	Senior Lecturer
M. A. Kasimu	B.Tech. (FUTM); M.Sc. (Jos); Ph.D. (Malaysia); MNIQS, RQS	Adjunct Senior Lecturer
B. Suleiman	B.Sc., M.Sc. (Varna)	Lecturer I
K. Ibrahim	B.Tech. (FUTM); M.Sc. (ABU)	Assistant Lecturer
L. O. Olorunoje	B.Tech. (FUTM)	Graduate Assistant
Toyin Saka	HND	Technologist II

#### **DEPARTMENT OF SURVEYING AND GEOINFORMATICS**

A. O. Abdulyekeen	B.Sc., M.Sc. (Lagos); MNIS; RS	Lecturer II & Coordinator
A. Babalola.	B. Tech., M.Tech. (MAUTECH); PGDE; Ph.D. (Malaysia)	Senior Lecturer
Dupe N. Olayinka.	B.Sc., M.Sc. (Lagos); Ph.D. (Lancaster); MNIS; RS	Visiting Senior Lecturer

K. O. Odedare	HND; M.GIS; MURP (Ibadan); Ph.D. (FUTA); FNIS; MNITP; RS; RTP	Adjunct Senior Lecturer
Gbemisola Olatunde	HND; PDS; ANIS	Technologist II
A. O. Amoo	HND	Technologist II

### **DEPARTMENT OF URBAN AND REGIONAL PLANNING**

M. J. Yusuf	B. Tech. (FUTM); M.Tech. (LAUTECH); MNITP; RTP	Lecturer II & Coordinator
N. B. Tanimowo	B. Ed., M. Sc., M.Ed., Ph. D, (Ibadan); MNITP; RTP	Professor
A.E. Toyobo	B.Sc., M.Sc.(ABU), Ph.D. (LAUTECH); MNITP; RTP	Visiting Senior Lecturer
A. I. Bako	HND; PGD; MURP (Ibadan); MBA (LAUTECH); Ph.D. (FUTA); MNITP; RTP	Lecturer I
Memuna O. Abdulraheem	B. Sc. (ABU); M. Sc., MBA, Ph. D. (Ilorin); MNITP	Lecturer II
W. M. Raheem	B.Sc. (Ilorin)	Graduate Assistant
Falilat T. Onundi	B.Sc. (Maiduguri)	Technologist II
H.O. Zubair	B.Tech.	Technologist II





## DEPARTMENT OF ARCHITECTURE

### Course Description

#### B.Sc. Architecture

- ARC 101      Introductions to Architecture I      3 Credits**  
An introductory course to Architecture, stressing the role of the Architect in the building industry and the society. Architecture as art, science, a profession, and relationship with other professions. Aims of design, design process, design skills and tools. Drawing and the various graphic communication media. Reproduction equipment and materials. Significant buildings in Architecture and their Architects.  
**30h (T), 45h (P); C**
- ARC 102      Architectonics and Modeling      3 Credits**  
Elements of Architectural modeling with emphasis on wood, metal work and plastics in Architectonics and three-dimensional communications. Introduction to drafting instrUMENTs. Drawing formats, techniques of lettering of architectural presentation, orthographic projection of points, lines and geometric figures on a plane. Basic structural systems in Architectural design. Principles, historical development and spatial implications of form-active, bulk-active, surface-active and vertical structures. Influence of technology and climate. Building elements and service. Computer applications in Architectural practice.  
**30h (T), 45h (P); C**
- ARC 103      Freehand Sketching I      2 Credits**  
Sketching and architectural drawing from life. Developing graphic language by which an architect explains buildings and other objects to himself and others using dry media such as pencils and crayons.  
**90h (P); C**
- ARC 104      Freehand Sketching II      2 Credits**  
Sketching and architectural drawing from life. A continuation of freehand sketching with greater emphasis on quick sketching techniques using wet media such as water and poster colours, inks.  
**90h (P); C**
- ARC 105      Architectural Graphics and Lettering I      2 Credits**  
Mechanical drawing, descriptive geometry, perspective , shades and shadows including freehand drawing. Essential graphic materials and equipments, lines and line weight, symbols and conventional representations, lettering and projections.  
**90h (P); C**

- ARC 106 Architectural Graphics and Lettering II 2 Credits**  
 Presentation of architectural drawings. Emphasis will be laid on presentation and rendering techniques using different media. Advanced techniques in preparation, coding and rendering of architectural drawings. Modular coordination as a tool in architectural design studio work. Advanced techniques in projection of perspectives including 1-point interior, 2-point interior, aerial, 3-point exterior perspectives. Application of other projections (e.g. axonometric and isometric) in architectural studio work.  
**90h (P); C, PR: ARC 105**
- ARC 201 Architectural Design I 3 Credits**  
 A studio course using abstract designs to develop creative thinking, analytical skills and aesthetic sensitivity in architectural design. Architectural forms, principles of proportion, rhythm, harmony, contrast, texture, mass, volume, etc. Colour, tectonics and modelling in Architecture. Anthropometric and activity space analysis. Design methodology, Measured drawings, Design Programme of simple building of student's home in the village. Detailing of residential components such as bathroom, kitchen, bedroom.  
**135h (P); C**
- ARC 202 Architectural Design II 5 Credits**  
 Physical, Morphology and attribute of space. Ordering of spaces, interior and furniture design. Architectural design process, site investigation and analysis, functional relationship. Final architectural design solution. Actual design of simple structure i.e. bus stand, entrance gates, kiosks, shops, chemist shop, artist shop, residential designs.  
**225h (P); C, PR: ARC 201**
- ARC 203 Building Components and Methods I 2 Credits**  
 Basic building materials and their characteristics e.g timber, stones, bricks, cement and sandcrete blocks, concrete and reinforced concrete, mortars and rendering. The use of the basic materials such as rock, organic materials, synthetic and hybrid materials in architecture.  
**30h (T); C**
- ARC 204 Building Components and Methods II 2 Credits**  
 Building elements and components, their construction and functional requirements e.g. foundation, load bearing walls, opening in walls; doors, windows, floors, simple roofs and finishes.  
**30h (T); C, PR: ARC 203**
- ARC 205 History of Architecture I 2 Credits**  
 History of Architecture highlighting factors (e.g philosophical, cultural, climatic, political, technological...) that gave rise to concepts, distinct forms, values, spatial content and other expressions, each illustrated with detailed individual examples. A

general survey of the pre-historic architecture and urban development in Africa-Nigeria, Egypt, Kenya, Tanzania, etc. Near East – Mesopotamia, Far East-Japan and China; Asia-India, Pakistan and Sri-Lanka.

**30h (T); C**

**ARC 206**

**History of Architecture II**

**2 Credits**

A survey of architectural development in pre-Columbian to American to Mexico and Peru. Europe – Greek – Roman, early Christian architecture, Islamic, Renaissance, Baroque, Rococo, and Byzantine architectures.

**30h (T); C, PR: ARC 205**

**ARC 207**

**Building Materials I**

**2 Credits**

Knowledge of the properties of basic building materials: Woods, Brick, Stone, Cement, Sand, water Iron. Understanding the proper usage of these materials. Learning the correct graphical representation of these materials.

**30h (T); C**

**ARC 208**

**Building Materials II**

**2 Credits**

Knowledge of the properties of process building materials: Glass, Steel, Aluminum, Sandcrete Blocks, Tiles [Floors, Walls and Ceilings]. PVC, paints. Understanding the proper application to the materials in construction. Learning the graphical representation and specifications of these materials.

**30h (T); C, PR: ARC 207**

**ARC 209**

**Building Structure I**

**2 Credits**

Definitions and conceptualization of basic principles of structural design. Introduction to mechanics and design of building structures. The objectives of structural design, their applications to architectural space. Concurrent coplanar forces; triangle of forces, parallel forces. Non-Concurrent coplanar forces. The link polygon, applications of link polygon. Direct stress and strain, elasticity, hook's law and the modulus of elasticity. Behavior of steel in tension, limiting values of steel. Factor of safety, compound bars, temperature stresses.

**30h (T); C**

**ARC 210**

**Building Structure II**

**2 Credits**

Properties of structural sections: The centre of gravity or centroid, second moment of area, about a centroidal area, the parallax area principle. Compound sections. Radius of gyration. Polar second moment of area section modulus. Theory of stress, analysis of trusses. Application of method of joints, method of sections and graphical method of trusses. Further work on stress and strain, compound stresses. Bi-aerial stresses on inclined planes for simple tension and compression; Mohr's circle. Oblique planes and general two-dimensional stress systems, principal planes and principal stresses. Moments of forces. Measurement of moments. Conditions of equilibrium.

**30h (T); C, PR: ARC 209**

- ARC 211**      **Descriptive Geometry I**      **2 Credits**  
Significance of lines, weight, line gravity, basic geometrical constructions. Basic principles in orthographic projections, first-angle and third-angle projections, points, lines (including skew lines) planes and geometrical solids in orthographic projections, auxiliary planes and transformation on designated planes and the application of this concept to true shapes, true dimensions etc. and other projections (i.e. isometric, oblique, axonometric). Lettering and basic dimensioning.  
**90h (P); C**
- ARC 212**      **Descriptive Geometry II**      **2 Credits**  
Simple intersection of lines with planes, planes with solids, solids with solids, simple geometrical solids, construction of simple geometric forms, n-sided polygon in a given circle, n-sided polygon with a given side; construction of curves, circles, ellipse, parabola and hyperbola, involute to a square, circle, cycloid, and archi-median spiral, locus of a point, link mechanisms, intersections of more complicated geometric forms, developments of surface of solid, geometrical figures before and after intersection.  
**90h (P); C, PR: ARC 107**
- ARC 213**      **Theory of Creative Process in Architecture**      **2 Credits**  
The impact of the Industrial Revolution on Architecture. Transition from iron to steel. James Bogardus, Henri Labrouste and the demand for a new architecture. The grand exhibition, the art Nouveau, Ferro-concerata, plain surface in American Architecture, Chicago school, Organic Architecture, means of Architectonic expression, integrity of form, irrationality and standardization, concepts, methods and philosophy of contemporary architects. Early and recent architectural works in Nigeria.  
**30h (T); C**
- ARC 214**      **Building Climatology I**      **2 Credits**  
Studies in how climatic factors affect human comfort. Climatic decisions in the design process, identification and analysis of climatic problems for the purpose of (heat) and glare effect of solar radiation. Thermal characteristics of building materials and some elements of construction sun shading devices the climatological zones of Nigeria and their characteristics, study of traditional buildings in varying climatic zones and their problem solving potentials. Climate change and the greenhouse effect, environment and human health.  
**30h (T); C**
- ARC 216**      **Computer Aided Design**      **2 Credits**  
Introduction to CAD: Theoretical background information on computing generally. Introduction to various computer design application packages. Fundamentals of Auto CAD. The application of these in generation of plans, elevations, sections, staircases etc. Plotting methodology.  
**15h (T), 45h (P); C**

- ARC 218 African Traditional Architecture 2 Credits**  
 Definition and characteristics of architecture and the term traditional architecture. Different types of traditional architecture: folk architecture, vernacular architecture, primitive architecture. Modern architecture in vogue: monumental, spiritual, humane, utilitarian as it relates to traditional architecture. Traditional Architecture in Africa. External influences on indigenous architecture. Technical components of Nigerian Traditional Architecture. Major building materials used in traditional architecture, e.g. mud, stone, raffia, grass, corn stalks, bamboo, canes, oil palm frond, etc. Techniques of roof construction in traditional architecture. Distribution of styles in traditional architecture. Characteristics of city formations in selected urban areas of Africa. Design assignments/exercises to reinforce the knowledge already gained.  
**30h (T); C**
- ARC 301 Architectural Design III 4 Credits** Research, investigation and concept development as the basis for Architectural design. Logical evaluation of plan form in relation to physical, climatic, land site considerations. Form and their relationships to total environment and site. Actual design of simple civic buildings i.e Post office, Fire station, Police station, Prison, Town hall, Bank, Nursery school, etc. Emphasis on site planning and development. External space articulation with building forms. Projects to accentuate the organization of a group of related buildings on a site (cultural awareness as they affect architectural design to be highlighted). Design of a single storey structure with given programmes and site: Library, Gymnasium, Museum, Complex laboratory, Pharmaceutical factory, etc. Design of multi-storied structures: apartments, offices in urban environment with traffic problems with the observation of all required building regulations and bye-laws. Perspectives should be included. Seminar and term papers on the study of some of the important works of Nigerian architects should also be included.  
**180h (P); C, PR: ARC 202**
- ARC 303 Building Components and Methods III 2 Credits** Detailed study of building materials and their characteristics e.g. cast stone, composite products, asbestos cement products, asphalt and bituminous felts, glass, paints, steel, aluminium and other metals, plastics, materials for sound and thermal insulation, traditional building materials, etc. Choice of building materials in relation to functional, structural, economic, health and aesthetic considerations. Elements of Building Construction – Load bearing elements, partitions, stair cases, ramps, ladders, floors, ceilings, roofs, internal and external surface finishes and traditional construction methods.  
**30h (T); C, PR: ARC 204**
- ARC 305 Building Services I 2 Credits**  
 Introduction to all basic building services. Air-conditioning, elevators, fire-fighting services. Cold and hot water supply; Sources of water and water distribution; Cold and hot water installation; calculations of standard consumption velocity, demand and plumbing fittings leading to a complete design, surface water drainage, sewage and waste disposal and sanitary systems. Assignments are given on the application of these services using simple projects consisting of properly scaled drawings and appropriate symbols.

**30h (T); C**

- ARC 307 Building Climatology II 2 Credits**  
Buildings, climates and comfort: Importance of designing with climate; principles of thermal design, elements of climate, collecting climatic data, and psychometric chart. Thermal comfort models/indices, conducting field study, means of thermal control and application.  
**30h (T); C, PR: ARC 214**
- ARC 309 Building Structures III 2 Credits**  
Bending moment and Shear forces; method of loading, determination of reaction of the supports; Calculation and diagram; Mathematical relationships between load Shearing force and bending moment; Bending and shearing stresses in beams; Slopes and deflections of beams: mathematical relationship between bending moment, slopes and deflection, determination of slopes and deflection by integral calculus methods, and area moment method. Fundamentals of moment – distribution method, applications of moment, distribution method of beams and support settlement.  
**30h (T); C, PR: ARC 210**
- ARC 311 Working drawing and Detailing 2 Credits**  
DocUTMENTal drawings for construction works. Concept of working drawings as graphical communication between the Architect and the contractor. Details as explanatory drawings of sections and elements. Variations in design arising from changing. Fully dimensioned drawings in appropriate scales, construction details of joint, stairs, structural elements, etc. and the incorporation of building services should be stressed. At the end of the course, complete sets of working drawings shall be produced from a given presentation drawing.  
**90h (P); C**
- ARC 313 Landscape Design 2 Credits**  
Concepts in landscape design. Basic elements of landscape. General appreciation of natural and man-made landscape. Elements of landscape and their contribution in the design of open spaces in relation to buildings. Designing with nature or subjugation of nature. Landscape architecture of the territorial, urban neighborhood or single building lands. Climate and environmental constraints. Spatial relationship between architectural interiors and landscape. Traditional building techniques and landscape. Analysis of the elements of urban landscape. Planting design, Management of landscape, Landscape construction materials and methods: the use of natural resources: Trees, bushes, grass, rocks, water etc. in urban landscape (housing recreation areas).  
**15h (T), 45h (P); C**
- ARC 315 Sociology of Housing 2 Credits**

Concept of housing. Goals and objectives of housing. Housing bundle, basic attributes of housing. Housing needs – man’s need for shelter; Housing demand and supply. Layouts and different ways of formulating housing standards for developing countries; Socio-economic segregation in housing; Methods of financing housing; Core and self-help housing.

**30h (T); E**

**ARC 317 Architectural Psychology & Perception 2 Credits**

This course is designed to enable the student understand the meaning, causes of different perceptions, significance of perception in design and the complexities of human psychology in its various dimensions; The implications or effects of design decisions on the users, clients and the public at large; Identify various psychological factors that affect architectural design and accommodate the factors in the design process.

**30h (T); E**

**ARC 300 Student Industrial Work Experience Scheme (SIWES) 18 Credits**

Student Industrial Work Experience Scheme (SIWES) expose the student to architectural office practice in real environments. Acquisition of skill for competence in the execution of practical Architectural projects, safe handling of equipment and avoidance of hazards associated with them, and skill of observation, recording and documentation on construction sites.

**810h (P); C**

**ARC 401 Architectural Design V 6 Credits**

Design of domestic building with site restrictions, materials restrictions to be worked out as a practical problem, starting with sketches to working drawing and detailing (complete in pencil or tracing papers). A study in interior decoration of sizeable space like, entrance hall to a library, Restaurant. Sketch design of series of structure starting with small sizes to large. Presentation in finished form as presentation drawing. Each design will be subjected to jury criticism at every stage. Studies for the identification of the elements of architectural design to perceive and to develop sensitivity and awareness for valid interpretations. Architectural treatment of specific theme.

**270h (P); C, PR: ARC 301**

**ARC 403 Building Components and Methods IV 2 Credits**

Foundations: foundation design and choice, foundation types: R.C foundation footings, raft, pad, combined footings, cantilevered and pile foundations, sheet piling, and grillage foundation. Temporary works: shoring, timbering, scaffolding, shuttering for Reinforce Concrete (R.C.) slabs, form work. Roof structure: types-trusses, shell, dome. Choice of roof structure and constructional methods. Cantilevered and hollow roof construction, water proofing, treatment of construction joints.

**30h (T); C, PR: ARC 303**

**ARC 404 Building Components and Methods V 2 Credits**

Steel as structural materials. Fire-proof structures. Architectural use of basic materials. Multi-storied steel frame structure connection and their components, steel stress, covering and draining details. Steel door and window casements; sliding, revolving, collapsible and rolling shutters. Fire proofing. Classification of buildings, fire prevention methods, fire protection equipment and devices control systems, material/component ratings, means of egress, national fire safety code, standard fire tests, Architectural uses of stone, brick, wood and other materials, cladding and panelling.

**30h (T); C, PR: ARC 403**

**ARC 405**

**Building Services II**

**2 Credits**

Studying mechanical equipment, illumination and acoustics and the architectural and technical requirements for human comfort; Fundamentals of electric power generation, transmission and distribution; Types of electrical supplies in Nigeria; Design procedure and data requirements; Electrical installation and equipment, load determination systems; Domestic installations, services units and ring main; Non-domestic installation, voltage drops, ring and rising main distribution; Industrial installations, fitting switch, gear, fuses. Illumination standards, light distributions; Electrical devices in building design; Lighting appliances; lifts; Safety protection and energy conservation; Lightning arrestors.

**30h (T); C, PR: ARC 211**

**ARC 406**

**Building Contracts and Arbitration**

**2 Credits**

Introduction to the form of building contract and contract documents; Types in use in Nigeria, rights and duties of the parties; Status and responsibilities of the consultants; Bonds, dispute resolution, arbitration and awards; Arbitration and Conciliation Act CAP 19 of 1990. Types of building contracts: contract agreement and conditions. Role and responsibilities of the construction team; Commissioning; Contract procedures and processes including form of tender and invitation to tender; Job supervision, project commissioning and arbitration.

**30h (T); C**

**ARC 407**

**Research Methods**

**2 Credits**

This course introduces the student to the range of tools and techniques available for investigation and the conduct of scientific inquiry into issues relating to architecture with a view to evolving suitable solutions. The course deals with the fundamentals of research, synthesis of ideas and general research methods such as developing theories and hypotheses, methodologies, sampling, observation, etc. leading to a research essay that is necessary for the bachelor degree dissertation. This research is conducted in the form of seminars within the options offered by the department.

**30h (T); C**

**ARC 408**

**Acoustics and Noise Control**

**2 Credits**

Acoustics – Fundamental principles of sound: Sound propagation, sound and space geometry, sound transmission, insulation, absorption, reflection and modulation. Sound quality, noise control; Architectural acoustics; Environmental acoustics; Acoustic equipment



- ARC 409 Building Structures IV 2 Credits**  
 Introduction to structural systems and form system of loads. Design of statically determinate structures. Trusses-stress and design, methods of joints and sections. Analysis of statically indeterminate structures. Discussion on strength of material: elastic and plastic behaviour of common materials, ductile and brittle materials, material testing, tensile and compressive. Properties of steel, concrete and reinforced concrete materials. Loads on structures, estimation of beams, slab and roof loads. Modular ratio method of design (design according to CP 114). Singly reinforced concrete beams, flanged beams, doubly reinforced beams, columns, slabs, shear reinforcement in beams. Development of the three moment equation and application; Development and application of slope-deflection equation; Frame structures: calculation of bending moments and forces in frames, application of moment distribution method of frames; Properties of the influence line. Influence lines for beams. Series of concentrated line loads-use of moment chart. Computation of maximum moment, absolute maximum line shear, influence lines for trusses  
**30h (T); C, PR: ARC 309**
- ARC 410 Interior Design 2 Credits**  
 Interior design as it relates to architecture, tools of interior design, analysis of space in various functional environments and planning to maximize use including subdivisions, furniture, colour, lighting and finishes. Integrated services both hidden and exposed, cleaning routines, reduction of stress in the workplace.  
**15h (T), 45h (P); C**
- ARC 412 Building Structures V 2 Credits**  
 Design of reinforced concrete structure according to BS 1800; Singly reinforced concrete beams, flange beams, shear reinforcement in beams, curtailment of reinforcement. Torsion in reinforcement; Design of reinforced concrete columns, one way slabs, and staircases, two-way spanning, slabs, simple reinforced cement concrete foundation. The student is given a structure to develop the calculations and basic structural drawings for concurrent architectural design projects.  
**15h (T); C, PR: ARC 411**
- ARC 414 Building Economics 2 Credits**  
 Some general terms in building economics. Cost planning as a design tool, factors governing building costs, price analysis, bill of quantities, cost criteria, cost research and estimating cost plans.  
**30h (T); C**
- ARC 416 Natural and Artificial lighting 2 Credits**  
 Lighting requirements: distribution and space geometry, intensity, sources and effects. Natural lighting: basic principle of solar radiation, sun path, day light factor, direct and indirect sun lighting glare control. Artificial lighting: luminaries, types of illumination sources, types of lighting fittings, energy consumption, purpose lighting (safety, aesthetics, task). Design techniques

and application of artificial and natural lighting. Heat: sources, thermal radiations, thermal comfort and load. Thermal control devices, heaters, air conditioners, fenestration, ventilation and ventilators.

**30h (T); R**

**ARC 499**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.

**270h (P); C**

### SUMMARY

#### 100 Level

**Compulsory Courses:** ARC 101 (3), 102 (3), 103 (2), 104 (2), 105 (2), 106 (2) = **14 Credits**

**Required Courses:** GNS 111 (2), 112 (2), CSC 111 (2), 112(2), ESM 114 (2), QTS 103 (1), MAT 111  
(3), 114 (3), PHY 191 (1), 192 (1), 125 (3), 142 (2), GPE 121 (3), 122 (3), URP 101 (2)  
= **32 Credits**

**Total = 46 Credits**

#### 200 Level

**Compulsory Courses:** ARC 201 (3), 202 (5), 203 (2), 204 (2), 205 (2), 206 (2), 207(2), 208(2) ARC 209  
(2), 210 (2), 211(2), 212 (2), 213 (2), 214 (2), 216 (2), 218 (2)  
= **36 Credits**

**Required Courses:** GNS 211 (2), 212 (2), URP 203 (2), SVG 201 (2) = **8 Credits**

**Total = 44 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2) = **4 Credits**

#### 300 Level

**Compulsory Courses:** ARC 301 (4), 303 (2), 305 (2), 307 (2), 309 (2), FES 300 (24)  
= **36 Credits**

**Required Courses:** GNS 311(2), QTS 307(2), URP 307 (2), GSE 301 (3) = **9 Credits**

**Elective Courses:** At least 2 Credits from the following:  
ARC 311 (2), 313 (2), ESM 301 (2) = 2 Credits  
**otal = 47 Credits**

**400Level**

**Compulsory Courses:** ARC 401 (6), 403 (2), 404 (2), 405 (2), 406 (2), 407 (2), 408 (2), ARC 409  
(2), 410 (2) 411 (2), 412 (2), 414 (2), 499 (6) = 34 Credits

**Required Courses:** QTS 405 (2), URP 413 (2) = 4 Credits

**Elective Courses:** At least 6 Credits from the following:  
ARC 415 (2), 416 (2), 417 (2), CVE 412 (2), QTS 413 (2), URP 411 (2) URP 415 (2), 418 (2), 512 (2)  
= 6 Credits  
**Total = 44 Credits**

**Graduation Requirements**

UTME = 181 Credits

DE = 139 Credits

## DEPARTMENT OF ESTATE MANAGEMENT

### Course Description

#### B.Sc. Estate Management

- ESM 101      Introduction to Estate Management I      3 Credits**  
Management principles. Setting Objective. Planning: coordinating and control, organization and directing management functions. Concept of land ownership, motives of land ownership, types of interest in land freehold, leasehold and right of occupancy, public and private interests in land. Factors that prevent lease holders from exercising unlimited control over land.  
**30h (T); C**
- ESM 102      Introduction to Estate Management II      3 Credits**  
Functions of Estate Management; Interests in land, Land tenure system in Nigeria, Management of private and public estate, Estate management functions, Estate management, Estate life cycle, Estate Planning and Control, Estate Development Financing, Types of land Tenure systems. Proprietary land use and structure. Housing issues.  
**30h (T); C**
- ESM 103      Introduction to Real Estate Marketing      2 Credits**  
Definition, types, market location and origin. Participant on real estate market; brokers, owners and buyer/purchaser. Strategies of real estate marketing: adverts, bill board and internet. Brokerage: brokers, duties of brokers, estate agent and auctioneer. Authenticity of an estate agent. Branding and logos. Objectives and principles of real estate marketing. Client. Customer orientation: base, financial, geographical and custom. Factors Influencing Real Estate Marketing (Rights and Obligations).  
**30h (T); C**
- ESM 104      Introduction to Facilities Management      2 Credits**  
Definition, principles and reasons for facility management. Planning. Coordinating Control. Organization and directing management functions. Facilities management functions: space management, real estate, premises operation, project management and office services. Levels and elements of post occupancy evaluation, concept of post occupancy evaluation and strategies for facilities management. Approach to facilities management. Strategy development for effective management. Strategic analysis and implementation of facilities required. Glossary of facilities management and terms.  
**15h (T), 45h (P); R**
- ESM 201      Introduction to valuation 1      3 Credits**  
Concept, role and function of the valuer. Purposes of valuation and determinants of value. Investment and the property market. Sectors of the property market. Concept of yield and interest rates. Prices cost and relationship with value.  
**30h (T), 45h (P); C**

<b>ESM 202</b>	<b>Introduction to valuation II</b> Definitions of rental value and outgoings. Principal types of landed property, factor influencing supply, demand for landed property, principles of investment concepts of discounting and compounding. Construction and use of valuation tables and relationships. Valuation methods. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b>
<b>ESM 203</b>	<b>Land Economics I</b> Man/Land relationship within physical, economic and institutional frameworks. Proprietary land units, rationale for development, development process and framework for land policy and reform. Land use planning and machinery. Land policy in Nigeria. Demand, supply and land as a factor of production. Nature and concept of rent. Land resources of Nigeria land and property markets. Urban growth, structures and land use pattern. Location theory. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ESM 204</b>	<b>Land Economics II</b> Theories of consumption. Income, employment, international trade interest and asset prices. Resource allocation, conservation of land resources and concepts of land use capacity. Highest and best use, comparative and absolute advantages. Economic basis of urbanization and land value patterns. Accessibility and complementarities in value determination. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ESM 205</b>	<b>Law of Contract and Tort 1</b> Nature, offer and acceptances. Consideration, intention to create legal relations, form and content, initiating elements, incapacity, mistake, misrepresentation, duress and undue influence. Statutory invalidity and illegality, sale of any interest in land, contract of guarantee, agent and principal. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ESM 206</b>	<b>Law of Contract and Tort II</b> Formation of contract, void and voidable, unenforceable contracts, termination of contracts, remedies of breach. Torts affecting land, negligence, nuisance, trespass and liability for animals. Rule in Ryland and Fletcher, breach of statutory duty and employers liability. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ESM 207</b>	<b>Principles of Accounting I</b>	<b>2 Credits</b>

Definition, principles and method of book keeping. Use of books, journal, and ledger. Double entry book keeping, forms of account trading, profit and loss, balance sheets, trial balance and final account. Manufacturing account, bank reconciliation and provision for bad debt.

**30h (T); C**

- ESM 208 Principles of Accounting II 2 Credits**  
Elements of cost and cost behavior. Accounting for labour, material, plant and overheads. Stock valuation, job order, costing and contract account. Budgeting and standard costing.  
**30h (T); C**
- ESM 209 Principles of Economics 1 2 Credits**  
Introduction, scope and methodology. Micro economics, price theory and function of market system. Demand and supply, elasticity, consumer behavior, theory and costs of production. Revenue plan of the firm, market structures, pure competition, monopoly and oligopoly. Theory of distribution, wages rent, interest and profit. Indifference curve approach/  
**30h (T); C**
- ESM 210 Principles of Economics II 2 Credits**  
National income accounting. Circular flow of income. National income analysis. Money and the monetary system. International trade and balance of payments. Elements of public finance.  
**30h (T); C**
- ESM 211 Agricultural Properties and Record I 2 Credits**  
Farm Business Analysis. Farm records and accounts. Types of farm records. Application of farm records in the analysis of farm business. Balance sheet and income statement. Risk, uncertainty in farm planning and budgeting.  
**30h (T); R**
- ESM 212 Agricultural Properties and Record II 2 Credits**  
Aspect of land use necessary for rural valuation taken into cognizance of general principle of agricultural production. Process of crop growth, soil as a significant medium of crop production, animal or livestock husbandry.  
**30h (T); R**
- ESM 213 Basic Statistics for Real Estate I 2 Credits**  
Introduction, property, market data and presentation. Use of bar charts, histogram, frequency distribution and curves. Averages, means, weighted means, medians, dispersion and standard deviation. Correlation and regression.  
**30h (T); R**

<b>ESM 214</b>	<b>Basic Statistics for Real Estate II</b> Nature, scope, uses and limitation of statistics. Methods of data collection and presentation. Measures of tendency and dispersion. Forms of distribution moments, skewedness and kurtosis. Inferential statistics and test of hypothesis. <b>30h (T); R</b>	<b>2 Credits</b>
<b>ESM 216</b>	<b>Land Information System</b> Definition and component of land information, land information as a component of management information system. Land information system: storage, retrieval and structure. Land information distribution and packaging. Land information system in the built environment. <b>30h (T); E</b>	<b>2 Credits</b>
<b>ESM 301</b>	<b>Principles of Valuation I</b> Investment market: stocks and shares, gilt edged securities and property. Investment, direct comparison, residual, cost and profit approaches to valuation. Concept of risk, yield and valuation. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b>
<b>ESM 302</b>	<b>Principles of Valuation II</b> Analysis of Transactions; Application to valuation of freehold and leasehold interests; Problems of leasehold valuations; variable profit rent; Gross and Net of Tax Valuations; Premiums; Liabilities and Expenditure; Extensions and Renewal of Leases; Virtual Rent. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b>
<b>ESM 303</b>	<b>Land Law 1</b> Principles of English land law. Historical outline of the development of freehold, leasehold estate and interests. Legal and equitable interests in land, pledges, pawns, mortgage and their nature. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ESM 304:</b>	<b>Land Law II</b> Role of land in indigenous Nigerian society and economy. Nature of land holdings, creation of family ownership, incidents of family ownership, customary forms of alienation and dealings with family property. Compulsory acquisition and state grants. Registration of title of family land. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ESM 305</b>	<b>Property Rating and Taxation 1</b>	<b>2 Credits</b>

Nature and incidence of property rate and income tax, allowances and deduction. Functions of local government and rating administration. Rating assessment: basic principles, exemptions, techniques of valuation, ratable increments, canons and principles of taxation. Calculations of capital gains tax, withholding tax, estate duty and capital transfer tax.

**15h (T), 45h (P); C**

- ESM 306 Property Rating and Taxation II 2 Credits**  
Organization and administration of rating, preparation of valuation list, tone of the list, rating tribunal, objections, proposals and appeals.  
**15h (T), 45h (P); C**
- ESM 307 Arbitration and Awards I 2 Credits**  
Nature, origin and concept of arbitration. Application to valuation and certification. Arbitration Act. Types of arbitration. Appointment of arbitration. Umpires. Rules of evidence and arbitration, advantages and disadvantages of arbitration. Procedure in arbitration awards, proceedings subsequent to award and costs on award.  
**30h (T); R**
- ESM 308 Arbitration and Awards II 2 Credits**  
Expert evidence and proof of evidence. Arbitration of real estate and related disputes in the construction industry. Skills and competence required of a professional acting as an arbitrator. Real estate documents and arbitration clauses, methods of enforcing and setting aside an award.  
**30h (T); R**
- ESM 309 Estate Office and Administration 2 Credits**  
Meaning of office practice. Managing an office: service regulation, purpose of budget and banking statement.  
**30h (T); R**
- EMS 310 Macro Economics Theory 2 Credits**  
Principles and applications of economics for national development. Macroeconomic variables and school of macroeconomic thoughts. Money and fiscal in the traditional Keynesian system. Keynesian and monetarist views on price and output determination. Rational expectations, new classical macroeconomics and efficient market. Modern Keynesian theory with rational expectations. New Keynesian versus Real Business-Cycle theories. International dimension of macroeconomic policy.  
**30h (T); R**
- ESM 311 Housing and Public Policy 2 Credits**



Concept of housing: types, demand and infrastructure. Application of existing housing policy, finance, management and investment. Low income housing. Theoretical issues on housing policy. Nigeria's housing policy and development. Housing and community facilities. Housing standards

**30h (T); R**

- ESM 312 Environmental Impact Assessment 2 Credits**  
Glossary of environmental terms. Review of the Nigeria environmental crisis. Concept of Environmental Impact Assessment (EIA). Need for assessment: stages in in EIA. Methodology and logic requirements of EIA. EIA in project appraisal: case studies of existing and proposed projects. Nigerian Environmental Impact Assessment Decree.  
**30h (T); R**
- ESM 313 Building Economics I 2 Credits**  
Meaning of building economics. Value and investment - methods of valuation. Factors affecting demand/value of property and rental values. Economics of pre-fabrication and industrialisation of residential developments. Assessment of demands for development. Aims of public and private developers. Constraints faced by developers and effects on development.  
**30h (T); E**
- ESM 314 Building Economics II 2 Credits**  
Choice and acquisition of site, developers' budget, land use and value determinants. Environmental economics. Cost control terminologies. Cost implications: design variables and construction methods.  
**30h (T); C**
- ESM 316 Risk and Insurance in Real Estate 2 Credits**  
Philosophy, rationale and use of insurance in the property industry, identifying and classifying various types of risks in order to assess the extent of risk exposure in various stations especially property investment and development. Using appropriate risk management technique to assess degree of risk exposure under different situations, understanding insurance principles, types and techniques applicable and developing skills through practical case studies.  
**30h (T); R**
- ESM 318 Project Planning and Control 2 Credits**  
Sequence, organization and control of projects and the interrelationship between various professional groups involved in the development of capital project: meaning of management and its role in construction; the nature of capital projects – client, consultants and contractors. Management tools / techniques (CPM, Bar charts, LOB). Tender analysis; Building management procedures from inception to completion, coordination, control and supervision of simple and multiple contracts site layout. Report for management: financial capital projects, working capital flow of fund. Legal and implication of building contract. Regional organization of typical professional offices.

**30h (T); R**

- ESM 400 Student Industrial Work Experience Scheme 15 Credits**  
A student spends the whole semester in an approved office. He or she is expected to record his/her experience in a log book to be signed by the supervisor. At the end of the industrial training, he/she is expected to document the experience gained in a report and which will be assessed by the Department.  
**675h (P); R**
- ESM 401 Applied Valuation 2 Credits**  
Review of basic valuation concepts and principles. Practical skills for site analysis and valuation. Application of various valuation principles and methodology to ascertain property value for mortgage and insurance. Valuation of specialized property: filling/servicing stations, hotels, cinemas and recreational centres. Development valuation and investment method of valuation. Landlord and Tenant valuation.  
**15h (T), 45h (P); C**
- ESM 403 Real Estate and Development Finance 2 Credits**  
Meaning of estate development, objectives of development, types of developers, risk factors in development process, development finance and funding. Sources of Finance for Development in Nigeria: short terms, medium term, long term, lease and lease-back financing arrangements. Partnership arrangements, loan syndication, unitization and securitization.  
**30h (T); C**
- ESM 405 Comparative Land Policies 2 Credits**  
Nature of customary tenure in the economic and social structure of selected countries I West Africa. Social and legal theories of property. Proprietary land use analysis. Purpose of national land reform in selected countries. Implementation of land policies and specialized institutions of government and other related bodies.  
**30h (T); C**
- ESM 407 Principles of Facility Management 2 Credits**  
History of facility management, concept of facility management, comparison of facility management and property management, scope of facility management, rationale for facility management, advantages/benefits of facility management, information technology and facility management, identification of facilities and services in facility management, professionals in the practice of facility management and field work.  
**30h (T); C**
- ESM 409 Research Methodology 2 Credits**

Nature, essence and types of scientific inquiry, research concepts, problem identification and formulation, hypothesis and tests of hypothesis, variables definitions, data sources and methods of data collection. Questionnaire and survey design, interviews guide/schedule, data collation and analysis, tools of analysis, data interpretation, discussion and research docUTMENT.

**30h (T); C**

- ESM 411      Urban Economics I      2 Credits**  
Nature and problems of urban areas, transportation, housing, technology and city growth, spatial structure, pollution and environmental quality in Nigeria. Urban development policies and programmes in Nigeria. Theories of economic development. Rationale for rent control and measures in Nigeria.  
**30h (T); R**
- ESM 413      Building Maintenance      2 Credits**  
Decay of building, agencies involved, types of maintenance, alterations, conversion, extension, improvement in building, dimensional consideration, design defects, remedies, buildings surveying. Maintenance of all types of buildings mechanical/electrical services. Maintenance cycles for different types of buildings, standards expected of buildings and deviations spots items. Planning maintenance, resources required programming, execution and appraisal policy guidelines.  
**30h (T); C**
- ESM 415      Geographic Information System      2 Credits**  
Definition and basic concepts. Elementary Mathematical concepts: graph theory, set theory and topology. Components of GIS. Field based and object based concept of real world. Spatial Data Model: 2D, 3D and 4D models. Data Model Tessellation versus vector spatial relationships: Metric, Topologic and spatial order. Data quality, accuracy, logic consistency, completeness and lineage.  
**30h (T); E**
- ESM 501      Advanced Valuation I      3 Credits**  
Valuation of specialized properties: cinemas/theatres, petrol filling station, hotels, asset valuation, valuations for insurance, mortgage and compensation purposes. Valuation of way leaves, mining rights and royalties, valuer as an expert witness.  
**15h (T), 90h (P); C**
- ESM 502      Advanced Valuation II      3 Credits**  
Advanced valuation techniques: discounted cash flow (equated yield, real value, models) nature of investment decisions, investment appraisal techniques, payback, return on investment, net present value, internal rate of return, sensitivity analysis, simulation and regression techniques in valuation.  
**30h (T), 45h (P); C**
- ESM 503      Computer Application to Real Estate Practice      2 Credits**

Classification of computers. Components of microcomputer. Types of software; use of packaged application software of relevance in real estate. How to write and use customized application softwares.

**30h (T); C**

- ESM 504      Advanced Housing Studies      2 Credits**  
Application of basic knowledge in housing. Housing needs, demand and supply. Concept of housing: provision, design, finance, construction and management. Housing in the concept of urban renewal. Sociology of Housing.  
**30h (T); C**
- ESM 505      Applied Property Management 1      2 Credits**  
Development and re-development process; the social, economic technological aspects of property management; estate life cycle, obsolescence and management problems; legislations parliament to the relationship between landlord and tenant; management of public and private estates; element of facility management.  
**30h (T); C**
- ESM 506      Applied Property Management II      2 Credits**  
Principles of building maintenance, defects in buildings, rehabilitation, alteration, refurbishment and improvements. Rehabilitation, alteration, refurbishment and improvements. Design, maintenance, life cycle costing and appraisal techniques. Building management, janitorial services, staff organization, inventories, maintenance management, types of maintenance policies and strategies. Management information system, maintenance and self help schemes in public housing management and execution of maintenance work.  
**30h (T); C**
- ESM 507      Feasibility and Valuation Appraisal I      2 Credits**  
Nature of investment. Identification and preparation. Application of modern appraisal technique: discount cash flow, internal rate of return and net present value. Sensitivity and cost benefit analysis. Principles and techniques of investment appraisal. Effects of taxation and inflation. Estate surveyors as an adviser on investment. Property development scheme. Property investment markets. Procedures and methods of assessing the economic demand for a particular project. Principles and sources for funding a development including technique of direct property financing.  
**15h (T), 45h (P); C**
- ESM 508      Feasibility and Valuation Appraisal II      2 Credits**  
Investment decision process. Examination of projects from investment. Sources of information . Financial plans: feasibility studies, project supervision and management. Monitoring and valuation. Examination of techniques of site valuation through residual method. Demonstration of relationship between capital return and development yield. Sensitive nature of residual method.

Calculation of ground rents and equity shares relationship. Scheme, alternative cash flow method. Calculation of development cost: cost inflation and rental growth. Risk in financial appraisal: simple sensitivity, probability analysis and simulation.  
**15h (T), 45h (P); C**

- ESM 511 Professional Practice and Code of Conduct 2 Credits**  
Professional practice of an estate surveyor and valuer and its relation to clients and other bodies, rules of professional practice and code of conduct. Nigerian Institution of Estate Surveyor and Valuers, Estate Surveyors and Valuers Registration Board of Nigeria.  
**30h (T); C**
- ESM 512 Professional Practice and Code of Conduct 2 Credits**  
Estate Surveyor and Valuer in public and private sectors and relationship with other professional bodies. Professional forms, groups, partnerships and their management. Negligence in valuation and rules of thumbs in real estate practices. Professional practice in valuation.  
**30h (T); C**
- ESM 513 Land Use and Resources Management I 2 Credits**  
Land resources, human settlement and land use in Nigeria. Evolution, growth, structure and pattern of human settlement. Obsolescence and urban renewal: economic forces that influence land uses, succession and completion. Land uses and values. Theory of location. Relocation problems.  
**30h (T); R**
- ESM 514 Land Use and Resources Management II 2 Credits**  
Property market and Estate Investment. Estate development. Public control of land use. Public measures for controlling and guiding land use in Nigeria. Land reform objectives and methods. Conservation measure of land resources. Environmental Pollution Management. National land policies: instrUTMENT and case studies. Estate ownership and control. Leasing and management of estate.  
**30h (T); R**
- ESM 515 Plant and Machinery Valuation 2 Credits**  
Definition of Plant and Machinery (P and M), purpose of plant and machinery valuation; open market, insurance, sale, purchase, take over and mergers; privatization and commercialization; rating and taxation; mortgage, balance sheet, compensation. Basis of P and M, methods of P and M valuation and valuation process. Accounting for depreciation in P and M: knowledge content of Plant and Machinery valuations. Preparation of report and proof of evidence for Plant and Machinery valuation in Nigeria. Guidance notes on P and M in Nigeria. Role of Estate Surveyors and valuers, Engineers and Accountants in P and M valuation.  
**30h (T); R**

- ESM 516 Construction Management 2 Credits**  
 Construction industry and practice. Nature of construction industry. Types of construction projects. Evaluation of professional construction management. Project stages. Organization and leadership. Organization structures. Span of control. Effect of organization structures on other management functions. Types of leadership, planning and controlling. Significance of planning. Planning methods for the 3-levels of management. Financing: Nigerian Finance Institution. Money market and Capital market. Types of Finance: cash flow forecast. Site layout and organization. Work study: origin, essence, method and assessment. Activity sampling.  
**30h (T); C**
- ESM 517 Advanced Project Management 2 Credits**  
 Definition of building projects. Projects: types and agent. Duties of agent to his principal. Termination of agency. Types of principals or building projects owners and their limitations. Formation of building contract and circumstance that can affect validity of a contract. Remedies for breach of contracts. Mode of payment, contract documentation. Development process and the team. Building professionals and site meeting. Interim valuation, planning for execution. Completion of building project and maintenance procedures. Techniques of project management and planning. Method of evaluating project. Cost planning control process. The construction process. Role of Estate surveyor and valuer as project manager.  
**30h (T); E**
- ESM 518 Principles of Urban Finance 2 Credits**  
 Meaning and purpose of accounting. Income statement and balance sheet. Analysis and interpretation of accounts. Development process: sources of development capital. Budgeting and financial forecasting. Estate development / investment decision: demand, cost, acceptable return, timing and finance. Programme of investment. Organization and operation. Sources of finance: internal funds, consociate capital, short-term funds (bank and trade credit), Long-term funds (loan and share capital). Building societies, financial institutions, property companies, private and public sources. Development agencies: securitization and unitization. Criteria for funding and choice of funding.  
**30h (T); E**
- ESM 519 Public Infrastructure and Services 2 Credits**  
 Definition of social infrastructure. Identification and explanation of main utilities and services. Deal with the nervous system of the city: water supply power supply, solid waste disposal, drainage, sewage, sewerage and telecommunication. Factors in the planning and design: cost, management and maintenance. General standards and evaluation of alternatives.  
**30h (T); E**
- ESM 599 Project 6 Credits**  
 Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.

**SUMMARY**

**100 Level**

**Compulsory Courses:** ESM101 (3), 102 (3), 103 (2), 104 (2) = 10 Credits

**Required Courses:** ARC103 (2), 104 (2), 105 (2), 106 (2), URP101 (2), 102 (2), CSC111 (2), 112 (2), GNS111 (2), 112 (2), GPE121 (3), 122 (3), MAT111 (3), 114 (3)  
= 32 Credits

**Total = 42 Credits**

**200 Level**

**Compulsory Courses:** ESM 201 (3), 202 (3), 203 (2), 204 (2), 205 (2), 206 (2), 207 (2), 208 (2), 209 (2)  
= 20 Credits

**Required Courses:** ESM 210 (2), 211 (2), 212 (2), 213 (2), 214 (2), ARC203 (2), 204 (2), SVG 201 (2), 202 (2), GNS 211 (2), 212 (2)  
= 22 Credits

**Elective Courses:** ESM216 (2) = 2 Credits

**Total = 44 Credits**

**Direct Entry Students:** GNS 111(2), 112(2) = 4 Credits

**300 Level**

**Compulsory Courses:** ESM 301 (3), 302 (3), 303 (2), 304 (2), 305 (2), 306 (2), 307 (2), 308 (2)  
= 18 Credits

**Required Courses:** ESM 309 (2), 310 (2), 311 (2), 312 (2), 316 (2), 318 (2), ARC 307 (2), GNS 311 (2), GSE 301 (3),  
= 19 Credits

**Electives Courses:** ESM 313 (2), 314 (2), ARC 305(2), URP 212 (2) = 8 Credits  
**Total = 45 Credits**

**Direct Entry Students:** GNS 111(2), 112(2), 211 (2), 212 (2) = 8 Credits

**400 Level**

**Compulsory Courses:** ESM 401 (3), 403 (3), 405 (3), 407 (2), 400 (15) = 26 Credits

**Required Courses:** ESM 409 (2), 411 (2), 413(2), ARC 407 (2) = 8 Credits

**Electives Courses:** ESM 415 (2) = 2 Credits  
**Total = 36 Credits**

**500 Level**

**Compulsory Courses:** ESM 501 (3), 502 (3), 503 (2), 504 (2), 505 (2), 506 (2), 507(3), 508 (2), 511 (2), 512  
(2), 599 (6) = 29 Credits

**Required Courses:** ESM 513 (2), 514 (2), 515 (2) = 6 Credits

**Electives Courses:** ESM 516 (2), 517 (2), 518 (2), 519 (2) = 8 Credits  
**Total = 43 Credits**

**Graduation Requirement**

UTME = 210 Credit Units  
DE 200 Level = 172 Credit Units  
DE 300 Level = 132 Credit Units



**DEPARTMENT OF QUANTITY SURVEYING**  
**Course Description**

**B. Sc. Quantity Surveying**

- QTS 102      Introduction to Quantity Surveying      3 Credits**  
Quantity Surveying Profession. The historical aspects of Quantity Surveying. Functions of the quantity surveyor. Structure of a professional quantity surveying firm. Quantity surveyors and national development. Interrelationship of quantity Surveyors with other professionals in construction industry. Professional bodies in construction industry. Parties to construction project. Mechanics of measuring building works. Introduction to the use of Standard Method of Measurement (SMM) of construction works. Principles of taking off. Use of schedules, extra over and preambles. Applied mensuration. Application of principles of mensuration in the measurement of substructure of small buildings. Bill of quantities and its functions.  
**45h (T); C**
- QTS 104      Introduction to Construction Technology      2 Credits**  
General introduction to basic building construction operation and techniques. Traditional building materials; timber, stones, brick and cement blocks, concrete and reinforced concrete, mortar and rendering. Element of building; foundation, floor, walls, roofs. Introduction to civil engineering components  
**15h (T), 45h (P); C**

<b>QTS 201</b>	<b>Principle of Measurement and Description</b> Measurements of building work related to simple building. Site preparation. Work below ground level on level sites. Superstructure work; block work (internal and external wall) and associated concrete works. Flat and pitched roofs of timber, concrete. Roof coverings of lightweight or flexible materials. Finishes. External Works. <b>45h (T); C</b>	<b>3 Credits</b>
<b>QTS 202</b>	<b>Construction Measurement I</b> Measurement of doors and windows. Measurement of standard units in timber and metal work. External and internal doors with other surrounding works. Ironmongery and glazing. Masonry, rubble walling, upper floors in concrete and timber. Measurement of block work and masonry work composite walling unframed building <b>45h (T); C</b>	<b>3 Credits</b>
<b>QTS 203</b>	<b>Building Construction and Materials I</b> Construction techniques for elementary building. Building components of small scale buildings. Excavation and earthworks generally. Simple foundations. Walls, load bearing and non load bearing bricks and blocks. Bonding and pointing patterns for walls. Floors. Simple roof construction. Materials for roof construction, timber, concrete. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>QTS 204</b>	<b>Building Construction and Materials II</b> Roof structure, functional requirement pitched and flat roof in timber and concrete. Roof covering materials (bitUTMEn, asphalt, light weight roof coverings such as corrugated metal sections). Methods of fixing flat and pitched roofs. Roof: lights, glazing and drainage. External and internal doors and windows. Simple and advanced doors and windows. Industrial sliding doors and windows, sliding-folding doors and windows. Roller shutter doors and revolving doors. Furniture and fittings. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>QTS 205</b>	<b>Principle of Economics I</b> Outline of economic theory and activities. Output, prices and their effect on construction work. Price and market mechanism. Construction industry and its role in the National economy. Sources of Finance for construction works. <b>30h (T); R</b>	<b>2 Credits</b>
<b>QTS 206</b>	<b>Principles of Economics II</b> National income Accounting and analysis. Money and the Monetary System in Nigeria. The elements of Public Finance. International Trade and Economic Order. Import and Export trade financing in Nigeria. <b>30h (T); R</b>	<b>2 Credits</b>

<b>QTS 207</b>	<b>Building Structures I</b> Introduction to basic principle of mechanisms and design of building structures, including concurrent and non-concurrent coplanar forces, movement of forces and properties of structural sections and kinematics of particles in various co-ordinate system will also be considered. <b>30h (T); R</b>	<b>2 Credits</b>
<b>QTS 208</b>	<b>Principles of Management</b> Management: functions, planning, forecasting, organizing, motivating, and controlling. Management process as outlined by Fayol and others. Span of control, delegation of authority and accountability in organization. Communication within the construction industry <b>30h (T); R</b>	<b>2 Credits</b>
<b>QTS 209</b>	<b>Building Science</b> Introduction to the science of environmental physics. Basic heat, light and some theory. Psychophysics, sensation and stimulus, comfort levels. Thermal indices, heat gain and thermal design, heat transfer. Ventilating and conditioning. Vision and basic units of lighting, light and illumination, luminance lamps and luminaries. Calculation of illuminance and luminance in interior. Day lighting of buildings. Noise: sources of principles of propagation. Airborne and impact borne noise. Room acoustics; reverberation time, sound insulation theory and practice. <b>15h (T), 45h (P); R</b>	<b>2 Credits</b>
<b>QTS 210</b>	<b>Building Structures I</b> Equilibrium of rigid bodies, analysis of simple trusses, concept of stress and other strength characteristics, axially loaded bars, composite bars and other simple stress cases bending moment, shear forces and axial force diagrams, tension. Advanced treatment of the Kinematics of rigid bodies and engineering systems. Expression for the distribution of sharing stress in beams. Design of columns and beams. <b>30h (T); R</b>	<b>2 Credits</b>
<b>QTS 212</b>	<b>Workshop Practice</b> Carpentry, wood workshop tools and equipment. Types of woods and joints, Bricklaying. Identify blocks, bricks and concrete, fine and coarse aggregates. Types of bonds. Concreting tools and equipments. Plumbing tools and equipments and understand their uses and maintenance. Interior and exterior decorations. Factory Act and safety regulations applicable in workshop. Setting up a workshop for building purposes. Visitation to construction sites. Practical exercises at various building workshops. <b>45h (P); C</b>	<b>1 Credit</b>
<b>QTS 301</b>	<b>Construction Measurement II</b>	<b>3 Credits</b>

Measurement of works involved in the construction of unframed single building of complex nature in the following areas: site preparation, substructure work on sloping site and reinforced concrete frames. Reinforced concrete stairs, ramps and associated balustrades. Internal and external finishes, painting and decoration

**45h (T); C**

- QTS 303      Building Construction and Materials III      2 Credits**  
Stair and ramps made from different materials. Finishes: fittings and decoration (floor, walls and ceiling). Construction materials: lime and plasters, cement (types, product, testing), aggregates, bricks, mortars and timber (types, properties, defects, preservation and product). Ferrous and non-ferrous metals. Steel technology (production and fabrication)  
**15h (T), 45h (P); C**
- QTS 305      Tendering and Estimating I      2 Credits**  
Tendering procedures: Types of tender, contractor's procedure prior to tender submission. Introduction to principal elements of construction contract: types of contract, tender documents and their relevance in estimating. Factors affecting tender: cost parameters and source of cost information. Constituents of rate. Bills of Quantities items.  
**30h (T); C**
- QTS 307      Building Economics I      2 Credits**  
Cost planning processes. Factors affecting demand/value of property: economics of pre-fabrication and industrialization of residential developments. Assessment of demand for development, aims of developers (public and private developers) constraints faced by developers. Effects of development. Choice and acquisition of site, developers budget, land use and value determinants. Cost control procedures, terminologies and design economics. Cost implications of design variables. Cost implication of construction methods.  
**30h (T); R**
- QTS 309      Construction Management I      2 Credits**  
Nature, purpose and definition of management. Setting objectives, planning and control. Nature of construction industry. Organization and control of design work. Functions and activities of design professionals and integration of their separate skills. Sequence by which a client's brief is translated into drawings and specifications. Role of contractor in design and supervision of construction works. Responsibilities and duties of persons involved in design and execution. Form and method of communications, reports; monitoring progress and expenditure during execution. Scheduling, sequences and allocation. Planning techniques: Bar chart, CPM, PERT.  
**30h (T); R**
- QTS 311      Commercial Law      2 Credits**

Nature, course and classification of law. Nigerian Legal and Judicial system. Sources of law: common law, national statutory law, law of tort, contract of employment and law relating to agency. Sale of goods and hire purchase. Creation of agency, duties and rights of agent/principal and termination of agency. Definition and nature of contract of sale of goods. Nature and creation of hire-purchase contracts. Hire purchase Act 1965.

**30h (T); E**

- QTS 302      Construction Measurement III      3 Credits**  
Structural steel work, including trusses, framed and unframed structures comprising steel work, trusses and casings. Composite floors, timber screen fitments in metal frames, complex reinforced concrete stair, steel stairs and fire escapes  
**45h (T); C**
- QTS 304      Building Construction and Materials IV      2 Credits**  
Complex foundation details. Preliminary investigation. Pad, stepped, raft foundation. Piling system. Basement construction. Retaining wall. Advanced floor systems, in-situ and precast concrete floors. Drop beam, waffle grid, hollow brick floors, and steel floors. Multi-storey construction, jacket floors. Composite construction employing monolithic and pre-fabricated components. Jointing techniques, steelworks, types, connections and joint.  
**15h (T), 45h (P); C**
- QTS 306      Tendering and Estimating II      2 Credits**  
Sources of information for pricing. Analysis and synthesis of all-in rates for estimating cost of building work in the following areas: Concrete work, brick and block works, roofing, metal work and finishes (wall, floor and ceiling). Painting and decoration. Glazing, drainage, rubble walling, cladding and underpinning. Approximate method of estimating. Introduction to standard schedule of prices. Build up of labour rates. Estimating for complex buildings.  
**30h (T); C**
- QTS 308      Building Economics II      2 Credits**  
Cost planning as a design tool. Cost criteria, plans, checks and reconciliation. Cost analysis. Indices and data research. Practical application of cost control techniques during construction process.  
**30h (T); C**
- QTS 310      Construction Management II      2 Credits**  
Sequence, organization and control of projects and their inter-relationships in contractor's office. Building management procedures from conception to completion. Co-ordination, control and supervision of single and multiple contracts. Introduction to work and productivity studies. Financing of capital projects, working capital projects, working capital and flow of funds. Contract claims and settlements. Cost reporting.

**30h (T); R**

- QTS 312      Application of Operation Research to Quantity Surveying      2 Credits**  
Phases of operation research study. Classification of operation research models. Stochastic and non-stochastic phenomena and models. Linear programming. Feasibility and optimum solution. Geometric method for optimum solution. Elements of non-linear and stochastic programming. Application of transportation to quantity surveying. Storage and shortest route.  
**30h (T); R**
- QTS 314      Building Maintenance I      2 Credits**  
Maintenance technology, including agencies causing decay and changes in appearance of building materials. Structural survey of dwellings and schedule of dilapidations. Alternations, conversions, extensions and improvement of buildings.  
**15h (T), 45h (P); R**
- QTS 316      Law of Contract      2 Credits**  
Express and implied terms in building contract. Right of payment and time for completion. Variations and employer's approval. Architects certificates. Performance, acceptance and defects. Default of the parties. Price and damages, penalties and liquidated damages, vesting and seizure of materials and plant. Forfeiture and determination, assignment, novation, substituted contracts and sub-contracts. Bankruptcy and liquidation. Guarantee and sureties. Litigation, preparation for trial. Arbitration and awards. Contractor claims. Introduction to standard forms of contract  
**30h (T); R**
- QTS 318      Principles of Accounting      2 Credits**  
Nature of business transactions and transactors; definition of accounting, scope and function of financial accounting. Types of business organization. accounting equation, theory of double entry book-keeping, partnership accounts, interests on capital, interest on drawings and partners salaries. Dissolution of partnership  
**30h (T); E**
- QTS 400      Student's Industrial Work Experience Scheme (SIWES)      15 Credits**  
Student Industrial Work Experience Scheme (SIWES) expose students to the acquisition of skill for competence in the execution of practical Quantity Surveying projects, safe handling of equipment and avoidance of hazards associated with them, and skill of observation, recording and documentation on construction sites.  
**675h (P); C**
- QTS 401      Construction Measurement IV      3 Credits**  
Preparation of Bill of Quantities from dimensions; including an understanding of abstracting methods and the application of computer for data processing and production of documentation. Purpose and uses of trade bills: elemental bill, operational bills

and approximate bills. Writing preliminary and preamble items. Significance of standard phraseology in Bill of Quantities. Understanding of terms: prime cost and provisional sums. Complete measurement of simple buildings and complex sub structural work.

**45h (T); C**

- QTS 403      Advanced Construction Technology V      2 Credits**  
Advanced roofs; steel trusses for long spans, girders, portal frames, folded plate roof and shell roofs. Grid structure, space frame and decks, domes (membrane, cable and pneumatic structures). Problems of depth, weight and lighting in roofs. Accommodation of services in walls, floors, roofs and ductwork. Suspended ceiling, curtain wallings and cladding. Industrialized building systems. Philosophy of use of industrial forms, closed and open systems. Dimensional coordination. Tolerance and accuracy. Mechanical plants and equipment. Temporary works, formwork, scaffolding and shoring.  
**15h (T), 45h (P); C**
- QTS 405      Tendering and Estimating III      2 Credits**  
Analysis and synthesis of rates in the following areas: Plumbing installation, sanitary appliances, fitting, pipe work and associated builders' works. Electrical and mechanical services. Pricing of items in the preliminary section of bill of quantities. Pro-rata rates. Estimating for civil engineering works.  
**30h (T); C**
- QTS 407      Heavy Engineering Construction      2 Credits**  
Sewer: design, materials, jointing, bedding and protection. Tunneling; open-cut tunnel construction. Excavation in rock. Shafts, linings, ventilation, lighting and safety aspects. Gas and water pipelines; materials, jointing, testing, bedding and protection. Manholes. Railways ballast, sleepers, rails. Marine works, seawalls, docks and jetties. Introduction to heavy engineering construction. Heavy industrial design.  
**15h (T), 45h (P); R**
- QTS 409      Research Methods      2 Credits**  
Language and approach of scientific method of research. Elements of scientific research problem. Hypothesis concepts. Construction constrain, variables, definitions and relationships. General approach to research-philosophy. Empirical policy and formative. Design of empirical research survey. Field studies, field experiment and laboratory experiment. Hypothesis-testing of the research model. Tools and techniques of data analysis. Review of relevant literature. Writing research proposal. Presentation of research report. Drawing up inferences, conclusion and recommendations. Referencing, bibliography and appendices.  
**30h (T); R**
- QTS 411      Specification Writing      2 Credits**  
This course is designed to give student a practical approach in specifying building

materials and components. The course contents include purpose and form of specification, principles standard method of measurements

- QTS 413 Building Maintenance II 2 Credits**  
Management aspect of building maintenance. Maintenance cycles and profiles. Maintenance standards. Statutory requirements. Planning maintenance. Work and cost control of maintenance operations. Organization of maintenance departments.
- QTS 402 Student Industrial Work Experience Scheme 15 Credits**  
Undertake accepted skill training programme. To expose students to work methods and techniques in handling equipment and machinery. SIWES posting. **675h (P); C**
- QTS 501 Advanced Construction Measurement I 3 Credits**  
Principles of measurement of complex roofs: shell, space and timber conical roofs. Plumbing installations, rainwater, sanitary, cold water and Fire-fighting installations. Heated water installations and fuel gas installations. Metal work supports in drains. Manholes/ inspection chambers, septic tanks and cesspits, soak away pits, sewage systems and treatment plants, drainage pipe work and associated builders work. Heating and compressed air installations. Mechanical movement system-lifts, hoists escalators and conveyors.  
**45h (T); C**
- QTS 502 Advanced Construction Measurement II 3 Credits**  
Using realistic examples that will enable the student to rapidly integrate in a professional office or contractor's office. Complex concrete framed buildings, services, finishes and preliminaries.  
**45h (T); C**
- QTS 503 Heavy Engineering Measurement I 2 Credits**  
Introduction to measurement of Civil Engineering Works as a follow-up to measurement of building works. Study of the CESMM in these areas. Concept of mensuration in civil works such as site investigation, geo-technical processes, demolition and site clearance, earthwork and excavation. Roads and pavement, bridges simple tunneling, railway track and air field. Method related charges, pricing of civil engineering works. Highlighting differences between building and civil works.  
**30h (T); C**
- QTS 504 Heavy Engineering Measurement II 2 Credits**  
Measurement of more complex structure such as; Airports, Roads, Jetties, Dams and Bridges.  
**30h (T); C**



- QTS 505**      **Cost Control I**      **3 Credits**  
 Sources of cost information. Methods of constructing a cost index. Comparisons of index performance. Approximate estimating methods. Need, aims, objectives and procedures of cost control. Quantity surveyors' role in design and construction stages. RIBA plan of work. Cost analysis. Elemental cost analysis. Standard terms of cost analysis. Cost planning theory. Elemental and comparative cost planning. Advantages and disadvantages of cost planning. Use of computer in cost planning.  
**45h (T); C**
- QTS 506**      **Cost Control II**      **3 Credits**  
 Comprehensive review of cost control techniques and financial appraisal of development projects. Feasibility studies, investment appraisal and cost benefit analysis. Cost-in-use calculation. Life cycle costing. Principles of discounting cash flows, present value, sinking fund and annual equivalent. Cash flow forecasting. Sources of finance for building. Concept of time value of money. Choice of construction techniques and materials. Economic of alternative methods of construction and industrialized buildings. Control of construction resources: materials, labour, plant and procurement.  
**45h (T); C**
- QTS 507**      **Professional Practice and Procedure I**      **3 Credits**  
 Types of Quantity Surveying consultancy practices. Quantity Surveying relationship with client and the building team. Tender and tendering procedures. Use of Bill of Quantities. PC and Provisional sums. Sub-contractors. Forms of building contract. Clause by clause interpretation and application of standard forms of building contracts. Quantity Surveying, function of project administration. Valuations, Claims and Final accounts. Cost reporting. Nominated suppliers and nominated sub-contractors. Assessment of allowances for general attendance and profit. Preparation, editing and presentation of tendering.  
**45h (T); C**
- QTS 508**      **Professional Practice and Procedure II**      **3 Credits**  
 Interpretation of clauses contained in standard forms of building and civil engineering contracts. Typical calculation of professional consultancy fee. Contractor quantity surveying: duties, responsibilities and relationships. Post contract practice. Interim valuation. Variations, claims for loss, expenses and final accounts. Adjustment for professional consultancy and provisional sums. Day works. Insolvency determination of employment. Rules for professional practice with conduct. Educational requirement and professional training for quantity surveyors. Status of the Nigerian Institute of Quantity Surveyors (NIQS). Quantity Surveyor Registration Board of Nigeria (QSRBN).  
**45h (T); C**
- QTS 509**      **Project Management**      **2 Credits**  
 Project procurement; definition and methods. Distinction between project management and construction management. Introduction to project management consultancy. Process of project management services. Project management in construction. Functions and responsibilities of a project manager. Qualities of a project manager. Leadership styles. Advantages of project management as an

independent discipline. Education and prospects of project management in Nigeria. Quantity surveying duties at various stages of a project, inception, feasibility, pre-construction, construction phase and completion.

**30h (T); R**

- QTS 511      Marketing for Quantity Surveyors      2 Credits**  
Meaning and marketing role in corporation. Organizational and environmental analysis of companies. Private practices and employers. Strategic planning and marketing. Marketing planning and control. Marketing information system. Target market analysis. Marketing mix strategies. New product development. Product life cycle concept. Professional ethics and marketing. Social responsibilities of quantity surveying profession.  
**30h (T); R**
- QTS 513      Computer Application to Quantity Surveying      2 Credits**  
Computer application in the following areas. Estimating. Cost planning. Bill production. Valuation. Final account. Financial reports. Word processing. Spreadsheets and data base application.  
**30h (T); R**
- QTS 515      Integrated Quantity Surveying Studio (Consultancy)      1 Credit**  
Consultant quantity surveying firms: preparation of preliminary estimates, cost plans, tender document bill of quantities and specification. Application of relevant software packages.  
**45h (P); E**
- QTS 517      Integrated Quantity Surveying Studio (Contracting)      1 Credit**  
Pricing of tenders, scheduling of materials, labour, plants, cash flow and programming of works. Application of relevant software packages.  
**15h (T); E**
- QTS 599      Project      6 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.  
**270h (P); C**

## SUMMARY

**100 Level**

**Compulsory Courses:** QTS 102 (3), 104 (2) =5 Credits  
**Required Courses:** ARC 103 (2), 104 (2), 105 (2), 106 (2), URP 101 (2), URP 103 (2), CHM 101 (3), CSC 111 (2), 112 (2), ESM114 (2), MAT 111 (3), 114 (3), PHY 125 (3), 142 (3), 191 (1), 192 (1), GNS 111(2), 112 (2) =39 Credits  
**Total = 44 Credits**

**200 Level**

**Compulsory Courses:** QTS 201 (3), 202 (3), 203 (2), 204 (2) =10 Credits  
**Required Courses:** QTS 205 (2), 206 (2), 207 (2), 208, (2), QTS 209 (2), 210 (2), QTS 212 (1), ARC 201 (2), ESM 201 (2), 202 (2), SVG 201(2), 202 (2), GNS 203 (2), 204 (2), STA 131 (2), STA 132 (2) =31Credits  
**Total = 41 Credits**  
**Direct Entry Students:** GNS 111 (2) & 112 (2) = 4 Credits

**300 Level**

**Compulsory Courses:** QTS 301 (3), 302 (3), 303 (2), 304 (2), 305 (2), 306 (2) = 14 Credits  
**Required Courses:** QTS 307 (2), 308 (2), 309 (2), 310 (2) 312 (2), 314 (2), 316 (2), ARC 307 (2), 308 (2), GSE 301 (3), GNS 311 (2) = 23 Credits  
**Elective Courses:** 2 Units of Electives to be taken from the following:  
QTS 311 (2), 318 (2), URP 305 (2), 306 (2), CVE 355 (2), BUS 302 = 4 Credits  
**Total = 41 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2), 211 (2), 212 (2) = 8 Credits

**400 Level**

**Compulsory Courses:** QTS 401 (3), 402 (15), 403 (2), 405 (2) = 22 Credits  
**Required Courses:** QTS 407 (2), 409 (2), 411 (2), 413 (2), ARC 407 (2), GSE 401 (2) = 12 Credits  
**Elective Courses:** 2 Units of Electives to be taken from the following:

QTS 411 (2), CVE 405 (2), BUS 433 (2) = 2 Credits  
**Total = 36 Credits**

**500 Level**

**Compulsory Courses:** QTS 501 (3), 502 (3), 503 (2), 504 (2), 505 (3), 506 (3), 507 (3), 508 (3), 599(6)  
= 28 Credits

**Required Courses:** QTS 509 (2), 511 (2), 512 (2), 513 (2) = 8 Credits

**Elective Courses:** 2 Units of Electives to be taken from the following:  
QTS 514 (1), 515 (1), 516 (1), 517 (1), = 2 Credits  
**Total = 38 Credits**

**Graduation Requirements**

UTME = 200 Credits

DE 200 Level = 160 Credits

DE 300 Level = 119 Credits

**DEPARTMENT OF SURVEYING AND GEOINFORMATICS**

**Course Description**

**B. Sc. Surveying and Geoinformatics**

**SVG 101 History of Surveying and Geoinformatics. 2 Credits**

General History of Surveying from Greek to the modern era. Definition, principle and uses of Surveying. Field of study in Surveying. Surveying InstrUTMEnts. Units of measurement. Vernier System; construction and use of vernier in surveying instrUTMEnts. Care of instrUTMEnts. Practice of surveying. Qualities of a Surveyor. History of Surveying in Nigeria. Important figures in the history of Surveying. National and international organizations.  
**30h (T); C**

**SVG 102 Cartography 2 Credits**

Introduction: equipment and materials for design of maps. Drawing methods and technique. Typography and lettering a map. Map compilation and classification Map representation techniques. Draughting for color separation. Litho drawing and photo-litho processes; photomaps and ortho-photo maps. Depiction of relief, organization of map production. Cartographic revision processes. Map reading and interpretation, computer cartography (introduction)  
**30h (T); C**

- SVG 201      Basic Surveying I      2 Credits**  
 Design, adjustment, care and use of surveying instrUTMEnts including modern levels, theodolites, tachometers. Chain Surveying: Chain steel, hand tapes, linen tapes, surface taping and offsets. Sources of error and correction. Accuracy and precisions. Theodolite and compass traversing, computations and adjustment. Principles of levelling, sources of error. Horizontal and vertical staff systems. Tachometry and telemetry, subtence bar and its uses. Preparation of large scale plans, grid leveling, contouring, plan revision.  
**15h (T), 45h (P); C**
- SVG 202      Basic Surveying II      2 Credits**  
 Location and setting out of works: roads, bridges, railway, tunnels, pipelines, building. Setting out of simple, compound, reverse and volUTMEs, sectioning. Longitudinal and Cross profile. Calculation of volUTMEs from contours, spot heights and sections. Curvature correction in earthwork measurements.  
**15h (T), 45h (P); C**
- SVG 203      Photogrammetry I      3 Credits**  
 Definition and general introduction. Photographic principles and optical characteristics. Properties of aerial photography. Elementary mapping from photographs; Radial line and slotted template method of producing planimetric maps. Use of the sketchmaster and stereopretts. Preparation of photomosaic. Parallax measurement and heighting procedures. Preparation of thematic maps.  
**15h (T), 90h (P); C**
- SVG 204      Photogrammetry II      2 Credits**  
 Geometry of a single photograph. Stereoscopy and parallax. Height from vertical photographs, projective/perspective equation for the line, plane and space. Rotation equation, colinearity and coplanarity equations. Projective relations in Photogrammetry. Differential formulae. Relative and absolute orientation model deformations. Plotting of stereo models and stereo plotting instrUTMEnts. Ground control in Photogrammetry Analog Aerial Triangulation.  
**15h (T), 45h (P); C**
- SVG 205      Basic Survey Computations      2 Credits**  
 Review of basic surveying traverse computation. Linear and angular corrections. Detection of gross error in traverse surveys. Back computation of traverse. Leveling computation, level surface/line and curvature correction. Minor triangulation computation. Resection and intersection. Satellite/inaccessible station. Semi-rigorous adjustment of polygon and braced quadrilateral. Computation of area by double meridian and coordinates methods. VolUTME computation. Azimuth computation and adjustment of bearings. Computation of convergence (difference between grid and true bearing).  
**15h (T), 45h (P); C**

- SVG 206 Computer Application in Surveying I. 2 Credits**  
History of computers. Classification of computers. Computer configuration. Functions and components of the Central Processing Unit (CPU). Types of CPU. Operating System (DOS, UNIX, VMS), file editing and management, database management systems, spreadsheet, and application.  
**15h (T), 45h (P); R**
- SVG 207 Engineering Surveying I 3 Credits**  
Basic principles. Uses of topographic maps. Methods of obtaining field data for topographic surveys, leveling, barometric heighting. Planning of control surveys; selection of stations, stations marking, description and recovery. Field procedures and observations in plane tabling, minor triangulation, trilateration and traversing. Intersection and resection: nUTMErical, graphical, and semi-graphical methods. Field completion and detail surveys. Plotting and reproduction of plans or maps.  
**15h (T), 90h (P); C**
- SVG 208 Engineering Surveying II 2 Credits**  
Leveling, trigonometric heighting. Electronic Distance Measurement, Theodolite Traversing, detection of omission of traverse length and bearing. Area and VolUTMEs calculations. Earthworks. Curve ranging. Geometric design of routes. Setting out of route (roads, power lines, pipelines,); Longitudinal and Cross sections. Setting out of Structures and point location (building, mine fields, Dam sites and other civil engineering infrastructure).  
**15h (T); 45h (P); C**
- SVG 210 Remote Sensing I 2 Credits**  
Definition of Remote Sensing. Energy sources and radiation principles. Energy Interaction in the atmosphere; scattering, absorption, energy interactions with earth surface features. Reflectance, reference data. Data acquisition and interpretation. An ideal remote sensing system. Spectral reflectance of vegetation, soil, and water. Spectral response pattern. Early history of space imaging. Types of cameras. Remote sensing platforms. Sensor, radar (SLAR) system operation. Spatial resolution and characteristics of SLAR imagery, Landsat, SPOT, NOAA (AVHRR), NigeriaSat-1, ERS-1 other satellites. Remote sensing satellite. Data reception, processing and distribution. Image interpretation and types of image correction. Areas of application of remote sensing.  
**30h (T); C**
- SVG 212 Surveying Laboratory and Maintenance. 2 Credits**  
At this level students should be able to carry out the following practical exercises.  
Perimeter survey of reasonable extents. Leveling operations using levels and Tacheometer. Produce complete topographic map of reasonable hectare. Set out simple curves and buildings. Observe and compute azimuth using different methods of solar observations. Use of pocket and mirror stereoscopes, parallax bar – for heighting and being able to interpret aerial photographs of air-maps. During this course, the student should learn practical ways of handling, and minor maintenance skills of surveying laboratory and field equipment.

**90h (P); C**

- SVG 214 Introduction to Field Astronomy 2 Credits**  
Basic field astronomy, the universe and the solar system. Motion of the planets, Kepler's laws of planetary motion. Motions of the earth and relationship of the earth and the sun, the stars constellations, magnitudes and distances from the earth. Motion of the stars, introduction to celestial coordinate systems and fundamental definitions of spherical parameters. Reference points and circles (definitions of astronomic terms, e.g. latitude, altitude, declination, azimuth, hour angle, prime vertical, vertical circle celestial horizon, celestial equator, meridian. Concepts of time transfer and conversions. Time keeping and time signals altitude method. Use of surveyor star almanac for interpolation of quantities.  
**15h (T), 45h (P); C**
- SVG 301 Cadastral Surveying I 3 Credits**  
Field methods and office preparations for property surveys. Principles of subdivisions of properties. Physical layout building lines, utility line. Origin and Corrections Principles. Re-establishment of beacons. Cadastral Survey Records. Boundaries; riparian, literal, inter state and national. Control surveys. Location of sequence conveyances and reversion right. Mining claims and mining surveys.  
**45h (T); C**
- SVG 302 Cadastral Surveying II 3 Credits**  
History and methods of land tenure systems in Nigeria. Organization and procedure for cadastral surveys. Customary land tenure systems in Nigeria. Rights and interests in land. Deeds and Title Registration systems. Registrable instrUMENT, Deeds Registry. Defects of Deeds Registration system. Title Registration Act: Procedure and practice. Registered Land Act and Land Use Act 1978. Comparative Cadastral Systems.  
**45h (T); C**
- SVG 303 Spherical and Field Astronomy 2 Credits**  
The nature of Universe and the solar system. The celestial sphere. Solution of spherical triangles. Astronomical coordinate systems. Astronomical triangle. Time systems. Star catalogues and charts. Use of star Almanac for surveyors. Solar and stellar observations. Astronomical and instrUMENTal corrections to observed altitudes and azimuths. Determination of Azimuth: ex-meridian altitude of sun or star, hour angle of the Polaris or octantis, circumpolar star near elongation. Determination of longitude, altitude of East-West sun or East-West star. Position line method. Field procedures, instrUMENTation and computations. Sources of error and their correction.  
**15h (T), 45h (P); C**
- SVG 304 Geodetic Astronomy 2 Credits**

Coordinate system and their variations, precession, nutation, polar motion and proper motion, reductions of star positions. Time systems. Sidereal, universal, ephemeris and atomic. Time conversion and variations. Determination of first and second order astronomic positions and azimuth. Theory, instrumentation, computation and analysis of results. Reduction of observations. Geodetic uses of astronomic position. Astro-geodetic geoids.

**30h (T); C**

**SVG 305**

**Remote Sensing II**

**2 Credits**

Types and categories of satellites in space, based on applications and position in orbit. Recent developments in satellite remote sensing technology. High/Low resolution image data. Digital Image processing, radiometric corrections, geometric corrections. Coordinate systems: ground coordinate system, spatial geocentric coordinates and system orbit parameter, image scanning, image resampling and geo-referencing, establishment of controls with global positioning system. Contrast stretching filtering, feature classification (supervised and unsupervised classification) on-screen image digitization, multispectral classification, computation of image statistics. Algorithms for Image classification (parallel pipe, minimum-distance to mean method, maximum likelihood, knowledge based Image classification, and classification with neural networks). Extraction of Geometric features from Imagery: Moravec operator, Dreschler operator, Forstner operator, Li operator, Chen and Li operator and linear operators. Data processing hardware and software.

**15h (T), 45h (P); C, PR: SVG 309, SVG 203**

**SVG 306**

**Geodetic Surveying**

**3 Credits**

Higher order surveying instrumentation: use, care, accuracy, control keys. Designs of first and second order control surveys. Triangulation, Trilateration and Traverse networks. Precise leveling; Level networks, dynamic and orthometric corrections. Satellite stations. Laplace equations for control of triangulation, trilateration and traverse networks. Sources of errors. Computation of geodetic coordinates. Adjustment of control networks, approximate and precise methods.

**45h (T); C**

**SVG 307**

**Adjustment Computation I**

**2 Credits**

Review of matrix equations. Theory of Errors. Least Square Method, Basic and Matrix approaches. Derivation of Condition equations. Observation equations. Statistical analysis. Application.

**30h (T); C, PR: MTH 114, ABE 263**

**SVG 308**

**Computer Application in Surveying II**

**2 Credits**

Review of computer programming. Flowcharts, Algorithms, basic language, FORTRAN language. Development of simple software's and routine for basic surveying operation: traversing, leveling and triangulation. Development of Fortran programs for least Squares solution of Photogrammetric, Geodetic and Hydrographic problems.

**15h (T), 45h (P); C**



- SVG 309 Hydrographic Surveying I 3 Credits**  
 Introduction to Hydrography. Coastal procession waves, tides, tidal streams, currents including long shore, river and tidal density, chart and sounding datum. Determination of a sea level and mean sea level, tide poles and tide gauges. Two dimensional positioning at sea, bathymetry, positioning accuracies. Measurement systems, optical and electronic methods, sources of errors. Introduction to satellite navigation and positioning.  
**45h (T); C**
- SVG 310 Digital Mapping I 2 Credits**  
 Elementary computer graphics; Digital representation of graphic objects: point, line and polygonal elements. Digital representation of cartographic symbols and name placement. Elementary data structure software management.  
**30h (T); C**
- SVG 311 Electronic Surveying 2 Credits**  
 History. Review of properties of electromagnetic waves. Formation, modulation and propagation. Principles of phase comparison. Group velocity. Transmitters, Receivers, Antenna. Electromagnetic Distance Measuring instrUTMEnts. Microwave system, electro optical system. Tellurometer, Geodimeter. Operating principles. Laser and infra red system. Errors instrUTMENTal and atmospheric. Radar ranging. Interferometric methods of baseline measurement.  
**30h (T); C**
- SVG 312 Principle of Geographic Information System II 3 Credits**  
 Semantic data modeling: entity relationship and extended entity relationship modeling. Conventional database structures (relational, network and hierarchic). Object oriented data modeling: object, classification, generalization, specialization, aggregation, association, inheritance, propagation, encapsulation, persistence, polymorphism and overloading. Object-relational data structure. Applications: topographic, cadastral, utility and environmental database.  
**45h (T); R**
- SVG 313 Principle of Geographic Information System I 3 Credits**  
 Definitions and basic concepts. Elementary Mathematical concepts (graphs theory, set theory and topology). Components of GIS. Field-based and object based concepts of real world. Spatial Data Models: 2D, 3D and 4D Model; tessellation data models; vector data models, tessellation versus vector spatial relationships: metric, topologic and spatial order. Positional accuracy, attribute accuracy, logical consistency, completeness and lineage.  
**45h (T); R, PR: MTH 111, SVG 206**
- SVG 315 Survey Camping. 2 Credits**  
 The camping exercise is for a period of two weeks during which students are expected to carry out the following: Observations,

computations and adjustment of traversing, triangulation and leveling schemes. Observations and computation of survey lines by astronomical means using attitude and hour angle methods of sun azimuth, or stars. Learn how to prepare star programme for geodetic observations.

**90h (P); R**

**SVG 400 Industrial Training 12 Credits**  
6 Months Industrial Training Programme during the Rain Semester of 400 levels.  
**540h (P); C**

**SVG 401 Map Projections 3 Credits**

Historical Development of maps. Geometry of ellipsoid, Gaussain Fundamental Quantities. Theory of distortions. Various projections: conic, cylindrical, azimuthal. Transverse and Universal transverse Mercator System. Nigerian modified system. Concept of conformal projections. Generalized mapping equations. General theory of projection from ellipsoid to sphere and to plane.

**45h (T); C**

**SVG 403 Photogrammetry and Remote Sensing I 3 Credits**

Historical development: Aerial Photography Optics for photogrammetry Metric cameras. Ground coverage and resolution. Image co-ordinate measurement and reduction mapping from single photographs. Rectifier, Mosaics and orthophotos. Electromagnetic radiation and spectrum. Reflectance. Photographic materials and processing, properties of Aerial photographs. Introduction to photo interpretation.

**15h (T), 90h (P); C, PR: SVG 210**

**SVG 405 Geodesy I. 2 Credits**

Fundamental of Geodesy: definitions, aims, scope, and developments. Techniques (Classical and modern). Coordinate system: terrestrial and celestial coordinate systems, satellite coordinate system, inertial coordinates, Curvilinear and Cartesian coordinate systems. 3D- Geodesy, point positioning (astro and satellite), relative positioning, absolute geodetic positioning.

**30h (T); C**

**SVG 407      Digital Mapping II.      2 Credits**

Raster and vector graphics, Hardware and software graphic systems. Coordinate transformation for orthogonal and perspective projections. Data structures for computer graphics; 2D graphics; 3D graphics, map analysis.

**15h (T), 45h (P); C, PR: SVG 310**

**SVG 409      Mining and Special Surveys      3 Credits**

Definitions. Mining and underground surveying Techniques. Design of underground survey networks. Mine orientation, mechanical and optical shaft plumbing gyroscopic methods, laser. Accuracies. Gyro theodolite. Sources of errors. Volume determination. Erosion problems, Crustal movements. Survey for subsidence and stability of large structures.

**30h (T), 45h (P); C**

**SVG 411      Hydrographic Surveying II      3 Credits**

Sounding, wave propagation, Mathews chart, vertical beam, Echo sounder instrumentation, operation, calibration. Acoustic waves. Ports development and port management, sweeping, side looking sonar, multibeam sonar, electronic sweeping. Elements of oceanography, tides, currents, temperature, salinity and dredging and Channelization pressure measurement sedimentation, beach erosion. Modern techniques in Hydrography.

**15h (T), 90h (P); C, PR: SVG 309**

**SVG 413      Spatial Information Systems.      2 Credits**

Spatial data structure, types of spatial data, spatio-temporal, multi-temporal, temporal data, Raster and Vector data models. Spatial relationships, emergence of database technology, different views of the database design, storage, manipulation, relational network, hierarchical and binary relationship database models. Database query, decision, and dissemination. Arc-node topology, using a database linking spatial and attribute information, producing maps (thematic/topographic). GIS functionality: point and line-in-polygon, buffering, overlay, exercises using ArcView GIS and PC Arc/Info, Oracle. ILWIS, Erdas Imagery.

**30h (T); E**

- SVG 415 Potential Theory and Spherical Harmonics 2 Credits**  
 Potential theory. Theory of potential – gravitational and attractions. Rings, annuli, infinite plates; and solid bodies. Laplace equations, Harmonic functions, spherical harmonics (Sphere and spheroidal).  
**30h (T); R**
- SVG 501 Adjustment Computation II 3 Credits**  
 Introduction to least square estimation. Linear least square estimation. Non-linear least square estimation. Matrices; diagonalization. Review of partitioning of matrices. Least square adjustment techniques, Condition equations. Observation equations. Combined method, weight estimations. Application  
**45h (T); C, PR: SVG 307, SVG 308**
- SVG 502 Adjustment Computation III 3 Credits**  
 Generalized least squares model. Linear and non-linear models. Solution of Normal Equations. Treatment of large geodetic networks. Addition of observations and parameters. Removal of observations. Application of constraints. Quality Control: Statistical Analysis, Error ellipse and ellipsoid. Applications in surveying and photogrammetry.  
**45h (T); C, PR: SVG 307, SVG 308**
- SVG 503 Special Studies in Digital Remote Sensing. 2 Credits**  
 Sensor Platforms. Geometry of artificial satellite orbits. GPS Positioning, Fundamentals of Pattern recognition; functions. Pattern classifier concepts. Digital Image processing. Pre-processing of Remote Sensed data, Image enhancement techniques, Image Transforms. Filtering. Classification techniques.  
**15h (T), 45h (P); R, PR: SVG 403**
- SVG 504 Professional Practice and Ethics. 3 Credits**  
 Professional Practice. Professional bodies. Code of ethics. Costing of Cadastral, Topographical, Engineering and Hydrographic Surveys. Costing of mapping projects. Proposal writing  
**45h (T); C**
- SVG 505 Survey Laws and Regulations. 2 Credits**  
 Property Law. Nigeria survey laws and Regulations. Chapter 194 of the laws of the Federation and other relevant survey Legislations, decrees and their amendments. Survey Laws in mining Surveys, Rights of way, Town Planning Laws. Land Use Act.  
**30h (T); C**

- SVG 506 Physical Geodesy. 3 Credits**  
Earth and its gravity field, potentials, gravity anomalies. Geoidal undulation and deflections of the vertical. Geopotential numbers, Height systems: orthometric, dynamic and normal height systems. Earth, size and shape: actual shape; approximations (geoid and other figures of the earth). Gravity observations: absolute and relative gravity reductions and gravity anomalies.  
**30h (T), 45h (P); R, PR: SVG 405, SVG 417**
- SVG 507 Digital Photogrammetry & Remote Sensing II. 3 Credits**  
Special methods in Remote Sensing. Production of DTM from Satellite imageries, production of small scale maps. Special application of Rs methods. Terrestrial Photogrammetric methods and their application. Unity of Rs and Photogrammetric methods. Applications in route surveying. General theory of non contact mapping methods and their advantages. Electromagnetic radiation and interaction with matter. E-M spectrum especially the optical wavelength. Types and design of electromagnetic sensors. Photographic camera, radiometers, thermal scanners and multi-spectral scanners. Sensor platforms. Introduction to digital processing. Element of photo interpretation. Vertical circle celestial horizon, celestial equator, meridian. Concepts of time transfer and conversions. Time keeping and time signals altitude method. How to use the surveyor star almanac for interpolation of quantities.  
**45h (T); R, PR: SVG 403, SVG 407**
- SVG 508 Marine Surveying 2 Credits**  
Coastal engineering, siltation and erosion, coastal zone management, improvement and rectification of channels and fairways, channel marking. Surveys relating to the demarcation of harbor limits. Laws relating to shipping and harbors. Position fixing, large scale surveys. Special surveys for dredging Offshore surveys. Effects of wind and wave on sea bed. Oceanographic equipment. Tidal current measurement on the continental shelf.  
**30h (T); R, PR: SVG 309**
- SVG 509 Geometric Geodesy 3 Credits**  
Historical development and aims of Geodesy. Geometry of an ellipse. Latitudes. space-rectangular coordinates. Radii of curvature. Lengths, and areas on ellipsoid. Curves on the ellipsoid. Normal Sections and Geodesics. Direct and inverse Problems on sphere and ellipsoid. Geodetic datum, and ellipsoid as reference surface. Data transformation from one datum to another.  
**45h (T); R, PR: SVG 405**
- SVG 510 Special Studies in (Analytical and Digital) Photogrammetry 3 Credits**  
Full procedures of mapping by photogrammetric method. Project planning/costing of photogrammetry projects, writing of specifications. Analytical and digital instrUTMENTation. Applications of photogrammetry and Geographic Information System (GIS).

**45h (T); R, PR: SVG 310, SVG 407**

- SVG 511 Coastal Mapping and Management 2 Credits**  
Basic concepts. Coast, coastlines, beaches; beach barriers and dunes, beach evolution, beach erosion, measurement and computation. Activities on the coastal area: fishing, construction works, dredging, oil exploration. Planning for development on the coast. Impacts of development activities on the coast, response measures, basic concept of Environmental Impact Assessment (EIA). Impact of natural processes on the coast.  
**30h (T); R**
- SVG 512 Satellite Geodesy 3 Credits**  
Review of the basic concepts. Positioning methods: dynamic and geometric observation equations. Error models. TRANSIT and NAVSTAR GPS systems. Integration of satellite data with other geodetic network data. Other application.  
**45h (T); PR: SVG 405**
- SVG 513 Mathematical Geodesy 2 Credits**  
Mathematical techniques used in Geodesy: least squares prediction, approximations, vector analysis, matrix operations, special functions: spherical harmonics, Fourier and integral transforms.  
**30h (T); R, PR: SVG 405**
- SVG 514 Close Range Photogrammetry 3 Credits**  
Close-range cameras and other acquisition systems, such as electron microscope and X-ray equipment, calibration of close-range acquisition systems. Examples of applications in biometrics, engineering, architecture and traffic accident.  
**30h (T), 45h (P); C. PR: SVG 203, SVG 403**
- SVG 515 GIS Tools and Application 3 Credits**  
GIS Subsystems: data collection and input, data storage and retrieval, data manipulation and analysis. Visualization and reporting. Structured Query Language (SQL). Database Management System (DBMS): types and functions: Review of some existing GIS Software. Database Design steps and implementation.  
**45h (T); C, PR: SVG 308, SVG 403**
- SVG 516 Applied Geophysics 2 Credits**  
Field observations, evaluation and analyses of geophysical data as applicable in seismology and gravimetry. Electrical methods. IP resistivity and magnetism.  
**30h (T); R, PR: GEM 306**

**SVG 599**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.

**270h (P); C**



## SUMMARY

### 100 Level

**Compulsory Courses:** SVG 101 (2), 102 (2) = 4 Credits

**Required Courses:** GNS 111(2), 112(2), ARC 103(2), URP 101(2), ESM 114(2), MAT 111 (3),  
114 (3), PHY 125 (2), 142 (2), 191(1), 192 (1), CSC 111 (2), 112(2), GPE 121 (3), 122 (3)  
= 32 Credits

**Total = 36 Credits**

### 200 Levels

**Compulsory Courses:** SVG 201 (2), 202 (2), 203(3), 204(2), 205(2), 206(2), 207(3), 208(2),  
210(2), 212(2), 214(2) = 24 Credits

**Required Courses:** GNS 211(2), 212(2), URP 203(2), PHY 214(2), 225(2), ABE 263(3)  
= 13 Credits

**Elective Courses:** HKE 208 (1) = 1 Credit  
**Total = 38 Credits**

**Direct Entry Students:** GNS 111(2), 112(2) = 4 Credits

### 300 Level

**Compulsory Courses:** SVG 301 (3), 302 (3), 303(2), 304(2), 305(2), 306(3), 307(2), 308(2),  
309(3), 310(2), 311(2), 312(2), 313(2), 315(2) = 30 Credits

**Required Courses:** GNS 311(2), GSE 301 (3), URP 312(2), PHY 314(3), 324(3), GEM 306(2)  
= 15 Credits

**Total = 45 Credits**

**Direct Entry Students:** GNS 111(2), 112(2), 211 (2), 212 (2) = 8 Credits

### 400 Level

**Compulsory Courses:** SVG 401 (3), 403 (3), 405(3), 407(2), 411(3), 413(2) = 16 Credits

**Required Courses:** FES 400 (8)

**Elective Courses:** 5 Credits are to be offered from the following courses:  
 SVG 409 (3), 415 (2), 417 (2), CVE 434 (2), 474 (2), ELE 454(3),  
 STA 456(2) = 5 Credits  
**Total = 21 Credits**

**500 Level**

**Compulsory Courses:** SVG 501 (3), 502 (3), 504(3), 505(2), 599 (6) = 17 Credits

**Elective Courses:** 21 Credits are to be offered from the following courses:  
 SVG 503(3), 506(2), 507(2), 508(3), 509(3), 510(3), 511(2), 512(3), 513(2), 514(3), 515(3),  
 516(2), CVE 531 (2), 536(2) = 21 Credits  
**Total = 38 Credits**

**Graduation Requirements**

UTME = 178 Credits  
 DE 200 Level = 146 Credits  
 DE 300 Level = 112 Credits

**DEPARTMENT OF URBAN AND REGIONAL PLANNING**

**Course Description**

**B.Sc. Urban Regional Planning**

**URP 101      Basic Elements of Planning      2 Credits      Definition, Objectives, Categories and Characteristics of Planning. Environmental Planning, Urban Planning, Planning and other Professions. Evolution and History of Environmental Planning. Urban Growth and Urban Forms, Dimension of Urban Environmental Problem Theories of Planning, Emerging Trends, Thoughts, Paradigms, Issues and Technologies in Urban and Regional Planning and Public Participation in Planning. Historical evaluation of settlements, History of planning as statutory undertaken in developed and developing countries. Case studies of towns in Nigeria both historic and contemporary ones, Theory and models of urban and rural land use, the rationale for town planning. Morphological structure of Nigerian cities, Planning models and the planning process.**  
**30h (T); C**

**URP 102      History of Town Planning      2 Credits**

Introduction to the historical and legislative contexts of town planning from ancient to modern times. The origins, growth and decline of settlements as a reflection of changing social, economic and physical forces. A survey of human settlements through different age groups. The effects of philanthropic movements in town planning and contemporary thoughts in physical planning. Relationship of physical planning to other allied disciplines.

**30h (T); C**

**URP 103      Technique of Drawing and Design (Free hand Sketching)      2 Credits**

Basic principles and methods of environmental perception and design. Techniques of freehand drawing and sketching. Preparing still life drawing of simple objectives in the studio. Theory of composition: space, form, textures, tones etc. Two and three dimensional composition in different media, methods of drawing, drawing of trees, shrubs, hedges and other landscape elements in pencil and ink. Drawing plans, elevation and section of building and their environs.

**15h (T); 45h (P); C**

**URP 104      Urban Development Planning      2 Credits**

Growth factors and forms of cities, dimensioning urban land use problems, space allocation standards, Methods of study and projection of land use, demographic and economic data.

**30h (T); C**

**URP 105      Principles of Economics      2 Credits**

Introduction to some economic concepts and techniques relevant to planning policy. Elementary theories of demand, cost and prices and the working of market mechanisms. The behaviour of consumers. Theory of population and structure of market. Problems of technological choice, social costs.

**30h (T); C**

**URP 106      Sociology and Planning      2 Credits**

Meaning and relationship of sociology to town planning. Concepts of ethnic groups, social institutions and social structure. Social stratification and its theories. The effect of physical environment on sociology of a community, urbanism and social problems, crime, delinquency etc.

**30h (T); C**

**URP 107      Nature of Environmental Sciences      2 Credits**

Explains the philosophy of environmental sciences and how environmental sciences deal with planning, design, construction and management of the man-made and natural environment. Environmental sciences disciplines/ disciplines that are concerned with ordering of the surface of the earth with a view to making it functionally appropriate, aesthetically pleasing and culturally relevant while at the same time optionally utilizing available resources.

**30h (T); C**

- URP 108      Fundamental of Geography      2 Credits**  
Definition and some Concepts of Geography, History of Geography, Four Traditions of Geography, Divisions of Geography, Future of Geography, The Planet Earth: Shape and Size of the Earth, Proofs of the Earth Sphericity, Longitude and Latitude, The Earth Crust: Structure of the Earth, Classification and uses of rocks, Major Landforms: Classification and Characteristics of Major Landforms-Mountain, Plains, Plateaux and vulcanicity, Importance of Major Landforms. Weather and Climate: Weather elements and instruments, Factors affecting Climate, Climatic Classification and Major Climatic Types. Map Work-Definition and Types of Maps, Definition, Types and Conversion of Scale, Measurement of Distances, Reduction and Enlargement of Maps, Direction, Bearing and the Grid, International Trade: Definition of International Trade, Factors influencing International Trade, Major World Trade Commodities and World Trade Routes, Problems associated with International Trade.  
**30h (T); C**
- URP 110      Population and Urbanization Studies      2 Credits**  
Population studies in Urban and Regional Planning. Spatial distribution of the world population. Nigeria and its population. Sources of population data. Collection and collation of population data. Techniques of population studies. Definition of urbanization, trends, rate of growth, effects and pattern of urbanization. Implication for planning, rural-urban migration.  
**30h (T); C**
- URP 112      Introduction to Geomorphology      2 Credits**  
Meaning and scope of geomorphology, rock types, origins and characteristics. Nature and origins of second wider relief forms of the continents. Structural landforms.  
**30h (T); C**
- URP 201      Site Selection and Planning      2 Credits**  
Definition and scope of site selection and site planning. Principles and factors of site selection. Site survey and analysis, earthworks, drainage and utility layout; environmental factors, climatological considerations, orientation of buildings, daylight and sunlight. Site design brief. The site plan: scale, circulation, building lines, plot coverage and drainage. Site and service schemes. Emergency access and garaging.  
**30h (T); C**
- URP 202      Regional Development Planning      2 Credits**  
Concept of a region. Theories of regional growth and development: Central Place Theory, Core-periphery Model, Growth Pole Theory, Spatial Equilibrium Model. Regional inequalities and spatial development. Strategies of regional planning. Functional, Administrative and Planning Regions. Human and environmental impacts on regional development.  
**30h (T); C**

- URP 203 Environmental Science and Ecology 2 Credits**  
 Relationship of planning with other Environmental disciplines, The nature of planning as an activity, Planning Process, The concept of ecology as applied to the natural environment, Climatic conditions, The use and abuse of natural resources e.g. water, air and land, Extractive industries, Environmental planning problems and solutions e.g. pollution, soil erosion, desertification, etc. Conservation of natural resources. Communication skills in Planning.  
**30h (T); C**
- URP 204 Principle of Remote Sensing in Planning 2 Credits**  
 The operational meaning/definition of Remote Sensing. Sensing Systems – radar, passive systems and active systems. Orbiting earth satellite. The spectral nature of urban land use, the spatial nature of urban land use. Land use and land cover classification systems. Urban land use application – population estimation, housing quality data, monitoring energy conservation, utilization and production in urban areas, urban and suburban information for emergency situations.  
**15h (T), 45h (P); R**
- URP 205 Planning Studio I 3 Credits**  
 Graphic techniques. Study of planning problem of site. Landuse and analysis of a local setting. Technical report writing.  
**135h (P); C**
- URP 206 Planning Studio II 3 Credits**  
 Studies aimed at a general understanding of the urban environment - the components, structure and functions of selections. Graphic representation of the urban environment. Introduction to detailed study of the residential community (neighbourhood unit).  
**135h (P); C**
- URP 207 Architectural Design 3 Credits**  
 A studio course using abstract designs to develop creative thinking, analytical skills and aesthetic sensitivity in architectural design. Architectural forms, principles of proportion, rhythm, harmony, contrast, texture, mass, volume, etc. Colour, tectonics and modelling in Architecture. Anthropometric and activity space analysis. Design methodology, measured drawings, Design Programme of simple building of student's home in the village. Detailing of idential components such as bathroom, kitchen, and bedroom.  
**135h (P); C**
- URP 208 Quantitative Techniques and Research in Planning 3 Credits**  
 Information base for planning. Survey methods in research. Sampling methods and their characteristics. Frequency distribution and cross-tabulation. Measures of central tendencies: mean, median, mode etc. Measure of dispersion: range, variance, standard

deviation. Elementary Probability Theory: Binomial, Normal and Poisson distributions. Test of hypothesis, small sample test - t test, X<sup>2</sup> test and F test. Purpose of research. Identification and definition of planning problems. Selecting a topic. Definition of objectives and hypothesis. Preparing a research design. Literature search and note taking methods. Research surveys: types, advantages and disadvantages. Planning and execution of surveys. Sampling methods: random, systematic and stratified. Data analysis: statistical and non-statistical. Drawing conclusions. Report writing  
**45h (T); C**

**URP 210      Natural Resources Management and Environmental Planning      2 Credits**

The concept ecology as applied to natural environment, climate conditions, the use and abuse of natural resources, environmental planning problems and solution. Conservation of natural resources, the process of land use change and management. Public control over private use of resources. The evaluation of contemporary environmentalism, the green movement, recycling of resources, dangers of and problems of toxic waste disposal and other contemporary ecological issues.  
**30h (T); C**

**URP 211      Land Economics I      2 Credits**

Meaning of land in economic theory and analysis. Land resources in Nigeria. Supply of and demand for land. The concept of rent, Land tenure system. Land and property market. Economics of landed property taxes. Legal control on land use. Population growth and land use. Economic basis of urbanization. Urban structure and land use pattern.  
**30h (T); C**

**URP 212      Land Economics II      2 Credits**

The concept of land use value. Institutional and other constraints on land uses. The operation of the price mechanism. The economic process of real estate development. Financing and developments. Nature and effect of taxation. The economic, social and legal factors governing development. The development of real estate, property market and the price mechanisms. Investment analysis, risk and uncertainty involved in development. Roles of planning in development processes.  
**30h (T); C**

**URP 301      Traffic and Transportation Planning I      2 Credits**

The aims, models, roles and objectives of transportation planning. Relationship between transportation planning and land use planning. Methods of collection, analysis, interpretation and projection of traffic data. Traffic problems, control measures and management. Problems of organization and regulation of public transport.  
**30h (T); C**

**URP 302      Traffic and Transportation Planning II      2 Credits**

Traffic engineering and design. Capacity standards and design considerations. Traffic surveys and studies. Models in transportation. Formulation of transportation policies. Evaluation in transportation.

**30h (T); C. PR; URP 301**

**URP 303**

**Housing Process**

**3 Credits**

Housing needs, demand and supply. Basic principles guiding housing standards. Housing finance: investment by public, private and cooperative sectors, subsidies, loans and mortgage funds. Characteristics of housing in Nigeria: design, methods of construction, materials, maintenance, forms and functions of elements. Housing policy: objectives and programmes. Appraisal of existing housing options in Nigeria. Case studies – planned public housing, planned private housing and traditional housing.

**30h (T), 45h (P); C**

**URP 304**

**Industrial Development Planning**

**2 Credits**

Factors affecting the location of industries. Industrial location theories and models. Reasons and efforts of government intervention in the location of the industries. Case studies of industrial location in and around large cities. Characteristics of industrial estates. Design standards for industrial landuse.

**30h (T); C**

**URP 305**

**Planning Studio III**

**3 Credits**

Studies of a major landuse problem at the urban scale, e.g. traffic congestion, street parking, street trading, drainage, waste disposal, shanty formation etc. and design of solution. Technical report writing.

**15h (T); 90h (P); C**

**URP 306**

**Planning Studio IV**

**3 Credits**

Link between urban renewal and assessment of housing needs, housing problems and devising of appropriate solution. Goals, principles and methods of urban renewal. Social, cultural and socio-economic effects of urban renewal. Costs and benefits of urban-renewal schemes. Management of urban schemes. Case studies of urban renewal schemes.

**15h (T), 90h (P); C**

**URP 307**

**Rural Development Planning**

**2 Credits**

The village as an organic entity. Rural-urban relationship. Physical, social and economic structure of a village. Constraints of rural development. Strategies of rural development. Rural community development and relationship with rural planning.

**30h (T); C**

**URP 308**

**LANDSCAPE DESIGN**

**3 Credits**

Concepts in landscape design, Basic elements of landscape, Climate and landscape design, Landscape design goals, processes and analytical methods, Landscape construction materials and methods, Planting design and Management of landscape.  
**45h (T); C**

- URP 309      Computer Programming and System analysis for planners      2 Credits**  
Introduction to computer programming, linear programming, models of planning problems, simple methods, sensitivity analysis, transportation problems, quadratic programming, elementary path problems, resource allocation, general short path problems and optimization problems. Introduction to Geographical Information Systems technology and computer aided mapping/design.  
**30h (T); C**
- URP 310      Land use and Resource Management      2 Credits**  
Functions of and forms of management technique. Landuse change processes. Public control over land. Building of new and expanding towns. Estate ownership and control. Leasing and management of estate. Environmental contaminants, source and effects in human and other biota. Control and management of solid waste, air, noise and water pollution. Rural sanitation.  
**30h (T); C**
- URP 311      Introduction to Geographic Information System (GIS)      2 Credits**  
Concept and components of Geographic Information System. Relevance of GIS in Urban and Regional Planning. Principles of GIS. Spatial data modeling and data representation. Sources, acquisition and management of planning data. Capturing, extraction, storage and analysis of spatial data.  
**15h (T), 45h (P); C**
- URP 312      Planning Laws and Procedure      2 Credits**  
Concepts of Law and administrative procedures, Introduction to general law, Land law, conveyance, Origin and sources of Nigeria Law, Law of tort and contract, Legal controls on statutory bodies, Appeals and enforcements and Case studies of application of planning laws to existing situation.  
**30h (T); C**
- URP 313      Introduction to Operation Research      2 Credits**  
Basic linear programming techniques- concept and meaning, basic assumptions, problem formulation in linear programming, methods of solution (graphical methods and simplex methods), interpretation of results and the concept of duality and shadow cost. Network analysis- concept and meaning, types, terms and methods (critical path method and programme evaluation review technique). Transportation model- nature of transportation models, special linear programming problem, concept of balanced and unbalanced transportation problems, methods of providing basic initial solutions to transportation problems: Northwest corner rule, least cost and Vogel approximation methods, test for the optimality of the solution and solving assignment problem.  
**30h (T); E**



<b>URP 314</b>	<b>Project Planning and Evaluation</b> Identification and formulation of project. Analysis, definition of project. Economic and social profitability of project. Project appraisal techniques. Cost benefits analysis and its applicability. Project choice and investment programme. Feasibility study and report. <b>30h (T); C</b>	<b>2 Credits</b>
<b>URP 315</b>	<b>Design Economics and Cost Research</b> Cost planning processes. Factors affecting demand/value of property: economics of pre- fabrication and industrialization of residential developments. Assessment of demand for development, aims of developers (public and private developers) constraints faced by developers. Effects of development. Choice and acquisition of site, developer's budget, land use and value determinants. Cost control procedures, terminologies and design economics. Cost implications of design variables. Cost implication of construction methods. <b>30h (T); E</b>	<b>2 Credits</b>
<b>URP 316</b>	<b>Highway Engineering</b> Road design and construction methods, Road Geometry, Highway construction materials, Road Alignment principles and aesthetic considerations, Road Furniture and Maintenance of highway infrastructure. <b>30h (T); E</b>	<b>2 Credits</b>
<b>URP 317</b>	<b>Introduction to Psychology</b> Personal beliefs, the nature of human behaviour in various societies, Some Renown Philosophers and Theories of personality and abnormal behavior. <b>30h (T); E</b>	<b>2 Credits</b>
<b>URP 318</b>	<b>Introduction to Philosophy</b> An introductory course to concepts in philosophy. <b>30h (T); E</b>	<b>2 Credits</b>
<b>URP 320</b>	<b>Cartography</b> Cartography in history. Basic drafting and lettering. Blocks diagrams, colouring and shading. Representation of statistical data in maps. Map projection. Cartography and planning. <b>45h (P); E</b>	<b>1 Credit</b>
<b>URP 322</b>	<b>Photogrammetry</b>	<b>1 Credit</b>

Historical development of photogrammetry. Aerial photography. Ground coverage and resolution. Image co-ordinate measurement and reduction. Mapping from single photographs. Rectifier, mosaic and orthopedist. Electromagnetic radiation and spectrum. Reflectance photographic materials and processing. Introduction to photo interpretation.

**45h (P); E**

**FES 400**

**SIWES**

**6 Credits**

Industrial Training in various establishments related to the area of specializations.

**270h (P); R**

**URP 401**

**Urban Renewal**

**2 Credits**

Urban renewal as a technique for improving living conditions, Cost and benefits of urban renewal schemes, Economic and social consideration for urban renewal, Management of urban renewal scheme and Case studies of renewal scheme.

**30h (T); R**

**URP 403**

**Landscape Planning**

**3 Credits**

Concept in landscape planning and design. Basic elements of landscape. History of landscape planning. Landscape design goals, processes and analytical methods. Climate and landscape design. Landscape evaluation techniques. Typology of humanized landscape housing. Landscape construction, material and methods. Landscape design techniques. Management of landscape.

**15h (T), 90h (P); C**

**URP 405**

**Planning Studio**

**3 Credits**

To introduce the concept of comprehensive urban planning (master plan). Methods of field survey, data analysis and projection models. Emphasis will also be focused on the planning of central areas of the urban area. Theories of the city centre and its sphere of influence. Determination of functions and problems of city centre such as traffic, landuse, density control etc.

**135h (P); C**

**URP 407**

**Quantitative Techniques in Planning II**

**2 Credits**

Review of descriptive and inferential statistics: hypothesis testing. Analysis of variance, correlation and regression; partial discriminate analysis and canonical correlation. Application of techniques to planning research. Use of computer package programme especially SPSS.

**30h (T); C**

**URP 409**

**Urban Design**

**2 Credits**

Environmental perception and appraisal. Visual elements in an urban complex: form, scale, colour and texture. Emotional characteristics in relation to visual element. Design resources; natural features, building materials, economic, social, public interest and physical characteristics. Theories of urban structures. Analysis and classification of urban land uses. Principles of planning

and design of specific land use areas: residential, commercial, industrial, public and semi-public etc. Space allocation standards for major land use components by densities, plot sizes and area.

**15h (T), 45h (P); C**

- URP 411      Law of Contract and Tort      2 Credits**  
The nature of contract and contractual obligations, the common rules and status governing the formation of a contract- offer, acceptance, consideration and intention to create legal relations are examined together with contents of the contracts as evidenced by the express terms, implied terms, excluding and limiting terms and the doctrine of fundamental breach. Contractual capacity, introduction and historical background of tort, assault battery, false imprisonment, trespass, trespass to goods, conversation, trespass to land, tort of negligence-duty of care, breach of duty, damages-causation and remoteness proof of negligence nervous shock, liability for economic loss, employer's liability to workmen, defenses and liability of occupiers.  
**30h (T); R**
- URP 413      Urban Economics and Management      2 Credits**  
Measurement of economic activities in terms of products, income and employment: product and income accounts. Change in economic structure and spatial pattern of urban areas. Theories of economic development and their relevance at regional, national and local levels. Export Base Theory, Sector Theory, Dynamic Growth, Growth Pole Theory, Unbalanced Growth Theory. Theory of circular and cumulative causation. Determinants of size and structure of urban settlements. Economic change and urban size distribution. Financial institutions and planning implementations.  
**30h (T); E**
- URP 415      Geographic Information System II (GIS)      2 Credits**  
GIS and Land Information System (LIS). Management of LIS. Use of GIS softwares. Computer Assisted Cartography. Use of Arcview and Autocad in design/presentation of layouts, master plans, landscape plan e.t.c. Spatial Data Analysis.  
**90h (P); E.      PR: URP 311**
- URP 501      Environmental Impact assessment      3 Credits**  
Different methods of assessing the impact of proposed development in the existing physical, social, economic and technological frameworks.  
**45h (T); C**
- URP 502      Advanced Planning Theory      3 Credits**  
The nature of planning theory. Theory of planning and theory in Planning. Normative, descriptive, and prescriptive theories of planning. Evolution of town planning philosophy. The planning process, management and decision-making in planning process; the dynamics of political, social, cultural and economic variables. The planners' role and functions. Citizen participation and evaluation in the planning process.

**30h (T); 45h (P); C**

- URP 503      Development Control and Settlement of Disputes      2 Credits**  
The various strategies of development control. The mechanics of control: Laws, codes, regulations and standards. Development plans/schemes and their implementation. Planning applications: consents; appeals; enforcement procedures. Arbitration: advantages of arbitration submission. Appointment of arbitration, rules of evidence. Preparation and publication of awards. Methods of enforcing and impeaching an award. Reference by order of the court. Statutory arbitration.  
**30h (T); C**
- URP 504      Planning Studio VIII      3 Credits**  
Macro theories of design. The formulation of minimum and desirable space standards. Ecological approaches to urban and regional planning design. Visual elements in an urban complex. Design resources, composition, space articulation, aesthetic qualities. Preparation of three-dimensional models.  
**135h (P); C**
- URP 505      Planning Studio VII      3 Credits**  
Studio project on planning for new towns. This project is expected to demonstrate the planning principle that has been learnt and its application in the planning and design of a new town. Technical report writing should accompany the design.  
**135h (P); C**
- URP 506      Professional Practice II      2 Credits**  
The NITP as compared with other professional bodies, Code of professional practice, Procedures for membership of NITP, The NITP charter, Planning and politics, Planners and the elected representative and Planners and the general public.  
**30h (T); C**
- URP 507      Professional Practice I      2 Credits**  
Legal basis of planning, The ethics of preparing land use master plans, Principles of writing planning brief and Pitfalls in planning communication, technical reporting and graphic techniques.  
**30h (T); C**
- URP 508      Advanced Landscape Design      3 Credits**  
Values, forces and institutions shaping urban forms. Principles in urban design. Organization of space. Elements within organized space. Theoretical concepts and approaches to urban form and design. Design exercises on major landscape projects. Landscape management techniques.  
**15h (T), 90h (P); E**

<b>URP 509</b>	<b>Public Utilities and Services</b> Planning consideration and design standards for public utilities and services such as drainage, water supply, electricity, telephone, sewage etc. Method of site investigation for planning of public utilities. Management principles for public utilities and services. <b>30h (T); C</b>	<b>2 Credits</b>
<b>URP 510</b>	<b>Project Dissertation</b> Each student is expected to choose a topic to be treated as a special area of study in planning profession. The student carries out an independent study on it under the guidance of a member of academic staff. <b>270h (P); C</b>	<b>6 Credits</b>
<b>URP 511</b>	<b>Planning Seminars</b> Each student is expected to prepare and present a seminar on his/her specific area of interest within the context of Nigerian Urban and Regional Planning problem. This is aimed at the development of academic and professional skills in the preparation and development of seminar topic. <b>90h (P); C</b>	<b>2 Credits</b>
<b>URP 512</b>	<b>Recreational Planning</b> Definition of recreation, Assessment of supply and demand for recreational resources, Recreation planning standard, Recreation carrying capacity and Management of recreation resources <b>30h (T); C</b>	<b>2 Credits</b>
<b>URP 513</b>	<b>Advanced Regional Planning</b> The concepts and different types of region. Regional planning and economic development. Regional planning at the national and state levels. Depressed regions and regional planning. Models of regional growth. Economic base theme, shift-share analysis. Policy formulation in regional development. <b>30h (T); C</b>	<b>2 Credits</b>
<b>URP 514</b>	<b>Advanced Housing Studies</b> Aims and objectives of housing policies and programmes. Housing as a sector of investment and integral part of national plans in Nigeria Housing. <b>45h (T); E</b>	<b>3 Credits</b>
<b>URP 515</b>	<b>Tourism and Development</b>	<b>2 Credits</b>

Nature of Tourism and development, Essentials of Tourism planning, Tourism resources of Nigeria, Consideration for design, construction and development of tourist resorts, Tourism organization, Travel Agent and developers, Impacts of Tourism and Principles of Tourism management.

**30h (T); E**

**URP 517**

**Environmental Planning and Protection Laws**

**2 Credits**

The concept of ecosystem and ecological balance. Study and analysis of human settlements as ecosystem. Conceptualization of urban - rural ecosystem interaction. Broad concepts of pollution Studies in urban pathology. Problems and constraints relating to development, utilization and conservation of resources. The concept and strategy of Environment Impact Assessment (EIA). EIA and its legislative background in Nigeria context. Public health laws and management in environmental issues. Pollution control laws The Federal Environmental Protection Agency (FEPA) Decree of Nigeria and its relationship with environmental planning.

**30h (T); E**

## SUMMARY

### 100 LEVEL

**Compulsory Courses:** URP 101(2), URP 102 (2), URP 103 (2), URP 104 (2), URP 105 (2), URP 106 (2), URP 107 (2), URP 108 (2), URP 110 (2), URP 112 (2)

**Total = 20 Credits**

**Required Courses:** GNS 111 (2), GNS 112 (2), MAT 111 (3), MAT 114 (3), PHY 125 (3), PHY 191 (1), PHY 192 (1), CSC 111 (2), CSC 112 (2), QTS 102 (2), STA 131 (2)

**Total = 23 Credits**

**Elective Courses:** NIL

**Total = 43 Credits**

### 200 LEVEL

**Compulsory Courses:** URP 201(2), URP 202 (2), URP 203 (2), URP 204 (2), URP 205 (3), URP 206 (3), URP 207 (3), URP 208 (3), URP 210 (2), URP 211 (2), URP 212 (2)

**Total = 26 Credits**

**Required Courses:** GNS 211 (2), GNS 212 (2), SVG 201 (2), QTS 203 (3), QTS 204 (2)

**Total = 11 Credits**

**Direct Entry Students:** GNS 111(2) and GNS 112 (2)

**Elective Courses:** NIL

**Total = 37 Credits**

**Total = 41 Credits**

### 300 LEVEL

**Compulsory Courses:** URP 301(2), URP 302 (2), URP 303 (3), URP 304 (2), URP 305 (3), URP 306 (3), URP 307 (2), URP 308 (3), URP 309 (2), URP 310 (2), URP 311(2), URP 312 (2), URP 314 (3)

**Total = 31Credits**

**Required Courses:** ESM 201(3); GSE 301 (2); GNS 311 (3)

**Total = 8 Credits**

**Direct Entry Students:** GNS 111(2); 112 (2); 211 (2); 212 (2)

**Elective Courses:** 7 Credits from the following:

URP 313 (2), URP 315 (2), URP 316 (2), URP 317 (2), URP 318 (2), URP 320 (1), URP 322 (1)

**Total = 7 Credits**

**Total = 46 Credits**

**Total = 54 Credits**

#### **400 LEVEL**

**Compulsory Courses:** URP 401 (2), URP 403 (3), URP 405 (3), URP 407 (2), URP 409 (2), URP 411 (2)

**Total = 14 Credits**

**Required Courses:** URP 400 (6)

**Total = 6 Credits**

**Elective Courses:** 2 Credits from the following:

URP 413 (2); 415 (2)

**Total = 2 Credits**

**Total = 22 Credits**

#### **500 LEVEL**

**Compulsory Courses:** URP 501(3), URP 502 (3), URP 503 (2), URP 504 (3), URP 505(3),  
(2), URP 507 (2), URP 509 (2), URP 510 (6), URP 511 (2), 512 (2), URP 513 (2)

URP 506

**Total = 32 Credits**

**Elective Courses:** 5 Credits from the following:

URP 508 (3), 515 (2), 514 (3), 517 (2)

**Total = 5 Credits**

**Total =37 Credits**

#### **Graduation Requirements**

1. Major Environmental Sciences Courses (ARC, ESM, QTS, SVG, URP) **148 Credits**
2. Courses from other Department outside the Faculty (CSC 111, 112, PHY 191,192,125, MAT 111, 114, STA 131,) **17 Credits**
3. General Studies Courses (GNS 111, 112, 211, 212, 311, GSE 301) **13 Credits**
4. Students' Industrial Works Experience Scheme (SIWES) **6 Credits**
5. Total Credits Required **184 Credits**



To be eligible for an award of B.Sc. in Urban and Regional Planning (5-year Programme), students must pass a minimum total of 184 Credits. For a 4-year Programme, a student must pass a total of 146 Credits. For a 3-year Programme, a student must pass a total of 113 Credits. In summary;

<b>UTME -</b>	<b>184 Credits</b>
<b>DE (4 years)</b>	<b>146 Credits</b>
<b>DE (3 years)</b>	<b>113 Credits</b>

## FACULTY OF LAW

### DEAN'S OFFICE

I. A. Yusuf	LL.B. (Jos); BL; LL.M. (OAU); Ph.D. (IIUM, Malaysia),	Senior Lecturer & Ag. Dean	
I. Imam	LL.B. (UDUS); BL; LL.M. (OAU);	Senior Lecturer & SubDean	Ph.D.(Ilorin)
S. O. Olajugba	B.A.; MPA (Ilorin)	Faculty Officer	

### DEPARTMENT OF BUSINESS LAW

K. I. Adam	LL.B. (BUK);BL; LL.M. (OAU), Ph.D. (IIUM, Malaysia)	Senior Lecturer & Ag. Head	
M. M. Akanbi	LL.B. (OAU), BL, LL.M (Lagos), Ph.D. (KCL, London).	Professor	
O. Y. Abdulhamid	LL.B.; BL.;LL.M., M.Phil.(OAU), Ph.D. (IIUM, Malaysia)	Senior Lecturer	
S. M. Olokooba	B.A., LL.B. (Ilorin); BL; LL.M (OAU); Ph.D. (Ilorin)	Senior Lecturer	

Hafsat.I. Sa'adu	LL.B. (UDUS); BL; LL.M. (OAU);Ph.D. (Ilorin)	Lecturer I
D. A Ariyoosu	LL.B. (Ilorin); BL.; LL.M. (OAU); Ph.D. (Ilorin)	Lecturer I
Khairat.O. Akanbi	LL.B. (Ilorin); BL; LL.M.(OAU)	Lecturer II
M. A. Ismael	LL.B. (Ilorin) ; BL ;.LL.M.(OAU)	Lecturer II
M. T. Adekilekun	LL.B. (Ilorin); B; .LL.M.(OAU)	Lecturer II
A.O. Olatunji	LL.B. (Ibadan); BL; LL.M. (Cambridge)	Lecturer II
Ruth.A. Adimula	LL.B. (ABU); BL; LL.M. (OAU); Ph.D. (Ilorin)	Lecturer II

#### **DEPARTMENT OF ISLAMIC LAW**

I. S. Ismael	LL.B. (UDUS); BL; LL.M. (OAU); Ph.D. (Sokoto)	Senior Lecturer & Ag. Head
A. Zubair	LL.B. (Medina); M.A. (Cairo); Ph.D. (Kano)	Professor
A. O. Omotosho	LL.B. (Medina); Ph.D. (Edinburgh)	Professor
A. A. Alaro	LL.B., M.A. (Medina); LL.M., Ph.D. (Sudan)	Senior Lecturer
I. A. Abdulqadir	LL.B. (UDUS); BL.; LL.M. (OAU); Ph.D. (IIUM, Malaysia)	Senior Lecturer

B. O. Omipidan	LL.B. (Ilorin); BL.; LL.M. (OAU); Ph.D. (IIUM, Malaysia)	Senior Lecturer
A.A. Owoade	LL.B., BL, LL.M. Ph.D. (Ilorin)	Lecturer I
Azizat.O. Amoloye-Adebayo	LL.B. (UDUS); BL.; LL.M. (Ibadan);	Lecturer I
O.I. Ridwan	LL.B. (BUK); BL; LL.M. (OAU)	Lecturer II
T.A. Abdulraheem	LL.B. (Ilorin); BL; LL.M. (OAU)	Lecturer II
A.H. Folorunsho	LL.B. (BUK); BL; LL.M. (IIUM, Malaysia)	Lecturer II

#### **DEPARTMENT OF JURISPRUDENCE AND INTERNATIONAL LAW**

Nimatallahi.M. Abdulraheem	LL.B. (BUK); BL.; LL.M. (OAU)	Senior Lecturer & Ag. Head
W. O. Egbewole	LL.B. (OAU); BL.; LL.M. (OAU); Ph.D. (Ilorin)	Professor
A. A. Oba	LL.B. (OAU); BL.; LL.M. (OAU);	Senior Lecturer

Ph.D. (IIUM, Malaysia)

M. A. Etudaiye	LL.B. (OAU); BL.; LL.M. (OAU); Ph.D. (Ilorin)	Senior Lecturer
J. O. Olatoke	LL.B.( OAU) BL.; LL.M., M.Phil., Ph.D. (OAU)	Senior Lecturer
L. A. Ayinla	LL.B. (UDUS); BL ; LL.M. (OAU); Ph.D. (IIUM, Malaysia)	Senior Lecturer
Elizabeth.F. Owolabi	LL.B. (Jos); BL, LL.M. (OAU); Ph.D. (Ilorin)	Lecturer I
A. Onuora-Oguno	LL.B. (Ilorin); BL; LL.M. (Pretoria)	Lecturer I
Oluwabunmi. L. Niyi-Gafar	LL.B. (Ilorin); BL; LL.M. (Ibadan)	Lecturer II
Barakat.A. Raji	LL.B. (Ilorin); B; LL.M. (OAU)	Lecturer II
Oluwatosin.B. Igbayiloye	LL.B., BL; LL.M. (Ilorin)	Lecturer II
G.A. Murtala	LL.B. (Ilorin); BL; LL.M. (OAU)	Lecturer II

#### **DEPARTMENT OF PRIVATE AND PROPERTY LAW**

M.K. Adebayo	LL.B. (Maiduguri); BL; LL.M., Ph.D. (Jos)	Senior Lecturer & Ag. Head
H. O. Ijaiya	B.A. (Ed) (Ilorin); LL.B. (Jos); BL; LL.M., M.Phil., Ph.D (OAU)	Senior Lecturer
Ganiat.M. Olatokun	LL.B. (Maiduguri); BL; LL.M. (OAU);	Lecturer I

Ph.D. (Utara)

Fatimah.F. Abdulrazaq	LL.B. (Maiduguri); BL; LL.M. (OAU)	Lecturer I
B.L. Ijaiya	LL.B. (UDUS); BL; LL.M. (OAU)	Lecturer I
O.S. Afolabi	LL.B. (OAU); BL; LL.M., Ph.D (Zaria)	Lecturer I
A.O. Abdulkadir	LL.B. (Ilorin); BL; LL.M. (OAU); Ph.D. (IIUM, Malaysia)	Lecturer I
M.K. Imam-Tamim	LL.B. (Ilorin); BL; LL.M. (OAU)	Lecturer II
Hameenat.B. Ojibara	LL.B. (Ilorin); BL; LL.M. (Portsmouth)	Lecturer II
I.F. Yusuph	LL.B. (Ilorin); BL; LL.M. (OAU)	Lecturer II
S.T. Abubarkar	LL.B.(BUK); BL; LLM(OAU)	Lecturer II
Oluwabusayo.T. Joseph	LL.B. (Ilorin); BL	Asst. Lecturer

#### **DEPARTMENT OF PUBLIC LAW**

A.T. Shehu	LL.B. (UDUS); BL; LL.M. (OAU); Ph.D. (Jos)	Senior Lecturer & Ag. Head
I. A. Yusuf	LL.B. (Jos); BL; LL.M. (OAU);	Senior Lecturer

	Ph.D. (IIUM, Malaysia)	
I. Imam	LL.B. (UDUS); BL; LL.M. (OAU);	Senior Lecturer
	Ph.D. (Ilorin)	
N.A.O. Ijaiya	LL.B. (BUK); BL; LL.M. (OAU); Ph.D. (Ilorin)	Lecturer I
A. O. Sambo	LL.B.(Ilorin) ; BL ; LL.M. (Ilorin) ;	Lecturer I
	Ph.D. (IIUM, Malaysia)	
R. J. Adebimpe	LL.B.(Ilorin); BL; LL.M. (Ilorin)	Lecturer I
Mariam.A. AbdulRaheem-Mustapha	LL.B. (UDUS); BL; LL.M. (OAU)	Lecturer I
B. A. Abdulkadir	LL.B.(Ilorin); BL; LL.M. (Ilorin);	Lecturer I
	Ph.D. (IIUM, Malaysia)	
L.A. AbdulRauf	LL.B. (ABU); BL.; LL.M. (Ilorin)	Lecturer II
Anthonia.O. Ugowe	LL.B. (Ilorin); B.L.; LL.M. (Manchester)	Lecturer II
Efeoghene. Etejere	LL.B. (Ilorin); B.L.; LL.M. (Wales)	Lecturer II

## DEPARTMENT OF BUSINESS LAW

### Course Description

#### LLB. Common Law

<b>BUL 101</b>	<b>Introduction to Business Law I</b> Sources of Nigerian business law. Characteristics and features of the law of contract and commercial law. <b>30h (T); R</b>	<b>2 Credits</b>
<b>BUL 102</b>	<b>Introduction to Business Law II</b> Characteristics and features of company law and the law of partnership. Introduction to commercial arbitration. <b>30h (T); R</b>	<b>2 Credits</b>
<b>CSC 111</b>	<b>Introduction to the Use of Computer I</b> Basic components of computer. Advantages and disadvantages of computer. <b>30h (T); R</b>	<b>2 Credits</b>
<b>BUL 104</b>	<b>Introduction to the Use of Computer II</b> Application of computer to legal concepts and the teaching of law. <b>30h (T); R</b>	<b>2 Credits</b>
<b>BUL 201</b>	<b>Law of Contract I</b> Contract: nature, formation and capacity. <b>60h (T); C</b>	<b>4 Credits</b>
<b>BUL 202</b>	<b>Law of Contract II</b> Vitiating elements of contract. Privity of contract. Remedies and damages. <b>60h (T); C</b>	<b>4 Credits</b>
<b>BUL 203</b>	<b>Industrial Law I</b> Nature, history, sources and scope of Industrial Law. Contract of employment: definition, formation and content. Parties: young persons, apprentices and women. Employees' duties: good faith, accountability, confidentiality and restraint of trade. Termination of contract of employment.	<b>3 Credits</b>



**45h (T); E**

- BUL 204 Industrial Law II 3 Credits**  
Collective bargaining and collective agreement: framework, nature and legislation. Trade unions: formation, rights and obligations. Criminal liability and civil liability. Agencies: I.A.P., N.I.C., P.P.I.B and Industrial Training Fund. Industrial law and economic development.  
**45h (T); E**
- BUL 301 Commercial Law I 4 Credits**  
Sale of goods: nature and affirmation of the contract, conditions, warranties and representation. Ownership and passing of property. Duties of the sellers and buyers. Effect of contract. Remedies. Special commercial contracts in outline. Use of various payment devices: cheque, credit cards and luncheon fuel vouchers, etc.  
**60h (T); C**
- BUL 302 Commercial Law II 4 Credits**  
Hire purchase: nature and meaning. Hire purchase in common law and under the Hire Purchase Act, 1965. Ownership and passing of property. Hire purchase agreement. Bill of sales. Conditional sale and Credit sale agreements. Agency.  
**60h (T); C**
- BUL 311 Banking Law I 3 Credits**  
Banking: nature, history and evolution of banking in Nigeria. Law regulating the establishment and operation of banking in Nigeria.  
**45h (T); E**
- BUL 312 Banking Law II 3 Credits**  
Nature and legal effect of negotiable instruments, including cheques, promissory notes and bills of exchange.  
**45h (T); E**
- BUL 313 Insurance Law I 3 Credits**  
Insurance: meaning and functions. Types of insurance: marine, life and personal accident, motor vehicle insurance, etc.  
**45h (T); E**
- BUL 314 Insurance Law II 3 Credits**  
Insurable interests and principles of indemnity. Assignment of insurable policies. Undertaking and reinsurance claims. Settlement of claims.  
**45h (T); E**

- BUL 401**      **Revenue Law I**      **3 Credits**  
Taxation: nature, meaning and forms. General principles and administration of tax. The rules governing residence and ordinary tax payers: individuals, trustees, companies and other business organizations.  
**45h (T); E**
- BUL 402**      **Revenue Law II**      **3 Credits**  
Types of tax and duties. Taxing powers of Government. Problems of double taxation. Married women and tax exemption. Pensions and gratuities. Tax treatment of groups of companies, reconstruction, amalgamations and dividends.  
**45h (T); E**
- BUL 403**      **Law of Intellectual Property I**      **3 Credits**  
Copyright and confidential information: nature, ownership of rights, exploitation and the international environment. Implications of new technology on copyright. Confidential information on property. The exploitation of property. Exploitation and protection of the right.  
**45h (T); E**
- BUL 404**      **Law of Intellectual Property II**      **3 Credits**  
Forms of industrial property: trade marks, patents and industrial designs. The nature and historical designs. Nature and historical revolution of the various species of industrial property rights and their expectation.  
**45h (T); E**
- BUL 501**      **Company Law I**      **4 Credits**  
Forms of business organization. Formation of companies. Memorandum of association and articles of association. Doctrine of constructive notice and indoor management. Prospectus.  
**60h (T); C**
- BUL 502**      **Company Law II**      **4 Credits**  
Company securities. Directors and other Officers. Meetings. Resolutions. Majority powers and minority rights. Reconstructions and take-overs. Winding up. Partnership.  
**60h (T); C**
- BUL 503**      **Alternative Dispute Resolution and Commercial Arbitration I**      **3 Credits**

Meaning and characteristics of alternative dispute resolution: meditation, conciliation, valuation, certification, negotiation and arbitration. Distinction between arbitration and other forms of alternative dispute resolution. Nature and scope of customary arbitration. Advantages and disadvantages of alternative disputes resolution.

**45h (T); E**

**BUL 504      Alternative Dispute Resolution and Commercial Arbitration II      3 Credits**

Nature of commercial arbitration. Arbitration under the Nigerian Arbitration and Conciliation Act. Features of Arbitration; appointments, functions, duties and liabilities. Conduct of proceedings. Awards.

**45h (T); E**

**BUL 506      Engineering Law      3 Credits**

Introduction and sources of law. Formation of contracts. Liabilities in torts: assaults, negligence and strict liability. Professional role and liabilities of Engineers. Contract of Employment: independent contractors, workmen compensation. Property law. Partnerships. Intellectual property, copyright, trademarks, and patent. Registration and incorporation of companies and effects. Case studies relating to professionals. Arbitration.

**45h (T); (For Engineering Students only)**

**BUL 599      Project      6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270h (P); C**

## DEPARTMENT OF ISLAMIC LAW

- ISL 101 Introduction to Islamic Law I 2 Credits**  
Composite nature of sharia. The historical development of Islamic jurisprudence.  
**30h (T); C**
- ISL 102 Introduction to Islamic Law II 2 Credits**  
Subsidiary sources: islamic, *al-massalih*, *al-mursala* and *istislah*.  
**30h (T); C**
- ISL 205 Islamic Constitutional Law I 3 Credits**  
Introduction to pre-Islamic Arabia. The historical development of Islamic Legal System. Sources of Islamic law.  
**45h (T); E**
- ISL 206 Islamic Constitutional Law II 3 Credits**  
Constitutionalism in Islamic law. Theory of State and Government. Concept of sovereignty and vicegeranty. Fundamental constitutional principles of Islamic law.  
**45h (T); E**
- ISL 207 Islamic Law of Crime and Tort I 3 Credits**  
Concept of crime and punishment in Islam. Moral and social elements in *qu'ran*. Rationale behind various Islamic panel provisions. Classification of crimes. Definition, elements and proof regarding crimes under *hudud*, i.e., *zina* (adultery and fornication), *quazaf* (defamation), *shrub* (intoxicants), *sarikah* (theft), *hiraba* (robbery), *baghi* (rebellion), *alriddah* (apostasy).  
**45h (T); C**
- ISL 208 Islamic Law of Crime and Tort II 3 Credits**  
Assault and grievous hurt. Homicide and murder. Elements and punishment. *Al-tazir* (deterrence): definition, validity, purpose and nature of punishment. Sovereign's discretionary powers. *Janayat* (torts); kinds of torts, principles of tortious liability. Remedies: *qisas al-qawd* (retaliation), *diya alrirsh* (compensation), *dadd* (return of thing), *itai-mithli* (delivery of similar thing).  
**45h (T); C**
- ISL 305 Mu'amal at (Islamic Law of Transaction) I 3 Credits**  
Origin and sources of Islamic law. Definition, elements, classification and modes of *mal.*, *milkiyyah*, *agd*. Factors affecting the continuity of *mahilis al-agd*. Capacity of contract. Terms of contract (*al-khiyarat*). Factors affecting validity of contract.  
**45h (T); R**

- ISL 306**      ***Mu'amalat (Islamic Law of Transaction) II***      **3 Credits**  
 Specific contracts. Contract of sale. Definition of sale contracts. Sale contract: sale by sample, sale in gross i.e. *juzaf* and sale of non-existent goods. Exchange of goods and currency, *al-muawadhat*. Prohibited sales. Usurious and gambling sales, i.e. *al-garar*. Sale on credit, *al-ajai*.  
**45h (T); C**
- ISL 307**      **Islamic Family Law I**      **3 Credits**  
 The role of family in society. Marriage preliminaries. Betrothal and withdrawal of betrothal. Marriage: definition and types of marriage in Nigeria. Statutory and customary marriage. Elements of contract in marriage.  
**45h (T); C**
- ISL 308**      **Islamic Family Law II**      **3 Credits**  
 Termination of the contract of marriage. Definition and types of *iddah*; rights of the women under *iddah*; maintenance of wives, children, parents and other relatives. Establishment of paternity. *Conditions of hanada*.  
**45h (T); C**
- ISL 309**      **Principles of Islamic Law I**      **2 Credits**  
 History, nature and sources of Islamic Law, Law and Society in pre and post Islamic Arabia. Development of Judicial System in Islamic Law.  
**30h(T); E**
- ISL 310**      **Principles of Islamic Law II**      **2 Credits**  
 Introduction to Islam in West Africa. The Maliki School of Law, its spread, books and court system in Nigeria. Application of Islamic law during British era and the present day.  
**30h(T); E**
- ISL 413**      ***Mirath & Wasyyahi I (Islamic Law of Intestate and Testate Succession)***      **3 Credits**  
 Definition of *mirath* and the rationale behind it in Islamic and pre-Islamic era. Elements of succession. Duties related to the estate. The legal heirs, *ashab all-furud*, *al-asabah*, *al-radd* and *awl dhaw al-arham baitul-mal*.  
**45h (T); C**
- ISL 414**      ***Mirath & Wasyyahi II (Islamic Law of Intestate and Testate Succession)***      **3 Credits**  
*Mafud* (missing person). *Khunka mushkil* (hermaphrodite). *Takhruj wasiyyah*, conditions of its validity. Effect of terminal sickness. *Waqt*: definition, legality. *Shurnt all waqt*, administration, legal personality and liquidation of *waqt*.  
**45h (T); C**

- ISL 415**      ***Usual-Al-Fiqh (Islamic Jurisprudence I)***      **3 Credits**  
 Historical background of Islamic jurisprudence. Nature of Islamic jurisprudence. Concept and the nature of Islamic system. Main sources of Islamic law. Right and obligations in Islamic law (*al-ahkam*), *hakm hukm*, *mahkum*, *Bihi mahkum alahih*, *magasid*.  
**45h (T); C**
- ISL 416**      ***Usual-Al-fiqh (Islamic Jurisprudence II)***      **3 Credits**  
 The art of interpretation. Linguistic principles.. Ways of understanding the interdment of legal text: mafhumalmukhalafah, wadiuhaahalah, ghay wadih al-dalah, al-mushtarak, al arm al-khas. Jurisprudential principles, magasid al-shariah, al-gawaid al-usubiyyah, al naskh wa al-mansukh. Conflict and harmonization of textual evidences.  
**45h (T); C**
- ISL 501**      ***Mura'fat I (Islamic Law of Evidence)***      **2 Credits**  
 Basis of evidence as contained in the Holy *Qu'ran* and *Sunnah*. Competency to give evidence. Kinds of evidence, *igrar* (admission), argUTMEnt and legality of confession. *Al-shahada* (testimony). The oath.  
**30h (T); C**
- ISL 502**      ***Mura'fat II (Islamic Law of Evidence)***      **2 Credits**  
 Basis of *mura-fat* contained in letter of caliph *umar* judicial organsiation. Functions of judges. Duties and qualifications of judges (claims). Requirements of *ad-dawah*. Procedure in the claim of *bedt*, *waqf*, parentage, inheritance, *hukm ad-da'wa* (degree). Renew of decree. Execution of decrees. Arbitration.  
**30h (T); C**
- ISL 503**      **Islamic Law of Banking I**      **2 Credits**  
 Acquisition of banking capital on the principle of *mudaraba*. Determination of profit and loss under *mudadaraba*. Economics of profit sharing. Rate and ratio of profit sharing. Determination of bankers and depositor's ratio of profit sharing. Profit sharing as the chief alternative loans interest free bank loans. Government loans. Islamic Development Bank: objectives and operation.  
**30h (T); E**
- ISL 504**      **Islamic Law of Banking II**      **2 Credits**  
 Acquisition of banking capital on the principles of *mudaraba*. Determination of profit and loss under *mudaraba*. The economics of profit sharing.  
**30h (T); E**
- ISL 505**      **Islamic Property and Company Law I**      **2 Credits**

Definition and classification of *mal*. Means of acquiring mal and ownership. Acquisition of unprocessed property (*hiyazat al-mal al-nabah*)*al-sifeat*. Pre-emption. Rights to *shufas* and duties of *shafee*. *Al-ariyat* and liability of *al-mustaseer*, *al-guard* and the payment of *al-wadiset*. Liability of trustee.

**30h (T); E**

**ISL 506**

**Islamic Property and Company Law II**

**2 Credits**

*Al-sharikah* in classical Islamic jurisprudence. Functions of the partners. *Sharikat al-mufawadth*, *sharikat al-wujooh*, *al-mudrabat* and *al-guired*. Duties of *amil al-gurad*.

**30h (T); E**

**ISL 507**

**Islamic Medical Law and Ethics I**

**2 Credits**

Scope and sources of Islamic Medical Law. Privacy, Confidentiality and Disclosure.

**30h(T); E**

**ISL 508**

**Islamic Medical Law and Ethics II**

**2 Credits**

Ethico-legal-fight issues in clinical practice application. Negligence: Bolam and Bilitho Principle under Islamic Medical Law.

30h(T); E

**ISL 509**

**Islamic International Law I**

**2 Credits**

War and Peace among the nationa of antiquity and pre-Islamic Arabs. Space and Peaceful co-existence in Islam. The sources and development of Islamic law of war and peace (*al-Siyar*). The law of war

45 (T):E

**ISL 510**

**Islamic International Law II**

**2 Credits**

Law of peace. Peace treaties entered into by the Prophet. Nature and treaties and Agreements

30h(T):E

**ISL 599**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270h (P); C**

## DEPARTMENT OF JURISPRUDENCE AND INTERNATIONAL LAW

<b>JIL 101</b>	<b>Legal Methods I</b> Law in social context. Nature and functions of law in society. Methods of social control through law, legal reasoning and approach to problems. Legal reasoning in judicial processes and legislation. <b>30h (T); C</b>	<b>2 Credits</b>
<b>JIL 102</b>	<b>Legal Methods II</b> Sources of law: primary and secondary sources. Use of source materials, law library and legal research. Judicial opinions and legal writing. <b>30h (T); C</b>	<b>2 Credits</b>
<b>JIL 201</b>	<b>Nigerian Legal System I</b> The idea of legal system. Sources of Nigerian law. <b>60h (T); C</b>	<b>4 Credits</b>
<b>JIL 202</b>	<b>Nigerian Legal System II</b> Internal conflicts. The role of the judiciary. Court system. <b>60h (T); C</b>	<b>4 Credits</b>
<b>JIL 301</b>	<b>Nigerian Environmental Law I</b> Nature of environmental law. Land pollution. <b>45h (T); E</b>	<b>3 Credits</b>
<b>JIL 302</b>	<b>Nigerian Environmental Law II</b> Waste management. Water pollution. Air pollution. <b>45h (T); E</b>	<b>3 Credits</b>
<b>JIL 401</b>	<b>Conflict of Law I</b> Nature and scope of conflict of law; internal and international conflicts. General principles of conflicts of law. Jurisdiction and exemption of the courts. Exclusion of foreign law/state laws. Characterization. Domicile and nationality. Renoi. <b>45h (T); E</b>	<b>3 Credits</b>
<b>JIL 402</b>	<b>Conflict of Laws II</b>	<b>3 Credits</b>



Conflict situations (internal and external) and choice of law. Law of person: status, marriage and matrimonial causes, infants, legitimacy and legitimation, adoption, lunatics and succession. Law of obligations. Law of property; movable and immovable. Recognition and enforcement of foreign/state judgment. The need for a uniform legal system.

**45h (T); E**

**JIL 403**

**Human Rights and Civil Liberties Law I**

**3 Credits**

Historical development. Development of the concept of human rights. Revival of human rights in the 20<sup>th</sup> century. The United Nations: African, European, inter-American protection of human rights and other subregional arrangements. Enforcement procedures. Specific concepts: crime against humanity, genocide, apartheid and racism. Role of Non-Governmental Agencies.

**45h (T); E**

**JIL 404**

**Human Rights and Civil Liberties Law I**

**3 Credits**

Fundamental human rights provisions: right to life, right to dignity of human person, right to personal liberty, right to fair hearing, right to private and family life and right to freedom of thought, conscience and religion.

**45h (T); E**

**JIL 405**

**Moot Court/Mock Trial**

**2 Credits**

Legal brief to be prepared by each student on legal issues assigned by the course coordinator. Oral presentation by each student is to be assessed from point of dressing, presentation, comportment, sound legal reasoning, arguments and citation. Moot court proceedings and visit to watch court sessions.

**30 (P); C**

**JIL 406**

**Research Methodology and Field Work**

**2 Credits**

Introduction to legal research. Field work relevant to the training of lawyers (Report of field work to be submitted).

**30 (P); C**

**JIL 501**

**Jurisprudence and Legal Theory I**

**4 Credits**

Purpose of the study of law and jurisprudence. Meaning and function of law. Relation of law to justice, morality and religion. Law and social change. Ethics. Sources of law: legislation, customs and judicial precedents. Nature, ascertainment, applicability and the role of these sources in contemporary and early society.

**60h (T); C**

**JIL 502**

**Jurisprudence and Legal Theory II**

**4 Credits**

Theories of law: natural law school, historical school, positivist theory, sociological theory, Marxist theory of law. Principles and practice of African law. Concepts of customary law. Analysis of fundamental legal concepts: duties, liability, ownership, possession, personality and liberty. Codification, restatement, adaptation and unification of customary law.

**60h (T); C**

**JIL 503**

**Public International Law I**

**3 Credits**

The place of international law in the general scheme of legal studies, in relation to other disciplines. History of international law. Two possible approaches: international law as a legacy of Europe and international law as an institution, which appeared long before European self-assertion.

**45h (T); E**

**JIL 504**

**Public International Law II**

**3 Credits**

State: territory, acquisition and loss. Exceptions to jurisdiction. Law of international institutions. Peaceful settlement of international disputes. International law of war and neutrality.

**45h (T); E**

**JIL 505**

**Law and Social Change I**

**3 Credits**

Concept, theories of law. Law and social change.

**45h (T); R**

**JIL 506**

**Law and Social Change II**

**3 Credits**

Law as an INSTRUMENT of social change. Law, politics, economy, religion and ethics.

**45h (T); R**

**JIL 599**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270h (P); C**

#### **DEPARTMENT OF PRIVATE AND PROPERTY LAW**

**PPL 101**

**Introduction to Private and Property Law I**

**2 Credits**

Definition of property. Nature of property and types of property.

The concept of torts, equity and trust.

**30h (T); R**

**PPL 102**

**Introduction to Private and Property Law II**

**2 Credits**

Land; ownership and possession and inheritance.

**30h (T); R**

<b>PPL 201</b>	<b>Family Law I</b> Nature of family. Sources of Nigerian family law and succession. <b>45h (T); E</b>	<b>3 Credits</b>
<b>PPL 202</b>	<b>Family Law II</b> Jactitation of marriage, judicial separation, maintenance and financial relief. <b>45h (T); E</b>	<b>3 Credits</b>
<b>PPL 301</b>	<b>Law of Torts I</b> Historical background and general principles of tortious liability (defences will be considered in relation to each tort). Trespass to person: assault, battery, false imprisonment and intentional harm to the person. Trespass to land. Trespass to chattel. Conversion and detinue. Negligence. <b>60h (T); C</b>	<b>4 Credits</b>
<b>PPL 302</b>	<b>Law of Torts II</b> Nuisance. Liability for animals. Malicious prosecution. Vicarious liability. Defamation. Death as course of action. Fatal accidents. Deceit. Economic torts, passing off, civil conspiracy, intimidation, interference with contracts. Parties. Joint torts. Remedies. <b>60h (T); C</b>	<b>4 Credits</b>
<b>PPL 305</b>	<b>Customary Law I</b> Sources of customary law. Types of traditional political structure. Customary traditional societies, causes and character. Custom, law and morality. Legislation in traditional societies. The judicial process. Indigenous systems of adjudication, conciliation and arbitration. Customary procedures and modes of proof. <b>45h (T); E</b>	<b>3 Credits</b>
<b>PPL 306</b>	<b>Customary Law II</b> Basic principles of law of persons. Legal personality, status and capacity. Status and capacity of females and minors. Family and other groupings based on marriage or descent: structure, legal significance and functions. <b>45h (T); E</b>	<b>3 Credits</b>
<b>PPL 401</b>	<b>Land Law I</b> Historical evolution of land law. Sources of Nigerian land law. Terminology: ownership, possession, title rights, liability, land etc. Customary land law: modes of acquiring the title to land, settlement, expansion, loan or borrowing, pledge, gift, conquest,	<b>4 Credits</b>

allotment and kola tenancy. Concept and ownership of land. Nature of title in land. Control and management of community land. Individual rights and extent of community land today. Family land, nature and extent of member's right in family land, control of family land, alienation of family land, recovery of family land and improvement by a member of family land. An outline of succession to rights in land.

**60h (T); C**

**PPL 402 Land Law II**

**4 Credits**

Non-customary land law. The Land Use Act: State control of land, grant of right of occupancy. Certificate of occupancy: alienation of certificate of occupancy, renovation of certificate of occupancy and compensation for revocation.

**60h (T); C**

**PPL 403 Equity and Trust I**

**4 Credits**

General principle of equity: nature, doctrine and history of equity, its development in England and introduction to Nigeria. Relationship between equity and common law. Conflict between equity and customary law. Maxims of equity. Nature of equitable rights and interest. Priorities. Assignment of choses in action. Conversion. Election. Satisfaction. Equitable remedies: injunction, specific performance, rescission, rectification, delivery up and cancellation of documents, account, receivership and restitution. Equitable defences, estoppel, leaches and acquiescence. Exclusion of foreign law/state laws. Characterization. Domicile and nationality. Renou.

**60h (T); C**

**PPL 404 Equity and Trust II**

**4 Credits**

Name and classification of trust. Requirements of trust. Constitution of trust: express private trust, charitable trust, constructive trusts, protective and discretionary trust (an outline only) and trusts in favour of creditors. Appointment of trustee: duties, discretion and Power. Breach of trust. Retirement and removal of trustees. An outline of administration of estate.

**60h (T); C**

**PPL 405 Landlord and Tenant I**

**3 Credits**

Rent regulation. Impact of rent regulation on the supply of rented accommodation. Security of tenure. Security of tenants.

**45h (T); E**

**PPL 406 Landlord and Tenant II**

**3 Credits**

Categories of property subject to control. Need for unregulated lettings and the problems of holiday lets, student lets, board and attendance, residential landlords and the lease-licence distinction. Minimum standards of amenity. Repairs in residential accommodation.

**45h (T); E**

- PPL 501      Legal Drafting and Conveyancing I      3 Credits**  
Definition, importance and fundamental rules of legal drafting. Legal drafting as a means of communication. The five stages of drafting. The techniques of drafting. Draftsman's habits to be avoided. Use of punctuation in legal drafting. Aids to clarity and accuracy.  
**45h (T); E**
- PPL 502      Legal Drafting and Conveyancing II      3 Credits**  
Law relating to the transfer of legal estate and interest in land. The contract for the transfer of a legal estate or interest in land, easements, mortgages and assignments. The transfer of title to land.  
**45h (T); E**
- PPL 503      Nigerian Law of Succession I      3 Credits**  
General introduction to the law of succession. Succession under customary law and intestate succession (intestacy). Rules of inheritance. Jurisdiction in respect of inheritance or disposition of property on death under customary law.  
**45h (T); E**
- PPL 504      Nigerian Law of Succession II      3 Credits**  
Succession under Received English law and local statutes. Testate and intestate succession. Wills under Received English law. Revocation of will by marriage. Testate and intestate succession under local statutes in Nigeria. Testate and intestate succession in respect of illegitimate children.  
**45h (T); E**
- PPL 599      Project      6 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**270h (P); C**

## DEPARTMENT OF PUBLIC LAW

- PUL 101 Introduction to Nigerian Constitutional Development and Organization of Government I** **2 Credits**  
Definitions of constitution. Types of constitution. Annexation of Lagos. Amalgamation of 1914. Discussions of Clifford, Richard, McPherson, Rytton, Independence and Republican constitution. Party politics in Nigeria. Electoral system in Nigeria.  
**30h (T); R**
- PUL 102 Introduction to Nigerian Constitutional Development and Organization of Government II** **2 Credits**  
The theory of separation of powers. Forms of government: Federalism, Confederalism, Parliamentary and Presidential Systems.  
**30h (T); R**
- PUL 103 Introduction to Policing in Nigeria I** **2 Credits**  
Historical development of the Police Force. Creation of the Police. Powers and duties of the Police.  
**30h(T); R**
- PUL 104 Introduction to Policing in Nigeria II** **2 Credits**  
The control of the Police: Federal and regional concepts of control, executive and administrative control, judicial control and extra-judicial control.  
**30h (T); R**
- PUL 201 Constitutional Law I** **4 Credits**  
Definition and sources of constitutional law. Separation of powers. Rule of law and constitutional history of Nigeria from advent of British rule till date.  
**60h (T); C**
- PUL 202 Constitutional Law II** **4 Credits**  
The Military and Constitutional Law making in Nigeria. Supremacy of the Constitution. Legislative, Judicial and Executive powers.  
**60h (T); C**
- PUL 203 Administrative Law I** **3 Credits**  
Nature, scope and sources of administrative agencies and procedures. Delegated legislation.  
**45h (T); E**

- PUL 204      Administrative Law II      3 Credits**  
Administration and adjudication. Powers of administration. Ground of judicial review. Remedies. Action by and against state corporation including Local Government Councils.  
**45h (T); E**
- PUL 301      Criminal Law I      4 Credits**  
Introduction and purpose of criminal law. Concept of crime. History and sources of Nigerian criminal law. Elements of an offence. Classification of offences. General principles of criminal responsibility. Parties to an offence. Offences against the persons.  
**60h (T); C**
- PUL 302      Criminal Law II      4 Credits**  
Offences against property. Offences against the State and public order. Offences of corruption. The Police and the administration of criminal justice. Theories and types of punishment. General principles of sentencing.  
**60h (T); C**
- PUL 303      Local Government Law I      3 Credits**  
The nature of Local Government. The development of Local Government Authorities in Nigeria. The financing of local government. The local government franchise. The composition of local authorities. The committee system and the position of Local Government Officers  
**45h (T); E**
- PUL 304      Local Government Law II      3 Credits**  
The administrative, legislative and judicial powers and procedures as they affect the housing, town, country planning and education functions of local authorities. Judicial review of administrative action as it affects local authorities. The criminal, constructional and tortious liability of local authorities. The doctrine of *ultra vires*. Election petitions  
**45h (T); E**
- PUL 401      Law of Evidence I      4 Credits**  
General introduction to law of evidence. Sources of Nigerian law of evidence. Direct and circumstantial evidence. Facts in issue and relevant facts. Complaints. Similar facts evidence. *Res gestae*.  
**60h (T); C**
- PUL 402      Law of Evidence II      4 Credits**  
Character evidence. Opinion evidence and hearsay evidence. Estoppel. Privilege. Corroboration. Proof of burden. Documentary evidence. Witnesses: competence, compellability and examination of the witness.

**60h (T); C**

- PUL 403      Legislation I      3 Credits**  
Sources of legislation. Pressure groups. National/State assemblies. Commission and committee report. The Law Commission. The Civil Service. Cabinet committees. Parliamentary procedure and scrutiny of legislation. Standing committees. Delegated legislation. Role of the national/state assemblies. Role of private members, government bills and private members.  
**45h (T); E**
- PUL 404      Legislation II      3 Credits**  
Graphics, lobbying, conflict of interest, craftsmanship and parliamentary counsel. Interpretation of statutes and the role of courts. Statutory instruments. Access to legislation.  
**45h (T); E**
- PUL 407      Criminal and Civil Procedures I      3 Credits**  
Source of civil procedure. Courts with civil jurisdiction. Parties to an action. Pleadings. Summary judgment procedure. Interlocutory applications. Pre-trial and trial proceedings. Enforcement of judgment. Interim orders pending appeal. Practice and procedure of the Sharia Court of Appeal. Practice and procedure of the Customary Court of Appeal.  
**45h (T); E**
- PUL 408      Criminal and Civil Procedure II      3 Credits**  
The courts of criminal jurisdiction. Bail. The forms and content of charges. Rules of drafting charges. Amendment of charges. Trials, judgments and sentences.  
**45h (T); E**
- PUL 501      Criminology I      3 Credits**  
The meaning, nature and scope of criminology. Evolution of criminological thought. Phenomenology, actionology of crime and victimology. Legal principles relating to insanity, mental deficiency and other forms of mental incapacity.  
**45h (T); E**
- PUL 502      Criminology II      3 Credits**  
Drug addiction, alcoholism and juvenile delinquency. Theories of punishment. The law governing sentencing and practice. Treatment techniques, strategies and criminological research methods. Philosophies of punishment, correction and treatment. Analysis of different forms of punishment or treatment.  
**45h (T); E**



- PUL 503**      **Health Care Law I**      **3 Credits**  
Structure of the National Health Service. The ethical, disciplinary, legal organisation and control of medical staff. The ethical and legal rules relating to medical confidence and the proposals for their reforms.  
**45h (T); E**
- PUL 504**      **Health Care Law II**      **3 Credits**  
Arrangement for the family practitioner service. Special issues relating to employment in the health service including the appointment of staff and strike action. The provision of health care in the private sector and its control.  
**45h (T); E**
- PUL 599**      **Project**      **6 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department culminating in the submission project.  
**270h (P); C**

## SUMMARY

### COMMON LAW

#### 100 LEVEL

**Compulsory Courses:** JIL 101 (2), 102 (2) = 4 Credits

**Required Courses:** BUL 101(2), 102(2), CSC 111(2), BUL 104(2), GNS 111(2), 112 (2), 101(2), 102(2), PUL 101 (2), 102(2), 103(2), 104(2) = 24 Credits P P L

**Elective Courses:** At least 16 Credits from the following: ENG 106(3), 119 (3), HIS 111(2), 112 (2), POS 111 (3), 112(3), 113(3),114(3), 143 (3) 145 (3), RCS 105 (2), 123 (2), SOC 105 (2), 112 (2), ISL 101 (2), 102(2)

= 16 Credits

**Total = 44 Credits**

#### 200 LEVEL

**Compulsory Courses:** BUL 201 (4), 202 (4), JIL 201(4), 202 (4), PUL 201 (4), 202 (4)  
= 24 Credits

**Required Courses:** Direct entry students are to offer the following:  
CSC 1111 (2), BUL 104(2), JIL 101 (2), 102 (2), GNS 111 (2), 112 (2), 211 (2), 212 (2)  
= 16 Credits

Other students are to take: GNS 211 (2), 212 (2) = 4 Credits

**Elective Courses:** Direct entry students are to take at least 6 Credits while others are to offer at least 12 Credits from the following:  
BUL 203 (3), 204 (3), PPL 201 (3), 202 (3), 203(3), 204 (3), PUL 203 (3), 204 (3)

**Total = 40 Credits**

**Direct Entry 46 Credits**

#### 300 LEVEL

**Compulsory Courses:** BUL 301(4), 302(4), PPL 301(4), 302(4) PUL 301(4), 302(4)  
= 24 Credits

**Required Courses:** GNS 311 (2), GSE 301 (3) = 5 Credits

**Elective Courses:** At least 6 Credits from the following:  
BUL 311 (3), 312 (3), 313 (3), 314(3), JIL 301 (3), 302(3), ISL 309 (2), 310 (2), PPL 305 (3), 306 (3)  
**= 6 Credits**

**Total = 35 Credits**

**400 LEVEL**

**Compulsory Courses:** PPL 401 (4), 402 (4), 403 (4), 404 (4), PUL 401 (4), 402 (4)  
**= 24 Credits**

**Required Courses:** JIL 405 (2), 406 (2) **= 4 Credits**

**Elective Courses:** At least 12 Credits from any two of the following combinations:  
403 (3), 404 (3), JIL 401 (3), 402 (3), 403 (3), 404 (3), PPL 405 (3), 406 (3), PUL 403 (3), 404 (3) 4 0 7 ( 3 ) ,  
408(3) **= 12 Credits**

**Total = 40 credit**

**500 LEVEL**

**Compulsory Courses:** BUL 501 (4), 502 (4), JIL 501 (4), 502 (4) and any one of the following:  
BUL 599 (6), JIL 599 (6), PPL 599 (6), PUL 599 (6) **= 22 Credits**

**Required Courses:** JIL 505 (3), 506 (3) **= 6 Credits**

**Elective Courses:** At least 12 Credits from the following:  
BUL 503(3), 504(3), JIL 503(3), 504(3), PPL 501(3), 502(3), 503(3), 504(3), ISL 503(2), 504(2), 505(2), 506(2),  
507(2), 508(2), PUL 501(3), 502 (3) **= 12 Credits**

**Total = 40 Credits**

**Graduation Requirements:**

199 Credits for UTME

161 Credits for DE

## COMMON AND ISLAMIC LAW

### 100 LEVEL

**Compulsory Courses:** JIL 101 (2), 102 (2), ISL 101 (2), 102 (2) = 8 Credits

**Required Courses:** BUL 101 (2), 102 (2), CS111 (2), BUL 104 (2), GNS 111 (2), 112 (2), PPL 101 (2), 102 (2), PUL 101 (2), 102 (2), 103 (2), 104 (2) = 24 Credits

**Elective Courses:** At least 6 Credits from the following:  
ENG 104 (2), 106 (3), 110 (3), 119 (3), HIS 112 (2), ARA 143 (2), 144 (2), 145 (3), RIS 127 (2) ,  
POS 112 (3), 114(3) = 6 Credits

**Total= 38 Credits**

### 200 LEVEL

**Compulsory Courses:** BUL 201 (4), 202 (4), JIL 201 (4), 202 (4), PUL 201 (4), 202 (4), 207 (3), 208 (3)  
= 30 Credits

**Required Courses:** Direct Entry students must offer the following:  
JIL 101 (2), 102 (2), GNS 111 (2), 112 (2), 211(2), 212 (2) CSC 111(2) BUL 104 (2)  
= 16 Credits

Other students are to take GNS 211(2), 212(2) = 4 Credits

**Elective Courses:** Direct entry students are not expected to offer Elective Courses.  
While other students are to offer the following:  
ISL 205 (3) 206 (3) = 6 Credits

**Total = 40 Credits**

**or**

**Direct Entry = 46 Credits**

### 300 LEVEL

**Compulsory Courses:** BUL 301 (4), 302 (4), ISL 307 (3), 308 (3), PPL 301 (4), 302 (4), PUL 301 (4), 302 (4), ISL 305 (3), 306 (3)  
= 36 Credits

**Required Courses:** GNS 311 (2), GSE 301(3) = 5 Credits

**Total = 41 Credits**

**400 Level**

**Compulsory Courses:** PPL 401(4), 402 (4), 403 (4), 404 (4), PUL 401 (4), 402 (4), ISL 413(3), 415(3), 416(3) **= 36 Credits**

4 1 4 ( 3 ) ,

**Required Courses:** JIL 405 (2), 406 (2) **= 4 Credits**  
**Total= 40 Credits**

**500 Level**

**Compulsory Courses:** BUL 501 (4), 502 (4), JIL 501(4), 502(4), ISL 501 (2), 502 (2), 599 (6) **= 26 Credits**

**Required Courses:** JIL 505 (3), 506 (3) **= 6 Credits**

**Elective Courses:** **At least 8 credits from the following:**

ISL 503(2), 504(2), 505(2), 506(2), 507(2), 508(2), 509(2), 510(2),  
504(3); PPL 501(3), 502(3), 503(3), 504(3)

BUL 503(3), BUL 504(3), JIL 503(3),  
**= 8 credits**

**Total = 40 Credits**

**Graduation Requirements:**

**UTME - 199 Credits**

**DE - 167 Credits**

## FACULTY OF LIFE SCIENCES

### DEAN'S OFFICE

A. Sani	B.Sc. (ABU); M.Sc. (Ilorin); Ph.D. (Warwick)	Professor and Ag Dean
O.D. Owolabi	B.Sc., M.Sc., Ph.D. (Ilorin)	Sub- Dean
L. Oluwole	B.A. (Ilorin)	Faculty Officer

### DEPARTMENT OF BIOCHEMISTRY

M. T. Yakubu	B.Sc., M.Sc., Ph.D.(Ilorin)	Reader & Ag. Head
M. A. Akanji	B.Sc. (Ibadan); M.Sc., Ph.D.(OAU)	Professor
O. B. Oloyede	B.Sc.,M.Sc. (ABU); Ph.D. (Strathclyde)	Professor
C. O. Bewaji	B.Sc., M.Phil., Ph. D. (Ibadan)	Professor
Elizabeth A. Balogun	B. Sc., M.Sc. (Ibadan); Ph.D. (Ilorin)	Professor
Sylvia O. Malomo	B.Sc., M.Sc., Ph.D. (Ibadan)	Professor
Adenike T. Oladiji	B.Sc., M.Sc., Ph.D. (Ilorin)	Professor
J. O. Adebayo	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer
R. O. Arise	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer
Faoziyat A. Sulaiman	B.Sc., M.Sc., Ph.D. (Ilorin)	Lecturer II
A. Igunnu	B.Sc., M.Sc., Ph D. (Ilorin)	Lecturer II
M. O. Nafiu	B.Sc., M.Sc., Ph.D. (Ilorin)	Lecturer II
M. O. Salawu	B.Sc., M.Sc. (Lagos); Ph.D. (Ilorin)	Lecturer II
L. A. Quadri	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
Rukayat A. Oyegoke	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer

Hamdalat F. Muritala	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
Fatima Aluko -Abubakar	B.Sc. (FUTM); M.Sc. (Ilorin)	Assistant Lecturer
K. B. Bello	B.Sc. (Ilorin)	Graduate Assistant

J.O.Adunbarin	WASC, C & G (London), Tech. Man & Adm. (UK).	Chief Technologist
J.A. Akosewa	WASC, OND, AIST	Technologist I
S.A. Babalola	WASC, Certificate in Computer Appreciation, B.Sc., M.Sc.(Ilorin)	Technologist II
Oyabebeba. E. Sunday- Selekere	WASC, B.Sc.(Ilorin )	Technologist II

## **DEPARTMENT OF MICROBIOLOGY**

O. M. Kolawole	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer & Ag. Head
J. A. Akinyanju	B.Sc., Ph.D. (Lancaster)	Professor
A. B. Olayemi	B.Sc., M.Sc. (ABU); Ph.D. (Ilorin)	Professor
A. Sani	B.Sc. (ABU); M.Sc. (Ilorin); Ph.D. (Warwick)	Professor
G. P. Oyeyiola	B.Sc. (Maiduguri); M.Sc. (Ibadan); M.Phil. (Ilorin); Ph.D. (BUK)	Reader

Folakemi .P. Omojasola	B.Sc. M.Sc., Ph.D. (Ilorin)	Senior Lecturer
M. O. Arekemase	B.Sc. (Benin); M.Sc., Ph.D. (Ilorin)	Lecturer II
Risikat N. Ahmed	B.Sc. (BUK); M.Sc., Ph.D. (Ilorin)	Lecturer II
Bolanle. K. Saliu	B.Sc. (Ilorin) ; M.Sc. (Ibadan); Ph.D. (Ilorin)	Lecturer II
I. I. Anibijuwon	B.Sc., M.Sc. (EKSU); Ph.D. (FUTA)	Lecturer II
A. O. Udeze	B.Sc., M.Sc. (Ibadan)	Lecturer II
I. O. Sule	B.Sc., M.Sc., Ph.D. (Ilorin)	Lecturer II
T. O. Agbabiaka	B.Sc. (Benin); M.Sc., Ph.D. (Ilorin)	Lecturer II
O. O. Adebisi	B.Sc., M.Sc. (Ilorin)	Lecturer II
Amina M. A El-Imam	B.Sc., M.Sc. (ABU)	Assistant Lecturer
M. A Oke	B.Sc. (Ilorin); M.Sc. (Ibadan)	Assistant Lecturer
Muinat, O. Kazeem	B.Sc. (Ilorin); M.Sc. (Ibadan)	Assistant Lecturer
D. O Adetitun	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
S. A. Laba	B.Sc. (UNAB); M.Sc. (Ibadan)	Assistant Lecturer
A. K. Ajijolakewu	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
Mutiat O. Odebisi-Omokanye	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer



Rabiat O. Gambari- Ambali	B.Sc. (ABU); M.Sc. (Salford)	Assistant Lecturer
Rahmat F. Zakariyah	B.Sc. (UDUS); M.Sc. (Ilorin)	Assistant Lecturer
Jummai A. Abioye	B.Sc. (Ilorin)	Assistant Lecturer
A. I. Adam	B. Sc. (Al-Hikmah)	Assistant Lecturer
S. O. Olabanji	ANIST	Principal Technologist
Mulikat S. Abubakar	ANIST	Senior Technologist
Amatul M. Nayyar	B.Sc. (Ilorin)	Technologist II
Patience O. Otonekwu	B.Sc. (Ilorin)	Technologist II
A. T. Zakari	B.Sc. (Ilorin)	Technologist II

**DEPARTMENT OF OPTOMETRY AND VISION SCIENCE**

M. O. Oriowo B.Sc. Optom. (Benin); P.B. (Houston); M.Sc., Ph.D. (Waterloo), Cert. Univ. Teach.  
(KI, Stockholm), FAAO. Professor & Head

\*\*O.A. Oduntan B.Sc. Optom. (Benin); Ph.D. (London) Professor

S.E. Egbeahie

Ngozi C. Chidi-Egboka B.Sc. O.D. (Benin), FNCO, FNOA

O.D. (Benin), MPH (Ilorin) Lecturer II

Lecturer II

O. M. Ojo O.D. (Benin) Lecturer II

Habibah E. Agbabiaka

T. R. Akinbinu O.D. (Benin)

## DEPARTMENT OF PLANT BIOLOGY

A. A. Abdulrahaman	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer & Ag Head
E.O. Etejere	B.Sc., Ph.D. (Ibadan); MBA (Ilorin)	Professor
F. A. Oladele	B.Sc. (Lagos); Ph.D. (London)	Professor
J. A. Morakinyo	B.Sc., M.Sc., Ph.D. (OAU)	Professor
P. O. Fatoba	B.Sc., M.Sc., Ph.D. (OAU)	Professor
O. T. Mustapha	B.Sc., M.Sc., Ph.D. (Ilorin); MBA (Kano)	Reader
K. S. Olorunmaiye	B.Sc. (Ilorin); M.Sc. (Ibadan); Ph.D.(Ilorin), PGDE	Senior Lecturer
F. O. Egbedo	B.Sc., M.Phil. (Lagos)	Lecturer I
C. O. Ogunkunle	B. Sc. (Ilorin); M. Sc. (OAU); Ph.D. (Ilorin)	Lecturer II
B. U. Olayinka	B. Sc., M.Sc., PGDE, Ph.D. (Ilorin)	Lecturer II
K h a d i j a t A .		
Abdulkareem	B. Sc. (UDUS); M.Sc. (Ilorin)	Assistant Lecturer
S. B. Adeyemi	B. Sc. (Ilorin); M.Sc. (Ibadan)	Assistant Lecturer
G. S. Olahan	B. Sc. (ABU); M.Sc. (Ilorin)	Assistant Lecturer
A. D. Animasaun	B. Sc., M.Sc. (Ilorin)	Assistant Lecturer
T. Garuba	B. Sc. (UDUS); M.Sc. (Ilorin)	Assistant Lecturer
S. Oyedeji	B. Sc. (Benin); M.Sc. (OAU)	Assistant Lecturer
A. A. Lateef	B. Sc. (FUTM)	Assistant Lecturer
S. E. Adebayo	ANIST	Technologist II

Nimota S. Olodo	B.Sc.(Ilorin)	Technologist II
A. Shagaya	B.Sc. (Ilorin)	Horticulturist II

### **DEPARTMENT OF ZOOLOGY**

A.T. Ande	B.Sc. M.Sc., Ph.D. (Ilorin)	Professor & Head
J.S. Omotosho	B.Sc. (ABU); M.Sc., Ph.D. (Ibadan)	Professor
U.S. Ugbomoiko	B.Sc. (AAU); M.Sc. (Benin); Ph.D. (AAU)	Professor
Chioma G. Nzeh	B. Sc. (Lagos); M.Sc., Ph.D. (Ibadan)	Professor
M.K. Mustapha	B. Sc., M. Sc., Ph.D. (Ilorin)	Senior Lecturer
O.D. Owolabi	B. Sc, M. Sc., Ph.D. (Ilorin)	Senior Lecturer
W.S. Weliange	B. Sc., M. Phil. (SL); Ph.D. (Austria)	Senior Lecturer
O.A. Oduola	B. Sc, M. Sc. (Ibadan); Ph.D. (Lagos)	Lecturer I
O.A. Iyiola	B. Sc., M. Sc. (Ibadan)	Lecturer II
Olutomi A. Adeyemi-Ale	B. Sc. (OAU); M. Sc. (Ibadan)	Assistant Lecturer
Saratu I. Abdulkareem	B. Sc. (ABU); M. Sc. (Ilorin)	Assistant Lecturer
E.C. Amaechi	B. Sc. (NAU); M. Sc. (FUAU)	Assistant Lecturer
O.J. Ademola	B.Sc. (ABU)	Assistant Lecturer

T.F. Olafimihan	B.Sc. (Ilorin)	Graduate Assistant
T.A. Anifowoshe	B.Sc. (Ilorin)	Graduate Assistant
O.A. Owolodun	B.Sc. (ABU)	Graduate Assistant
O.A. Babamale	B.Sc. (Ilorin)	Graduate Assistant
S.O. Abdulmumini	B.Sc. (Ilorin)	Technologist II

## DEPARTMENT OF BIOCHEMISTRY

### Course Description

#### B.Sc. Biochemistry

- BCH 204      General Aspects of Metabolism      2 Credits**  
Carbon-oxygen cycle in living organisms. The nitrogen cycle. Anabolic, catabolic and amphibolic pathways. Experimental studies of intermediary metabolism.  
**30h (T); C**
- BCH 211      General Biochemistry I      3 Credits**  
Water, physical properties and hydrogen bonding. Water as a solvent. Hydrophobic interactions. Solutions. Osmotic pressure. Acids and bases. pH and pK values and their effects on cellular activities. Buffers. Donnan equilibrium. Chemical kinetics. Chemical equilibrium. Applied thermodynamics. Electrochemical cells. Redox reactions.  
**30h (T), 45h (P); C**
- BCH 212      General Biochemistry II      3 Credits**  
Chemistry/Structures of proteins, carbohydrates, lipids and nucleic acids. Primary, secondary, tertiary and quaternary structures of proteins, determination and biochemical applications of the structures. Nomenclature of nucleosides and nucleotides. Effects of acid and alkali on hydrolysis of nucleic acids. Enzymes, vitamins and coenzymes. Methods of isolation and purification.  
**30h (T), 45h (P); C**
- BCH 214      Introduction to Cellular Biochemistry      2 Credits**  
Structure of the cell. Structures and functions of major cell components. Prokaryotic and eukaryotic organisms. Cell types. Integration of cellular functions. Cell division and differentiation. Digestion and transport of biomolecules.  
**30h (T); C**

- BCH 221      Introductory Biochemistry Structure      2 Credits**  
Solutions. Osmotic pressure. Acids and bases. pH and buffers. Chemical kinetics.  
(For Students in College of Health Sciences only).  
**15h (T), 45h (P); C**
- BCH 222      Structure and Chemistry of Bio molecules      2 Credits**  
Carbohydrates. Proteins. Lipids. Nucleic acids. Vitamins. (For Students in College of  
Health Sciences only).  
**15h (T), 45h (P); C**
- BCH 223      Metabolism of Bio molecules      2 Credits**  
Enzymology. Bioenergetics. Metabolic energy. (For Students in College of Health  
Sciences only)  
**15h (T), 45h (P); C**
- BCH 224      Carbohydrate Metabolism      2 Credits**  
Glycolysis, glycogenesis, glycogenolysis, citric cycle and HMP gluconeogenesis.  
Metabolism of monomers. Regulation. (For Students in College of Health Sciences  
only)  
**15h (T), 45h (P); C**
- BCH 225      Lipid Metabolism I      2 Credits**  
Blood lipids. Oxidation of fats. Biosynthesis of lipids. Phospholipids. Unsaturated  
fatty acids. Essential fatty acids. (For Students in College of Health Sciences only)  
**15h (T), 45h (P); C**
- BCH 226      Proteins and Amino Acid Metabolism      2 Credits**  
Amino acid biosynthesis and catabolism. Urea cycle. Ketogenic and glucogenic amino  
acids. Inborn errors. (For Students in College of Health Sciences only).  
**15h (T), 45h (P); C**

- BCH 302 Food and Nutritional Biochemistry 2 Credits**  
An introduction to the theory and application of physical and chemical methods for Determining the constituents of food. Food processing, preservation and storage of traditional foods: root and stem tuber; fruits and fruit drink; seeds and grains; green; and vegetables. Food poisoning and intoxication: prevention and cure. Food nutrients. Energy values of foods and energy expenditure by mammals. Nutritive value of foods : carbohydrates; fats; protein; vitamins; mineral elements; and water. Nutritional disorders, prevention and therapy. Nutritional status and nutritional requirements. Recommended dietary allowances. Assessment of nutritional status. Nutrient requirements in relation to physical activity and ageing, diet and disease, obesity and under nutrition.  
**15h (T), 45h (P); C**
- BCH 303 Enzymology 3 Credits**  
Vitamins and co-enzymes. Fat and water soluble vitamins. Structures and functions of Vitamins and co-enzymes. Classification and nomenclature of enzymes. Genetics of enzymes and inhibition. Mechanisms of enzyme-catalysed reactions. Effects of temperature, pH, ions and inhibitors on enzyme catalysed reactions. Michaelis-Menten Equation. Allosteric/Regulatory enzymes. Active sites of enzymes. Estimation of kinetic parameters -enzyme activities,  $K_m$ ,  $V_{max}$ ,  $K_i$  etc. Zymogen activation, digestive enzymes etc. Production, isolation, purification and characterization of enzymes. Recent advances in enzymology.  
**30h (T), 45h(P); C**
- BCH 308 Metabolism of Carbohydrates 2 Credits**  
Degradation and digestion of carbohydrates : sugars; storage polysaccharides and cell walls. Reactions of sugars. Glycolysis, the Tricarboxylic acid cycle, the phosphogluconate pathway, the glyoxylate pathway, the pentose phosphate pathway and the cori cycle, the calvin pathway. Gluconeogenesis and glyconeogenesis. Disorders of carbohydrate metabolism.  
**30h (T); C**



- BCH 310**    **Students Industrial Work Experience (SIWES)**    **3 Credits**  
Students will be attached to some industrial organizations for 3 months, the exact period being determined by the institution.  
**135h (P); C**
- BCH 311**    **Metabolism of Nucleic Acids**    **2 Credits**  
Genome organization and biosynthesis of proteins. Metabolism of purines and pyrimidines, nucleosides and nucleotides. Abnormalities in nucleic acid metabolism: xeroderma pigmentation and skin cancer.  
**30h (T);C**
- BCH 312**    **Methods in Biochemistry**    **3 Credits**  
Principles of instrumentation. Principles, methodologies and applications of electrophoresis, chromatography, thin layer chromatography, spectroscopy and spectrophotometry, centrifugation and isotopic techniques. Practical laboratory exercises in all areas of general biochemistry.  
**30h (T), 45h (P); C**
- BCH 314**    **Bioenergetics**    **1 Credit**  
High-energy compounds; Chemical potentials, Electrochemical potentials, Electron transport system and oxidative phosphorylation. Regulation of ATP production. Chemical thermodynamics; Oxidations and reductions.  
**15h (T); C**

- BCH 315**      **Membrane Biochemistry**      **1 Credit**  
Structure, composition and functions of biological membranes. Isolation, characterization and classification of membranes, chemistry and biosynthesis of membranes. Molecular organization of membrane components. Natural and artificial membrane bilayers - the unit membrane hypothesis. Membrane transport system - active and passive transport systems. Transport of sugars and amino acids. Ionophores.  
**15h (T); C**
- BCH 316**      **Metabolism of Amino Acids and Proteins**      **2 Credits**  
Amino acids as building blocks of proteins. Covalent backbone of proteins. Amino acid sequence of proteins. Protein isolation, fractionation, purification and characterization. Biological functions of proteins. Oxidative degradation of amino acids and metabolism of one carbon units. Biosynthesis of amino acids and some derivatives. The urea cycle. Metabolism of inorganic nitrogen. Disorders of amino acid metabolism.  
**30h (T); C, CC: BCH 303, BCH 311**
- BCH 321**      **Lipid Metabolism II**      **2 Credits**  
Cholesterol metabolism. Steroids. Lipoproteins. Ketosis. (Cannot be taken with BCH 301).  
**15h (T), 45h (P); C**
- BCH 322**      **Nucleotides and Nucleic Acid**      **2 Credits**  
Structures, metabolism and protein synthesis. Foreign bodies. (Cannot be taken with BCH 311).  
**30h (T); C**

- BCH 323**      **Introduction to Clinical Biochemistry**      **1 Credit**  
Metabolic errors. Diagnostic enzymes. Urinalysis (Cannot be taken by BCH major students).  
**15h (T); C**
- BCH 401**      **Advanced Enzymology**      **2 Credits**  
Steady state enzyme kinetics. Transient kinetic methods. Chemistry of enzyme catalysis. Regulatory enzymes. Molecular models for allosterism. Multienzyme complexes. Enzyme assays. Criteria for determining purity of enzymes. Enzyme reconstitution. Regulation of enzyme activity and synthesis  
**30h (T); C, PR: BCH 303**
- BCH 403**      **Metabolic Regulations**      **2 Credits**  
The relationship of Krebs' Cycle to protein, carbohydrate, lipid and nucleic acids metabolism. Integration of metabolic pathways. Turn-over rates and metabolic pools. Regulation of enzymes of metabolic pathways- feedback inhibition versus enzyme synthesis. Catabolite repression, end product repression, the lactose operon and arabinose operon. Identification of different regulatory mechanism in metabolic pathways.  
**30h (T); C, PR: BCH 204**
- BCH 406**      **Seminar**      **2 Credits**  
Literature search. Presentation of seminars on comprehensive literature review of selected research topics.  
**90h (P); C**

- BCH 412      Industrial Biochemistry      3 Credits**  
 A short review of microbial physiology and genetics. A review of general metabolic pathways and application in industrial processes. Continuous culture methods, principles and applications. The chemostat and its application in industrial fermentations. Fermentations - alcoholic, amino acid antibiotics and other secondary metabolites. Primary and secondary metabolism. Process evaluation and development. Over production of metabolites – amino acids, taste enhancers, vitamins, toxin etc. Methods for screening and selecting micro-organisms of industrial importance. Induction of mutation in micro-organism and plants for the purpose of over production; Strain selection/development and enhancement. Gene dosage and its application in industrial processes.  
**45h (T); C**
- BCH 413      Advanced Biochemical Methods      2 Credits**  
 The purpose of this course is to familiarise students with operations of latest biochemical equipment and methods of research, assimilation and dissemination of information. Effective use of the library. Preparation of dissertations or theses and papers for journal publications and journal reviews.  
**90h (P); C**
- BCH 416      Biotechnology and Genetic Engineering      3 Credits**  
 Replication, transcription and translation - a brief review. The genetic code and its relationship to cellular functions. DNA replication in a cell-free system. Genetic transformation, transfunction and conjugation. Gene mutation, mutagenic agents and their applications to gene-transfer. Gene mapping. Structure of eukaryotic genome. Recombinant DNA and its application. Hybridomas.  
**30h (T), 45h (P); C, PR: BCH 311**

- BCH 424 Protein Chemistry 2 Credits**  
 Separation, extraction, isolation and purification techniques. Sequencing: end-group determination, fragmentation techniques and identification of specific amino acid residues. Chemistry, biosynthesis and importance of insulin, RNase and toxins.  
**30h (T); C, PR: BCH 303**
- BCH 430 Lipid Biochemistry 3 Credits**  
 Methods of extraction and purification of lipids. Structure determination. Metabolism of phospholipids and glycolipids. Calmodulin in lipid metabolism. Distribution, function, clinical application and biosynthesis of glycolipids, leucotrienes, prostaglandins and thromboxanes.  
**30h (T), 45h (P); C, PR: BCH 301**
- BCH 431 Plant Biochemistry 2 Credits**  
 Organization of plant cells, photosynthesis, alkaloids and flavonoids, Plant hormones. Biosynthesis of carotenoid pigments. Biochemistry of plant development. The plant cell wall structure, formation and growth. Lignin formation. Free amino acids, pyrimidines, purines and nucleosides in plants. Metabolism of auxins, gibberelins and cytokinins. Synthetic growth regulators and herbicides. Structure-function relationship of plant hormones.  
**30h (T); C**
- BCH 432 Clinical and Forensic Biochemistry 2 Credits**  
 Metabolic errors. Diagnostic enzymes. Pathological urines. Cancer and chemotherapy. Abnormal haemoglobins. Collection, preservation and biochemical analysis of materials of forensic interest. The public analyst in forensic practice.  
**30h (T); E**

- BCH 433      Biosynthesis of Macromolecules      1 Credit**  
Structure and functions of macromolecules. Storage and structural polysaccharides, mucopolysaccharides, glycoproteins, bacterial cell wall synthesis of complex lipids, lipoproteins and nucleic acids.  
**15h (T); C**
- BCH 434      Bioinorganic Chemistry      1 Credit**  
Relationship between the physicochemical properties and biological functions of inorganic ions. Ligand complexes and their biochemical significance. Electrolyte metabolism. Nitrogen fixation and sulphur cycle.  
**15h (T); C, PR: BCH 211**
- BCH 435      Tissue Biochemistry      1 Credit**  
Biochemistry of muscles, kidney, liver, and adipose tissues. General metabolism of the brain and neuronal biochemistry. Biochemistry of reproductive tissues. Detoxification and excretion in tissues.  
**15h (T); C, PR: BCH 211**
- BCH 439      Pharmacological Biochemistry      2 Credits**  
Cellular metabolism in infected cells. Biochemical aspects of host-parasite relationships. Metabolic factors affecting chemotherapeutic agents. Theories of the mechanism of drug action. Drug resistances and other factors affecting drug efficacy. The physiological and biochemical action of some selected drugs. Nigerian traditional medicinal plants in the management and therapy of common ailments in Nigerian: malaria, sickle cell anaemia; common cold; hepatitis; etc.  
**30h (T); E**

**BCH 499 Research Projects**

**5 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.

. **225h (P); C**

## SUMMARY

### 100 LEVEL

**Required Courses:** CHM 101(3), CHM 112(2), CHM 132(2), CHM 115(2), CHM 116(1), CSC 111(2), GNS 111(2), 112(2); MAT 111(3), 112(3), PHY 115(2), 142(2) 191(1), PLB 101(3), ZLY 103(2), 106(2)  
= 34 Credits  
**Total = 34 Credits**

### 200 LEVEL

**Compulsory Courses:** BCH 204(2), 211(3), 212(3), 214(2) =10 Credits

**Required Courses:** CHM 212(3), CHM 235(3), CHM 236(3), GNS 211(2), 212(2), MCB 205 (3), STA 201(2), STA 204(2), PLB 201(3)  
= 23 Credits

**Total = 33 Credits**

**DE:** GNS 111 (2), GNS 112 (2) = 4 Credits

### 300 LEVEL

**Compulsory Courses:** BCH 301(3), BCH 302(2), BCH 303(3), BCH 308(2), BCH 310(3),  
BCH 311(2), BCH 312(3), BCH 314(1), BCH 315(1), BCH 316(2)  
= 22 Credits

**Required Courses:** CHM 301(3), CHM 336(3), CHM 331(3), GNS 311(2), MCB 307(2),  
308(3), GSE 301(3)  
= 19 Credits

**Total = 41Credits**

### 400 LEVEL

**Compulsory Courses:** BCH 401(2), BCH 403(2), BCH 406(2), BCH 412(3), BCH 413(2) BCH 416(3), BCH 419(1), BCH 424(2), BCH 430(3), BCH 431(2), BCH 433(1), BCH 434(1), BCH 435(1), BCH 499(5) = 30 Credits

**Elective Courses:** BCH 432 (2), 439 (2)



**Total = 30 credits**

**Graduation Requirements:**

**UTME = 138**

**DE = 108**

## DEPARTMENT OF MICROBIOLOGY

### Course Description

#### B.Sc. Microbiology

<b>MCB 204</b>	<b>Microbiological Techniques I</b> Sterilization techniques. Media preparation. Isolation, purification and identification of microorganisms. <b>45h (P); C</b>	<b>1 Credit</b>
<b>MCB 205</b>	<b>Microorganisms and Seedless Plants</b> History of microbiology. Structure, general characteristics and reproduction of viruses, bacteria, fungi, algae, lichens, bryophytes and pteridophytes. General methods for studying the specified groups. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b>
<b>MCB 206</b>	<b>Introductory Microbial Ecology</b> Microorganisms and ecological theory. Mechanisms of adaptation of microorganisms to their environment. An Overview of occurrence of microorganisms in soil, water and air. Frontiers of microbiology. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b>
<b>MCB 208</b>	<b>Introductory Microbial Physiology</b> Structure and organisation of prokaryotic and eukaryotic cells. Structure, function and synthesis of biological macromolecules. Biochemical reactions of microorganisms. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b>
<b>MCB 307</b>	<b>Immunology</b> Introduction to molecular and cellular principles of immune responses. Antigen-antibody reactions. Antibody structure and formation. Complement, hypersensitivity and alloantigens on cell surfaces. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>MCB 311</b>	<b>Microbiological Techniques II</b> Data presentation and analysis. Microscopic measurements. Chromatography, centrifugation, electrophoresis, filtration and spectroscopy. Preparation of scientific reports. Experimental design and research methods in Microbiology. <b>90h (P); C, PR: MCB204</b>	<b>2 Credits</b>
<b>MCB 312</b>	<b>Microbial Physiology</b> General methods for studying physiology dynamics of microbial growth. Microbial enzyme systems. Biosynthesis of nitrogenous compounds. Microbial photosynthesis. Regulation of biosynthesis. Transport systems. Aerobic and anaerobic respirations. Fermentation. <b>30h (T), 45h (P); C, PR: MCB 208</b>	<b>3 Credits</b>
<b>MCB 313</b>	<b>Mycology</b> Mycological techniques. Detailed account of the systematics, morphology, reproduction and life cycles of selected fungal groups. Ecological aspects of Nigerian mycoflora. <b>30h (T), 45h (P); C, PR: MCB 205</b>	<b>3 Credits</b>

<b>MCB 314</b>	<b>Microbial Genetics and Molecular Biology</b> The genetic code. Replication and mutation. Specific peculiarities of bacterial and fungal genetics. Methods in microbial genetics. Genetic engineering. <b>30h (T), 45 (P); C, PR: PLB 201</b>	<b>3 Credits</b>
<b>MCB 315</b>	<b>Bacteriology</b> Bacteriological techniques. Morphology and functional anatomy of bacteria. Classification of bacteria. Detailed study of major groups of bacteria. <b>30h (T), 45h (P); C, PR: MCB 205</b>	<b>3 Credits</b>
<b>MCB 316</b>	<b>Virology</b> Nature and structure of viruses. Methods for studying viruses. Classification of viruses. Reproduction and infection modes in viruses. Detailed account of selected viruses. Tissue culture and animal cell techniques. <b>30h (T), 45 (P); C, PR: MCB 205</b>	<b>3 Credits</b>
<b>MCB 388</b>	<b>Industrial Attachment</b> Industrial attachment in an establishment where microbiological practice is carried out. <b>135h (P); C</b>	<b>3 Credits</b>
<b>MCB 402</b>	<b>Seminar and Original Essay</b> Literature review of an approved topic in microbiology plus oral presentation. <b>90h (P); C</b>	<b>2 Credits</b>
<b>MCB 406</b>	<b>Epidemiology and Public Health</b> Origin and spread of infectious diseases. Methods of determination of morbidity and mortality among different groups in populace. Control of infectious diseases. <b>15h (T), 45h (P); C, PR: MCB 306</b>	<b>2 Credits</b>
<b>MCB 415</b>	<b>Microbiology of Water and Sewage</b> Microflora of water. Assessment of sanitary quality of water bodies. Sources of pollution. Purification systems. Characterisation, treatment and disposal of sewage. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b>
<b>MCB 417</b>	<b>Air Microbiology</b> Sources and distribution of microorganisms in the air. Dissemination and survival mechanisms. Methods for studying microorganisms in the air. Air pollution and purification techniques. Medical and agricultural importance of air-borne microorganisms. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>
<b>MCB 421</b>	<b>Petroleum Microbiology</b> The carbon cycle. Genesis of fossil fuel. Microbial indicators in prospecting for oils. Oil spillage. Use of microorganisms in cleaning oil spillage. Microbial biodegradation of petroleum products.	<b>3 Credits</b>

**30h (T), 45h (P); E**

- MCB 422 Medical and Veterinary Microbiology 3 Credits**  
Host-parasite relationships. Mechanisms of infection. Etiology, pathogenesis and laboratory diagnosis of selected fungal, bacterial and viral diseases.  
**30h (T), 45h (P); C, PR: MCB 313 and MCB 315**
- MCB 423 Food and Dairy Microbiology 3 Credits**  
Foods produced by microorganisms with emphasis on local foods. Contamination, spoilage and preservation of different kinds of foods. Food in relation to diseases. Microbiology of dairy products.  
**30h (T), 45h (P); C**
- MCB 424 Pharmaceutical Microbiology and Antimicrobial Agents 3 Credits**  
Nature of antimicrobial phenomenon. Physical and chemical antimicrobial agents. Isolation and production methods of antibiotics. Antimicrobial substances of plant origin. Testing antimicrobial agents. Drugs spoilage and preservation.  
**30h (T), 45 (P); C**
- MCB 425 Industrial Microbiology 4 Credits**  
Nature of Industrial Microbiology. Patents. Review of biology of microorganisms of industrial importance. Propagation, maintenance and improvement of industrial microorganisms. Optimization of fermentation processes. Study of selected industrial processes involving microorganisms. Bioassay in industrial production and quality control. Microbiological standards and specifications. Shelf-life and spoilage of industrial products.  
**30h (T), 90h (P); C**
- MCB 429 Soil Microbiology 3 Credits**  
Microorganisms in soil. Role of soil microorganisms in decomposition of plant and animal matter. Soil fertility and cycles of natural elements.  
**30h (T), 45h (P); C**
- MCB 499 Project 5 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.  
**225h (P); C**

## SUMMARY

### 100 LEVEL

**Compulsory Course:** Nil

**Required Courses:** PLB 101(3), PLB 108(3), ZLY101(2), ZLY103(2), CHM 101(3), C H M  
112(2), CHM 115(2), CHM 116(1), CHM 132(2), PHY 115(2), PHY 142(2), PHY 191(1), PHY 192(1), MAT  
115(2), MAT 116(2), GNS 111(2), GNS 112(2) = 34 Credits

**Total = 34 Credits**

### 200 LEVEL

**Compulsory Courses:** MCB 204(1), MCB 205(3), MCB 206(3), MCB 208(3)

**= 10 Credits**

**Required Courses:** PLB 201(3), ZLY 201(3), BCH 211(3), CHM 213(2), CHM 235(3), C H M  
236(3), CSC 111(2), GNS 211(2), GNS 212(2), ZLY 202 (3)

**= 26 Credits**

**Total =36 Credits**

**DE:** GNS 111(2), GNS 112(2)

**= 4 Credits**

### 300 LEVEL

**Compulsory Courses:** MCB 307(2), MCB 311(2), MCB 312(3), MCB 313(3), MCB 314(3), M C B  
315(3), MCB 316(3)

**= 19 Credits**

**Required Courses:** STA 201(2), STA 204(2), GNS 311(2), PLB 306(2), ZLY 312(3), G S E  
301(3)

**= 14 Credits**

**Total = 33 Credits**

### 400 LEVEL

**Compulsory Courses:** MCB 402(2), MCB 406(2), MCB 415(3), MCB 422(3), MCB 423(3), M C B  
424(3), MCB 425(4), MCB 429(3), MCB 499(5), MCB 388(3)

**= 31 Credits**

**Required Courses:** PLB 407(3)

**= 3 Credits**

**Elective Courses:** MCB 417 (2), MCB 421 (3)

**Total = 34 Credits**

**Graduation Requirements:**

**UTME = 137**

**DE = 107**

## DEPARTMENT OF OPTOMETRY AND VISION SCIENCE

### Course Description

#### OD. OPTOMETRY AND VISION SCIENCE

**NOTE:** All **100 level course contents** are as stated by the respective department. All course contents at other levels offered by other departments are as contained in the descriptions of concerned departments.

- OPT 201      Human Anatomy I      3 Credits**  
Introduction to the science of anatomy and its subdivisions. The human anatomy (Gross and microanatomy) with emphasis on head and neck; levels of organization and anatomical terminology. Introduction to human embryonic and foetal development, the cell and cell division; Embryology of the eye. Skeletal system: the skull, with particular reference to the orbit. External structure of the globe. Muscular system: muscle types, the extra-ocular muscles and common tendinous ring. Electron micrographs to show relevant ultrastructures. Laboratory in human anatomy with emphasis on orbit, head and neck.  
**30h (T), 45h (P); C**
- OPT 203      Optics Laboratory      2 Credits**  
Techniques learned in geometrical optics are practiced using Optical bench experiments; object-image relationship, with Lenses and Mirrors, Magnification. Aberrations; Effect of prisms on rays. Ray tracing. Optical principles of Lensometry.  
**90h (P); C**
- OPT 210      Physical Optics      2 Credits**  
Principles of wave optics, interferences, diffraction, polarization, radiometry, holography, quantum nature of light, spectroscopy, lasers. Relativistic optics. Laboratory work is included.  
**15h (T), 45h (P); C**
- OPT 212      Human Anatomy II      2 Credits**  
Cardiovascular system: heart and major vessels; blood supply and drainage of the head, neck, brain, orbit, and globe. Neuroanatomy (Neurulation and the structure) of the brain. Central and peripheral nervous system. Basic neurons, spinal cord, brain stem, cerebrum, cerebellum with emphasis on their neuronal connections and functional significance. Cranial nerves associated with the eye and orbit. Autonomic nervous system.  
**15h (T), 45h (P); C**
- OPT 213      General Physiology I      3 Credits**  
Cell structure and cell physiology. Physiological regulation and homeostasis. Physiology of the cardiovascular system. Blood physiology covering: Fundamental principles of immunology with emphasis on the nature of antibodies and antigens; Body fluid compartments, composition and measurements; Characteristics of blood, red blood cell, white blood cells, and platelets; Haemopoiesis; Hemostasis; Blood groups and lymph; Antigen-antibody reactions. Physiology and regulation of respiration.

Respiratory adjustments in exercise and disease. Renal Physiology. Actions of diuretics. Physiology and regulation of digestion and absorption. Physiology of reproduction.

**30h (T), 45h (P); C**

- OPT 214      General Physiology II      2 Credits**  
Neurophysiology. Physiology of the sensory and motor systems. Muscle and nerve as a functional unit. Hormonal and neuro-endocrine regulation. Inheritance. Genes and diseases.  
**15h (T), 45h (P); C**
- OPT 215      Geometrical Optics      2 Credits**  
Principles of geometrical optics including reflections and refractions, spherical and cylindrical lenses mirrors, thin and thick lenses, lens systems, ray tracing, apertures, prisms, aberrations, lens design and optical instruments. Transposition and specification of ophthalmic lenses. Laboratory work is carried out in OPT 200.  
**15h (T), 45h (P); C**
- OPT 218      Ocular Anatomy I      3 Credits**  
An overview of the anatomy of the eye and orbit. Structure of the orbit, eye lids, lacrimal apparatus, conjunctiva, sclera, cornea, anterior chamber, iris, posterior chamber, lens, ciliary body and extra ocular muscles. Prepared slides of various section of the eye. Identification of bones and sutures fossa of the orbits and Cranium. Dissection of Bovine eye.  
**30h (T), 45h (P); C**
- OPT 300      Physiological Optics Laboratory      I      1 Credit**  
Measurement with Optometer set-ups; Demonstration of Purkinje images, optical aberrations, effect of defocus on visual acuity and refractive anomalies, Vernier Acuity. Schematic eye, Visual acuities; Vernier acuity, Stereo-acuity, Optometers, Contrast Sensitivity. "AC/A Ratio"  
**45h (P); C**
- OPT 301      Ophthalmic Optics Laboratory      1 Credit**  
Techniques learned in ophthalmic optics lectures are practiced. Frame and facial measurements. Methods of frame selection and patient styling. Ophthalmic Lens materials, Cutting, Chipping, Surfacing and edging, Drilling, Mounting of Lenses into frames and frame repairs.  
**45h (P); C**



- OPT 303      Physiological Optics I      2 Credits**  
The eye as an optical instrument; Reduced and schematic eyes; Anomalies of refraction and optical aberrations of the eye. The Badal optometer; Resolution and visual acuity. Laboratory includes measurement with Optometer set-ups; Demonstration of Purkinje images, optical aberrations, effect of defocus on visual acuity and refractive anomalies. Vernier Acuity.  
**15 (T), 45h (P); C**
- OPT 305      Ophthalmic Optics I      2 Credits**  
The history and development of ophthalmic lenses and frames. Manufacture of spectacle materials; Ophthalmic glass; plastic lenses and frames. Forms of spectacle lenses: spherical, cylindrical; Toric or Sphero-cylindrical lenses. Single vision lens designs; base curve, surface powers, front vertex power, back vertex power, effective power. Lens neutralization; cylindrical power and toric transposition. Lensometry. Parts of frames; Frame measurements and designs; IPD measurement; Lens and frame specifications; Toric surfaces; Centration and Decentration; Ophthalmic prisms and Prismatic effects. Special lenses.  
**30 (T); C**
- OPT 306      Ophthalmic Optics II      2 Credits**  
Bifocal and multifocal lenses; Base curve and near ADD; Types and specifications of bifocal segments; Trifocals; Absorptive lenses; Coats; Tints and Dyes; Optics of contact lenses and low vision devices; Impact resistance.  
**30 (T); C**
- OPT 307      General Optometry 1      2 Credits**  
Review of optics of spherical, cylindrical, sphero-cylindrical or toric lenses as well as ophthalmic prisms. Trial lens set and refraction-examination accessories. Classification and correction of refractive errors. Introduction to accommodative and binocular anomalies. Scope of general optometric examination: Case history, theory and clinical measurement of visual acuity, cover test. Maddox rod test, Red lens test, Worth-4-dot test, Maddox wing test, Stereo-acuity and inter-pupillary distance (IPD). The types and incidence of refractive errors.  
**30(T); C**
- OPT 309      Ocular Anatomy II      2 Credits**  
The structure of the vitreous, choroid and retina. Nerve and blood supplies to the eye and orbit. Embryology and development of the eye. Laboratory work is included.  
**15h (T), 45h (P); C**
- OPT 312      General Optometry II      2 Credits**  
Preliminary external tests continued. Clinical procedure and significance of the findings from penlight inspection, trans-illumination, pupillary test, versions and vergence tests, far and near points of accommodation (PR & PP), RAF rule, Placido disc. Munson sign, ocular palpation, confrontation visual field methods, and Amsler grid. Colour vision tests: Ishihara/pseudo-isochromatic plates, Richmond HRR test, Lantern test, Medmont C100 test, Farnsworth D15 and 100 Hue tests. Theory and measurement of visual acuity; Retinoscopy. An introduction to Keratometry, Ophthalmoscopy and external examination techniques. Accommodation: Its measurement and relationship to convergence. Ocular deviations: Phorias, Tropias, and an introduction to their measurement. Demonstrations and exercises are included.  
**15h (T), 45h (P); C**
- OPT 313      Ocular Physiology      2 Credits**  
The physiology of the eye. Functions of the eyelids, lacrimal apparatus. Conjunctiva sclera, cornea anterior and posterior chamber, iris, lens, ciliary muscle, retina, choroid and optic nerve. Production and drainage of extra and intraocular fluids. Intra ocular pressure. Metabolism.  
**15h (T), 45h (P); C**

- OPT 315**      **General Pathology**      **2 Credits**  
 Introduction to the study of diseases, (short term paper on Tropical Diseases Research); Psychology of sleep; cognitive mental function (higher cerebral processes); Fundamental pathological processes such as tissue responses to parasitic infections and intestinal worms; anomalies of cellular functions; disorders of organ systems and human immunology; Hypersensitivity; Auto-immunity; Vaccines and vaccination; Serological surveys; Immunizable diseases, immunization schedules for common diseases; cold-chain management and vaccine intervention..  
**30h (T); C**
- OPT 316**      **Physiological Optics II**      **2 Credits**  
 The extraocular muscles, their electrophysiology, actions, and innervational systems. Accommodation, convergence the AC/A ratio and binocular co-ordination. Fusion, fusional vergence, retinal disparities and the horopter. Laboratory work includes: Determination of pupillary, accommodative and convergence functions; fixation patterns; Versions and vergences; Fusion and Panum's Fusional Area; Phoria, Tropia and Horopter studies; Stereo acuity; Associated Phorias and Fixation disparity  
**15h (T), 45h (P); C**
- OPT 317**      **Legal and Forensic Optometry**      **2 Credits**  
 The development of optometry as a profession and its relationship with other applied health-care professions including ophthalmology and opticianry. The function and scope of the optometrist and other vision-care professionals at present and in the future. Legal recognition of optometry and the role of professional organizations. An introduction to optometric terms. Optometry practice in Nigeria; Road to legal recognition; Code of ethics and in-depth study of the Optometry practice Decree / Law. Role of the Nigerian Optometric Association; World Council of Optometry; Association of African Optometric Educators. Scope of modern Optometric practice and survey of its development worldwide. Legal requirements in the practice of Optometry: Rules of professional conduct; Basic concept of ethics and jurisprudence; The Optometrist in court and the requirement of expert evidence.  
**30h (T); C**
- OPT 324**      **Introduction to Genetics and Molecular Biology**      **2 Credits**  
 Introduction to genetics. Mendelian genetics. Linkage and Mapping. Nucleic acids. Replication and mutation. The genetic code and Protein synthesis. Genetic engineering. Gene regulation in bacteria and viruses. Implications for human health conditions and diseases are reviewed. Inherited diseases; their pattern and control.  
**30h (T); E**
- OPT 326**      **Neuroanatomy & Neurophysiology**      **3 Credits**  
 General neuroanatomy and neurophysiology: neuron structure, individual neuron physiology; Electrophysiological recordings; Neural networks and information processing in neurons. Overview of retinal anatomy and visual pathway; photoreceptors, first and second order neurons of the retina, optic nerve, optic chiasma, optic tract, Lateral geniculate body, optic radiation and cortical connections. Brodman's classifications of the brain; superior Colliculus; parietal regions; Cerebellum; midbrain; frontal fields; pontine gaze centre; Edinger Westphal nucleus; Vestibular input to the eyes; Cranial nerves innervating the eyes. Neurophysiology of retina; Electroretinogram (ERG); Electrophysiology of the visual system: Centre-Surround configuration; Transient and sustained cells, X,Y,W categories; Boycott and Dowling Schema; pre-colliculus and superior Colliculus features; Tectal Oculomotor control; Lateral geniculate physiology; striate and pre-striate cortex (in cat and monkey); Visual input to parietal and temporal lobes; the limbic system and prefrontal cortex; Effects of cortical and tectal lesions and eye movements; Clinical implications of visual evoked potential (VER) and Electroretinogram (ERG).  
**30h (T), 45h (P); C**
- OPT 328**      **General Pharmacology**      **2 Credits**

General principles of pharmacology; Drug administration; Absorption; Distribution; Biotransformation and excretion of drugs. Drug receptor interaction; Dose response relationship. Autonomic nervous system pharmacology (principles and classification of autonomic drugs); Anti-inflammatory drugs; Chemotherapy agents.

**30h (T); C**

**OPT 330**

**Ocular Microbiology**

**3 Credits**

Introduction to bacteriology. Microscopy; Growth and nutrition of bacteria. Classification of bacteria (Gram-positive and Gram-negative). Characteristics and structure of bacteria. Normal flora and microbiota of the human eye. The microscopic culture and sensitivity tests for microorganisms (bacteria) implicated in ocular infections. Characteristics of viruses and fungi that infect the eye. Host-parasite relationship; Chemotherapeutic agents – the effect of antibiotics, antiviral and antifungal preparations on bacteria, viruses and fungi.

**45h (T); C**

**OPT 401**

**Physiological Optics Laboratory II**

**1 Credit**

Pulfrich Phenomenon, Colour Vision tests, Dark adaptation theory and Lab, fixation disparity, Optical illusions experiment, Horoptor, Leaf room, Holography, Tests of Stereopsis, Visual threshold experiments, Entoptic Phenomenon.

**45h (P); C**

**OPT 402**

**Clinical and Mechanical Optics I**

**2 Credits**

Ophthalmic lens manufacture; Lens surfacing, polishing and glazing techniques; Grinding of prismatic and cylindrical lenses. Edging, insertion of lenses into frames. Front bench spectacle works and verification; Patient fitting; Ophthalmic frames, facial measurement and selection based on frame sizes. Format making; Marking and placement of optical centres; bifocals and multifocal segments. Spectacle adjustments and repairs. Manufacture of contact lenses and ocular prosthesis.

**15h (T), 45h (P); C**

**OPT 403**

**General Optometry Laboratory**

**2 Credits**

Preliminary techniques of routine eye examination are practiced on peers under the supervision of registered Optometrists. Integration and assessments of clinical findings are also practiced. Ocular diagnostic techniques are practiced as well, in preparation to examining actual patients.

**90h (P); C**

**OPT 404**

**Contact Lens Laboratory**

**1 Credit**

Prefitting examinations; Contact lens selection and fitting, evaluation of fit, insertion and removal. Lens inspection and verification. Lens modification (Hard lens) ordering and dispensing.

**45h (P); C**

**OPT 405**

**Ocular Pathology I**

**2 Credits**

Classification of ocular disease processes; Mechanism in ocular pathology. Disease of eyelid and adnexa, tear film, conjunctiva, Cornea, Episclera and Sclera: their signs and symptoms, clinical presentation, Pathophysiology, detection, diagnosis and management. Differential diagnosis of anterior segment disorders. Clinical demonstration is included.

**15h (T), 45h (P); C**

**OPT 406**

**Ocular Pathology II**

**2 Credits**

Diseases of the iris, Ciliary body, Lens, Choroid, Glaucoma, Vitreous; Retina and optic nerve disorders: Their sign and symptoms, clinical presentation, pathophysiology, detection, diagnosis and management. Differential diagnosis of posterior segment disorders. Oculo-systemic diseases. Ocular emergencies. Clinical demonstration is included

**15h (T), 45h (P); C**

**OPT 407**

**Introduction to Scientific Research**

**2 Credits**

Introduction to the basic principles of scientific research. Literature search and Review of current literature. Conceptualization and definition of research problems. Experimental design; Project planning; Work plan and budget; Data collection; Data analysis; Review of statistical methods; Interpretation of results; Conclusion and Referencing. Format for project write-up. Preparation /seminar write-up and presentation of data as oral and poster on selected research topic.

**15h (T), 45 (P); C**

**OPT 409**

**Physiological Optics III**

**2 Credits**

Photochemistry of vision. Sensory aspect of vision; Visual thresholds and adaptation. The mechanisms of colour vision; colour vision defects, their detection and significance. Electrophysiology of the retina and visual pathway. Laboratory work includes demonstration of Pulfrich phenomenon; colour vision tests; visual threshold experiments; Dark adaptation test; Electrophysiological techniques; Test of Stereopsis; Optical Illusion experiments and Leaf room.

**15h (T), 45h (P); C**

**OPT 410**

**Endocrinology and Nutrition**

**2 Credits**

Basic human endocrine systems: their general functions, mode of action, regulation and transport. Historical origin of neuro-endocrinology. Metabolic disturbances related to dietary deficiencies and excesses.

**30h (T); C**

**OPT 411**

**General Optometry III**

**2 Credits**

Routine optometric examination: Visual acuities, cover tests, test of versions and vergences, near point of convergence, and fusion test. Theory, clinical procedure and result interpretation in keratometry; Retinoscopy (Static and dynamic); Subjective refraction; photometry; Presbyopia and near vision tests; graphical analysis; Von-Graefe phoria and prism vergence tests. Monocular and binocular balancing: Fogging; Fan-dial; and monocular cross cylinder. Measurement of associated phoria; Disparometry and Polaroid tests. Methods of measuring amplitude of accommodation, and determination of the near addition (ADD).

**15h (T), 45h (P); C**

**OPT 412**

**Environmental Vision**

**2 Credits**

Biophysics of Radiation and illumination. Protection against radiation and other hazards. Role of Optometry in health care systems. Introduction to environmental Optometry. Vision Screening. Occupational Optometry (Visual efficiency; Eye protection programmes in industry). Chemical injuries to external eye structures and First aid care. Lighting strategies (Evaluation and design of Lighting). Visual ergonomics in the workplace; Adaptation of vision to specific vocational needs: testing devices, analytical and demonstrative techniques in vocational prescribing. Visual requirements for driving (Vision and highway/transportation safety). Vision through the atmosphere; Problems of vision under water; Human factors in the solution to visual problems.

**15h (T), 45h (P); C**

**OPT 413**

**Contact Lenses I**

**2 Credits**

History and development of contact lenses and their physical and optical properties. The anatomical and physiological implications of contact lens wear. Patient selection and contraindications to contact lens wear. Basic fitting techniques and contact lens designs. Assessing success of contact lens wear and therapy.

**15h (T), 45h (P); C**

- OPT 420      Physiological Optics IV      2 Credits**  
Perception of depth, direction, size, shape, distance, motion and time through the visual medium. Optical illusions and entoptic phenomena; their causes and significance to the visual system. Laboratory work in OPT 420 is a continuation of OPT 409 laboratory.  
**15h (T), 45h (P); C**
- OPT 421      Ocular Pharmacology      2 Credits**  
Principles of ocular pharmacology and prescription writing. Adrenergic: agonist and antagonist. Cholinergic: agonist and antagonist. Anti-glaucoma drugs. Ocular (topical/local) anesthetics. Choice and administration of diagnostic and prophylactic ophthalmic drugs. Anti-allergic drugs; Anti-inflammatory drugs; Anti-infective preparations. Optometric examinations using diagnostic aids. Precautions and adverse effects from use of ophthalmic drugs.  
**15h (T), 45h (P); C**
- OPT 422      General Optometry IV      2 Credits**  
Case history and its relationship to routine optometric examination continued. Introduction to case analysis and integration of individual findings. Case analysis, graphical analysis, diagnosis, prognosis and therapy. Introduction to specialized techniques such as Indentation Tonometry, Applanation Tonometry (including Goldmann, NCT and Tonomat), Ophthalmoscopy (including direct and indirect), Lensometry, Slit-Lamp Biomicroscopy, Stereo-acuity testing, Gonioscopy; Perimetry, Colour Vision tests, and Sphygmomanometer.  
**30h (T); C**
- OPT 424      Contact Lenses II      2 Credits**  
Advanced fitting techniques for high astigmatic patient with front surface toric, Back surface toric, and bitoric lenses. Keratoconus and contact lens designs for managing keratoconic patients. Presbyopia and management with contact lenses; Orthokeratology; Lens care and complications associated with contact lens wear and their management. Monitoring contact lens wearers.  
**30h (T); C**
- OPT 426      Strabismus and Amblyopia      2 Credits**  
Requisites for normal binocular vision. Incidence and classification of strabismus and amblyopia. Neurophysiological basis for binocular vision. Causes of strabismus and Amblyopia. Adaptive conditions commonly associated with strabismus. Clinical characteristics of eyes with amblyopia. Routine examination of strabismic patients and anisometropic amblyopes. Techniques learned in theory lectures are practiced with basic instrUTMENTation.  
**15h (T), 45h (P); C**
- OPT 432      Optometric Instrumentation      1 Credit**  
Principles of operations, basic maintenance and repairs of common Optometric InstrUTMENTS.  
**45h (P); C**
- OPT 434      Epidemiology of Ocular Diseases      2 Credits**  
Introduction to general epidemiologic concepts. Distribution and dynamics of diseases. Natural history, epidemiologic methods, Infectious disease epidemiology, decision analysis and clinical decision, study design, cohort study, case-control study etc. Consideration of prevalent diseases that are of interest to the Optometrist; Systemic diseases with ocular manifestations.  
**30 (T); C**

- OPT 501      Clinical & Mechanical Optics II      2 Credits**  
 Posting to optical dispensing display unit to handle patients referred for spectacle dispensing. Patients' facial measurement; Frame selection and patients' styling; Ophthalmic laboratory job order writing and billing; Ordering of the prescription; Front bench dispensing and verification of orders received; Patients' fitting and adjustment of frames and minor repairs. Emergency frame and/or lens repair.  
**15h (T), 45h (P); C**
- OPT 503      Primary Optometry Clinic      4 Credits**  
 Examination, diagnosis, and treatment of patients/clients in the optometry clinic under the supervision of an Optometrist. Emphasis is placed on routine optometric examination and detection of refractive errors and any other oculo-visual disorders.  
**180h (P); C**
- OPT 505      Specialty Optometry Laboratory      2 Credits**  
 Laboratory exercise and practicing the methods of assessing Pediatric, Geriatric, Orthoptic and Low vision/Rehabilitative cases using basic equipment and techniques. Familiarization with the operations of latest optometric equipment is also emphasized.  
**90h (P); C**
- OPT 507      Contact Lens Clinic      3 Credits**  
 Examination, diagnosis, and treatment of patients for contact lens wear. Management of contact lens cases using appropriate fitting techniques and care regimen.  
**135h (P); C**
- OPT 509      Pediatric Optometry      2 Credits**  
 A review of the development of vision and the distribution of refractive errors among infants, common congenital disorders, clinical assessment procedures for the young patient (birth through elementary school). Identification of learning disorders and recommendation of appropriate remedial programme. Laboratory work including clinical procedures, instrumentation and assessment in pediatric optometry are learnt and practiced under routine setting.  
**15h (T), 45h (P); C**
- OPT 511      Low vision and Rehabilitative Optometry      3 Credits**  
 The definition, etiology and classification of low vision, visual impairment and blindness. Psychological, sociological and vocational implications. Prognosis and management. Principles of low vision. Low vision assessment. Guidelines for prescribing optical devices. Magnification, Optics of low vision devices. Telescopic systems, microscopic systems and magnifiers. Guidelines for prescribing non-optical devices; Visual field enhancement. Illumination control for optical and non-optical aids. Management of certain visual disorders and specific needs. Multidisciplinary approaches to rehabilitation. Ocular prostheses. Aniseikonia. Laboratory: Clinical procedures, instrumentation and assessment in low vision and rehabilitative optometry are learnt and practiced.  
**30h (T), 45h (P); C**
- OPT 513      Community Outreach Programme      2 Credits**  
 Student exposure and participation in practical applications of all procedures on real patients in the community (at both rural and urban at health centres, geriatric homes etc), with appropriate case analysis and clarifications with supervising clinicians. Clinician-patient communication is assessed. Each student is evaluated on the subjective, objective, plan and management aspects of community patient care, e.g. referral. The community Optometry outreach course will follow the University of Ilorin Community Based Experience and Service (COBES) approach. Emphasis will be on rural communities to deliver eye care services and carry out survey of endemic eye and vision problems under WHO Vision 2020 – The Right to Sight Programme. Participation in vision screening programmes for schools, industries and institutions for the less privileged.

90h (P); C

- OPT 519 Practice Management 2 Credits**  
The scope and various modes of practice; single, partnership, group practice, employed practice in hospitals, government and industry. The development and management of an optometric practice. Office location and layout. The development of inter-and intra-professional relationships. Role and function of key stakeholders including Optometrists and Dispensing Opticians Registration Board of Nigeria etc. Policy document on unethical business practices.  
**30h (T); C**
- OPT 525 Orthoptics 2 Credits**  
An introduction to the binocular vision anomalies of both the strabismic, and non-strabismic patient. The treatment of problem of convergence and divergence, accommodation, fusional reserves. The detection, measurement and treatment of strabismus, eccentric fixation, microstrabismus, etc. The prognosis for a functional or cosmetic cure of binocular vision anomalies. Clinical procedures, instrumentation and assessment involved in orthoptics are learnt and practiced.  
**15h (T), 45h (P); C**
- OPT 527 Applied Psychology for Optometrists 2 Credits**  
Introduction to clinical psychology. Role of behavioral science in optometric practice: clinician-patient relationship. Psychopathology; identification and management, crisis intervention. Clinician-patient communication. Suggestion and hypnosis.  
**30h (T); C**
- OPT 598 Externship 8 Credits**  
Six months (500 Level 2<sup>nd</sup> Semester and Long vacation) industrial and clinical attachment and rotation for ophthalmic care, optical laboratory and dispensing experience in Solo/Group Practice, as well as in optometric instrumentation and patient care provided in hospital, or multi-disciplinary health care settings (external to the University) by students under strict supervisions of approved supervisors/preceptors. The aim of the course is for student to acquire industrial (clinical) experience under the Industrial Training Fund (ITF) scheme. Complete 24 weeks of 2<sup>nd</sup> semester and immediate long vacation posting under the SIWES (including 6-month Log Book from ITF). Students must submit a report on their ITF experience. The report will form part of the assessment/grade for the course.  
**360h (P); C**
- OPT 601 Primary Care Optometry Clinic I 3 Credits**  
Clinical practice with emphasis on total scope of optometric patient care including general care of children, adults and geriatric population; diagnosis of ocular disease; contact lenses; visual training and dispensing.  
**135h (P); C**
- OPT 602 Primary Care Optometry Clinic II 4 Credits**  
A continuation of OPT 601. Primary clinical eye-care practice with emphasis on total scope of optometric patient care including general care of children, adults and geriatric population; diagnosis of ocular disease; contact lenses; visual training and dispensing.  
**180h (P); C**
- OPT 603 Rehabilitative and Low Vision Clinic 4 Credits**  
Examination, diagnosis, treatment and management of patient exhibiting various forms of low vision and visual impairments.  
**180 (P); C**
- OPT 604 Pediatric Optometry Clinic 3 Credits**

Examination, diagnosis, treatment and management of infants to adolescents under the supervision of an Optometrist. Orthoptics clinic is included.

**135 (P); C**

- OPT 605 Patient Management Seminars 2 Credits**  
Seminars and clinical rounds: case presentation and discussions of patient management philosophies; Standard optometric analysis and therapies; Current diagnostic and therapeutic techniques; Referrals and inter-disciplinary approach to patient care. Prescription and follow-up care. Advanced patient management.  
**90h (P); C**
- OPT 606 Specialty Optometry Clinics 3 Credits**  
Clinical examination, diagnosis, and management of referred cases for specialist optometric management such as contact lens patients' care; ocular prosthesis, visual field assessment, occupational vision assessment and management. Partly a continuation of OPT 504: Management of routine and special contact lens patients; Hard and soft contact lens care, Disposable and extended wear lens care. Contact lens fitting and patient management in cases of Aphakia, Keratoconus, Aniseikonia, and Corneal and Iris Defects. Cosmetic contact lens fitting.  
**135h (P); C**
- OPT 607 Advanced Practice Management 2 Credits**  
Financing the optometric practice; Initial purchase of equipment and stock; Accounting procedures; Investments; Limited Liability Companies. Introduction to the Legal system; Employment agreements.  
**15h (T), 45h (P); C**
- OPT 609 Functional Optometry 2 Credits**  
Analytical methods in evaluating Optometric data. Optometry extension programme (OEP) methods. Cases analysis and the OEP techniques.  
**15h (T), 45h (P); C**
- OPT 611 Geriatric Optometry 2 Credits**  
Defining the geriatric patient. Psychological, Physiological, social and ocular problems of the elderly. Techniques for refraction, binocularity and ocular health assessment of the elderly with emphasis on evolutionary and pathological changes. Special ocular-visual problems of concern to the elderly patient. Presbyopia, cataracts, aphakia, visual field losses, low contrast sensitivity and colour vision defects. Handling, counseling the elderly patient. Problems of therapy, management and compliance. Special problems of the hospitalized and bedridden elderly patients.  
**30h (T); C**
- OPT 613 Neuropathology 2 Credits**  
Review of Anatomy. Pupillary and accommodative anomalies in Neurological diseases. Headaches, migraines, and other photopic episodes. Optic nerve disorders, supra-nuclear, nuclear and intra-nuclear, oculomotor presentations, Nystagmus, practical approach to some common non-ocular neurological complaints.  
**30h (T); C**
- OPT 615 Seminar in Research Topics 2 Credits**  
Recent developments in Optometry and Vision Science. Current research methods, their advantages and disadvantages. Review of current literature. Current diagnostic and therapeutic techniques: advantages and drawbacks. Students are divided into groups. This course touches on the progress of student research project.  
**90h (P); C**



**OPT 617 Hospital Practice Exposure 2 Credits**  
This involves attending to patients within health care settings external to the University: Hospital, Health Centres and approved private eye care service centres. Inter-disciplinary practice.  
**90h (P); C**

**OPT 699 Research Project 6 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**270h (P); C**

### SUMMARY

#### 100 LEVEL

**Compulsory Courses:** GNS 111(2), GNS 112(2)

**Required Courses:** (Chemistry, Biology, Physics, Mathematics and Statistics in the Faculty of Physical Science / Life Sciences): CHM 101(3), CHM 112(2), CHM 115(2), CHM 116(1), CHM 132(2), CSC 111 (2), CSC 112 (2), MAT 112(3), MAT 113(3), PHY 115(2), PHY 125(3), PHY 152(3), PHY 191(1), PHY 192(1), PLB 101(3), STA 134(2), ZLY 103(2), ZLY 106(2)

**Total Credits = 43**

#### 200 Level

**Compulsory Courses:** OPT 201(3), OPT 203(2), OPT 210(2), OPT 212(2), OPT 213(3), OPT 214(2), OPT 215(2), OPT 218(3).  
**= 19**

**Required Courses :** GNS 211(2), GNS 212(2), BCH 211(3), BCH 212(3), MCB 204(1), MCB 208(3), STA 201(2), STA 204(2).  
**= 18**

**Elective Courses:** CHM 235(3). **= 3**

**Total Credits = 40**

**Direct Entry:** GNS 111(2), GNS 112(2) **Total = 44**

### 300 Level

**Compulsory Courses:** OPT 300(1), OPT 301(1), OPT 303 (2), OPT 305 (2), OPT 306 (2), OPT 307 (2), OPT 309 (2), OPT 312 (2), OPT 313 (2), OPT 315 (2), OPT 316 (2), OPT 317 (2), OPT 324 (2), OPT 326 (3), OPT 328 (2), OPT 330(3)  
= 32

**Required Courses:** GNS 311(2), GSE 301(3), BCH 308(2), BCH 312(3), = 10

**Elective Courses:** CHM 312(2), STA 351(3) = 5

**Total Credits** = 47

### 400 Level

**Compulsory Courses:** OPT 401(1), OPT 402(2), OPT 403(2), OPT 404 (1), OPT 405 (2), OPT 406 (2), OPT 407 (2), OPT 409(2), OPT 410 (2), OPT 411(2), OPT 412(2), OPT 413(2), OPT 420 (2), OPT 421 (2), OPT 422 (2), OPT 424 (2), OPT 426 (2), OPT 432 (1), OPT 434 (2), = 35

**Elective Courses:** BUS 413(3), ICS 411(3), STA 435(3) = 9

**Total Credits** = 44

### 500 Level

**Compulsory Courses:** OPT 501(2), OPT 503 (4), OPT 505 (2), OPT 507 (3), OPT 509 (2), OPT 511 (3), OPT 513 (2), OPT 519 (2), OPT 525 (2), OPT 527 (2), OPT 598 (8). = 32

**Total Credits** = 32

**600 Level**

**Compulsory Courses:** OPT 601(3), OPT 602(4), OPT 603(4), OPT 604 (3), OPT 605 (2), OPT 606 (3), OPT 607 (2), OPT 611 (2), OPT 613 (2), OPT 615 (2), OPT 617 (2), OPT 698 (6), OPT 609 (2) = **37**

**Total Credits = 37**

**Graduation Requirements**

**UTME = 226 Credits**

**DE = 187 Credits**

## DEPARTMENT PLANT BIOLOGY

### Course Description

#### B.Sc. Plant Biology

- PLB 101      Cell Biology      3 Credits**  
Cellular basis of life. Structure of plant and animal cells. Functions of cells and cellular organelles. Cell division, Heredity. History of Microbiology, Economic importance of microorganisms.  
**30h (T), 45h (P); C**
- PLB 108      Plant Diversity: Forms and Functions      3 Credits**  
Diversity. Morphology and general characteristics of viruses. bacteria, fungi, algae, bryophytes, pteridophytes, gymnosperms and angiosperms. Structure and functions of main organs in angiosperms.  
**30h (T), 45h (P); C**
- PLB 201      Introductory Genetics and Evolution      3 Credits**  
Principles of inheritance. Structure and behaviour of chromosomes. Nucleic acids and genes. Sex determination. Gene action. Variation. Evolution and speciation.  
**30h (T), 45h (P); C**
- PLB 202      Systematics and Morphology of Seed Plants      3 Credits**  
Comparative vegetative and reproductive morphology of gymnosperms and angiosperms. Heterospory and the concept of the seed. Classification of selected angiosperm families.  
**30h (T), 45 (P); C**
- PLB 203      Introductory Physiology      3 Credits**  
Cell structure and organisation. Synthesis of biological macromolecules. Respiration, nutrition, transport, excretion and reproduction in plants and animals.  
**30h (T), 45h (P); C**
- PLB 204      Systematics of Seedless Plants      3 Credits**  
Organization of prokaryotic and eukaryotic cells. Structure, general characteristics and reproduction of viruses, bacteria, fungi, algae, lichens, bryophytes, pteridophytes. General methods for studying the specified groups.  
**30h (T), 45h (P); C**
- PLB 301      Laboratory Practice in Botany      2 Credits**  
Botanical techniques: fixation and preservation, wax embedding, microtomy; staining and mounting, cytological preparations, photomicrograph, preparations, photomicrography and herbarium practice. Field-work and Population sampling. Water culture. Green-housing and maintenance of experimental plants.  
**90h (P); C, PR: PLB 202**
- PLB 302      Plant Taxonomy      3 Credits**

Principles of plant taxonomy. Taxonomic methods. Nomenclature, construction and use of taxonomic key. Classification of selected angiosperm taxa.

**30h (T), 45 (P); C, PR: PLB 202**

**PLB 303**

**Plant Anatomy**

**3 Credits**

Characteristics and classification of plant tissues. Internal organization of the plant body. Secondary growth processes. Anatomical adaptations to specialised habitats. Applied aspects of plant anatomy.

**30h (T), 45h (P); C, PR: PLB 202**

**PLB 304**

**Plant Physiology**

**4 Credits**

Seed structure, dormancy and germination. Plant growth regulators, vernalization and photoperiodism. Photosynthesis and respiration. Transportation and antitranspirants. Water and salt absorption and transportation. Transport of Organic assimilates.

**30h (T), 90h (P); C, PR: PLB 203**

**PLB 305**

**Economic Botany**

**3 Credits**

Botanical characteristics, cultivation and uses of economic plants in Nigeria: fibre, rubber, oil, cocoa, coffee, kola, grains, pulses, tubers, Vegetables, etc. Toxicological and pharmaceutical importance of plant products.

**30h (T), 45h (P); C**

**PLB 306**

**Principles of Plant Pathology**

**2 Credits**

Basic techniques in plant pathology. Concept of diseases. Mechanisms of plant infection. Host-pathogen relationship. Epiphytotics and causes. Disease forecasting.

**15h (T), 45h (P); C**

**PLB 307**

**General Ecology**

**3 Credits**

Modern concepts in the study of ecology: Communities, population, ecosystem, habitat and evolution/Historical.

**30h (T), 45h (P); C**

**PLB 308**

**Genetic Analysis and Introductory Cytogenetics**

**3 Credits**

Chromosome cytology. Nature and structure of chromosomes and centromere in genetic systems. Mechanisms of genetic change. Chromosome homology. Chromosomal basis of Mendelian genetics. Deviations from Mendelian genetics. Population genetics.

**30h (T), 45h (P); C, PR: PLB 201**

**PLB 309**

**Micropropagation of Plants**

**2 Credits**

Tissue culture: organogenesis and embryogenesis. Aseptic procedures and cell culture. Protoplast culture and fusion. Somaclonal variation. Application of *in vitro* methods.

**15h (T), 45h (P); E**

**PLB 310**

**Recombinant DNA Technology**

**2 Credits**

Review of the chemical composition and structure of DNA. Restriction enzymes. Formation of recombinant DNA. Methodology. application of recombinant DNA Technology.

**15h (T), 45h (P); E**

<b>PLB 311</b>	<b>Algology</b> Morphology, classification and reproductive strategies in algae. Origin and ecological distribution of algae. Relevance of algae to the biosphere. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>
<b>PLB 312</b>	<b>Bryology</b> General characteristics, classification and morphological features of bryophytes. Ecological distribution and the importance of bryophytes to the biosphere. <b>15h (T), 45h (P); E</b>	<b>2 Credits</b>
<b>PLB 399</b>	<b>Students' Industrial Work Experience Scheme (SIWES)</b> Attachment of students during the long vacation to industries, institutions or field stations relevant to any one of the following: Afforestation. Applied plant anatomy, Aquatic and population biology, Horticulture and biotechnology. (Assessment by Report). <b>135h (P); C</b>	<b>3 Credits</b>
<b>PLB 402</b>	<b>Seminar</b> Literature review of an approved topic in Plant Biology and oral presentation. <b>90h (P); C</b>	<b>2 Credits</b>
<b>PLB 403</b>	<b>Plant Morphogenesis</b> Meristems and organization of the shoot and root apices. Pattern and control of cell and tissue differentiation. Development of vegetative organs. Plant tissue culture: techniques and applications. Meristem culture, organ culture and embryo culture. Role of plant hormones and vitamins. Ontogeny of floral organs. <b>30h (T), 45h (P); E, PR: PLB 303</b>	<b>3 Credits</b>
<b>PLB 404</b>	<b>Cell Ultrastructure</b> Principles and techniques of electron microscopy. Types of electron microscope. Cell structure. Cell organelles and their functions. <b>15h (T), 45 (P); E, PR: PLB 303</b>	<b>2 Credits</b>
<b>PLB 405</b>	<b>Plant Transformation Technology</b> <i>Agrobacterium tUTMEfaciens</i> . Tumour-inducing plasmid (Ti plasmid) as a vector for plant transformation. Alternative methods for plant transformation. Engineering herbicide resistance in plants. Improving quality characters in plants. Engineering plants for virus and insect resistance. Molecular farming. <b>15h (T), 45h (P); E, PR: PLB 310</b>	<b>2 Credits</b>
<b>PLB 406</b>	<b>Plant Biochemistry</b> Biochemical techniques, enzymology, photosynthesis, respiration, nitrogen metabolism and lipid metabolism. Plant products. <b>30h (T), 45h (P); C, PR: PLB 304</b>	<b>3 Credits</b>
<b>PLB 407</b>	<b>Plant Pathology</b> Classification of plant diseases. Pathogens, etiology and disease cycles of some economic crops in Nigeria. Practical plant protection methods involving chemicals, cultural practice and biological control.	<b>3 Credits</b>

**30h (T), 45h (P); C, PR: PLB 306**

- PLB 408      Molecular Biology      2 Credits**  
Fine structure of the gene. The genetic code. Genetic control of protein synthesis.  
Repression, modulation and evolution at the molecular level.  
**15h (T), 45h (P); C**
- PLB 409      Cytogenetics      3 Credits**  
Cytological techniques. Maintenance of cytological material. Collection and analysis of cytological data. Evolution, chromosomes and genetic systems. Speciation. Hybridization techniques.  
**30h (T), 45h (P); C**
- PLB 410      Palynology      2 Credits**  
Structure and classification of pollens. Pollen development and fossilization. Pollen wall characteristics in plant systematics and oil industry.  
**15h (T), 45h (P); E, PR: PLB 302**
- PLB 411      Plant Breeding      3 Credits**  
Centres of diversity of cultivated plants, Germplasm collection and maintenance. Nursery practice. Green/Screen-housing. Hybridization techniques. Methods of improving vegetatively propagated self and cross-pollinated crops. Simple statistical requirements in field and laboratory work. Outlines of breeding programmes.  
**30h (T) 45h (P); E, PR: PLB302 and PLB 303**
- PLB 412      Wood and its Industrial Utilization      2 Credits**  
Structure and properties of wood. Processes of wood formation. Principles of pulp and paper making. Wood products: sawn wood, veneer, plywood, particle board, matchstick, etc.  
**15h (T), 45h (P); E, PR: PLB 303**
- PLB 413      Plant Ecology      3 Credits**  
Plant communities and their ecological framework. Nigerian vegetation with special emphasis on arid zones. Desertification: causes and control. Effect of climate and soil on vegetation.  
**30h (T), 45h (P); C**
- PLB 414      Conservation and Development of Forest Resources      3 Credits**  
Concept of resource depletion and renewal. Enhancement of renewable resources. Soil and water conservation. Plant reproduction: development trends of sexual and asexual reproduction. Breeding and propagation techniques for plants. Weeds. Chemical and biological control of weeds and pests.  
**30h (T), 45h (P); C, PR: PLB 302**
- PLB 415      Soil Science      2 Credits**  
Classification and characteristics of soils. Chemical components and analysis of soil and plant tissues. Plant and water relationship.  
**15h (T), 45h (P); E**
- PLB 416      Plant Virology      3 Credits**

General characteristics of plant and bacterial viruses. Symptomatology of viral diseases, external and internal symptoms. Viral Interference, transmission, infection and synthesis. Viral multiplication and movement. Virus strains and serology. Selected viral diseases in plants.

**30h (T), 45h (P); E**

- PLB 417      Plants in Environmental Impact Assessment      2 Credits**  
Concept of Environmental Impact Assessment (EIA). Sources of environmental pollution. Lower and higher plants used in bio monitoring of environmental pollution. Concept of waste management  
**15h (T), 45h (P); E**
- PLB 418      Biomimetics      2 Credits**  
Biological structures and functions: vessels, fibres, trichomes, etc. Design of biomaterials. DNA, proteins, fats and carbohydrates. Structures and properties of bio-composites; wood, collagen, silk, etc. Design and genesis of synthetic materials  
**15h (T), 45h (P); E**
- PLB 420      Botany in Landscaping and Range Management      2 Credits**  
Botanical characteristics of hedge and ornamental plants. Design of botanical gardens. Plants in interior decoration and lawn maintenance.  
**15h (T), 45h (P); E**
- PLB 421      Plant and Water Relations      2 Credits**  
Water content of cells. Diffusion, osmosis, matric forces, cell water potential, solute potential, pressure potential, plasmolysis, transpiration, absorption and movement of water into plants.  
**15h (T), 45h (P); E**
- PLB 499      Research Project      5 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**225h (P); C**

## SUMMARY

### 100 LEVEL

**Compulsory Courses:**      PLB 101 (3), PLB 108 (3).      = 6 Credits

**Required Courses:**      ZLY 101(2), ZLY 103(2), ZLY 106(2), CHM 101(3), CHM 112(2),  
CHM 115(2), CHM 116(1), CHM 132(2), PHY 115(2), PHY 142(2),  
PHY 191(1), PHY 192(1), MAT 115(2), MAT 116(2), GNS 111(2),  
GNS 112(2)      = 30 Credits

**Total = 36 Credits**

### 200 LEVEL

**Compulsory Courses:**      PLB 201 (3), PLB 202 (3), PLB 203 (3), PLB 204 (3)      = 12 Credits



**Required Courses:** MCB 206(3), ZLY 201(3), ZLY 202(3), BCH 211(3), CHM 213(2), CHM 235(3), CHM 236(3), CSC 111(2), GNS 211(2), GNS 212(2)  
= 26 Credits

**Total = 38 Credits**

**DE:** GNS 111(2) and 112 (2) = 4 Credits

### 300 LEVEL

**Compulsory Courses:** PLB 301(2), PLB 302(3), PLB 303(3), PLB 304(3), PLB 305(3), PLB 306(2), PLB 307(3), PLB 308(3), PLB 399 (3) = 25 Credits

**Required Courses:** STA 201(2), STA 204(2), MCB 313(3), GNS 311(2), GSE 301(3)  
= 12 Credits

**Elective Courses:**

ZLY 301(3), ZLY 302(3), ZLY 303(3), PLB 309(2), MCB 316(3), PLB 311(2), PLB 312(2), CSC 201(2), CSC 206(2)  
**Total = 37 Credits**

### 400 LEVEL

**Compulsory Courses:** PLB 402 (2), PLB 406 (3), PLB 407 (3), PLB 408 (2), PLB 409 (3), PLB 413 (3), PLB 414 (3), PLB499 (5) = 24 Credits

**Elective Courses:** To offer a minimum of 10 Credits from the following:  
PLB 403(3), PLB 404(2), PLB 405(2), PLB 410(2), PLB 411(3), PLB 412(2), PLB 415(2), PLB 416(3), PLB 418(2), PLB 420(2), PLB 421(2), PLB 417(2)

### Graduation Requirements:

UTME = 135 Credits

DE = 103

## DEPARTMENT OF ZOOLOGY

### Course Description

#### B.Sc. Zoology

<b>ZLY 101</b>	<b>Introductory Ecology</b> Factors controlling the distribution of animals, communities and environment. <b>15h (T), 45h (P); C</b>	<b>2Credits</b> population. Succession and climax. Man and
<b>ZLY 103</b>	<b>Introductory Animal Diversity</b> classification of animals. Diagnostic feature of evolutionary trend. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b> major Nomenclature and invertebrate and vertebrate phyla and classes to reflect
<b>ZLY 106</b>	<b>Mammalian Forms and functions</b> functions of organ system in mammals: circulatory, systems and integUMENTs. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b> excretory, reproductive, nervous, -respiratory, digestive ,endocrine Structure and
<b>ZLY 201</b>	<b>Basic Invertebrate Zoology</b> <i>Leucosolenia ,Obelia, Aurelia, Actinia, Dugesia, Fasciola, Taenia, Ascaris, Hyperiodirilus, Sepia, Macrobrachium ,Lycosa, Polydesmus. Periplaneta and Asteropecten.</i> organization, evolutionary trend and diversity of invertebrates. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b> Biology of <i>Amoeba, Paramecium, Plasmodium, Nereis, Hirudo, Achachatina. Aspatheria,</i> Illustrating the classifications ,
<b>ZLY 202</b>	<b>Basic Chordate Zoology</b> Biology of <i>Balanoglossus, Ciona, Branchiostoma, Petromyzon, Scolidon,</i> classification, organization, evolutionary trends and diversity. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b> <i>Tilapia, Bufo, Agama, Colubia and Rattus.</i> Illustrating the
<b>ZLY 204</b>	<b>Zoological Techniques &amp; Laboratory Practice</b> structure of zoological specimen, microscope and use of identification and classification keys. Method <b>90h (P); C</b>	<b>2 Credits</b> microscopy. Dissection techniques, drawing and labeling, of collection, preparation of slides and museum specimens. Photography Methods of investigating and recording. The
<b>ZLY 301</b>	<b>Biology of Arthropods</b> Diversity and adaptive radiation in the phylum Arthropoda. Structure and function of organ systems. General Biology of selected groups with emphasis on those of economic importance. <b>30h (T), 45h (P); C, PR: ZLY 201</b>	<b>3 Credits</b>
<b>ZLY 303</b>	<b>Biology of Free-living Non-Arthropod Invertebrates</b> Classification, adaptation, morphology, anatomy and life cycle of free-living non-arthropod invertebrates. Evolutionary trends among invertebrates and interrelationship with chordates <b>30h (T), 45h (P); C, PR: ZLY 201</b>	<b>3 Credits</b>

<b>ZLY 304</b>	<b>Life of Chordates</b> Taxonomy, evolution, interrelationship, basic organization and mode of life of amphibians, reptiles, birds and mammals <b>30h (T), 45h (P); C, PR: ZLY 202</b>	<b>3 Credits</b> the major chordates groups; protectorates, fish,
<b>ZLY 306</b>	<b>Comparative Animal Physiology</b> nutrition, respiration, reproduction and salt/water excitable membranes. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b> Comparative study of balance in animals. Nerves and muscles biophysics of
<b>ZLY 308</b>	<b>Histology</b> of animal cell. Tissues, organs and systems. Histological and histochemical techniques in histochemistry <b>30h (T), 45h (P); C</b>	<b>3 Credits</b> Cellular basis of tissue formation, Main features of Zoology. Principles of enzyme
<b>ZLY 310</b>	<b>Introductory Environmental Physiology</b> respiratory gases, metabolic and <b>15h (T), 45h (P); E</b>	<b>2 Credits</b> Osmotic regulations, excretion, transport of temperature regulation in animal and in relation to their environment
<b>ZLY 311</b>	<b>Animal Ecology</b> and ecosystem. Energy flow and nutrient population dynamics, growth and interaction. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b> Concept of communities, population cycling. Aquatic and terrestrial ecosystems. Succession, natality, mortality,
<b>ZLY 312</b>	<b>Principles of Parasitology</b> General concept of parasitism, Host-parasite relationship, classification, platyhelminths and nematode parasites. <b>30h (T), 45h (P); C, PR: ZLY 201</b>	<b>3 Credits</b> morphology, life cycles and adaptation of selected protozoans,
<b>ZLY 314</b>	<b>Introduction to Fisheries and Aquaculture</b> Basic structure and adaptation of fish to aquatic environment. Introduction Fish nutrition, diseases and management. Fishery industry in Nigeria. <b>30h (T), 45h (P); C</b>	<b>3 Credits</b> to marine and freshwater Fisheries. Principles of fish culture,
<b>ZLY 399</b>	<b>Industrial Field Experience</b> Attachment of students to establishments concerned with management, pest public health. <b>135h (P); C</b>	<b>3 Credits</b> control, animal and
<b>ZLY 402</b>	<b>Seminar</b> Literature review and presentation on an approved topics in Zoology and oral <b>90h (P); C</b>	<b>2 Credits</b> presentation
<b>ZLY 403</b>	<b>Applied Entomology</b> Concept of natural population of insect pests. Economic thresholds and injury levels. Biology of pests of agricultural and medical importance in the tropics. Principles of pest management.	<b>3 Credits</b>

**30h (T), 45h (P); C, PR: ZLY 301**

**ZLY 404 Economic Parasitology**

Biology of parasites which cause diseases in man and domestic animals in the tropics. Epidemiology and control of parasites and their vectors

**3 Credits**

**30h (T), 45h (P); C, PR: ZLY 201**

**ZLY 405 Limnology**

Evolution of freshwater habitats. Physical and chemical characteristics of rivers, streams, lakes and ponds. Biology of aquatic organisms.

**3 Credits**

**30h (T), 45h (P); C**

**ZLY 406 Fisheries and Aquaculture**

Fish taxonomy. Biology of fishes of economic importance in Nigeria. Culture and stocking. Culture Systems, Pond managements. Fish diseases. Fish preservation and marketing. Fishing gear technology

**4 Credits**

**30h (T), 90h (P); C**

**ZLY 407 Animal Behaviour**

Basis of behaviours. Kinetic and tactic reactions. Instinct and intelligence, Feeding behavior, Social life, Courtship and mating. Territoriality, migration, navigation and orientation mechanisms

**3 Credits**

**30h (T), 45h (P); E**

**ZLY 408 Wildlife Management and Conservation**

Dynamics of wildlife populations and the techniques of their investigation. Principles of wildlife management and policies.

**3 Credits**

**30h (T), 45h (P); E**

**ZLY 409 Applied Population Community Ecology**

Population dynamics of ecological communities. Reproduction/feeding ecology and spacing system Ecological interactions, community structure and ecological energetic. Species diversity. Techniques in ecology of local terrestrial and aquatic animals.

**3 Credits**

**30h (T), 45h (P); E**

**ZLY 410 Comparative Vertebrate Anatomy**

The basic anatomy of vertebrates. Vertebrate evolution and interrelationship with non-vertebrate groups. Vertebrate and comparative anatomy of vertebrates organ – systems.

**3 Credits**

**30h (T), 45h (P); C**

**ZLY 417 Embryology**

fertilization and cytoplasmic changes in the fertilized egg. Gastrulation and formulation of primary organ rudiments. Organogenesis. Cellular and molecular basis of embryogenesis

**3 Credits**

**30h (T), 45h (P); C**

**ZLY 418 Nigerian Animals**

General survey of local mollusks, arthropods and vertebrates. Domestic and wild animals under natural conditions. Demography and sampling techniques of animals.

**3 Credits**

**30h (T), 45h (P); E**

**ZLY 420 Principles of Zoo Keeping and Animal Breedi** **3 Credits**  
Zoological gardens. Techniques  
Of animal capture and domestication. Apiculture, Malaculture and Sericulture

Establishment and managements of  
**15h (T), 45h (P); E**

**ZLY 499 Project** **5 Credits**  
Each student under the supervision of an approved supervisor is required to  
approved by the department culminating in the submission of a project  
**225h (P); C**

conduct research in an area

**SUMMARY**  
**100 LEVEL**

**Compulsory Courses:** ZLY 101(2), ZLY 103(2), ZLY 106(2) = **6 Credits**

**Required Courses:** PLB 101(3), PLB 108(3), CHM 101(3), CHM 112(2), CHM 115(2),  
CHM 116(1) CHM 132(2), GNS 111(2), GNS 112(2) MAT 115(2),  
MAT 116(2), PHY 115(2), PHY 142(2), PHY 191(1), PHY 192(1)  
= **30 Credits**

**Total = 36 Credits**

**200 LEVEL**

**Compulsory Courses:** ZLY 201(3), ZLY 202(3), ZLY 204(2), = **8 Credits**

**Required Courses:** BCH 211(3), PLB 201(3), PLB 202(3), PLB 203(3), CHM 213(2),  
CHM 235(3), CHM 236(3), CSC 111(2), MCB 205(3), MCB 202(3),  
GNS 211 (2), GNS 212(2) = **32 Credits**

**Total = 40 Credits**

**DE:** GNS 111(2), 112(2) = **4 Credits**

**300 LEVEL**

**Compulsory Courses:** ZLY 301(3), ZLY 312(3), ZLY 303(3), ZLY 304(3), ZLY 306(3),  
ZLY 308(3), ZLY 311(3), ZLY 314(3), ZLY 399(3) = **27 Credits**

**Required Courses:** GNS 311 (2), STA 201 (2), STA 204(2), PLB 308 (3), GSE 301(3)  
= **12 Credits**

**Elective Course:** ZLY 310(2)  
**Total = 39 Credits**

**Compulsory Courses:** **400 LEVEL**  
ZLY 402(2), ZLY 403(3), ZLY 404(3), ZLY 405(3), ZLY 406(4),  
ZLY 410(3), ZLY 417(3) ZLY 499(5) = **26 Credits**

**Elective Courses:** At least 6 credits from the following:  
ZLY 407(3), ZLY 408(3), ZLY 409(3), 418(3), ZLY 420(3) = **6 Credits**  
**Total = 32 Credits**

**Graduation Requirements:**  
**UTME = 147**  
**DE = 115**

## **FACULTY OF MANAGEMENT SCIENCES**

### **Dean's Office**

J. O. Olujide	B.Sc. (ABU); MBA (OAU); M.Phil., Ph.D. (Aix-Marseille)	Professor & Dean
Khadijat A. Yahaya	B.Sc. (BUK); M.Sc., PGDE, Ph.D. (Ilorin); ACA	Lecturer I & Sub Dean
Salamat O. Abdullahi	B.A. (Ed.), M.Ed., MPA (Ilorin)	Faculty Officer

### **Department of Accounting**

Olubunmi F. Osemene	B.Sc. (OAU); MBA, (LAUTECH); M.Sc., Ph.D. (Ilorin); ACA	Senior Lecturer & Ag. Head
A. S. Kasum	B.Sc. (BUK); M.Sc., Ph.D. (Ilorin); ACA	Senior Lecturer

T. A. Olaniyi	B.Sc., M.Sc., MBA., Ph.D. (Ilorin); ACA	Senior Lecturer
KhadijatA. Yahaya	B.Sc. (BUK); M.Sc., PGDE, Ph.D. (Ilorin); ACA	Lecturer I
T. O.Fagbemi	B.Sc., M.Sc., (Ilorin); Ph. D. (Lagos); ACA	Lecturer I
E. A. Adigbole	B.Sc. (ABU); M.Sc. (Ilorin); FCA	Lecturer I
W. B. Sanni	B.Sc., M.Sc. (Ilorin); FCA; ACIT	Lecturer I
A. O. Noah	B.Sc. (EKSU); M.Sc. (Ilorin); ACA	Lecturer I
J. A. Olaoye	B.Sc. (Ilorin); M.Sc. (Lagos)	Lecturer I
M. O. Salam	B.Sc. (EKSU); M.Sc. (BUK); MBA (Ilorin); ACA	Lecturer I
O. A. Aliu	B.Sc. (Ilorin); M.Sc. (BUK); ACA	Lecturer I
A. A. Abdurraheem	B.Sc. (Ibadan); M.Sc. (OOU); FCA; ACIT	Research Fellow I
Ramat T. Salman	B.Sc. (BUK);M.Sc. (Ilorin); Ph.D. (Utara); ACIT	Lecturer II
S. Abogun	B.Sc. (Ilorin), M.Sc. (Lagos)	Lecturer II
D. Bamigbade	B.Sc. (Ilorin); M.Sc. (Lagos); ACA	Assistant Lecturer
Z. Abdulbaki	B.Sc., (Maiduguri); M.Sc. (Lagos); ACA	Junior Research Fellow
A. Dauda	B.Sc. (Ilorin); ACA	Graduate Assistant

## Department of Business Administration

J. O. Adeoti	B.Sc. (ABU); MBA., M.Sc., Ph.D. (Ilorin)	Senior Lecturer& Ag. Head
J. O. Olujide	B.Sc. (ABU); MBA (OAU); M.Phil., Ph.D. (Aix-Marseille)	Professor
Sidikat L. Adeyemi	B.Sc., MBA, (ABU); Ph.D. (Ilorin)	Professor
J. A. Oladipo	B.Sc. (ABU); PGDDP (Lagos); M.Sc. (Bradford); Ph.D. (Ilorin)	Senior Lecturer
S. B. Isiaka	B.Sc., MBA, M.Sc, Ph.D. (Ilorin)	Senior Lecturer
U. Gunu	B.Sc. (UDUS);M.Sc.,Ph.D. (Ilorin)	Senior Lecturer
I. B. Kadiri	B.Sc., M.Sc. Econs, M.Sc Bus. Admin. (Ilorin); Ph.D. (UDUS)	Senior Lecturer
I. I. Aun	B.Sc., M.Sc., Ph.D. (Ilorin)	Lecturer II
A. Salman	B.Sc. (UDUS); M.Sc. (Ilorin)	Lecturer II
Falilat A. Abdul	B.Sc. (UDUS); M.Sc. (Ilorin)	Lecturer II
G. T. Oladipo	B. Sc., M.Sc. (Ilorin)	Lecturer II
I. Omolabi	B.Sc. (UDUS); M.Sc. (Ilorin)	Assistant Lecturer
Y.A. Olawale	B.Sc., MBA, M.Sc. (Ilorin)	Assistant Lecturer
O.J. Omolekan	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
J.R. Amosa	B.Sc. (Sokoto), M.Sc. (Lagos)	Assistant Lecturer



O. O. Olota	B.Sc. (Ilorin)	Graduate Assistant
A.A. Suleiman	B.Sc. (Sokoto)	Graduate Assistant

### **Department of Finance**

M. A. Ijaiya	B.Sc., M.Sc. (BUK); Ph.D. (Ilorin)	Senior Lecturer & Ag. Head
S. B. Oludoyi	B.Sc. (Lagos); M.Sc. (Strathclyde); Ph.D. (Ibadan)	Senior Lecturer
M. A. Ajayi	B.Sc. (EKSU); M.Sc., MBA, Ph.D. (Ilorin)	Senior Lecturer
I. B. Abdullahi	B.Sc. (ABU); M.Sc. (BUK); Ph.D. (Ilorin)	Senior Lecturer
Rihanat I. Abdulkadir	B.Sc., MBA (Ilorin); M.Sc. (BUK); ACIB	Lecturer I
Oyebola F. Etudaiye-Muhtar	B.Sc., MBA (Ilorin); M.Sc. (Malaysia)	Lecturer II
A.T. Jimoh	B.Sc. (Ilorin)	Assistant Lecturer
R..O. Sakariyau	B.Sc. (Ilorin); ACIB	Assistant Lecturer
W.O. Ibrahim	B.Sc. (Ilorin)	Graduate Assistant

### **Department of Marketing**

R.A. Gbadeyan	B.Sc., MBA (ABU); M.Sc., Ph.D. (Ilorin)	Senior Lecturer & Ag. Head
J.A. Bamiduro	B.Com (Concordia, Canada); MBA (McGill, Canada); Ph.D. (Ilorin)	Senior Lecturer
M.A. Aremu	B.Sc., M.Sc., Ph.D. (Ilorin), PGDCS	Senior Lecturer

Y. I. Mustapha	B.Sc., MBA (UDUS); M.Sc. (Ilorin); Ph.D. (UDUS)	Senior Lecturer
K. A. Bello	B.Sc., M. Sc. (Ilorin)	Assistant Lecturer
Ebun O. Imouokome	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
Mulikat Abulraheem	B.Sc. (ABU); M.Sc. (Ilorin)	Assistant Lecturer
A.G. Ahmed	B.Sc. (Ilorin); MBCL (BUK)	Graduate Assistant

#### **Department of Industrial Relations & Personnel Management**

S. B. Isiaka	B.Sc., MBA., M.Sc., Ph.D. (Ilorin)	Senior Lecturer & Ag. Head
N. S. Aremu	B.Sc. (BUK); M.Sc. (Ilorin)	Assistant Lecturer
A. P. Abogunrin	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
A.S. Abdullah	B.Sc. (Al-Hikmah); M.Sc.(Glasgow)	Assistant Lecturer
M. O. Aliyu	B.Sc. (BUK)	Graduate Assistant

#### **Department of Public Administration**

S. O. Oyedele	B.Sc. (UDUS); MPA (Ilorin); M.Sc. (OAU)	Senior Lecturer/ Coordinator
E. M. Osezua	B.Sc. M.Sc. (Benin); Ph.D. (OAU)	Senior Lecturer
M. L. Bello	B.Sc. M.Sc. (Maiduguri)	Lecturer 1

A. K. Abdulkareem	B.A. (ABU); M.Sc. (Malaysia)	Assistant Lecturer
A. Y. Umar	B.A. (ABU)	Graduate Assistant
A. A. Ishola	B.Sc. (UDUS)	Graduate Assistant

## Department of Accounting

### Course Description

#### **B.Sc. Accounting**

<b>ACC 101</b>	<b>Basic Accounting Concepts</b>	<b>3 Credits</b>
	Background of current accounting methods: nature, purpose and basic concepts. Income recognition. Cost, assets, and equities. The accounting equation and business transactions. Double-entry book-keeping. Basic accounting records. Final accounts of a sole trader. Accounting for fixed assets. Correction of errors and suspense account.. Bank reconciliation statements. Accounts of clubs and societies.	
	<b>45h (T); C</b>	
<b>ACC 102</b>	<b>Basic Cost Accounting</b>	<b>3 Credits</b>
	Definition and purpose of cost accounting. Classification of costs. Elements of cost. Accounting for materials. Purchasing procedures, stores routine, methods of valuation and entries in the book of accounts. Accounting for labour factors in fixing wages and methods of remuneration. Book-keeping entries. Accounting for overheads: types of overhead, basic overhead allocation, problems of overhead absorption into product costs and treatment of over-and under-applied overhead. Absorption and variable costing.comparison and critique of the two methods. Process costing: introduction, general principles of process gains and losses.	
	<b>45h (T); C</b>	
<b>ACC 104</b>	<b>Financial Accounting Theory I</b>	<b>3 Credits</b>
	Methods of income recognition and measurement. Depreciation of fixed assets and methods of providing for depreciation. Interpretation and criticism of sole-traders accounts. Elements of social accounting. Incomplete records and single entry. Self-balancing ledger and its uses. Manufacturing accounts. Introduction to partnership accounts. Valuation of shares and introduction to company accounts. Basic accounting concepts and standards.	
	<b>45h (T); C</b>	
<b>ACC 121</b>	<b>Mathematics for Accounting I</b>	<b>3 Credits</b>

Computation of interest: periods of interests, methods of interest calculations, discounting-notes and drafts. ConsUTMEr credit interest charges, unpaid balances and past due accounts. Discounts: trade and quantity. Cash trade: mark-ups and mark-downs. Cost and retail price. Payroll and income: personal taxes, National Provident Funds (NPF), scrip (or Stock) dividends, valuation of goodwill, shares/stocks and bonds. Accounting terms, business terms and symbols.

**45h (T); C**

**ACC 122      Mathematics for Accounting II      3 Credits**

Mathematics and symbolic logic. Inductive and deductive systems. Simple and compound statements-truth tables. Set theory. Real and complex number systems. Binomial theorem and equations. Matrix algebra and matrix accounting. NUTMEr numerical analysis and difference formulae (equal and unequal intervals). Interpolation and summation technique. Co-ordinate geometry. Cartesian and polar co-ordinates. Areas of triangles and quadrilaterals, circles, parabola, ellipse and hyperbola. Arithmetic and geometric progressions.

**45h (T); C**

**ACC 201      Principles of Accounting      3 Credits**

Basic accounting concepts. Accounting convention principles: double-entry, books of original entry and trial balance. Preparation of final accounts for sole traders, clubs and charities. Bank reconciliation. Partnership and advanced partnership accounting. The Valuation of goodwill on admission and retirement of partners and partnership case laws. Introduction to company accounts. Share capital, share issue and redemption. Preparation and presentation of final accounts of companies. Interpretation, uses and limitations of financial accounting statements. Ratio analysis. Miscellaneous financial accounts: Joint ventures and consignments. Bill of Exchange.

**45h (T); C**

**ACC 204      Financial Accounting Theory II      3 Credits**

Basic accounting principles and concepts. Accounting theory of income determination, tangible and intangible fixed assets. Investments. Liabilities and funds. Depreciation theories and methods. Theories and methods of income measurement and impact on financial reporting. Statutory accounting.

**45h (T); C**

**ACC 205      Cost Accounting      3 Credits**

Cost accounting for managerial decisions. Cost measurement, methods of allocations and reporting. Standard costing: manufacturing overhead, budgeting and analysis of variances, materials, labour and overheads, equipment and other assets. Forms of cost accounting: job costing, contract costing, branch costing, process costing, operating cost, standard costing, marginal costing. Budgeting and budgetary control, uniform and integrated cost. Critique and problems of cost accounting system.

**45h (T); C**

**ACC 214**

**Management Accounting I**

**3 Credits**

Nature and function of management accounting. Dual purpose of planning and control. Costs for decision making. Marginal costing and contribution analysis. Relevant costing. Introduction to accounting control systems: standard costing and budgetary control. Preparation of budgets. Basic variance analysis.

**45h (T); C**

**ACC 224**

**Introduction to Computer Science**

**3 Credits**

History and development of computer technology. The why and how of computers. Computer types: analog, digital, hybrid. Central Preparation equipment: Keypunch and Sorter. Data transmission, nature, speed and error detection. Data capture and validation including error detection. Systems analysis and design. Programming process, problem definition, flowcharting and decision table.

**45h (T); C**

**ACC 226**

**Mathematics for Accounting III**

**3 Credits**

Algebraic and transcendental functions. Differential calculus: limits and continuity and derivation from first principles. Total differentiation: application to marginal analysis, cost functions and indifference curves. Maximization and minimization. Partial differentiation with application to marginal analysis and comparative statistics. Integral calculus: application to marginal/total functions, producer and consumer surplus. Exponential and logarithmic functions. Differential equations. Permutation and combination. Simple sequences and series: finite and infinite, convergent and divergent series.

**45h (T); C**

**ACC 233**

**Statistics for Accounting I**

**3 Credits**

Elementary sampling theory. Statistical decision theory: test of hypotheses for small and large samples, chi-square distribution, tests of goodness of fit and distribution. Linear regression, correlation theory and index numbers. Time series and analysis of time series.

**45h (T); C**

**ACC 296**

**Industrial Experience**

**1 Credit**

A two month supervised attachment to the office or department of accounting in an organization. Each student is to submit a written report of daily activities for evaluation and grading by the Department.

**45h (P); C**

- ACC 301      Financial Accounting and Reporting      3 Credits**  
Company accounting: types of capital, issue of shares and redemption of preference shares, publication of accounts. The disclosures requirements of the Company and Allied Matters Act 1990 (CAMA) and International Financial Reporting Standards (IFRS). Home and overseas branch accounts and departmental accounts. Specialized accounts: investment accounts, container accounts and royalty accounts, accounts of building societies, insurance companies, banks and pensions and provident funds.  
**45h (T); C PR: ACC 201 and 203**
- ACC 302      Advanced Financial Accounting and Reporting      3 Credits**  
Advanced partnership accounts including design of amalgamation and dissolution schemes. Group account. Contemporaneous accounting. Constant (current) purchasing power accounting. Behavioural aspect of accounting. Company reconstruction. Liquidation and bankruptcy.  
**45h (T); C PR: ACC 301**
- ACC 303      Financial Accounting Theory III      3 Credits**  
The role of theory in financial accounting. Accounting methodology and the need for a consistent theory. Construction and validation income, capital and value. Nature of income and consumption. Views of Fishers and Hicks compared. *Hicks ex-post and ex-ante* measures of income and the conventional accounting definition of income. Relationship between income and value. Alternative definitions of value. Concept of deprival value in the determination of depreciation expense. Cost of capital in the international accounting standards.  
**45h (T); C**
- ACC 305      Quantitative Analysis      3 Credits**  
Techniques of operations research and applications in accounting and finance. Decision making models. Operations research origin, stages, uses and limitation. Inventory control model: EOQ applications and economic re-order point. Mathematical Programming. Linear programming formulation: graphical solution, simplex algorithm, algebraic method, primal and dual problems and interpretations. Transportation models: initialization by North West, least-cost and penalty methods. Testing for optimality: stepping-stone algorithm and MODI method. Assignment problem: characteristics, formulation and solution. Queuing process features: type and solution. Games theory: characteristics, types and solution by algebraic and linear programming formulation methods.  
**45h (T); C**
- ACC 308      Public Sector Accounting      3 Credits**  
Introduction to public Sector Accounting. Distinction between Public and Private Sectors. Basic accounting for not-for-profit (NFP) organization. Classification of NFP. Basic characteristics of governmental accounting. Structure of Governmental Accounting in Nigeria, the Treasury Audit Department. Consolidated Revenue Fund, capital and development fund. Financial accounting and analysis use of self-accounting system, fund accounting system and standardized uniforms for transactions.

Decision making, planning and control of public fund. Application of costing methods and budgeting processes for the use of Audit Department. Accounting for Local Government, educational and health Institutions. Planning, Programming and Budgeting System (PPBS). Recent developments in the public sector. Implications of Nigeria's membership of ECOWAS and effect of restructuring public sector.

**45h (T); C**

**ACC 310 Principles and Practice of Auditing I**

**3 Credits**

Nature and objectives of an audit. Concept of the true and fair view. Appointment and responsibilities of Auditors. Conduct and importance of audit. Audit planning. Audit evidence. Audit risk and materiality. Auditor's liabilities. Balance sheet audit. Internal audit and internal control.

**45h (T); C**

**ACC 323 Statistics for Accounting II**

**3 Credits**

Random variables, expectation methods, elementary statistical sampling methods. Statistical inference. Estimation and decisions: expectation (biased and unbiased), points and interval estimation. Tests of hypothesis, Chi square, goodness of fit and contingency tables. Collection of information: Censuses, sample survey. Simple random sampling, planning, and other sampling procedures, analysis and reports writing. Regression analysis and correlation, Scatter diagram curve fitting, methods of least squares Correlation. Index number: basic problem, Laspeyres, Paasche, chain and applications. Time series analysis. Components of time series: seasonal, cyclical and irregular variations. Moving averages, estimation, variations, trends and forecasting.

**45h (T); C PR: ACC 226**

**ACC 324 Application of Computer to Accounting**

**3 Credits**

Introduction to BASIC programming. Data types: constant and variables. Statement types: assignment, input-output and control statements. Accounting and Auditing programmes and packages

**45h (T); C**

**ACC 398 Research Methods**

**3 Credits**

Basic concepts in scientific inquiry: scientific research, meaning and basic steps. Basic and applied research concepts: theories, laws and hypotheses. Research: design choosing a topic, problem analysis, review of literature, conceptual framework model model building and proposal writing. Sampling and data collection techniques. Data types: primary and secondary. Survey strategies experiments, content analysis. Data collection instruments: interview, questionnaire, focus group discussion. Data measurement (scaling, validity, reliability analysis.), analysis and interpretation. Data presentation: tables, charts, cross tabs. Report writing: audience, types and length. Mechanical aids: footnotes, maps, charts. Business research in Nigeria: scope, problems and possibilities.

**45h (T); C PR: ACC 233**

- ACC 401 Management Accounting II 3 Credits**  
 Accounting control systems. Budgetary procedures. Variance analysis using variable and absorption costing. Introduction to investment decision making: use of probability theory and measures of dispersion in decision making. Pricing and output decisions. Cost-volume-profit analysis under uncertainty. Transfer pricing.  
**45h (T); C PR: ACC 308**
- ACC 402 Management Accounting III 3 Credits**  
 Accounting for management control. Objectives and methods of management accounting. Cost accounting systems. General principles of costing. Behavioural aspects of costs. Elements of cost: fixed, variable and semi-variable costs. Budgetary control. Preparation of master and subsidiary budgets including cash forecasting. Standard costing: preparation and computation of variances. Marginal costing. Break-even analysis. Sources of finance. Discounting techniques and investment appraisal.  
**45h (T); C**
- ACC 403 Nigerian Taxation I 3 Credits**  
 Structure of the Nigerian Tax System. Relative importance of taxes on income, capital and expenditure in contributing to government income. Development of Nigerian tax legislation. Laws and practices of income tax. Personal allowances, relief and tax payable. New trades and cessation. Treatment of losses. Capital allowances. Company income tax: principles-assessable profits, tax assessment and treatment of losses. Role of taxation in national planning and development.  
**45h (T); C, PR: ACC 301 and 302**
- ACC 404 Nigerian Taxation II 3 Credits**  
 Double taxation relief: principles and basis. Petroleum profit tax: principles, allowances and assessments. Capital transfer tax and capital gains tax principles and computations. Tax management, client's taxation advisory services and management of tax practice. Implications of taxation on investment decisions.  
**45h (T); C**
- ACC 408 Management Information Systems 3 Credits**  
 History and fundamentals of data processing. Conventional data processing: manual and mechanized methods. Classification of systems and their relative merits, closed and open loop systems. Organization of MIS including using mechanical and electronic accounting machines, flow charting and principles of systems design and documentation. Managerial uses of information output. Information needs of management and design of MIS. Computer application in MIS. Business systems. Hierarchical structures of organization and sub-optimization issue.  
**45h (T); C**
- ACC 409 Principles and Practice of Auditing II 3 Credits**  
 Responsibilities of Auditor as it relates to Sole Trader and Partnership. Audit of group companies. Specialized audit and investigation. Computer audit. Joint audit. Consultation with experts. Quality control of an audit. Irregularities: errors and fraud.



Audit expectation gap. Auditing standards and guidelines. Professional Auditor and ethical standards as published by ICAN, Forensic Accounting and Auditing. Corporate Governance and Auditor's responsibilities. Current developments in auditing.

**45h (T); C**

**ACC 418 International Accounting and Reporting 3 Credits**  
 Accounting and financial control of international operations. International Financial Reporting Standards (IFRS). Preparation, translation and analysis of financial statements for multinationals companies.  
**45h (T) ; C**

**ACC 499 Project 6 Credits**  
 Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**270h (P); C**

**SUMMARY**

**100 Level**

**Compulsory Courses:** ACC 101 (3), 102 (3), 104(3), 121(3), 122 (3), FIN 112(3) = **18 Credits**

**Required Courses:** BUS 103 (3), ECN 101 (3), 102 (3), 103 (2), GNS 111(2), 112 (2), POS 111  
 (3) = **18 Credits**

**Total = 36 Credits**

**200 Level**

**Compulsory Courses:** ACC 201 (3), 204(3), 205 (3), 214 (3), 224 (3), 226 (3), 233(3), 296 (1), FIN 201  
 (3), 202 (3) = **28 Credits**

**Required Courses:** ECN 201 (2), 203 (2), GNS 211 (2), 212 (2) = **8 Credits**

**Total = 36 Credits**

**Direct Entry:** BUS 103(3), POS 111 (3), GNS 111(2), GNS 112 (2) = **10 Credits**

**300 Level**

**Compulsory Courses:** ACC 301 (3), 302 (3), 303 (3), 305 (3), 308 (3), 310 (3), 323 (3), 324 (3), 398 (3),  
FIN 312 (3), 345 (3), 346 (3) = **36 Credits**

**Required Courses:** BUS 321 (3), GNS 311 (2), GSE 301(3) = **8 Credits**  
**Total = 44 Credits**

**400 Level**

**Compulsory Courses:** ACC 401 (3), 402 (3), 403 (3), 404 (3), 408 (3), 409 (3), 418 (3), 499 (6), FIN 413 (3), 414 (3)  
= **33 Credits**

**Required Courses:** BUS 429 (3) = **3 Credits**  
**Total = 36 Credits**

**Graduation Requirements**

**UTME** =152 Credits

**DE** = 126 Credits

## Department of Business Administration

### Course Description

#### **B.Sc. Business Administration**

##### **BUS 101      Organization of Business**

**3 Credits**

Definition of business terminologies. Basic legal forms of Business organisations. Alternative classifications and the who benefits test. The manager's job. Managerial functions: planning; staffing; directing; leading and controlling.

**45h (T); C**

##### **BUS 102      Business Communication**

**3 Credits**

Basic principles of communication. Skills in writing: letters; memos; reports; proposals; applications and resUTME. Business speaking skills: informing; instructing; job interviewing; selling; persuading and motivating.

**45h (T); C**

##### **BUS 103      Introduction to Management and Society**

**3 Credits**

Management in the national and West African economic context. Federal and state planning policies, size, distribution and age structure of the working population. Federal and state regulations relating to economic activity. Federal law relating to formation of business: profit distribution, taxation, shareholder protection, employment and consUTMER welfare protection.

**45h (T); C**

##### **BUS 105      Mathematics for Management I**

**3 Credits**

Mathematics and symbolic logic. Inductive and deductive systems. Concepts of sets, mappings and transformation. Introduction to complex numbers. Introduction to vectors, matrix and determinants. Discrete and continuous variables. Straight line in various forms. The circle, trigonometric functions, logarithmic functions and exponential.

**45h (T); C**

##### **BUS 106      Mathematics for Management II**

**3 Credits**

Maxima, Minima and Points of inflexion. Integral calculus. Integration by substitution and by parts. Expansion of algebraic functions. Simple sequences and series.

**45h (T); C**

##### **BUS 107      Statistics for Management I**

**3 Credits**

Nature of statistics. Statistical inquiries: forms and design. Basic concepts in statistics. Discrete and continuous variables, functional relationship. Sources of data. Methods of collecting data and presentation. Measures of central tendency, dispersion, moments, skewness and kurtosis. Role of statistics in management.

**45h (T); C**

- BUS 108      Introduction to Computer Science I      3 Credits**  
History and development of computer technology. Types of computer: analog, digital and hybrid. Central preparation equipment: keypunch and Sorter. Data transmission: nature, speed and error detection. Data capture and validation. Systems analysis and design. Programming process: problem definition, flow charting and decision table.  
**45h (T); C**
- BUS 201      Production Management      3 Credits**  
Elements of production. Process design and management. Facility location and layout. Modern tools and machines. Standard definition: line balancing, automation, production scheduling and control. Work study, maintenance and quality control. Inventory control. Project planning. Forecasting. Aggregate planning, control and material resource planning.  
**45h (T); C**
- BUS 202      Elements of Marketing I      2 Credits**  
Definition and concepts. Marketing system, Market analysis and the marketing environment. Market segmentation. Marketing mix elements. Products, concept and product life cycle.  
**30h (T); C**
- BUS 203      Elements of Marketing II      2 Credits**  
Marketing strategies in relation to pricing.Channels of distribution, promotional mix elements and products element. Marketing in service organisation. Appraising the marketing effort.  
**30h (T); C**
- BUS 204      Industrial Relations I      3 Credits**  
The evolution of Industrial Relations. Pre-industrial and Industrial forms of Employment. Unitarism and theory in industrial relations. Trade Unions: Types, Rationale and Development. Collective Bargaining. Strikes, Lockouts, and Interest Arbitration; Collective Agreement and Grievance Arbitration; Role of the State; Employment relation;  
**45h (T); E**
- BUS 205      Elementary Calculus for Management      3 Credits**  
Limits and Continuity. Differentiation and its applications to management. Integration with applications to management. Constrained optimization. Exponential and logarithmic functions. Difference equations.  
**45h (T); C**

- BUS 206**      **Introduction to Psychology**      **3 Credits**  
Psycho-biological basis of behaviour. Survey of the major topics. Theories and research of contemporary psychology.  
**45h (T); E**
- BUS 207**      **Introduction to Business Environment**      **3 Credits**  
Environment of management: nature and role. Types: internal, external and global environments. Analysis of environmental factors: ecological, economic, social, technological, political, legal and culture. Globalization and its impact on managements. Environmental scanning. Business ethnics and social responsibility. Perspectives of ethics and social responsibility.  
**45h (T); E**
- BUS 209**      **Introduction to Financial Management**      **3 Credits**  
Scope of financial management. Goals of the firm with emphasis on profit and wealth maximization. Sources of finance: short-term, medium term and long-term. Working capital management. Inventory management. Management of debtors. Cash management and budgeting. Financial ratios. Project appraisal techniques. Cost of capital and equity. Cash and liquidity management. Credit management.  
**45h (T); C**
- BUS 210**      **Statistics for Management II**      **3 Credits**  
Elementary probability distribution: normal, binomial, poisson and hyper geometric. Elementary Sampling Theory: student t-distribution, tests of hypotheses for small and large sample, Chi-square distribution and test of goodness of fit. Linear Regression Analysis. Correlation theory. Index numbers. Time series analysis  
**45h (T); C**
- BUS 211**      **Introduction to Business**      **3 Credits**  
Scope of business. Character of business: social, legal and economic perspectives. Forms of ownership, organization and management. Marketing, production, finance and accounting functions. Government and business. Social responsibility of business. International business. Problems of Nigerian business enterprises.  
**45h (T); C**
- BUS 212**      **Introduction to Computer Science II**      **3 Credits**  
Introduction to Basic programming. Data type: constant and variables. Statement types: assignment, input-output and control statements.  
**45h (T); C**

- BUS 301      Human Resource Management      2 Credits**  
Human resources: demand and supply. Characteristics of labour. Organization of the personnel functions. Manpower planning. Motivation. Leadership styles. Training and development. Performance appraisal. Disciplinary procedure. Employee welfare.  
**30h (T); C**
- BUS 302      Management Theory I      2 Credits**  
Theories in Management. Links between theories, models and practice of management. Existing problems of management theory in Nigeria and other developing countries. Management Grid. Management by objectives. Quantitative and behavioural control models in management.  
**30h (T); C**
- BUS 303      Management Theory II      2 Credits**  
Practice in construction management. Socio-cultural experiences of managing extended family issues. Group conflicts and its effect on productivity. Observable managerial theories and practice in Nigerian parastatals. Expatriate management approaches to work in Nigerian organizations. Evaluation of management theories and practises in Nigerian organizations.  
**30h (T); C**
- BUS 305      Promotions      3 Credits**  
The role of promotion in marketing. Behaviour and communication. Cultural and social conditions. Creativity in promotion. Promotion mix elements. Personal selling, advertising, sales promotion and publicity. Ethical and legal environments of promotion. Budgeting for promotion.  
**45h (T); E**
- BUS 306      Consumer Behaviour      3 Credits**  
Role of consumer in marketing. Group influence on the consumer. Cultural context of consumer behavior. Social stratification, reference groups and sub-cultural influences of individual consumer. Predisposition information processing, attitude change and persuasive communication. Nature of communication, decision processes and consumerism.  
**45h (T); E**
- BUS 307      Distribution and Sales Management      3 Credits**  
Sales management and control. Determining sales policies. Formulating personal selling strategy and organising the sales effort. Sales executive jobs and distributive network relations. Sales force management. Planning and conducting sales training

programme. Motivating the individual sales person. Evaluating and supervising sales personnel, sales budget, analysis and control.

**45h (T); E**

**BUS 308**

**Industrial Relations**

**3 Credits**

Concept of Industrial Relations. Trade Union characteristics. Industrial relations laws in Nigeria. Types of unions. Internal structures and management of central labour organization and international affiliations. Unions solidarity and check-off systems. Collective bargaining, industrial dispute settlement. State and industrial relations. Comparative industrial relations.

**45h (T); E**

**BUS 309**

**Organizational Behaviour**

**3 Credits**

Concepts of behaviour: individual and group behavioural processes. Theories of organization behaviour and relevance to Nigeria. Behavioural model building. Theories of behavioural change. Managing resistance to planned change and behavioural modification. Civil service: rules, regulations, policies, laws, and limitations in controlling human behaviour. Designing effective organizations in Nigeria.

**45h (T); E**

**BUS 312**

**Personnel Management**

**3 Credits**

Functions and meaning of work. Work instrumentation and orientations. Theories of personnel management. Motivation. Assessment methods and application to selection, leadership, conformity, compliance, social influences, problem solving and decision making. Attitudes, prejudices, stereotyping and resistance to change.

**45h (T); E**

**BUS 313**

**Management Science I**

**3 Credits**

History of Operations Research. Implementation of Operations Research. Linear programming: problems formulation and graphical solution. Prototype linear programming models.

**45h (T); E**

**BUS 314**

**Management Science II**

**3 Credits**

Critical Path Analysis. Programme Evaluation and Review Techniques. Overview of inventory models and games theory. Markov chains, queuing theory and simulation.

**45h (T); E**

**BUS 315**

**International Marketing**

**3 Credits**

Scope of International Marketing. Quota system, tariff and other barriers to international marketing. Organization for international marketing. Overseas staffing, use of agents and advertisements, products pricing and distribution decision. Sales strategy. Organization of overseas sales force. Documentation: invoicing, methods of payment, cargo insurance and transportation alternatives. Legislations governing international trade, patents and trademarks.

**45h (T); E**

**BUS 316      Elements of Purchasing      3 Credits**

Objectives of purchasing. Potential source, multiple sourcing and buyer-seller negotiation. Price quantity and delivery date sensitivity. Purchasing budget. Purchasing organization. Stock-holding costs. Buffer stock and demand fluctuations. Stock insurance factors, warehousing and transportation decisions.

**45h (T); E**

**BUS 317      Growth of Modern Enterprises      3 Credits**

Modern enterprises and their internationalization. Public corporation and nationalized industry. Investment processes and sources of capital from entrepreneurs to modern professional managers. Labour organizations, technological change, capital arrangement and mergers.

**45h (T); E**

**BUS 318      Principles of Insurance      3 Credits**

Concepts of risk and uncertainty: causes and outcomes. Statistical approaches, psychological perspectives, individual and group attitudes to risk. Costs and risks to the individuals, firms and society. Insurance risk, transfer products, legal principles, transactions and market for risks. Financial management of insurance. Life and non-life insurance.

**45h (T); E**

**BUS 319      Management Accounting      3 Credits**

Definition of management accounting. Differences between management and financial accounting. Relevant costing, cost-volume-profit analysis, marginal costing and absorption costing. Managerial budgeting and control, standard costing, variance analysis and responsibility accounting. Capital budgeting and project analysis. Pricing decisions. Sources and management of working capital. Analysis of financial statement. Linear programming and Learning curve theory.

**45h (T); C**

**BUS 320      Financial Management      2 Credits**

Financial analysis, planning and control. Working capital management. Concepts in valuation. Capital budgeting decisions. Financial and dividend decisions. Introduction to international financial management.

**30h (T); C**



- BUS 321      Elements of Management      3 Credits**  
 Basic concepts in management. Management principles. Functions of the manager. Nature and purpose of Organization. Span of management. Departmentalization: Line and Staff authority and service Departments. Nature of directing, motivation and leadership. Controlling: process, technique and recent developments. Management problems in Nigeria. Challenges of indigenization and transferability of management systems.  
**45h (T); C**
- BUS 322      Business Interface with Politics & Government      3 Credits**  
 Nature of politics, society and social organization. Political ideology: classical heritage, Plato, Aristotle Stoicism, PaxRomaniva and Revold. Towards the Mass Man. Organs of Government. National governmental institutions. Public administration. Political parties and pressure groups. Public opinion and propaganda. Electronic media and international order.  
**45h (T); C**
- BUS 323      Research Methods      2 Credits**  
 Skills of scientific investigation. in dealing with Business and organizational behavioural problems in Nigeria: information gathering, analysis and interpretation The art of problem identification and analysis. Data gathering and report writing. Problems and prospects of business research in Nigeria.  
**30h (T); C**
- BUS 401      Business Policy I      3 Credits**  
 Concept of strategy in relation to business corporations and management. Linkage between organizations and their environments. Concept of policy decision making. Business objectives and performance criteria. Structure and managerial behavior: behavioural implication and courses of action. Analysis of Strength, Weakness, Opportunity and Threat (SWOT).  
**45h (T); C**
- BUS 402      Business Policy II      3 Credits**  
 Organic business functions of marketing, production, finance and personnel management in Nigeria. Management process of corporate planning, budgeting and control. Business performance appraisal. Organization in a dynamic environment. Impact of environmental changes on strategies. Role of employee and managerial behaviours in strategy implementation. Recent developments affecting strategy formulation and implementation processes of firms in Nigeria.  
**45h (T); C**
- BUS 403      Analysis for Business Decisions      3 Credits**  
 Elements of decision analysis, types of decision situation and decision trees. Operational research approach to decision analysis. Systems and system analysis. Modeling in operation research (OR) and simulations. Mathematical programming: transportation

model, assignment model, conflict analysis and games theory. Project management. Inventory management, replacement models, line balancing, routing and sequencing.

**45h (T); C**

**BUS 404 International Economics**

**3 Credits**

Theories of international trade and finance. Foreign trade protection. Economic integration. Balance of payments. Foreign capital flows. International economics in contemporary international relations and diplomacy.

**45h (T); C**

**BUS 405 Corporate Planning**

**3 Credits**

Concept and theory of planning. Strategic planning. Environmental analysis. Forecasting: technological, social-political, industry. Operational planning and resource allocation processes. Organization for planning, and corporate planning process.

**45h (T); E**

**BUS 406 Advanced Management Theory**

**3 Credits**

Overview of systems approach and methodology. Data Processing, systems design and management information systems. Human factors: man-machine systems, design method and training. Concepts of feedback and control systems. Cybernetics and organization of cyber filter.

**45h (T); E**

**BUS 407 Comparative Management I**

**2 Credits**

Comparative approach to management and administration. Management skills in private and public sectors. Constraint in managing group activities. Management consultancy, contracts and public enterprises in Nigeria.

**30h (T); E**

**BUS 408 Comparative Management II**

**2 Credits**

Theories of comparative administration and management. Constraints in public corporations. Human resources management models for private and public sectors. Problems in comparative and management administration. Personnel motivation and reward for performance. Training and development. Change. Making an employee an organizational person. The role of Nigerian professionals as change-agents. Comparative administration and management research.

**30h (T); E**

**BUS 409 Marketing Research**

**3 Credits**

Application of analytical tools to marketing problems. Marketing research and decision making. Research design, value and cost of information. Sampling. Data collection: questionnaire design, survey, experimentation, observation, and interviews. Data

analysis. Sales forecasting and application of marketing research techniques to product, price, promotion and distribution. Evaluation and reporting of ethical issues in marketing research.

**45h (T); E**

**BUS 410 Marketing Management**

**3 Credits**

Application of the fundamental principles of management to the marketing functions. Organization, planning, control and co-ordination, and interaction of the whole marketing functions. Marketing mix: product, physical, distribution, pricing and promotion. Marketing and social responsibility. ConsUTMERism.

**45h (T); E**

**BUS 411 Trade Unions and Employers' Associations**

**3 Credits**

Historical development. Structure, role and management of employers associations and trade unions such as MAN, NLC, TUC, NUBIFE in Nigeria.

**45h (T); E**

**BUS 412 Manpower Recruitment and Selection**

**3 Credits**

Method and purpose of manpower planning and forecasting. Job description analysis and specification. Methods and purpose of employee selection.

**45h (T); E**

**BUS 413 Manpower Training and Development**

**3 Credits**

Purpose and methods of training and development. Manpower planning. Learning theories and style. Organizational training needs. Technology and training. Problem of transfer, job design and ergonomics. Performance appraisal.

**45h (T); E**

**BUS 414 Manpower Remuneration and Benefits**

**3 Credits**

Wage payments and bargaining. Salaries, and wages administration. Productivity agreements and profit sharing. Payment in kinds. Wage differentials. Systematic approaches to pay. Minimum wage legislation: purpose and effects. Methods of job evaluation. Sickness benefits and insurance. Meal voucher and subsidized canteens.

**45h (T); E**

**BUS 417 Physical Distribution**

**3 Credits**

Logistics. Physical distribution in an enterprise. Traditional development of channel structure, functions of exchange and exchange network. Definition, characteristics and management of channel members. Behaviour and management. Warehousing and warehouse alternatives.

**45h (T); E**

<b>BUS 421</b>	<b>Mathematical Programming</b> Linear programming, non-linear programming, integer and goal programming. <b>45h (T); E</b>	<b>3 Credits</b>
<b>BUS 422</b>	<b>Operations Scheduling</b> Job sequencing. Vehicular routing. Shift scheduling. Management of job shop and service systems. Project scheduling, project evaluation review technique and critical path methods (PERT/CPM). <b>45h (T); E</b>	<b>3 Credits</b>
<b>BUS 423</b>	<b>Operations Planning and Control</b> Aggregate planning methods. Production and work force planning. Integration of planning and scheduling levels in hierarchical systems. Determination of capacity in service systems, service designs and service mix problems. <b>45h (T); E</b>	<b>3 Credits</b>
<b>BUS 424</b>	<b>Operations Management</b> Conventional decision models and quantitative models. Product and plant planning, forecasting and process planning. Manpower planning. Work design system and ergonomics. Work measurement. Systems:logistic, integrated control, output quality control and cost control. <b>45h (T); E</b>	<b>3 Credits</b>
<b>BUS 425</b>	<b>Statistical Quality Control</b> Use of work control charts. A and R charts. Process control procedures. Specificationof tolerances and acceptance with sampling procedures. Economic aspects of quality decisions. <b>45h (T); E</b>	<b>3 Credits</b>
<b>BUS 426</b>	<b>Probability Theory and Probability Distribution</b> Introduction to Probability theory distributions: binomial, Poisson, exponential and normal. <b>45h (T); E</b>	<b>3 Credits</b>
<b>BUS 427</b>	<b>Stochastic Processes</b> Markov model analysis and queueing theory. Characteristics of Markov model, transition matrix and steady-state probabilities. Single server and multiple server waiting lines. <b>45h (T); E</b>	<b>3 Credits</b>
<b>BUS 428</b>	<b>Dynamic Programming</b>	<b>3 Credits</b>

Definition and formulation of dynamic programming. Review of solution steps for dynamic programming, knapsack problem, the stagecoach problem and other prototype dynamic programming problems.

**45h (T); E**

**BUS 429 Entrepreneurial Development**

**3 Credits**

Entrepreneurial Theories. International, personal characters and behavioural traits of entrepreneurs. Financial aspects of entrepreneurship. External aspects of entrepreneurship.

**45h (T); C**

**BUS 430 Small Business Management**

**3 Credits**

Small Firm characteristic and trend, Start-up situation and development of business plans. Venture and expansion capital, cost and benefits of different sources of problem and prospect of small business generally and of small scale industries in particular. Case studies of entrepreneurs and small capital firms, (Owners/Managers). Students' actual proposals made to panel of venture capital firms, Banks and other financial institutions.

**45h (T); C**

**BUS 431 Nigerian Business Environment**

**2 Credits**

The basis objectives with the course are to examine the legal, social, political and economic framework within which business organization must operate in the Nigeria environment. Business of the pervasive influence of globalization and the reduction of distance between nations, their value systems language. International business environment will be explored.

**30h (T); C**

**BUS 499 Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission a project.

**270h (P); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** BUS 101 (3), 102 (3), 103 (3), 105 (3), 106 (3), 107 (3) 108 (3)  
= 21 Credits

**Required Courses:** ACC 101 (3), 102 (3), ECN 101 (3), 102 (3), GNS 111 (2), 112 (2)  
= 16 Credits

**Total = 37 Credits**

### 200 Level

**Compulsory Courses:** BUS 201 (3), 202 (2), 203 (2), 209 (3), 210 (3), 211 (3), 212 (3)  
= 19 Credits

**Required Courses:** ACC 201 (3), 205 (3), ECN 201 (2), 203 (2), GNS 211 (2) 212 (2)  
= 14 Credits

**Elective Courses:** Students are to take at least 3 Credits from the following:  
BUS 204 (3), 206 (3), 207 (3) = 3 Credits  
**Total = 36 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2), ACC 101(3), ACC 102 (3), BUS 205 (3), 107 (3)  
= 16 Credits

### 300 Level

**Compulsory Courses:** BUS 301 (2), 302 (2), 303 (2), 319 (3), 320 (2) BUS 321 (3), 322 (3), 323 (2)  
= 19 Credits

**Required Courses:** FIN 345 (3), 346 (3) GSE 301 (3), GNS 311 (2) = 11 Credits

**Elective Courses:** Students are to take at least 6 Credits from the following:  
BUS 305 (3), 306 (3), 307 (3), 308 (3), 309 (3), 312 (3), 313 (3) 314 (3), 315 (3), 316 (3),317 (3), 318 (3)  
= 6 Credits

**Total = 36 Credits**

### 400 Levels

**Compulsory Courses:** BUS 401 (3), 402 (3), 403 (3), 404 (3), 429 (3), 430 (3), 431 (2), 499 (6)  
= **26 Credits**

**Elective Courses:** At least 10 Credits to be taken from BUS 405 (3), 406 (3), 407 (2), 408 (2)  
409 (3), 410 (3), 411 (3), 412 (3) 413 (3) 414 (3), 417(3), 423 (3), 424 (3), 425 (3), 426 (3), 427 (3), 428 (3), 421  
(3), 422 (3) = **10 Credits**

**Total= 36 Credits**

### **Graduation Requirements**

**UTME** = 145 Credits

**DE** = 124 Credits

## **Department of Finance**

### **Course Description**

#### **B.Sc. Finance**

**FIN 112 Banking and Finance 3 Credits**

Money: its invention and various forms. History of banking in Nigeria and its contribution to the economy. Principal saving and lending institutions of the Nigerian Banking System. Development of the Central Bank of Nigeria and its role in the economy. Commercial banks and uses of funds. General principles of bank lending. Reserve and liquid payment through the bank. Outline of the main personal and business bank services.

**45h (T); C**

**FIN 121 Mathematics for Finance I 3 Credits**

Computation of interest: periods of interests, methods of interest calculations, discounting-notes and drafts. Consumer credit interest charges, unpaid balances and past due accounts. Discounts: trade and quantity. Cash trade: mark-ups and mark-downs. Cost and retail price. Payroll and income. Personal taxes. National Provident Funds (NPF). Scrip (or stock) dividends. Valuation: goodwill, shares, stocks and bonds. Accounting terms, business terms and symbols.

**45h (T); C**

- FIN 122      Mathematics for Finance II      3 Credits**  
Mathematics and symbolic logic. Inductive and deductive systems. Simple and compound statements-truth tables. Set theory. Real and complex number systems. Binomial theorem and equations. Matrix algebra and matrix accounting. Numerical analysis and difference formulae (equal and unequal intervals). Interpolation and summation technique. Co-ordinate geometry. Cartesian and polar co-ordinates. Areas of triangles and quadrilaterals, circles, parabola, ellipse and hyperbola. Arithmetic and geometric progressions.  
**45h (T); C**
- FIN 201      Business and Corporate Finance      3 Credits**  
Risk of finance and methods of avoiding them. Source of capital: short-term, long-term, internal and external. Corporate securities, debt and equity. Capital gearing and implications. Banking system and industrial finance. Banks attitude to risks, credit worthiness and liquidity. Capital market: new issue, stock exchange and securities exchange commission. Institutional and private investors: role, importance, portfolio requirements and attitude to business. Financial problems of small scale businesses. Problems of agricultural credit. Fiscal measures: modern budget and its impact on business finance. Analysis of taxation and measures of fiscal incentives.  
**45h (T); C**
- FIN 202      Financial Administration      3 Credits**  
Objectives, roles, functions and environment of financial administration. Flow of funds: concepts and cash analysis. Financial analysis: ratios of financial planning, forecasting and control. Working capital analysis: cash management, accounts receivable management, inventory management. Capital market functions: supply and demand for capital. Money and capital markets in Nigeria. Capital budgeting. Cost of capital. Dividend policy and internal finance. Problems of financial administration.  
**45h (T); C**
- FIN 212      Law Relating to Banking      3 Credits**  
Status and regulations governing the establishment and running of banks in Nigeria. Central Bank of Nigeria and its relationship with other banks. Agency: creation, rights and duties. Principle of partnership and company law: formation and dissolution. Bankruptcy and property under native land Use Act. Guarantees: essentials of contracts of guarantee, liability and rights of a guarantor. Negotiable instruments: commercial letters of credit, hypothecation of goods and trust receipts.  
**45h (T); C**
- FIN 224      Introduction to Computer Science      3 Credits**  
History and development of computer technology. The why and how of computers. Computer types: analog, digital, hybrid. Central Preparation equipment: Key punch and Sorter. Data transmission, nature, speed and error detection. Data capture and



validation including error detection. Systems analysis and design. Programming process problem definition, flowcharting and decision table.

**45h (T); C**

**FIN 226**

**Mathematics for Finance III**

**3 Credits**

Algebraic and transcendental functions. Differential calculus: limits and continuity and derivation from first principles. Total differentiation: application to marginal analysis, cost functions and indifference curves. Maximization and minimization. Partial differentiation with application to marginal analysis and comparative statistics. Integral calculus: application to marginal/total functions, producer and consumer surplus. Exponential and logarithmic functions. Differential equations. Permutation and combination. Simple sequences and series: finite and infinite, and convergent and divergent series.

**45h (T); C**

**FIN 233**

**Statistics for Finance I**

**3 Credits**

Elementary sampling theory. Statistical decision theory: test of hypotheses for small and large samples, chi-square distribution, tests of goodness of fit and distribution. Linear regression, correlation theory and index numbers. Time series and analysis of time series.

**45h (T); C**

**FIN 295**

**Industrial Experience**

**1 Credit**

A two month supervised attachment to a bank, office or department of finance or accounting in an organization. .

**45h (P); C**

**FIN 311**

**Monetary and Banking Policy**

**3 Credits**

Objectives and tools of monetary policy. Control principles of good lending. Liquidity and matching principles. Short, medium and long term lending. Armchair and dynamic banking. Contemporary problems of monetary and banking policies in Nigeria.

**45h (T); C**

**FIN 312**

**Business Finance II**

**3 Credits**

Alternative sources of company finance and importance to Nigeria industry. Nature and role of joint stock banks and merchant banks as providers of corporate finance. Operation and importance of stock exchange and government financial institutions. Importance of internally generated funds: retained profits and depreciation provisions. International sources of finance. Criteria for selecting appropriate sources of finance.

**45h (T); C**

- FIN 313 Merchant Banking 3 Credits**  
Evaluation of merchant banking. Distinguishing features and functions of merchant banks. Laws and regulations guiding merchant banking. Merchant bank methods and processes. Structures and performance of merchant banks in Nigeria. Syndication.  
**45h (T); C**
- FIN 314 Comparative Banking 3 Credits**  
Commercial banking: types and structure. Unit and branch banking: advantages and disadvantages. Structure and liabilities between time and demand deposit account. Theories and appraisal of banking: liquidity principle, matching principle, short-term, medium-term and long-term lendings. Operations: mixed versus commercial banking, merit and demerits of each type. Multipurpose banking, armchair banking, and universal necessity in dynamic banking. Central Banking: universal necessity in the 1920s and 1950s, controversy and advisability in newly independent countries, structure and functions. Relations with the banking system: technical-orthodox and unorthodox, directions and co-operations, supervision and examinations. Relations with Government: implementation of government fiscal and monetary policies, comparative discount mechanism, banker and adviser to government. Promotional relationship: extension of banking habit and facilities. Development banking: structure and operation in developing countries. Banking in the advanced countries.  
**45h (T); C**
- FIN 316 The Nigerian Financial System 3 Credits**  
Evolution, roles, functions and structure of the Central Bank of Nigeria. The Nigerian Deposit Insurance Corporation. The Federal Ministry of Finance as a monetary authority. The Nigerian Capital Market. The Nigerian Stock Exchange. Securities and Exchange Commission: roles, functions. Structure and performance of: Commercial banks, Merchant banks, Development bank, Community and Micro-finance banks. Other financial institutions: bureaux de change, Insurance companies, cooperative societies. The informal financial sector. Marketing of bank services. Topical issues in Nigerian banking and finance.  
**45h (T); C**
- FIN 323 Statistics for Finance II 3 Credits**  
Random variables, expectation methods, elementary statistical sampling methods. Statistical inference. Estimation and decisions: expectation (biased and unbiased), points and interval estimation. Tests of hypothesis, Chi square, goodness of fit and contingency tables. Collection of information: Censuses, sample survey. Simple random sampling, planning, and other sampling procedures, analysis and reports writing. Regression analysis and correlation, Scatter diagram curve fitting, methods of least squares Correlation. Index number: basic problem, Laspeyres, Paasche, chain and applications. Time series analysis. Components of time series: seasonal, cyclical and irregular variations. Moving averages, estimation, variations, trends and forecasting.  
**45h (T); C, PR: FIN 226**
- FIN 324 Application of Computer to Finance 3 Credits**

Introduction to BASIC programming. Data types: constant and variables. Statement types: assignment input-output and control statements.

**45h (T); C**

**FIN 345**

**Business Law**

**3 Credits**

The Nigerian legal system. Sources of Nigerian Law. Hierarchy of Nigerian Courts. Commercial Arbitration, Law of contract: offer and acceptance, consideration, capacities or parties to a contract. Mistake and other vitiating demands and discharge of contract. Remedies for breach of contract, sale of goods including hire purchase. Negotiable instruments, and insurance. Commercial relations between person, agency, partnership and companies. Unfair competitions: assign off and trade libel.

**45h (T); C**

**FIN 346**

**Company Law**

**3 Credits**

Nigerian Company Law, 1912-1990. Formation of a company under the Companies Act. Memorandum and Articles of Association. The *ultra vires* doctrine. Promoters. Contracts with companies. Capital of companies. Share Capital Issue and Class Capital Debenture: issue and classes. Unincorporated Association: partnerships and quasi-corporation. Directors: duties, responsibilities, obligations and remuneration. Meetings resolutions accounts and audit requirements. Protection of minority rights. Reconstruction and winding up of companies.

**45h (T); C**

**FIN 398**

**Research Methods**

**3 Credits**

Basic concepts in scientific inquiry: scientific research, meaning and basic steps. Basic and applied research concepts: theories, laws and hypotheses. Research: design choosing a topic, problem analysis, review of literature, conceptual framework model building and proposal writing. Sampling and data collection techniques. Data types: primary and secondary. Survey strategies, experiments; and content analysis. Data collection instruments: interview, questionnaire, focus group discussion. Data measurement (scaling, validity, reliability analysis.), analysis and interpretation. Data presentation: tables, charts, cross tabs. Report writing: audience, types and length. Mechanical aids: footnotes, maps, charts. Business research in Nigeria: scope, problems and possibilities.

**45h (T); C PR: FIN 233**

**FIN 401**

**Practice of Banking I**

**3 Credits**

Relationship between banker and customer. Special relationship involved in mandates and powers of attorney, appropriation of payments and secrecy. Banking operations. Payment by cheque. Rights and obligations of banker, drawer and drawee. Collection of cheques and standing orders. Duties of bank and steps to be taken in the case of death, bankruptcy, winding-up of estate.

**45h (T); C, PR: FIN 212**

**FIN 413**

**Financial Management**

**3 Credits**

Selection and financing of investment opportunities, and investment decisions. Theory of optimal investment opportunities. Relationship between investment and financing decisions. Comparison of the net present value and internal rate of return as decision rules. Determination of the appropriate discount rate. The cost of debt and equity capital. Weighted average cost of capital and the marginal cost of capital. Traditional view and the Modigliani and Miller approach. Dividend policy.

**45h (T); C, PR: ACC 301**

**FIN 414 Investment Analysis**

**3 Credits**

Basic decision models for capital budgeting. Cost and choice of capital structure. Short and long term financing models for stock market behavior. Theory of portfolio selection. Short and long term planning and corporate strategy. Assessment of performance and financial ratios: internal, external and interfirm comparisons. Risks and uncertainty. Replacement decisions.

**45h (T); C**

**FIN 415 International Finance I**

**3 Credits**

Basis for trade. Theory of comparative costs and advantage. Impediments to trade. Balance of payments: structure, interpretations, problems of definition, causes of imbalance, methods of adjustment and analysis of official intervention. Stabilization funds and exchange controls. Payment abroad: forms of making payment abroad, banking services and facilities available. Problems and risks of importing and exporting: official and un-official assistance available to overcome the problems. Theory and practice of foreign exchange: spot and forward rates, fixed and flexible exchange speculations.

**45h (T); C**

**FIN 416 International Finance II**

**3 Credits**

International monetary arrangements. Theory of international monetary system. Optimum currency areas and regional payments. Obligations under existing international treaties: IMF, World Bank, GATT. Central Banking. African Currency Areas. Sterling Block. Dissolution of African Currency Boards. Current issues in international finance: The role of gold and reserve currencies in international liquidity. Special drawing rights. Analysis of suggested reforms of international liquidity. Liquidity aid and the transfer problem. Current issues in international finance.

**45h (T); C, PR: FIN 415**

**FIN 418 Management Information System**

**3 Credits**

History and fundamentals of data processing. Conventional data processing: manual and mechanized methods. Classification of systems and their relative merits, closed and open loop systems. Organization of MIS including using mechanical and electronic accounting machines, flow charting and principles of systems design and documentation. Managerial uses of information output. Information needs of management and design of MIS. Computer application in MIS. Business systems. Hierarchical structures of organization and sub-optimization issues.

**45h (T); C**

- FIN 421 Capital Market and Portfolio Theory 3 Credits**  
 Portfolio selection and management of risk and return. Potential profitability of various investments. Forecasting returns on individual portfolios. Stock Exchange: structure, growth and performance in Nigeria. Capital market theory and current state of empirical evidence of models for evaluating portfolio performance.  
**45h (T); C**
- FIN 424 Bank Lending and Administration 3 Credits**  
 Objectives of bank lending and credit administration. Lending appraisals and decisions. Types of loans and constraints of bank lending. Pricing of loan. Loan supervision and security. Problems of default and bad debts.  
**45h (T); C**
- FIN 426 Practice of Banking II 3 Credits**  
 Loans administration and policy in banks. Interpretation of balance sheets and management accounting for the lending bankers. Negotiable instrUTMEnts and perfection of securities to secure bankers advance payment as guarantees. Trusteeship and bankruptcy procedures.  
**45h (T); C(PR: FIN 401)**
- FIN 499 Project 6 Credits**  
 Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission a project.  
**270h (P); C**

### SUMMARY

#### 100 Level

**Compulsory Courses:** ACC 101 (3), 102 (3), 104 (3), FIN 112, (3)121 (3), 122 (3) = **18 Credits**

**Required Courses:** ECN 101 (3), 102 (3), 103 (2), BUS 103 (3), POS 111 (3), GNS 111 (2), 112 (2)  
 = **18 Credits**

**Total = 36 Credits**

#### 200 Level

**Compulsory Courses:** FIN 201 (3), 202 (3), 212 (3), 224 (3), 226 (3), 233 (3), 295 (1), ACC 201 (3), 204 (3), 205 (3), 214 (3)  
**= 31 Credits**

**Required Courses:** ECN 201 (2), 203 (2), GNS 211 (2), 212 (2) **= 8 Credits**  
**Total = 39 Credits**

**Direct Entry Students:** BUS 103 (3), POS 111 (3), GNS 111(2), 112(2) **= 10 Credits**

#### **300 Level**

**Compulsory Courses:** FIN 311 (3), 312 (3), 313 (3), 314 (3), 316 (3), 323 (3), 324 (3) 345 (3), 346 (3); 398 (3); ACC 301 (3), 302 (3)  
**= 36 Credits**

**Required Courses:** BUS 321 (3), GNS 311 (2), GSE 301 (3) **= 8 Credits**  
**Total = 44 Credits**

#### **400 Level**

**Compulsory Courses:** FIN 401 (3), 413 (3), 414 (3), 415 (3),  
416 (3), 418 (3), 421 (3), 424 (3), 426 (3), 499 (6); ACC 424 (3) **= 36 Credits**

**Required Course:** BUS 429 (3) **= 3 Credits**  
**Total = 39 Credits**

#### **Graduation Requirements**

**UTME = 158 Credits**

**DE = 132 Credits**

## Department of Marketing

### Course Description

#### B.Sc. Marketing

- MKT 101 Introduction to Marketing 2 Credits**  
Marketing: relationships between marketing and other related areas. Role of commerce and marketing in the production process. Meaning of market and marketing. Marketing: Arts or Science? Developments in marketing revolution covering various marketing areas.  
**30h (T); C**
- MKT 103 Introduction to Management and Society 3 Credits**  
Management in the national and West Africa economic context. Federal and State planning policies, size, distribution and age structure of the working population. Federal and State regulations relating to economic activity. Federal laws relating to formation of business: profit distribution, taxation, shareholder protection, employment, and consumer welfare protection.  
**45 h (T); C**
- MKT 104 Introduction to Statistics for Marketing 3 Credits**  
Elementary probability distributions: normal, binomial, poisson and hyper geometric. Elementary Sampling Theory: student t-distribution, tests of hypotheses for small and large sample, chi-square distribution and test of goodness of fit. Linear Regression, correlation theory, and index numbers. Time series and its analysis.  
**45h (T); C**
- MKT 105 Mathematics for Management I 3 Credits**  
Mathematics and symbolic logic, inductive and deductive systems, concepts of sets, mappings and transformation. Introduction to: complex numbers, vectors, matrices and determinants. Discrete and continuous variables. Straight line in various forms. Circle, trigonometric functions, logarithmic functions and exponential functions.  
**45h (T); R**
- MKT 106 Nigerian Marketing System and Commercial Policy 2 Credits**  
System as a concept. Nigerian marketing system. Meaning and relationship between itinerant, retail, and wholesale business. Basic definitions of distribution channels. Factors to consider before choosing channel, structure, distribution policies, and functions of channels. Government policies for controlling commercial activities. Role of Standard Organisation of Nigeria (SON), NDLEA, NAFDAC, Price Control Board, and related Agencies.  
**30h (T); C**

<b>MKT 108</b>	<b>Integrated Marketing Communications</b>	<b>2 Credits</b>
	Communication tools of advertising, personal selling, public relations, publicity, and sales promotions. Steps in developing effective communication process. Communication decisions: target audience, response sought, message, media, sources, attributes and feedback, and relationship between advertising and other communication tools.	
	<b>30h (T); C</b>	
<b>MKT 201</b>	<b>Elements of Marketing I</b>	<b>2 Credits</b>
	Definition and concepts. Marketing system. Market analysis and the marketing environment. Market segmentation. Marketing mix elements. Products, concept and product life cycle.	
	<b>30h (T); C</b>	
<b>MKT 202</b>	<b>Elements of Marketing II</b>	<b>2 Credits</b>
	Marketing strategies: pricing, channels of distribution, promotional mix elements, and products element. Marketing in service organisations. Appraising the marketing effort.	
	<b>30h (T); C</b>	
<b>MKT 204</b>	<b>Applications of Computer to Marketing</b>	<b>3 Credits</b>
	Introduction to Basic programming. Data type: constant and variables. Statement types: assignment, input-output and control statements.	
	<b>45 h (T); C</b>	
<b>MKT 205</b>	<b>Financial Management</b>	<b>3 Credits</b>
	Scope. Goals of the firm with emphasis on profit and wealth maximization. Sources of finance: short-term, medium term and long-term. Working capital management. Inventory management. Management of debtors. Cash management and budgeting. Financial ratios. Project appraisal techniques. Cost of capital and equity. Cash and liquidity management. Credit management.	
	<b>45h (T); C</b>	
<b>MKT 206</b>	<b>The Marketing Environment</b>	<b>3 Credits</b>
	Firm's macro environment: analyzing needs and trends, identifying and responding to the major macro environmental forces. Firm's micro environment. Environmental analysis: scanning, scenarios, constructing scenarios, and using scenarios. Responding to the marketing environment.	
	<b>45h (T); C</b>	
<b>MKT 208</b>	<b>Mathematics for Marketing II</b>	<b>3 Credits</b>
	Limits and Continuity. Differentiation and its applications to management. Integration with applications to management. Constrained optimization. Exponential and logarithmic	



functions. Difference equations.

**45h (T); C**

- MKT 301 Consumer Behaviour 3 Credits**  
Various factors affecting consumers in their purchase decisions. Nature of consumer behaviour, group influence on consumer culture, context of consumer behaviour, social stratification, reference group and subculture influences. Consumer: action, attitudes, and decision process (problem recognition, evaluation, purchasing and post-purchase feelings and cognitive dissonance). Consumer's product image.  
**45h (T); C**
- MKT 302 Marketing Logistics and Sales Management 3 Credits**  
Distribution plans, and sales management. Distribution component: structure of markets, benefits of channel structures, functions performed by channel members, channel control and conflicts. Sales management: sales force recruitment and selection, sales force training and motivation, sales territories and routine, supervision, sales organization. Inventory management methods: Economic Order Quantity (EOQ), modes of transportation in Nigeria, and warehousing.  
**45h (T); C**
- MKT 303 New Product Development and Innovations 3 Credits**  
Meaning of a new product. Listing and defining the steps in new-product development processes. Steps: idea generation, idea screening, concept development and screening, marketing strategy development, business analysis, product development, test marketing and commercialization. Innovation: meaning and role of innovation in new product development  
**45h (T); C**
- MKT 304 Principles of Purchasing and Supply 3 Credits**  
Skills relevant to acquiring goods and raw materials for both private and public organizations. Meaning of purchase, purchasing organisation, purchasing policy, procedures and documentation. Various rights in purchasing: right quality, right quantity at the right time, and right price. Supplier sourcing, evaluation, and negotiation.  
**45h (T); C**
- MKT 305 Price and Price Management 2 Credits**  
Various considerations and approaches to pricing. Internal and external factors affecting price. The impact of cost on price. Market structures' influence on price. Comparison and evolution of general approaches to price setting.  
**30h (T); C**
- MKT 306 Research Methods 3 Credits**  
Scientific investigation, information gathering, analysis and interpretation of data dealing with business and social problems in Nigeria. Problem identification, data gathering, analysis, and report writing.

**30h (T), 45h (P); C**

- |                |  |                  |
|----------------|--|------------------|
| <b>MKT 308</b> | <b>Marketing of Primary Products</b><br>Agricultural products and mineral resources: identification and marketing. Problems of marketing primary products. Marketing strategies of agricultural and petroleum products in Nigeria. Application of marketing variables to the marketing of primary products.<br><b>45h (T); C</b>   | <b>3 Credits</b> |
| <b>MKT 310</b> | <b>Wholesale and Retail Marketing</b><br>Decision making tools in the retail and wholesale institutions. Relationship between retailing and wholesaling. Retailing and wholesaling in Nigeria. Framework for strategic retailing. Strategic planning process. Competitive strategy for retail and wholesale institutions. Financial plan. Merchandising. Store layout and merchandise presentation. Contact with vendors.<br><b>30h (T); C</b>   | <b>2 Credits</b> |
| <b>MKT 401</b> | <b>Political Marketing</b><br>Relationship between marketing and politics. Application of marketing concepts to politics. Broadening of marketing concept to non-commercial products. Introduction to democracy: liberal democracy, elements of multi-party democracy, analogies between political marketing and main stream marketing; Elements of political marketing, marketing communications and political marketing<br><b>30h (T); C</b>   | <b>2 Credits</b> |
| <b>MKT 402</b> | <b>Marketing Management</b><br>Application of the fundamental principles of management to the marketing function. Organisation, planning, control and co-ordination. Interaction of the whole marketing function. Marketing mix: product, physical, distribution, pricing and promotion. Marketing and social responsibility. ConsUTMERism.<br><b>30h (T); C</b>   | <b>2 Credits</b> |
| <b>MKT 403</b> | <b>Analysis for Business Decisions</b><br>Elements of decision analysis, Types of decision situation and decision trees. Operational research approach to decision analysis. Systems and systems analysis. Modeling in operations research (OR) and simulations. Mathematical programming models: transportation, assignment, conflict analysis, and games theory. Project management. Inventory, replacement, line balancing, routing and sequencing, and search models.<br><b>45h (T); C</b> | <b>3 Credits</b> |
| <b>MKT 404</b> | <b>International Marketing and Export Management</b>   | <b>2 Credits</b> |

Application of marketing concepts to the foreign scene. Theories of international trade. International marketing environment Potential benefits from export marketing. Sources of information for international marketing decisions. Marketing-mix decisions: product, pricing, promotion, and distribution. Financing and method of payment in export marketing.

**30h (T); C**

**MKT 405**

**Marketing Research**

**3 Credits**

Application of analytical tools to marketing problem. Marketing research and decision making. Research design. Value and cost of information. Data, survey research and experimentation. Questionnaire design. Observation, interviews and projective technique. Sampling of data and data analysis. Sales forecasting and application of marketing research techniques to product, price, promotion and distribution. Evaluation and reporting of ethical issues in marketing research.

**45h (T); C**

**MKT 406**

**Strategic Marketing and Case Studies**

**2 Credits**

Cases in: new product development and marketing appraisal, marketing planning, organization and merchandising. Marketing planning and control. Distribution policy and public relations. Business planning and strategy. Production policy, inventory management, consumer behaviour problems, sales volumes, sales force, and management of pricing related issues. Contemporary issues in marketing. Cases and problems. Students will be challenged to plan, implement and control chosen business strategies in a corporate framework.

**30h (T); C**

**MKT 407**

**Entrepreneurial Development**

**3 Credits**

Entrepreneurial Theories. International, personal characters and behavioural traits of entrepreneurs. Financial Aspects of entrepreneurship. External aspects of entrepreneurship.

**45h (T); C**

**MKT 408**

**Marketing of Services and Relationship Marketing**

**3 Credits**

Marketing services: definition, uniqueness, and characteristics. Identify additional marketing considerations for services. Strategies for marketing services: quality, differentiation and productivity. Total relationship marketing with the aim of attracting and retaining customers. Drivers of customers: equity, brand equity and relationship equity.

**45h (T); E**

**MKT 409**

**Marketing Information System**

**2 Credits**

Role of information technology in an organization, with special reference to marketing activities. Nature, history, types and characteristics of computer. Definition of computer hardware and hardware configuration. Nature and classification of computer software. Meaning of data management and data management functions. Nature of data, information and general characteristics of

good information. Role of information in marketing. Methods of data processing: manual, mechanical, electro-mechanical and electronic. Types and data processing system: real time, batch, on-line, interactive, time sharing, centralized and decentralized.  
**30h (T); C**

- MKT 410      Marketing Planning and Control      3 Credits**  
Understanding the marketing process. Setting marketing objectives and strategies. Marketing planning process. Completing marketing audit. Customer and market audit. Product audit. Communication plan. Advertising and sales promotion plan. Distribution and customer service plan. Marketing information, forecasting and organizing for marketing; implementation issues in marketing planning; step by step marketing planning system  
**45h (T); E**
- MKT 412      Pricing Policies      3 credits**  
Pricing quality issue; dealing policies; multi-plant pricing; peak and load pricing; franchising resale price maintenance, competitive bidding new product pricing product line product and the marketing mix.  
**45h (T); E**
- MKT 413      Industrial Marketing      2 Credits**  
Behaviour models for analyzing industrial buying. Nature and scope of industrial marketing. Strategy formulation in the industrial market, formulation of product planning, characteristics of industrial marketing, distribution of industrial products, government markets. Industrial sales promotion  
**30h (T); E**
- MKT 415      Advertising Management      2 Credits**  
Advertising models and their effects on sales. Relationship between advertising managements, economics and behavioural sciences. Use of advertising models by managers to make decisions regarding advertising budgets, copy design and media selection.  
**30h (T); E**
- MKT 499      Project      6 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department culminating in the submission of a project.  
**270h (P); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** MKT 101 (2), 104 (3), 106 (2), 108 (2) = 9 Credits

**Required Courses:** BUS 101 (3), 102 (3), MKT 103 (3), 105 (3), ACC 101(3)  
102 (3), ECN 101 (3), 102 (3), GNS111 (2), 112 (2) = 28 Credits  
**Total = 37 Credits**

### 200 Level

**Compulsory Courses:** MKT 201 (2), 202 (2), 204 (3), 205 (3), 206 (3), 208 (3) = 16 Credits

**Required Courses:** BUS 201 (3), 206 (3), ACC 201 (3), 205 (3), ECN 201 (2), 203 (2), GNS 211  
(2), 212 (2) = 20 Credits  
**Total = 36 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2), MKT 104(3) = 7 Credits  
**Total = 43 Credits**

### 300 Level

**Compulsory Courses:** MKT 301 (3), 302 (3), 303 (3), 304 (3), 305 (2), 306 (3), 308 (3), 310 (2)  
= 22 Credits

**Required Courses:** BUS 301 (2), 319 (3), 322 (3), FIN 345 (3), 346 (3), GSE 301 (2), GNS 311  
(2) = 18 Credits  
**Total = 40 Credits**

### 400 Level

**Compulsory Courses:** MKT 401 (2), 402 (2), 403 (3), 404 (2), 405 (3), 406 (2), 407 (3), 409 (2),  
= 25 Credits 499 (6)

**Required Courses:** BUS 401 (3), 402 (3) = 6 Credits

**Elective Courses:** Minimum of 6 credits from the following:

MKT 408 (3), 410 (3), 412 (3), 413 (2), 415 (2) = 6 Credits  
**Total = 37 Credits**

**Graduation Requirements**

**UTME** = 150 Credits

**DE** = 120 Credits

## Department of Industrial Relations & Personnel Management

### Course Description

#### B.Sc. Industrial Relations & Personnel Management

- IRP 101      Introduction to Human Resource management      2 Credits**  
Related concepts and acronyms. Role of strategy in human resources management. Similarities and differences between personnel management and human resources management. Elements of organisation and staffing. Fundamentals of performance. Managing employee, training and development. Principles of employee's compensation and rewards management. Logic and employee's appraisal. Importance of labour management cooperation. Managing dynamic challenges of labour management relations.  
**30h (T); C**
- IRP 102      Industrial Organisations      2 Credits**  
Development. Formalization of employment relationship. Structure and location of industrial organizations. Government policies on industrial developments. Conflicts/inter-group relations in industrial organizations.  
**30h (T); C**
- IRP 104      Introduction to Psychology      2 Credits**  
Concepts of stress, perception, personality, communication, frustration, emotion and principles of learning in psychology. Philosophical basis of psychology. Growth of scientific psychology. Schools of psychology. Fields and careers in psychology in Nigeria. Concepts of personality, attitude and motivation.  
**30h (T); C**
- IRP 106      Elements of Management      3 Credits**  
Basic concepts in Management; management principles; functions of manager, planning and controlling, nature and purpose, span of management, departmentalization; line and staff authority; service department, staffing and directing, selection of managers; appraisal of managers; management development; nature of directing; motivation and leadership; controlling; the control process; control techniques; recent development in the control process; the Nigerian environment; management in Nigeria; challenges of indigenization; transferability of management systems.
- IRP 201      Introduction to Industrial Relations I      3 Credits**  
Concept, scope, purpose and development. Parties involved in industrial relations. Environment and context of industrial relations. Means and strategies of collective actions, and their interactions.  
**45h (T); C**

- IRP 202      Elements of Social Relations      3 Credits**  
 Introduction, analysis and description of social structure and dynamics of human society. Social stratification, social institution, culture, work organization, labour management relations and social change.  
**45h (T); C**
- IRP 204      Organizational Theory and Behaviour      3 Credits**  
 Origin, structure and management of organisations: Formal and informal organizations. Organization theories and their coordination. Efficiency. Retrenchment and growth. Motivation. Leadership. Communication and dynamics of change in motivation.  
**45h (T); C**
- IRP 301      Theories of Industrial Relations      3 Credits**  
 Conceptualisation. Major theories: unitary, systems, conflict, social action and Marxist. Application of theories to the understanding of different industrial relations systems.  
**45h (T); C**
- IRP 302      Labour and Human Resources Economics      2 Credits**  
 Nature of labour problems in developing countries. Labour force. Definitions and concepts of unemployment: industrial and occupational. Distribution of labour force. Informal and modern sectors of the economy. Labour market theories. Economics of wage determination. Features of Nigerian labour market. Manpower development.  
**30h (T); C**
- IRP 303      Collective Bargaining      2 Credits**  
 Evolution and concepts. Collective bargaining in Nigeria: structure, types, importance and conditions effectiveness. Efficacy of Collective Bargaining as a determinant of wages in public and private sector of the Nigerian economy.  
**30h (T); C**
- IRP 304      Human Resource Planning      3 Credits**  
 Introduction and definition of terms. Human resource planning: types of human resources, macro and micro. Links between macro and micro human resource planning. Human resource planning: scope, objectives, and need. Manpower environment; economic, political and social. Labour market dynamics. Government legislations and practices. Technological innovations. Human resource planning process. Models of the planning process. Major activities of human resource process: organisational goals, skills inventory, forecasting, implementation programmes, audit and adjustment.  
**45h (T); C**



- IRP 305 Industrial Psychology 2 Credits**  
 Definition, origin, scope and sub-field criteria. Determination and measurement of criteria: psychometrics, test-construction, validation, and use of test. Accidents, safety and fatigue. Human performance and job satisfaction. Machine/equipment design. Work design and performance. Man-machine interface Work environment. Quality of work life: concepts and application.  
**30h (T); C**
- IRP 306 Trade Union and Employers' Association 3 Credits**  
 Trade unions: origin and developments, role and functions in the work place and society at large, structure in the work place and society at large, as well as structure and government. Legal framework and regulation of trade unionism. Developments in the Nigerian trade union movement and international trade union movement. Trade unions and the political process.  
 Employers' Association: development, functions, and activities. Examination of national and international associations.  
**45h (T); C**
- IRP 308 Labour Law 2 Credits**  
 Legislative history in labour administration. Origin and purpose of legislation: Trade union Acts, Labour Acts, Trade disputes Acts, Factory Acts, Workmen's Compensation Acts. Judicial decisions and Arbitration Panel. Industrial relations activities and strategies in Nigeria.  
**30h (T); C**
- IRP 310 Industrial Experience and Applied Research 2 Credits**  
 Practice of industrial relations and personnel management. Students are to examine factors within industrial environments; this is to be done through attachments to organizations and/or through seminars to be organized by the Department. Practitioners of IR and HR will be invited to discuss and relate their experience as practitioners with students.  
**30h (T); C**
- IRP 312 Multinational Human Resource Management 2 Credits**  
 Human resource management of multinational organisations operating in other countries apart from Nigeria. Balance between standardisation and differentiations of human resources policies and practices, employment, legislation, and trend toward harmonization. Human resource at national level, continent of diversity, and implementation for multinational organisation.  
**30h (T); E**
- IRP 314 Labour Migrations 2 Credits**

Migration and urbanization in Nigeria: pattern and process. History: political evolution, population, migration and environmental degradation, land, people, society and economy. Socio-demographic characteristics of house-holds and respondents, migrant and non- migrant determination. Importance in employment, search for formal education and apprenticeship influence of age, and duration of employment. Remittances and gender aspect assimilation of migrant, at destination.

**30h (T); E**

**IRP 401 Labour Policy and Administration**

**2 Credits**

Conceptualisation of terms. Labour Policy in Nigeria: determination and development. Labour administration. New operating conditions for public administration. New challenges for labour administration. Labour administration and new information technology.

**30h (T); C**

**IRP 402 Strategic Human Resources Management**

**2 Credits**

Introduction, emerging trends in modern organisational management. Human resources critical evaluation. Strategy of employee involvement at work

**30h (T); C**

**IRP 403 Training and Manpower Development**

**2 Credits**

Definition and concept. Types and method of training. Purpose and importance of training to Employee, Employer and organization. Training: process, need analysis, development plan, and its relation to manpower plans. Learning theories and training methods. Influence of learning theories and style. Identification of individual and organisational training needs. Technology of training, job design and economics. Management and training development. Performance appraisal, evaluation and steps in systematic training. Training institutes: Industrial Training Fund (ITF), Centre for Management Development (CMD), Administrative Staff College of Nigeria (ASCON).

**30h (T); C**

**IRP 404 Labour Market Analysis**

**2 Credits**

Concept of labour market. Factors affecting demand and supply of labour. Importance of labour force participation rate. Labour work analysis. Technological change, labour market, and managerial relations. Monetarism and supply side economics.

**30h (T); C**

**IRP 405 Motivation and Productivity**

**2 Credits**

Introduction and definition of concepts. Rationale for employee motivation. Motivation theories: content and process. Motivation through need, job design, equity, expectancy and goal setting, job satisfaction, pay satisfaction and performance. Types, determinants and role of reward. Productivity: importance, measurement, and consequences.

**30h (T); C**

**IRP 406**

**Compensation Management**

**2 Credits**

Objective of compensation. Factors that determine effective compensation. Determinants of organisation's wages and structure. Nature of compensation management. Employer-employee exchange process. Importance of compensation to employees/employers. Compensation: basic pay, incentives and employee benefit, and theories. Equity of pay and expectancy theory of pay. Administration and job evaluation. Analysis of job description and wages survey. Prevailing wages. Federal and state laws relating to wages. Labour market considerations of benefits. Types of wages payment. Concept of effort bargaining. Salary and salaries administration. Productivity agreement and profit sharing. Sickness, benefits and insurance. Meal voucher.

**30h (T); C**

**IRP 407**

**International Labour Bodies**

**2 Credits**

Emergence and roles of international bodies and agencies involved in employment relations: ILO, AU Labour Commission, OATUU and international trade union organisations. Impact of international labour organisations on industrial peace and fair labour practices.

**30h (T); E**

**IRP 408**

**Labour Relations and Administration in Nigeria**

**2 Credits**

Labour and management relations in Nigeria: evolution, processes, and effects of public policies. Bodies involved in coordination and management of labour relations in Nigeria: Ministry of Labour and its agencies, and their interaction with other social partners in the employment relationship.

**30h (T); C**

**IRP 409**

**Comparative Industrial Relations**

**2 Credits**

Nature. Trends in global labour movements. Patterns of management strategy towards industrial relations. The state in comparative perspective. Industrial relations: systematic approaches to collective relations, emerging markets. International experiences in industrial democracy.

**30h (T); E**

**IRP 410**

**Dynamics of Diversity Management**

**2 Credits**

Definition of concepts. Diversity: taxonomy; history; levels and dimensions, and organisational context (culture, climate and processes). Factors for increase in diversity and diversity awareness: globalisation, change in demography, mergers and acquisition. Differences among affirmative action. Equal opportunity and valuation of diversity. Managing diversity trends in Nigeria: implications for organizational success, morale, productivity, labour relations; job satisfaction and job commitments.

**30h (T); E**

**IRP 412**

**Ethics in Human Resource Management**

**3 Credits**

Basic issues. Qualification of human acts. Significance of ethics. Philosophical analysis of human behavior. Problem of freewill and determinism. Ethical theories: meaning, soundness, and classification. Some ethical theories: Plato, Aristotle, Epicurus, Stoicism, Kant and the categorical imperative, utilitarianism, emotivism, and intuitionism. Ethics and human resource management interest. Contemporary ethical problems in HRM. Ethics in HRM: accountability, general rules, orders, and code of conduct for HRM officials.

**45h (T); E**

**IRP 499**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department culminating in the submission of a project.

**270h (P); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** IRP 101 (2), 102 (2), 104 (2), 106(3) = 9 Credits

**Required Courses:** GNS 111 (2), 112 (2), ECN 101 (3), 102 (3), ACC 101 (3), 102 (3), BUS 101 (3), 105 (3), 106 (3), 107 (3) = 28 Credits

**Total** = 37 Credits

### 200 Level

**Compulsory Courses:** IRP 201 (3), 202 (3), 204 (3) = 9 Credits

**Required Courses:** GNS 211 (2), 212 (2), ECN 201 (2), 203 (2), ACC 201 (3), 205 (3), BUS 201 (3), 203 (2), 204 (3), 210 (3), 212 (3) = 28 Credits

**Total** = 37 Credits

**Direct Entry Students:** GNS 111(2), 112 (2) = 4 Credits

### 300 Level

**Compulsory Courses:** IRP 301 (3), 302 (2), 303 (2), 304 (3), 305 (2), 306 (3), 308 (2), 310 (2) = 19 Credits

**Required Courses:** GNS 311 (2), GSE 301 (3), FIN 345 (3), BUS 301 (3), 302 (2), 320 (2), 323 (2) = 17 Credits

**Electives Courses:** At least one elective course in the session:  
IRP 312 (2), 314 (2) = 2 Credits

**Total** = 38 Credits

### 400 Level

**Compulsory Courses:** IRP 401 (2), 402 (2), 403 (2), 404 (2), 405 (2), 406 (2), 408 (2), 499 (6) = 20 Credits

**Required Courses:** BUS 401 (3), 402 (3), 403 (3), 429 (3) = **12 Credits**

**Electives Courses:** At least 7 credits of elective courses in the session: IRP 407 (2), 409 (2), 410 (2), 412 (3), BUS 412 (3), SOC 410 (2) = **7 Credits** **410 (2), Total**  
= **39 Credits**

### **Graduation Requirements**

**UTME** = 151 Credits

**DE** = 118 Credits

## DEPARTMENT OF PUBLIC ADMINISTRATION

### Course Description

#### **B.Sc. Public Administration**

- PAD 101 Introduction to Public Administration 3 Credits**  
Basic concepts: state, citizens, authority, legitimacy. Forms of government: unitary, federal, confederacy, decentralization, de-concentration and devolution. Politics and administration dichotomy: public administration, duties of public administration, scope of public administration, rudimentary understanding of the linkage between the public and the private sector, similarities and differences between public and private sector administration. Sources of public laws and legislations. Role of security agencies. Judiciary, bureaucracy as the engine room of government, bureaucrats and public servants.  
**45h (T); C**
- PAD 102 Citizenship and Elements of Government 3 Credits**  
Relationship of the citizen to the state: duties and obligation of the citizen to the state. Responsibility of the state to the citizen. Nature of strained relations and the processes of reconciliation. Political obligation: basis of freedom, loyalty and patriotism.  
**45h (T); C**
- PAD 103 Introduction to Sociology 3 Credits**  
Subject matter of Sociology: nature of the sociological imagination, sociology and the social sciences, the development of sociology and sociological theory, culture and society. Role of Socialization: agents of Socialization. Elements of social structure. Understanding groups and organizations. Social institutions: family, religion, education, government and politics. Economy and Work. Health and medicine. Communities and urbanization. Population and the environment. Collective behaviour and social movements. Globalization, technology and social change.  
**45h (T); C**
- PAD 104 Introductions to Nigerian Government and Politics 3 Credits**  
Colonial experience of Nigeria. Development of political parties and election in Nigeria. Civil war and its effect on Nigerian politics. Military, state creation, politics of census, systems of government. Basic concepts in Politics: democracy, federal character and revenue allocation. Religion and politics. Corruption. Administration of non-governmental organizations.  
**45h (T); C**
- PAD 105 Introduction to Psychology 3 Credits**  
Meaning, goals and objectives of psychology. Basic concepts: principles, ideas, theories and issues. Psychology and human behaviour.  
**45h (T); C**

- PAD 106      Introduction to Local Government      3 Credits**  
 Concept of local government: Evolution and historical development of local government. Basic features and types. Local government as a tier of government. Local government and grassroots development. Citizen and public participation in government. Controversies surrounding autonomy and subordination of local government. Local government and inter-governmental relations. Sources and application of local government resources. Justification and socio-economic and political objectives of local government. Local government: security, government and public utilities.  
**45h (T); C**
- PAD 110      Nigeria Legal System      2 credits**  
 Sources of law: primary and secondary. Use of source materials: library and legal research. Judicial opinions and legal writing.  
**30h (T); C**
- PAD 112      Individual, Group and Society      3 Credits**  
 Peer groups and social institutions. Population and ecology: social differentiation and social inequality. Collective behaviour and social problems.  
**45h (T); C**
- PAD 201      Introduction to Political Science      3 Credits**  
 Nature: state, society and nation. Power, authority and influence. Theory of sovereignty and separation of powers. Constitution and constitutionalism. Types of government: presidential, parliamentary, federal and unitary systems. Forms of political ideology: democracy, legitimacy, liberalism, radicalism and dictatorship. Party systems: one party, two party and multi-party. Electoral and social change. Public opinion.  
**45h (T); C**
- PAD 202      Theories and Practice of Public Administration in Nigeria      3 Credits**  
 Nature: similarities and differences between public and private administration. Functions of public administration. Schools or conceptual approaches: goal model, system model, decision-making model, classification model, human relations model and sociological model. Classifications or typologies of organizations: Bureaucracy and its functions. Public administration in national development. Growth and development. Reforms of the civil service. Changing role of socio-economic and political transformation. International public administration and its relationship with domestic public administration.  
**45h (T); C**
- PAD 203      Organization and Management Theories      3 Credits**  
 Concept: management, manager, administrators. Organizations: origins, structure and performance. Formal and informal organizations. Impact of informal norms in formal organizations. Organization Theories. Theories of organizational behaviour and



their application to public administration. Organizations: co-ordination, efficiency, innovation, communication skills, and dynamics of change. Individual behaviour, self-concepts and development. Administration: emergence, complexity, and maintenance. Efficiency in public administration. Politics and administration dichotomy. Centralization, decentralization, deconcentration, devolution and delegation, Conflict resolution strategies.

**45h (T); C**

**PAD 204 Theory and Practice of Local Government Administration in Nigeria 3 Credits**

Development of local government administration in Nigeria from the colonial era to the present. Various local government reforms in Nigeria. Party politics and local government. Traditional institutions. Local government autonomy. Central and local government relation: Central and state, central and local. Funding the local government. Problems of local government. Local government commission. Local government and national development.

**45h (T); C**

**PAD 205 Introduction to Public Finance 3 Credits**

Fiscal function. Fiscal institutions in Nigeria. Public goods and merit wants. Introduction to taxation. Personal income tax. Trends in government expenditure. Introduction to fiscal stabilization. Economics of public debt.

**45h (T); C**

**PAD 206 Human and Public Relations in the Public Sector 3 Credits**

Concept of public relations: meaning and place of public relations in government and public parastatals. Channels of communication. Impact of behavioural theories in changing patterns of human relations in public service.

**45h (T); C**

**PAD 207 Office Administration and Management 3 Credits**

Basic concepts. Functions and processes of office administration. Similarities and differences between offices in the public and private sector. Rules governing office functioning.

**45h (T); C**

**PAD 208 Theories of Leadership 2 Credits**

Concept and types. Importance of leadership in human society. Political, sociological, economic and psychological theories and principles of leadership. Nexus between leadership and followership. Linkage between leadership and development. Leadership in Nigeria and Africa: history and challenges. Case studies: roles of leadership in difficult situations. Leadership: environmental context and dynamics.

**30h (T); C**

**PAD 209 Theories and Practice of E-Governance 3 Credits**

Theories and models of e-governance. E-governance: public administration, e-government, levels of e-governance and service delivery. Response system within the e-governance approach. Participation or collaborative governance. Comparative survey of e-governance development. E-governance and corruption: control, safeguards, risks and limitations.

**45h (T); C**

**PAD 210**

**Gender Mainstreaming In Development**

**3 Credits**

Gender relations: social, political, economic and their relation to the development process. Introduction: tools of gender analysis, influence on policy decisions, and gender-based barriers to the participation of women in development. Social construction of “Gender”. Concept of “development”, women and development. Mainstreaming gender in development policy. Economic, political and social contexts of gender discrimination. Women, work and the global economy. Education and equal opportunity. Globalization and economic restructuring tools. Framework of gender analysis and gender planning.

**45h (T); C**

**PAD 301**

**Research Methodology**

**3 Credits**

Basic concepts in scientific inquiry: scientific research, meaning and basic steps. Basic and applied research concepts: theories, laws and hypotheses. Research: design, choosing a topic, problem analysis, review of literature, conceptual framework, model building and proposal writing. Sampling and data collection techniques. Data types: primary and secondary. Survey strategies: experimental, case studies, exploratory and content analysis. Data collection instruments: interview, questionnaire, focus group discussion. Data measurement (scaling, validity, reliability, analysis.), analysis and interpretation. Data presentation: tables, charts, cross tabulations. Report writing: audience, types and length.

**45h (T); C**

**PAD 302**

**Public Policy Making and Analysis**

**3 Credits**

Nature and complexity: problem identification, policy cycle and agenda setting in policy formulation. Formal and informal ways of generating policy. Theories of decision-making. Selected models in policy analysis. Case studies of selected policies in Nigeria: health, sanitation, welfare, housing, education and rural development.

**45h (T); C**

**PAD 303**

**Personnel Administration**

**3 Credits**

Principles of personnel administration. Approaches to the study of personnel administration. Line and staff, organization structure and personnel policies. Employment procedures and processes. Advancement: training and executive development. Compensation policies: job evaluation systems, incentive systems. Job analysis. Manpower planning. Safety and health programmes. Employee integration and need patterns: motivation, processing grievances and communication.

**45h (T); C**

**PAD 304**

**Government and Administration of Urban System**

**3 Credits**

Elements of urban administration. Basic issues in administration and management of urban areas. Problems of planning and execution of major services in urban political systems. Examination of the structure of political power operating in the systems.  
**45h (T); C**

- PAD 305      Development Administration      3 Credits**  
Development analysis: meaning and dimensions of development in national setting. Environment of development administration: political, economic, administrative, and socio-cultural. Models of economic development. Strategies and policies of national development.  
**45h (T); C**
- PAD 306      Public Budgeting and Budgetary Control      3 Credits**  
Budgeting: meaning and process. Principles and practices of budgeting. Budgeting and budgetary control in Nigeria. Budgeting as a tool for the long term improvement of public finance.  
**45h (T); C**
- PAD 307      Traditional Administrative System in Nigeria      3 Credits**  
Early history of Nigeria. Migration and formation of centralized institutions: Nok culture, Hausa state, Kanem-Borno, Yoruba states, and Benin Kingdom. Administration within these groups. Formation of acephalous groups East and West of the Niger: Delta, North and South of the Benue. Administration within these groups.  
**45h (T); C**
- PAD 308      Administrative Law II      2 Credits**  
Discretionary powers and delegated legislation. Administrative adjudication. Judicial review of administrative actions. Administrative tribunals.  
**30h (T); C**
- PAD 309      Administration, Law and Ethics      3 Credits**  
Administrative process and purposes of government. Concept: ethics, law and linkages to efficient public service. Basic and fundamental guiding principles and rules regulating administrative context and systems. Disclosure and confidentiality. Goal congruence and organizational performance measurement. Rights and responsibilities of administrators. System of criminal justice. Nature of the rule of law. Elements of ethics and law. Code of conduct: substantive prohibition, ethics commission and the principle of public service ethics. Delegated legislation. Redress of grievance. Public corporation, discretionary power, and application.  
**45h (T); C**

- PAD 310 Intergovernmental Relations (IGR) 3 Credits**  
Federalism and intergovernmental relations (IGR): theories and approaches. Historical development of the Nigerian federalism. Regulatory federalism: changing roles of federal, state and local governments. Intergovernmental politics and actors: legislature, executive, judiciary, and interest groups. Bureaucracy. Fiscal federalism and financing: assignment of expenditure responsibilities and revenue rights.  
**45h (T); C**
- PAD 311 Administrative Law I 3 Credits**  
Administrative processes. Purposes of government. Separation of powers. Resolution strategies. Rule of law.  
**45h (T); C**
- PAD 312 Use of Statistical Methods in Public Administration 3 Credits**  
Basic terms: descriptive, analytic and predictive. Sources of statistical data. Sampling theories and estimation. Measurement of central tendencies. Test of hypotheses. Logic and technique of chi-square, correlation, regression and analysis of variance (ANOVA).  
**45h (T); C**
- PAD 314 Administrative Behaviour 2 Credits**  
Authority and rationality in administration. Role concept: power and decision-making. Leadership, communication and motivation. Public policy analysis.  
**30h (T); C**
- PAD 401 Public Financial Management 3 Credits**  
Environmental and distinguishing characteristics of government and institutional accounting. State and local government organizations for financial management. Special methods of accounting within the legal and financial constraints for local government, hospitals and state-owned companies. Planning in the public sector. Budgeting, control and accountability. Reporting and auditing in the public sector.  
**45h (T); C**
- PAD 402 Project Analysis and Management 3 Credits**  
Inter-relationship between projects and development plans. Project cycle. Different aspects of project appraisal: economic, technical, organizational, managerial, and financial. Methodology for socio-benefit cost analysis and criteria for project choice. Project environment and organization. Project management techniques: PERT and CPM.  
**45h (T); C**

- PAD 403      Social Welfare Administration in Nigeria      3 Credits**  
Nature and development of social policy within the context of changing Nigerian social conditions. Impact of changing social conditions on family, groups and organizations. Welfare policies and social services. Criminology. Policies and problems: education, housing, health, food security.  
**45h (T); C**
- PAD 404      Comparative Public Administration      3 Credits**  
Concept, significance, rationale, evolution and approaches. Comparison of structures and processes of administration in various countries. Differences in other countries' social, economic and political development. Models and proposition building in comparative public administration.  
**45h (T); C**
- PAD 405      Theory and Practice of Planning      3 Credits**  
Meaning and types of planning. Planning processes: strategies, techniques, and budgeting. Administrative obstacles to planning. Theories of planning. Philosophy and ideology of national development planning in Nigeria.  
**45h (T); C**
- PAD 406      Public Enterprises Management      3 Credits**  
Objectives and classification. Organization and problems. Performance measurement and control. Capital structure and funding. Relationship between federal and state parastatals. Consideration of commissioned reports on parastatals.  
**45h (T); C**
- PAD 407      Seminar in Public Administration I      2 Credits**  
Purpose and use of files. Content and application of the civil service rules: financial instructions, financial memoranda, stores regulations and their applications. Civil service commission regulations. Transacting the business of government: probity, accountability and transparency. Appreciating the inherent problems in dealing with public service delivery. Art of government protocols and maintaining office security and secrecy.  
**90h (P); C**
- PAD 408      Seminar in Public Administration II      2 Credits**  
Office communication: art of minuting, drafting of speeches, letter writing, preparation of annual reports, handing over notes, office norms, languages and glossary of office abbreviations. Practical elements of protocol, and ways of doing things in the office. Internalizing values of probity, accountability and transparency in transacting the business of government.  
**90h (P); C**

- PAD 409**      **Conflict Management**      **3 Credits**  
Causes, types and analysis. Escalation and de-escalation of conflicts. Conflict handling styles. Approaches to conflict management. Peace building and post-conflict measures.  
**45h (T); C**
- PAD 411**      **Comparative Local Government**      **2 Credits**  
Examination of theoretical bases of different local government systems. Comparison of main features of devolution, deconcentration, management, community power structures, finance and central-local relationship. Local government operations in selected countries: United States of America, Eastern Europe, Britain, France and Nigeria. Identification of differences and similarities in structures.  
**30h (T); E**
- PAD 413**      **Legislature and Legislative Processes**      **2 Credits**  
Survey: organization of legislative power, working facilities, principles, procedures, statute making and problems of the legislature. Legislature as arbiter among conflicting interests. The relationship between the legislature and the executive.  
**30h (T); E**
- PAD 414**      **Labour Administration in Nigeria**      **2 Credits**  
The emergence and growth of the organized labour in Nigeria. Structure of the labour force. Leadership and ideology. Role of the organized labour in Nigerian politics and administration. Analysis of relationship between the Nigerian state and the organized labour.  
**30h (T); E**
- PAD 415**      **Human Rights Administration in Nigeria**      **2 Credits**  
Panoramic survey of human right records globally. Case studies of major abuses across regions of the world: special emphasis on developing countries of the world. African and Nigerian Human Rights Organizations. Refugees and Human Right issues and cases.  
**30h (T); E**
- PAD 417**      **Globalization and Development**      **2 Credits**  
Meaning, dimensions and linkages between globalization and development. Political, administrative and economic responses to globalization. Prospects of Third World countries' development within the context of globalization.  
**30h (T); E**

**PAD 499**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department culminating in the submission of a project.

**270h (P); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** PAD 101 (3), 102 (3), 103 (2), 104 (3), 105 (3), 106 (3), 110 (2), 112 (3)  
= 22 credits

**Required Courses:** GNS 111 (2), GNS 112 (2), ECN 101 (3), CIT 111 (2), ECN 102 (3), ACC 104  
(3), BUS 103(3)  
= 18 credits

**Total = 40 Credits**

### 200 Level

**Compulsory Courses:** PAD 201 (3), 202 (3), 203 (3), 204 (3), 205 (3), 206 (3), 207 (3), 208 (2)  
210 (3)  
= 29 Credits

**Required Courses:** GNS 211 (2), 212(2), SOC 207 (2), ACC 204 (3) = 9 Credits

**Total = 38 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2) = 4 Credits

### 300 Level

**Compulsory Courses:** PAD 301 (3), 302 (3), 303 (3), 304 (3), 305 (3), 306 (3), 307 (3), 308 (2),  
310 (3), 311 (2), 312 (3), 314 (2)  
= 36 Credits

**Required Courses:** GSE 301 (2), GNS 311(2) = 4 Credits

**Total = 40 Credits**

### 400 Level

**Compulsory Courses:** PAD 401 (3), 402 (3), 403 (3), 404 (3), 405 (3), 406(3), 407(2), 408 (2),  
411 (2), 499 (6)  
= 33 Credits

**Elective courses:** PAD 413 (2), 414 (2), 415 (2), 417 (2) **Total = 33 Credits**



## **Graduation Requirements**

**UTME** = 151 Credits

**DE** = 115 Credits

## FACULTY OF PHARMACEUTICAL SCIENCES

### Dean's Office

A. Agunu	B.Pharm., M.Sc., Ph.D. (ABU).	Professor & Ag. Dean
A. Giwa	B.Pharm. (ABU); MPA (Maiduguri); MPH (Ilorin); M.Pharm., Ph.D. (Lagos)	Senior Lecturer & Sub-Dean
<b>Khadijat W. Garba</b>	B.Ed., M.Ed. (Ilorin)	Faculty Officer

### Department of Clinical Pharmacy and Pharmacy Practice

A. Giwa	B.Pharm (ABU); MPA (Maiduguri); MPH (Ilorin), M.Pharm., Ph.D. (Lagos)	Senior Lecturer & Ag. Head
Iyabo S. Bello	B.Pharm., (ABU); M.Pharm. (Ibadan)	Lecturer II
I. F. AbdulAzeez	B.Pharm., (ABU); M.Pharm. (Ibadan)	Lecturer II
Felicia. E. Williams	B.Pharm. (Benin); MCOMM.H.	Lecturer II
M.O. Jamiu	B.Pharm. (ABU); Pharm.D. (Benin)	Lecturer II
A.O Abdulrahman	B.Sc. (Ilorin); PGDM	Technologist II
A. Abdulraheem	B.Tech. (MAUTECH)	Technologist II

### Department of Pharmacognosy and Drug Development

A. Agunu	B.Pharm., M.Sc., Ph.D. (ABU)	Professor & Head
Biliqis.A. Lawal	B.Pharm.(OAU); M.Sc. (Ibadan).	Lecturer II
Sukurat O. Usman	B.Pharm., M.Sc. (Lagos)	Lecturer II
M.K. Salawu	B.Pharm. (ABU)	Assistant lecturer
A. Abdullah	B.Pharm. (Maiduguri)	Assistant lecturer
A.O. Olutayo	HND	Assistant Chief Technologist
A.O. Durotola	B.Sc. (UNAAB); M.Sc. (Ilorin)	Assistant Chief Technologist

### Department of Pharmaceutical and Medicinal Chemistry

Moji T. Bakare–Odunola	B.Sc. (Maiduguri); M.Sc., Ph.D. (ABU)	Professor & Head
------------------------	---------------------------------------	------------------

A.O. Adegoke	B.Pharm. (Jos); M.Sc., Ph.D. (Ibadan)	Adjunct Senior Lecturer
H.O. Oladimeji	B.Sc., M.Sc. (OAU); Ph.D. (Uyo)	Senior Lecturer
S.T Abdullahi	B. Pharm., M.Sc. (ABU)	Lecturer II
S.N Njinga	B.Sc. (Buea); M.Sc., Ph.D. (ABU)	Lecturer II
Q. Abdul-Ganiyu	B.Pharm. (Jos)	Assistant Lecturer
Fatima F. Abdulmajeed	B.Sc. (Ilorin); PGDE	Technologist II
K. S. Jubril	HND	Technologist II

### **Department of Pharmaceutics and Industrial Pharmacy**

O.I. Aremu	B.Pharm.(OAU); M.Sc. (Ibadan); Ph.D. (OOU)	Senior Lecturer & Ag. Head
T.A. Iranloye	B.Sc., (OAU); M.Sc. (Iowa); Ph.D. (London)	Professor
A.O. Shittu	B.Pharm., M.Sc., Ph.D. (ABU)	Senior Lecturer
Adeola T. Kola-Mustapha	B.Sc., B.Pharm., M.Sc., (Lagos) Ph.D. (Leicester)	Lecturer I
Rashidat K. Animasawun	B.Pharm. (OOU)	Assistant Lecturer
J.B. Aina	Part I,II, C&G	Principal Technologist

### **Department of Pharmaceutical Microbiology and Biotechnology**

A.O. Shittu	B.Pharm., M.Sc., Ph.D (ABU)	Senior Lecturer& Ag Head
Y. K. E. Ibrahim	B.Sc. (ABU); M.Sc., Ph.D. (Heideiberg)	Visiting Professor
Susan M. David	B.Pharm. M.Sc. (ABU)	Lecturer II
Haisat Olufadi-Ahmed	B.Pharm. (ABU)	Assistant Lecturer
A. Abdulmalik	B.Pharm. (ABU)	Assistant lecturer
Hadiyat R. Bello	B.Tech., M.Sc. (ATBU)	Principal Technologist
L. D. Olorukooba	B.Sc. (ABU)	Technologist II
Omatseye Salami	B.Sc. (Al-Hikmah)	Technologist II

**Department of Pharmacology and Toxicology**

Rashidat O. Ayanniyi	B.Pharm.(ABU); M.Sc. (Jos); Ph.D. (ABU)	Senior Lecturer &Ag. Head
Mohammed .O. Amali	B.Pharm. (Jos); M.Sc.(OAU); Ph.D. (Liverpool)	Lecturer I
Oyeronke M. Kola-Olaniyan	B.Pharm., M.Sc. (ABU).	Lecturer I
Hidayah Abdul-Ayodeji	B.Pharm. (ABU)	Assistant Lecturer
A. S. Abiola	B.Pharm, (OAU)	Assistant Lecturer
A.I. Olapade	HND	Technologist II

(a)

**FACULTY OF PHARMACEUTICAL SCIENCES**

**B. Pharm.**

**100 Level**

**The following courses are to be taken as published in the Faculty of Life and Physical Sciences.**

CHM 101 (3), 115 (2), 112 (2), 132 (2), CSC 111 (2), PHY 191 (1), 115 (2), 125 (3), 142 (2), 152 (3), 192 (1), GNS 111 (2), 112 (2), PLB 101 (3), 108 (3), ZLY 106 (2), STA 121 (2), 124 (2)= **39 Credits**

**PCP 101 is to be taken as published in the Department of Clinical Pharmacy and Pharmacy Practice = 1 Credit**

## **Department of Clinical Pharmacy and Pharmacy Practice**

### **Course Description**

- PCP 101 Introduction to Pharmacy 1 Credit**  
(b) Pharmacy in Ancient times (6000BC - 300AD), through the middle-ages (600-1500 AD), to Modern times (1600-1950). History of Pharmacy in Nigeria from pre-colonial to post independence era. Pharmacy education and curriculum development. Pharmaceutical associations in Nigeria. Career prospects in pharmacy. Emerging trends in the Pharmacy profession.  
(c) **15 h(T); C**
- PCP 301 Pathology and Pathophysiology 2 Credits**  
Cell injury, tissue repair and wound healing. Cell growth and abnormal processes in cell growth that relate to disease. Pathology of thrombo-embolic disorders. Shock and associated pathologic processes. Genetic disorders. Immune disease processes. Pathological processes due to infection and infestation. Pathology of childhood disorders.  
**30 h (T);C, PR: PCL 203, 204**
- PCP 302 Introduction to Clinical Pharmacy 1 Credit**  
Definition, scope and function. Hospital drug distribution systems, medical abbreviations, terms and terminologies. Clinical interpretation of laboratory values. General drug use in diarrhoea, constipation, nausea, vomiting and other GIT disorders. Introduction to routinely used medical instruments / equipments.  
**15 h (T); C, PR: PCP 101, 301**
- PCP 304 Drug Information and Pharmacy Communication 1 Credit**  
Literature evaluation and drug information: methods and resources available for the rapid and efficient handling of factual drug information; information storage; retrieval and dissemination; resources needed for the establishment of a drugs information centre; levels of drug information centre; functions and services of various level; and drug information service. Pharmacists' clinical role: dispensing (in-and-out patients). organization of patient's medical charts and medication profiles; medication dosages. Monitoring of drug interactions, adverse drug reaction detection, reporting and patient counselling. Types of communication:

appearance as a mode of communication; the various styles of listening / response and applications to patient interview and education. Factors affecting patient compliance with drug regimens. Pharmacist's relationship with other health care professionals.  
**15 h (T); C, PR: GNS 111, PCP 101**

- PCP 306 Entrepreneurship: Theory and Practice 1 Credit**  
Definition, nature and functions and types of entrepreneurship. Managerial skills: management process; importance of management in pharmacy business; industrial pharmaceutical organization, marketing, advertising and sales promotion. Generating and developing business ideas. Conducting market surveys. Preparing a business plan. Selecting a business locations. Policy and Legal Framework: Legal procedure; information service; intellectual property rights; and patenting of inventions. Starting and managing a Pharmacy enterprise: Pharmacy financing and administration and drug supply management. Finance and Record Keeping: Financing a business venture; costing and pricing products/services; financial statements and their analysis, budgeting and cash flow.  
**15h (T); C, PR:PCP 101**
- PCP 401 Pharmacotherapeutics I 2 Credits**  
Definition, aetiology, pathophysiology, signs and symptoms, prevalence, diagnosis, risk factors, precipitating factors, classification and complications .General principles of management. Prognosis. Drug interactions. Patient counselling. Education and specific concept regarding the following : cardiovascular and respiratory disorders and infections. Over view of renal function and diseases: chronic renal failure, acute renal failure, nephrotic syndrome. Nutritional disorders.  
**30 h (T);C,PR: PCP 302, PCL 302, 304**
- PCP 403 Pharmacy Jurisprudence, Regulation &Control 1 Credit**  
General Laws of contract and Laws concerning employees/ employers relationship. Pharmacists Council of Nigeria under the Poison and Pharmacy Act: Dangerous Drugs Act, Cap 48, 1960; Poisons and Pharmacy Act, Cap 152, 1960; The Twelve Pharmacy Decrees under Military Rule. Drug manufacture, and advertisement. Sales of food, drugs, cosmetics and devices under the Food and Drugs Administration (FDA). Dangerous drugs: medicinal dangerous drugs, trade in dangerous drugs, power to control dangerous drugs in Nigeria and the decree on Indian hemp. General principles of professional ethics. General laws of professional liability. Decrees: food and drug; National Agency for Food and Drug Administration and Control (NAFDAC); National Drug Law Enforcement Agency (NDLEA); fake drugs and unwholesome foods, essential drug lists. Pharmacy regulation and control: definition; regulatory authorities ; various aspects of regulatory pharmacy; quality control /quality assurance; clinical evaluation; Current Good Manufacturing Practice (CGMP); Registration and Enforcement.  
**15h (T); C, PR: PCP 101**
- PCP 405 Pharmacokinetics 2 Credits**  
Introduction: Drug administration, fate and influence of the route of administration on bioavailability. Biological membranes,

membrane models and  $P^H$ -partition principles. Physicochemical properties and pharmaceutical factors affecting the processes of absorption, distribution, metabolism and excretion of drugs. Enzymology and bioenergetics. Drug receptors. Bioavailability and bioequivalence: Drug clearance, hepatic elimination of drugs, non-linear pharmacokinetics, relationship between pharmacokinetics parameters and pharmacologic response, pharmacokinetic profiles. Application of basic principles of clinical pharmacokinetics.

**15h (T), 45h(P);C,PR: PCL 301, PCP302.**

**PCP 402      Pharmacy Management      2 Credits**

Concepts of Management; Time management. Personnel management. Staffing and recording system. Fiscal management: cash flow; income; profit and Loss statement; Planning and managing and establishing a cash flow budget. Tax and Pharmacy business. Credit management. Depreciation. Interest and inflation. Financial analysis. Purchasing. Pharmaceutical marketing. Pharmacy computer systems.

**30h(T);C,PR: PCP 306.**

**PCP 404      Pharmacotherapeutics II      2 Credits**

Definition, aetiology, pathophysiology, signs and symptoms, prevalence, diagnosis, risk factors, precipitating factors, classification, complications, drug interactions, patient counselling. Education and specific concept regarding following conditions: Endocrine and gastrointestinal disorders, hepatic, Joint and connective tissue and cutaneous diseases. Infectious diseases: cerebrospinal meningitis and parasitic diseases.

**30 h (T); C, PR: PCP 302, PCL 303, 304**

**PCP 406      Clinical Pharmacokinetics      2 Credits**

Therapeutic drug monitoring (TDM) concept: Definition and clinical advantages of TDM, specific dosage prescribing requirements/ guidelines under certain conditions, prescribing for the pediatric and elderly populations, prescribing for renal and liver impaired patients, prescribing pregnant and lactating mothers, pharmacokinetics in disease states modify body perfusion, pharmacokinetics in disease state modifying protein binding, consideration of the clinical pharmacokinetics of selected drugs used in various disease state. Applications of clinical pharmacokinetic parameters

**15h(T), 45h(P); C, PR: PCL 301, PCP 302.**

**PCP 501      Public Pharmaceutical Healthcare      2 Credits**

Hospital pharmacy: Types and definition of hospital and their organization/ administration, outpatient and inpatient pharmacist's responsibilities and management of hospital pharmacy. Community Pharmacy: Scope, establishment, importance and function of community Pharmacy. Essential Drug Policy: National Essential Drug Programme, National Drug Formulary, National Essential Drug List, Drug Revolving Fund Scheme, Drug Distribution, Drug Law, National Drug Policy, National Health Policy. Roles of

the clinical pharmacist in National Health Policy, Healthcare Financing and National Health Insurance Scheme. Clinical Pharmacists in Primary healthcare: Definition and components of primary healthcare, immunization campaign and routine immunization schedule, vaccine management and Cold chain management. HIV/AIDs prevention care, management and support. Antiretroviral therapy. Principles of antimicrobial therapy and antibiotic policy. Family planning, contraceptive techniques and oral contraceptives. Women's Health. Roll back malaria programme.

**30h (T); C, PR: PCP 304, 306.**

**PCP 503      Pharmacotherapeutics III      2 Credits**

Definition, aetiology, pathophysiology, signs and symptoms, prevalence, diagnosis, risk factors, precipitating factors, classification and complications. General principles of management: prognosis, drug interactions, patient counselling. Overview of mental illness. Overview of diagnostic method criteria. Schizophrenia education and specific concept regarding affective and neurological disorders.

**30 h (T); C, PR: PCP 401, 404.**

**PCP 505      Research Methodology & Statistics      2 Credits**

Research Proposal Writing, Sample size determination, sampling techniques, biomedical writing and journal critique. Review of basic statistics from measures of central tendency to paired sample hypothesis; parametric and non-parametric analysis, multi-sample hypotheses and multiple comparisons, Chi-square analysis, Student's t- test, analysis of variance, analysis of variance (ANOVA); simple linear and multiple regression; comparing linear regression equations. Binomial distribution, testing for randomness; Pearson correlation. Analyzing data using statistical computer packages.

**30 h (T);C**

**PCP 502      Contemporary Concepts in Pharmacy Practice I      2 Credits**

Pharmaco-Economics: Economics as a tool for making choices; basic economic concepts; economics of the public sector; goals of public expenditure. The financing of public expenditure. Distribution issues and the use of subsidies. Understanding the private sector. Market and competition. Ethics and business. Government interaction with the private sector. Health policy in conditions of poverty. Overview of pharmaco-economics methodologies. Health related quality of life (HRQL) in phamaco-economics. Clinical trials in pharmaco-economics. Application of pharmaco-economics in health care delivery systems. Pharmaceutical care: Definition, evolution, philosophy, practice principles, drug related problems, steps in providing pharmaceutical care, documenting pharmaceutical care and barriers to pharmaceutical care. Models of pharmaceutical care.

**(d) 30 h (T);C, PR: PCP 401, 404**

**PCP 504      Ethical Dispensing Practical      2 Credits**





- PCG 202 Vegetable Drugs, and Taxonomy 3 Credits**  
 Introduction. Drugs in the following morphological groups : Morphological Groups: woods e.g Quassia;bark ( Cinchona, Cascara and Cassia) ; Leaves, (Stramonium, Senna, Digitalis, Tobacco, Cannabis); flowers,( Pyrethrum and Clove); Fruits, e.g Capsicum, Fennel, Cardamum; Seeds, e.g Strophanthus, Calabar bean, Castor and Roots, Rauwolfia, Ginger, Ipecacuanha.  
**30 h (T), 45 h (P); C**
- PCG 301 Fibres , Extraction and Separative Techniques 2 credits**  
 Fibres: Introduction; importance, relevance, uses and classification of various fibres; production, diagnostic character and general properties. Standardization and evaluation of surgical products and dressings. Extraction: Introduction and processes used in the preparation of galenicals in pharmacy and official methods of extraction of crude drugs. Separative techniques: column chromatography, paper chromatography; thin layer chromatography; gel filtration and electrophoresis.  
**15 h (T), 45 h (P); C,PR: PCG 201, 202**
- PCG 302 Phytochemistry of Carbohydrates, glycosides, tannins, proteins and enzymes. 2 credits**  
 Definition, scope, classification of plant metabolites. Importance of primary and secondary metabolites. Nature and properties of various plant constituents. Phytochemistry. Carbohydrates, Glycosides, Tannins, Resins, Enzymes and Enzyme-containing drugs.  
**15h (T), 45 h (P); C,PR: PCG201, 202**
- PCG 304 Phytochemistry of Alkaloids, Terpenes and Volatile oils 2 credits**  
 Theory on Phytochemistry of alkaloids, terpenes. volatile oils. Characterization and identification of alkaloids, terpenes and volatile oils  
**15 h (T), 45h (P); C, PR: PCG 201, 202**
- PCG 401 Advances in Phytochemistry, Chromatography and Development of New Drug 3 Credits**  
 Advances in phytochemistry: study of chemistry, pharmacology, uses and occurrence in plants of antineoplastics, cardiovascular drugs, anti-malarial, steroids and steroidal hormones. Plant pigments and plant growth substances. Sugar substitutes of plant origin. Development of new drugs from plants. Screening and evaluating new plant constituents. Methods and technology of developing new formulations. Advanced chromatographic processes: application of paper chromatography; ion-exchange chromatography; gas chromatography; high pressure liquid chromatography.  
**30 h (T), 45 h (P); C,PR:PCG 301, 302**
- PCG 402 Research Methods and Plant Tissue Culture Techniques 3 Credits**  
 Research Methods: Importance of medicinal plants research; methods and techniques applied to research on plant materials; selection, identification, collection and preparation of the plant materials. Extraction, isolation and analysis of the active phytochemicals and their characterization and identification. Plant tissue culture in the production of pharmaceuticals through

biotechnology. Introduction, equipment and facilities require for tissue culture work; factors affecting growth of cultures, applications of plant tissue culture and secondary plant products. Origin and biogenesis of natural drug products: definition, importance of metabolism and metabolic path-ways and types of biochemical reactions.

**30h (T), 45h (P); C,PR: PCG 301, 302.**

**PCG 501 Nigerian Medicinal and Ordeal plants, Forensic Pharmacognosy,**

**Traditional Medicine and Evaluation of Crude Drugs 3 Credits.**

Nigerian Medicinal and Ordeal Plants: classification and study of representative and their groups; Forensic pharmacognosy: Legal control; Toxicological analysis and Classification of poisons. Traditional Medicine: Introduction; Methods of preparation and quality control of traditional medicinal products e.g. Plant and animal products used in traditional medicines. Evaluation and standardization of crude drugs: Introduction; Definitions and implications of evaluation; Determination of moisture content in drugs and chemicals

**30 h (T), 45h (P); C, PR:PCG 401,402**

**PCG 502 Herbal medicine, Chemotaxonomy, Genetics and Plant Ecology 3 Credits**

Herbal medicine; selection; dose and remedies. Pesticides and Herbicides; Genetics in Pharmacognosy. Chemotaxonomy and comparative phytochemistry.

**30 h (T), 45h (P); C,PR: PCG 401, 402**

**PHP 599 Project**

**4 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission a project.

**180h (P); C**

## Department of Pharmaceutical and Medicinal Chemistry

### Course Description

- PCH 201      Pharmaceutical Inorganic Chemistry      1 Credit**
- Hydrogen and its compounds. Group properties of elements. Pharmaceutical applications of the Groups I to VIII elements. Transition elements and their pharmaceutical applications. General gastrointestinal agents. Coordination compounds. Complexes and chelating agents.  
**15h (T); C**
- PCH 203      Pharmaceutical Organic Chemistry      2 Credits**
- General classes of Organic Compounds, structural concepts, nomenclature, occurrence, reactions, infra-red spectroscopy, physical and chemical properties with examples of some pharmaceutical agents of the following groups: alkenes, alkynes, aromatic and fused aromatic hydrocarbon; halogenated hydrocarbons; alcohols and phenols; aldehydes and ketones; carboxylic acids, esters, lactones, amides, anhydrides and halides; amines, amides, Imides, carbamates derivatives, nitro and nitroso compounds.  
**15 h (T), 45h (P); C,PR: CHM 101, 112**
- PCH 202      Pharmaceutical Analytical Inorganic Chemistry      3 Credits**
- Preliminary analysis of acids and basic radicals. Preparation of solutions of salts. General scheme for the separation of cations into groups. Reactions of cations and anions. Qualitative examination of anions and cations of groups I-VII.  
**30h(T), 45h(P);C**
- PCH 204      Pharmaceutical Physical Chemistry      2 Credits**
- Colligative properties .conductivity of solutions. Theory of electrolytes. Buffer solutions. Solubility. Thermochemistry: Chemical equilibrium and chemical kinetics, basic thermodynamics, thermochemical formulae and laws.  
**30h (T), C**
- PCH 205      Introduction to Physical Biochemistry      2 Credits**
- Water, physical properties, hydrogen binding, water as solvent, solution, acids, and bases.  $P^H$ ,  $PK_a$  values and their effects on cellular activities, buffers. Structure of cells, cell-organelles, cell types, integration of cellular functions, division and differentiations.

15h(T), 45h(P);R

**PCH 206 Structure and Chemistry of Biomolecules and Biosynthesis of Macromolecule**

**2 Credits**

Chemistry of amino-acids, proteins, carbohydrates, lipids, enzymes, vitamins and co-enzymes. Structures and functions of macromolecules: polysaccharides, glycoproteins, nucleic acids, lipids, dextrans, ascorbic acids.

**30 h (T); R**

**PCH 207 Metabolism of Biomolecules**

**2Credits**

Degradation of carbohydrates: sugar, glucose, reactions of sugar, glycolysis, tricarboxylic acid cycle. Classification of lipids, oxidation of fats, ketones, cholesterol .Oxidative degradation of amino-acids, urea cycle creatinine and creatinine metabolism.

**15h(T), 45h(P);R**

**PCH 301 Pharmaceutical Analysis I**

**2 Credits**

Acid Base titrations: aqueous and non-aqueous acid-base titrations. Oxidation-reduction titrations. Complexometric titrations. Gravimetric analysis. Gasometric assays.

**15h (T), 45h (P); C, PR: PCH 201**

**PCH 303 Pharmaceutical Organic Chemistry I**

**2 Credits**

Heterocyclic compounds. Medicinal Chemistry of Natural Products: steroids, alkaloids, flavonoids and their structural activity relationship. Stereochemistry: geometric isomerism, molecular asymmetry and chirality. Optical isomerism: optical activity, conformation of open-chain and ring systems.

**15h (T), 45h (P); C**

**PCH 302 Pharmaceutical Organic Chemistry II**

**3 Credits**

Introduction to organic reaction mechanisms: mechanisms of reactions, aliphatic and aromatic nucleophilic substitution, aliphatic and aromatic electrophilic substitution and eliminations. Introduction to addition reactions: carbon-carbon multiple bonds, conjugated dienes, other conjugated systems and carbon-hetero multiple bonds. Rearrangement reactions. Reduction and oxidation.

**(f) 30h (T), 45h (P); C,PR: PCH 203**

**PCH 401 Pharmaceutical Analysis II**

**3 Credits**

Absorption spectrophotometry. Colorimetry. Infrared spectroscopy. Fluorometry. Atomic absorption spectroscopy. High performance liquid chromatography. Gas chromatography. Mass spectrometry. Nuclear magnetic resonance. Potentiometry. Polarimetry. Polarography and amperometry.

**30h (T), 45h (P); C,PR: PCH 301**

**PCH 403 Physicochemical Principles of Medicinal Chemistry**

**2 Credits**

Influence of physico-chemical properties of drugs on biological activity. Ferguson principles. Drugs and receptors. Theories of drug action. Mechanisms of drug action. Pharmacokinetics and bioavailability. Protein binding of drugs. Pharmacodynamics. Procedures followed in drug design including bioisosterism approach. Quantitative Structural activity relationship.  
**30h (T); C, PR: PCH 302**

- PCH 402      Analytical Quality Control      2Credits**  
Introduction to the problems of drug quality control. Official methods of drug analysis with examples. Analytical methods used by manufacturers with examples. Importance of standards in drug quality control, use and storage. Impurities in pharmaceuticals and their sources. Limit Tests. Different methods of analysis of some groups of drugs in common use in Nigeria (analgesics, antibiotics, antihelminthics and amoebicides).  
**15h (T), 45h (P); C,PR: PCH 301**
- PCH 501      Medicinal Chemistry I      2 Credits**  
Nomenclature, physical and chemical properties, uses and mechanisms of action, synthesis and structural activity relationship. Assay and metabolism of the following classes of drugs: Analgesics and antipyretics; local and general anaesthetics; sedative and hypnotic; anticonvulsants. Adrenergics and cholinergics; antihistamines; hypoglycaemics, antihypertensives and diuretics.  
**30h(T); C, PR:PCH 401, 403**
- PCH 503      Medicinal Chemistry II      2 Credits**  
Nomenclatures, physical and chemical properties, uses and mechanism of action, synthesis and structural activity relationship, assay and metabolism of the following classes of drugs: sulphonamides and sulfones, antibiotics, antimalarials, amoebicides, trypanocides and antihelminthics, antineoplastics, antivirals, gastrointestinal agents, vitamin, steroids and steroid hormones.  
(g)    **15h(T); C, PR: PCH 403**
- PCH 502      Chemical Aspects of Drug Metabolism      1 Credit**  
Phase I reactions and general pathway of metabolites. Metabolism of pesticides and other chemicals. Metabolism of steroids and sterols. Enzyme induction and stimulation. Phase II reactions. Factors affecting metabolism. Relationship of phase I and phase II reactions. Metabolic schemes of some selected drugs. Stereochemical aspects of drug metabolism: substrate and product stereochemistry and substrate-product selectivity. Biochemical aspects of drug metabolism. Drug metabolizing enzymes. Enzymes operative in phase I reactions. Pharmacogenetics.  
**15h (T); C, PR: PCH 403**
- PCH 504      Radiopharmaceuticals and Contrast Media      1 Credit**  
Definition of terms, properties of radiation and radioactive decay, production of radio-nuclide, stability and storage, radiation hygiene. Quality control of radiopharmaceutical. Applications of radiopharmaceuticals. Radiopaque contrast media.  
**15h (T);C**
- PHP 599      Project      4 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission a project.

**180h (P);C**

## **Department of Pharmaceutics and Industrial Pharmacy**

### **Course Description**

- PCT 201      Pharmaceutical Calculations      1 Credit**  
Units of weights and measures. Inter-conversions of weights and measurements. Units. Abbreviations. Simple calculations. Various dosage calculations: pediatric, geriatric, mean generation times, decay and potency calculation. Kinetic equations and rates of reactions. Solubility: iso-osmotic solutions, milliequivalents and millimoles. Calculations involving use of prefabricated dosage forms in compounding procedures.  
**15 h (T);C**
- PCT 202      Physical Pharmacy      1 Credit**  
Phase equilibria and phase rules. Colloids. Stability of colloidal systems. Lyophobic and lyophilic. Solutions. Surface science, optical and kinetic properties of colloids. Electrical, rheology and viscosity properties of colloids.  
**15h (T); C**
- PCT 204      Technology of Formulation      2 Credits**  
Properties of Solid Systems: Particles size analysis and separation, size reduction; mixing. Properties of liquid systems. Extraction: solid/liquid separation (filtration and centrifugation). Heat transfer; evaporation and distillation.  
**30h (T);C**

- PCT 206      Introduction to Dispensing      1 Credit**  
 Unit operations e.g. size reduction. Particle size determination, mixing of solids in semi-solids, preparation of simple solutions, mixtures, powders etc. Drying, filtration. extraction. distillation. centrifugation. Aromatic waters and dissolution studies.  
**45h (P); C**
- PCT 301      Technology of Liquid and Semi-solid Formulations      2 Credits**  
 Liquid Formulations: solutions, mixtures, colloids, liniments, lotion and paints. Labelling and packaging. Emulsions and suspensions: definitions, characteristics of pharmaceutical suspensions and methods of formulation. Semi-solid formulations: formulation; preparation, packaging and storage of suppositories and pessaries. Ointments. Creams, pastes and aerosol formulations.  
**30h (T); C, PR: PCT204**
- PCT 303      Theory of Dispensing      1 Credit**  
 Definitions and terminologies.Components of a prescription.Latin and other standard abbreviations.Common expressions. Weighing and measurement instruments/tools.Accuracy of weights and measurements.Uniformity of doses.Drug and pharmacy information books.Labelling of dispensed medicinal products.Auxiliary labels. Basic techniques used in the formulation of extemporaneous products.Basic dispensing procedures for different dosage forms. Drug classifications (poisons, dangerous drugs, etc), handling and disposal.  
**15h (T); C,PR: PCT 201**
- PCT 302      Technology of Solid Formulations      2 Credits**  
 Solid Formulation: Powders and oral preparations, single and compound powders. Topical preparations: Bulk powders, dusting powders, medical surgical, standardized powders. Incompatibilities in powders. Hard gelatin and soft elastic capsules; granules and tablets; technology of coating. Prolonged action tablets. Tablets quality control tests.  
**30h (T); C,PR:PCT 204.**
- PCT 314      Dispensing Practical      1 Credit**  
 Use of basic dispensing instruments and tools (balances, mortars, homogenisers, measuring apparatus). Preparation of different dosage forms( powders, solutions, mixtures, emulsions, ointments, liniments, eye/ear drops, capsules, granules, coated and uncoated tablets etc) and tackling incompatibilities.  
**45 h (P); C, PR:PCT 206**
- PCT 411      Formulation of Dosage Forms      1 Credit**  
 Formulation and evaluation of emulsion. Stability studies e.g. creaming and cracking. Evaluation of calamine lotion. Studies on derived properties of powder. Evaluation of suspension. Evaluation of capsules. Formulation and preparation of injections. Single dose and Multidose .  
**45h (P);C,PR: PCT 304**



<b>PCT 402</b>	<b>Quality Control and Stability of Pharmaceutical Preparations</b> Definitions : quality Control, quality assurance and manufacturing practice. Quality assurance. Stages in production of a new drug .Quality control of premises. Environment and raw materials. In-process quality control. Stability of pharmaceuticals: Kinetics, mechanism of degradation, physical stability and evaluation of microbial contamination of pharmaceutical preparations. <b>30 h (T), 45 h ( P); C, PR: PCT 202, 205, 304</b>	<b>3 Credits</b>
<b>PCT 403</b>	<b>Formulation Technology and Water Production</b> Advanced Formulation Technology. Recent advances in solid dosage. Formulation technology. Microencapsulation as a technique of formulation. Dispersion technique. Transfusion fluid technology. Water Production: Purified water; water for injection and pyrogenic water. Still design. Vapour compression still. <b>15h (T);C,PR: PCT 301, 302</b>	<b>1 Credit</b>
<b>PCT 404</b>	<b>Radiopharmaceuticals and Medicinal Gases</b> Diagnostic application of isotopes. Preparation of radiopharmaceuticals. Radiopharmaceuticals used in medicine. Medicinal and pharmaceutical gases. Contaminants and container markings. Pressure reducing regulators. Storage of cylinders. <b>15 h (T);C</b>	<b>1 Credit</b>
<b>PCT 501</b>	<b>Industrial Pharmacy and Biopharmaceutics</b> General requirements, production management, Pilot. Plant scale up techniques. Solid and semi-solid dosage forms. Sustained released dosage Forms. Sterile dosage forms. Biopharmaceutics: factors affecting absorption of drugs; formulation factors affecting biological performance of drugs. determination of <i>in-vitro</i> dissolution rates and <i>in vivo</i> correlations; bioavailability and estimation of drugs availability by observed pharmacological effects. <b>30 h (T); C</b>	<b>2 Credits</b>
<b>PCT 502</b>	<b>Product Development and Good Manufacturing Practice</b> General inspection. Quality assurance and quality control procedures and sampling. Personnel and training. Environmental hygiene. Equipment planning procedures. Production formula and manufacturing instructions. Handling of starting materials. Labelling instructions. Control of packaging materials and packing operations. Supervision of production. Storage, transport and distributions. Manufacture and control of sterile medicine products. Premises processing. <b>30h (T); C, PR: PCT402</b>	<b>2 Credits</b>
<b>PCT 503</b>	<b>Industrial Pharmacy</b> Visitation to Pharmaceutical Companies to familiarization with methods and machineries used for pharmaceutical preparations. Preparation and evaluation of cosmetics. Tablet production by direct compression and Slugging and wet granulation methods. Evaluation of tablets. <b>45 h (P), C, PR: PCT 401.</b>	<b>1 Credit</b>
<b>PHP 599</b>	<b>Project.</b>	<b>4 Credits</b>

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission a project.

**180h (P); C**

## **Department of Pharmaceutical Microbiology and Biotechnology**

### **Course Description**

- PMB 201 Introduction to Pharmaceutical Microbiology 3 Credits**  
Historical background and relevance to the practice of Pharmacy. Classification of living forms. General microbial cell structures and functions. Classification of bacteria and their characterization. Nutritional and growth requirements. Enumeration of microorganisms. Microbial products. Properties of selected pathogenic organisms. Microscopic studies. Bacterial culture media. Fungi. Rickettsiae. Viruses and their importance in pharmacy and medicine. Protozoa of public health importance.  
**30h (T), 45(P); C**
- PMB 202 Chemical Antimicrobial Agents and Disinfections 3 Credits** Chemical antimicrobial agents: types and properties and mechanism of action. Ideal properties of chemical disinfectants. Factors affecting activity of chemical antimicrobial agents. Methods of evaluation of the antimicrobial properties of chemical disinfectants.  
**30h (T), 45h (P); C**
- PMB 301 Principles and applications of Biotechnology 2 credit**  
Introduction to biopharmaceuticals. Biotechnology manufacturing. Facilities and environmental biotechnology. Biotechnology products in current use.  
**30h (T); C,PR: PMB 201**
- PMB 303 Pharmaceutical Aspect of Immunology 2 Credits**  
Immunology: Infection, basic molecular biology, bacteria toxin, invasive pathogens, antigens and antibodies. Immunological products: vaccines (viral vaccine. Rickettsia vaccineetc), toxoids. Antisera (Diphtheria) and diagnostic agents. Immunization schedule. Production and preservation of antibodies, sera and vaccines.  
**30h (T); C,PR:PMB 201**
- PMB 312 Biological Products 1 Credit**  
Blood: Plasma and Plasma substitutes. Blood fractions. Redcell antigen and importance of blood transfusion.; Sutures and ligatures: manufacture, sterilization and uses.

15 h (T); C

- PMB 314 Sterilization and Aseptic Processes, Sterile Products 3 Credits**  
Microbial death. kinetics of cell death. Sterilization processes: moist and dry heat sterilizations, irradiation, sterilization by filtration. Principles of aseptic techniques and aseptic processing. Sterile preparations: formulation and preparation of injections, eye preparations and powders. Aseptic techniques and processes. Solvents for parenteral preparations; water for injection. Pyrogens; isotonicity. Sterility testing: design and operation  
**30h (T),45h (P);C,PR: PMB 202, 303**
- PMB 411 Pharmaceutical and Veterinary Parasitology 1 Credit**  
Epidemiology: principles and indices, epidemiology of infectious and non-infectious diseases in animals, microbial diseases of domestic animals and antimicrobial agents used in their management.  
**15h (T); C**
- PMB 403 Preservation of Pharmaceutical Products 1 Credit**  
Microbial contamination of pharmaceuticals; effects on products and users. Preservatives and evaluation of their preservative effectiveness. In-process microbiological control procedures.  
**15h (T); C,PR: PMB 304.**
- PMB 412 Chemotherapeutic Agents, Drug Resistance and Bacterial Genetics 3 Credits**  
Historical development of antibiotics: antibacterial, antifungal, antiviral and anti-tuberculosis agents. Factors affecting anti-microbial activity. Therapy approaches in infection management. Factors affecting choice of therapies. Drug Resistance: Patterns of genetic bases for bacterial resistance; Plasmids and other resistance transfer factors. Production of penicillinase and importance of resistance transfer factors.  
**30h (T), 45h (P);C,PR: PMB 301, 303.**
- PMB 414 Production and Marketing of Biotechnology Products 2 credits**  
Production of biopharmaceuticals and process validation, Business in biopharmaceuticals and intellectual property.  
**15 h (T), 45 (P); C, PR: PMB 301**
- PMB 511 Analytical Microbiology and Fermentation Technology 3 Credits**  
Analytical Microbiology: evaluation of antibiotic activity, assay procedures, screening/testing the antimicrobial activity of different chemicals, plant extracts, bacterial and fungal products. Fermentation technology: fundamentals of industrial fermentation, genetic/enzymatic engineering techniques, production of antibiotics; production of vitamins, alcohols, acetone, microbial food. Microbiological transformation of steroid.  
**30h (T),45 (P);C,PR: PMB 402**
- PMB502 Pharmaceutical Biotechnology 1Credit**  
Nucleic Acids: Replication and transcription. Control of gene expression. DNA damage and repair; Basic techniques in

biotechnology. Medically important recombinant proteins. Production of medically important polypeptides. Engineering antibodies for therapy. Biotechnology in vaccine development. New diagnostics. Use of recombinant DNA and antibody technology.

**15h (T); C, PR:PMB 401, 402**

**PHP 599**

**Project.**

**4 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**180h (P); C**

## Department of Pharmacology and Toxicology

### Course Description

- PCL 201      Anatomy of Essential Organs      2 Credits**  
Cardiovascular System: brief heart and vascular free with blood vessels, structures of heart and blood vessel. Respiratory system: gross anatomy of the thorax, nasal cavity, trachea, lungs and bronchioles diaphragm and respiratory movement. Gastro-intestinal tract: organs of the lower and upper gastro-intestinal wall. Renal system: urogenital system, microscopic anatomy of the urogenital organ, pelvic endocrine organs  
**15h(T), 45h(P);R**
- PCL 202      General Embryology and Respiratory System      2 Credits**  
Reproduction: male and female reproductive organs. Brain and the Spinal cord: histology, structures of, and composition of central nervous system. Sense organs: histology, structures of the eyes, ear, skin  
**15h(T), 45h(P);R**
- PCL 203      Physiology of Essential Organs      3 Credits**  
Cardiovascular system blood composition. Body fluids. Heart and blood vessels.      Regulatory System: lungs, bronchioles and gaseous exchange. Gastro-intestinal tract : alimentary canals, secretion and motility. Renal System: kidney and urine formation. Reproductive System: Male and female organs, hormones.  
**30h(T), 45h(P);R**
- PCL 204      Physiology of Nervous System      2 Credits**  
Central nervous system: brain, spinal cord and pathways, cortical and cerebral control of motor. Muscle movement: basal ganglia reticular activity system. Autonomic Nervous System .Structure and functional outflow of nerves from CNS: Sympathetic; Parasympathetic. Neurotransmitters: noradrenaline, acetylcholine. Somatic nervous system, neuromuscular transmission and receptors.  
**15h(T), 45h(P);R**
- PCL 301      Introduction to Pharmacology      2 Credits**  
Definition of pharmacology and its subject coverage, Factors modifying drug action; Routes of drug administration and their characteristics; Introduction to pharmacokinetic Processes, Introduction to Pharmacodynamics, Dose-response relationships, Drug toxicity, Introduction to drug screening and evaluation.  
**15h (T),45 (P); C,PR: PCL 201, 202, 203, 204, PCH 205, 206, 207**

- PCL 303 Pharmacology of the Autonomic Nervous System and Neuromuscular Junction 2 Credits**  
 Introduction: Anatomical and physiological links of the autonomous nervous system with Central Nervous System (CNS). Cholinergic system\ adrenergic system. Ganglion stimulants and blockers; Neuromuscular junction blockers.  
**15h (T), 45h (P); C, PR: PCL 201, 202, 203, 204, PCH 205, 206, 207**
- PCL 302 Systemic Pharmacology I: Cardiovascular System 2 Credits**  
 Cardiac glycosides. Antihypertensive agents. Antihypotensive agents. Antiarrhythmic agents. Coronary vasodilators .Hypolipidemic drugs .Diuretics and Antidiuretics.  
**15h (T),45h (P);C,PR: PCL 201, 202, 203, 204, PCH 205, 206, 207**
- PCL 304 Systemic Pharmacology II 2 Credits**  
 Drugs used in the treatment of :Respiratory system ( asthma and cough) Gastrointestinal system (peptic ulcer, diarrhea), Blood (anaemias, anticoagulants, fibrinolytic agents) and Autocoids ( histamine and antihistamine, antagonist, prostaglandins) diseases.  
**30h (T), C; PR:PCL 201, 202, 203, 204, PCH 205, 206, 207**
- PCL 401 Pharmacology of the Central Nervous System. 3Credits**  
 Introduction. Aliphatic Alcohols, Narcotic Analgesic. Non-narcotic analgesics. Drugs used in the treatment of gout, Antitussives. General anaesthetics, local anaesthetics. CNS Stimulants and Analeptic. Anticonvulsants. Centrally acting muscle Relaxant. Psychotropic drugs.  
**30 h (T),45 h (P); C,PR: PCL 301**
- PCL 402 Chemotherapy of Neoplastic Diseases 1 Credit**  
 (h) General Introduction: Nucleic acid metabolism, protein synthesis, cell division. Chemotherapy of cancer.  
**15h (T); C, PR: PCL 301**
- PCL 403 Chemotherapy of Parasitic Bacterial, Fungal and Viral Diseases 2Credits**  
 Introduction. Malaria. Bacterial sensitivity and resistance. Classification and mechanism of action of antimicrobial drugs. Antibacterial agents. Antifungal agents. Antiviral agents. Treatment of Mixed infections and antibiotic prophylaxis. Amoebiasis. Trypanosomiasis. Leishmaniasis and toxoplasmosis. Flukeinfestations. Fascioliasis. Tapeworm infestations. Roundworm infestations.  
**30 h (T); C,PR: PCL301**
- PCL 404 Endocrine Pharmacology 2 Credits**  
 Antithyroid Drugs and Inhibitors: Adrenocortical Tropic Hormone (ACTH) and adrenocortical steroids: insulin and antidiabetic agents, Pharmacology of the reproductive system, drugs used in obstetrics and gynaecological disorders.

**15h (T), 45h (P); C, PR: PCL 301.**

- PCL 405 Immuno-Pharmacology 1 Credit**  
Introduction: Overview of the immune System. Inflammation and the cardiovascular System: Inflammation in the muscle, skeletal and respiratory system. Pathological and therapeutic modulation of the immune system.  
**15h (T); C,PR: PCL301**
- PCL 501 Toxicology 3Credits**  
Introduction, definition and scope, pesticides, insecticides, herbicides, rodenticides, fungicides and fumigants, Solvent, vapours and gases, food toxicology, phytotoxicity, toxins of animal origin: toxicology of cosmetics: social poisons (Drug Abuse), radiation and radioactive materials. Heavy metal poisoning, heavy metal antagonists, industrial poisons, environmental toxicology, hazardous / toxic Wastes.  
**30 h (T),45h (P); C, PR: PCL 304,401.**
- PCL 502 Molecular Pharmacology 2Credits** Introduction to receptors and intracellular signaling. Agonist and antagonist. Receptor interactions, ion channels, tolerance and intercellular Messenger, Protein purification, gene therapy and relationship to diseases.  
**30h (T), C; PR: PCL 301.**
- PCL 503 Veterinary Pharmacology 2 Credits**  
Definition of veterinary pharmacology, Compounding and dispensing of medicines to animals. Compliance of animals with medications, poisons in animal, Drugs used in the treatment of sheep and goat diseases, poultry diseases, swine diseases, small animal (dog and cat) diseases. Antimicrobial agents used in treating animal infections.  
**30h (T); C,PR: PCL 301.**
- PHP 599 Projects. 4 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**180h (P); C**

## **SUMMARY**

### **100 Level**

**Required Courses :** PLB 101 (3), CHM 101 (3), CHM 115 (2), CSC 111 (2), PHY 191 (1), PHY 115 (2), PHY 125 (3), GNS 111 (2), PLB 108 (3), ZLY 106 (2), CHM 112 (2), CHM 132 (2), PHY 142 (2), PHY 152 (3), PHY 192 (1), GNS 112 (2), STA 121 (2), STA 124 (2)

**= 39 Credits**

**Compulsory Course:** PCP 101 (1)

**= 1 Credit**

**Total = 40 Credits**

### **200 Level**

**Compulsory Courses:** PCG 201 (3), 202 (3), PCH 201 (1), 202 (3), 203 (2), 204 (2), 205 (2), 206 (2), 207 (2), PCT 201 (1), PCT 202 (1), 204 (2), 206 (1), PMB 201 (3), PMB 202 (3), PCL 201 (2), 202 (2), 203 (3), 204 (2), GNS 211 (2), GNS 212 (2).

**Total = 44 Credits.**

**DE:** PCP 101 (1), GNS 112 (2), GNS 111 (2) **= 5 Credits**

### **300 Level**

#### **Compulsory Courses:**

PCP 301 (2), 302 (1), 304 (1), 306 (1), PCH 301 (2), 302 (3), 303 (2), PCT 301 (2), 302 (2), 303 (1), 314 (1), PMB 301 (2), 312 (1), 303 (2), 314 (3), PCG 301 (2), 302 (2), 304 (2), PCL 301 (2), 302 (2), 303 (2), PCL 304 (2).

**= 40 Credits**

**Required Courses:** GNS 311 (2), GSE 301 (3).

**= 5 Credits**

**Total Credits = 45 Credits**

### **400 Level**

**Compulsory Course:**



PCP 401 (2), 402 (2), 403 (1), 404 (2), 405 (2), 406 (2), PCH 401 (3), 402 (2), 403 (2), PMB 411 (1), 412 (3), 403 (1), 414 (2), PCT 411 (1), 402 (3), 403 (1), 404 (1), PCG 401 (3), 402 (3), PCL 401 (3), 402 (1), 403 (2), 404 (2), 405 (1)

**Total Credits = 46 Credits**

### **500 Level**

#### **Compulsory Courses:**

PCP 501 (2), 502 (2), 503 (2), 504 (2), 505 (2), 506 (4), PCH 501 (2), 502 (1), 503 (2), 504 (1), PMB 501 (3), 502 (1), PCG 501 (3), 502 (3), PCT 501 (2), 502 (2), 503 (1), PCL 501 (3), 502 (2), 503 (2), PHP 599 (4)

**46 Credits**

**Total Credits =**

### **Graduation Requirements**

**UTME= 221 Credits**

**DE= 186 Credits**

## FACULTY OF PHYSICAL SCIENCES

### DEAN'S OFFICE

I. A. Adimula	B.Sc. (Ilorin); M.Sc. (OAU); Ph.D. (Ilorin)	Professor & Dean
Catherine N. Ejieji	B.Sc. (Nsukka); M.Sc., Ph. D. (Ilorin)	Lecturer I & Sub-Dean
O. G. Fagbamila	B.Sc., MBA (Ilorin)	Faculty Officer

### DEPARTMENT OF CHEMISTRY

N. Abdus-Salam	B.Sc., M.Sc., Ph.D. (Ilorin)	Reader & Ag. Head
J.A. Obaleye	B.Sc. (Tennessee); Ph.D. (Texas)	Professor
E.O. Odebunmi	B.Sc. (Ibadan), M.Sc., Ph.D. (Princeton)	Professor
U.B. Eke	B.Sc., M.Sc., Ph.D. (Ilorin)	Professor
A.C. Tella	B.Sc. (Lagos), M.Sc., Ph.D. (Ilorin)	Senior Lecturer
L.A. Usman	B.Sc. (Ed.), M.Sc. (Ilorin), Ph.D. (LAUTECH)	Senior Lecturer

S.O. Oguntoye	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer
Modinah A.O. Abdul Raheem	B.Sc., M.Sc., (Ibadan); PGDE; Ph.D. (Ilorin)	Senior Lecturer
Amudat Lawal	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer
O.M. Ameen	B.Sc., (BUK); M.Sc., Ph.D. (Ilorin)	Lecturer I
S. O. Owalude	B.Sc., M.Sc., Ph.D. (Ilorin)	Lecturer I
Halimat I. Adegoke	B.Sc. (Ibadan); M.Sc., Ph.D. (Ilorin)	Lecturer I
O. Tolani	B.Sc., M.Sc., Ph.D. (Ilorin)	Lecturer I
S. E. Elaigwu	B.Sc. (BSU); M.Sc. (ABU); Ph.D. (Hull)	Lecturer II
A. A. Hamid	B.Sc. (Ilorin); M.Sc. (Ibadan)	Lecturer II
A. O. Rajee	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
O. M. Bello	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
S. A. Elelu	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
S. A. Asala	OND, ANIST	Chief Technologist

A. C. Tomilayo	ANIST	Chief Technologist
Mr. J. F. Odedina	B.Sc. (Ilorin); PGDE; MBA, M.Ed. (Ilorin)	Asst. Chief Technologist
K. F. Olowe	HND	Senior Technologist
Ajarat A. Ahmed	HND	Technologist II
Kudirat .A. Abdulwahab	B.Sc. (UNAAB)	Technologist II
Aminat A. Abdulquadri	B.Sc. (Lagos)	Technologist II
Khadijat O. Issa	HND	Technologist II
Rukayat T. Fakunle	HND	Technologist II

#### **DEPARTMENT OF GEOLOGY AND MINERAL SCIENCES**

O. A. Adekeye	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer & Ag Head
S. O. Akande	B.Sc. (Ibadan); M.Sc. (West Ontario); Ph.D. (Dalhousie)	Professor
O. Ogunsanwo	B.Sc. (Ibadan), M.Sc., Ph.D (OAU)	Professor
J. I. D. Adekeye	B.Sc. (Ibadan); M.Sc. (OAU); Ph.D. (Pittsburgh)	Professor
R. B. Bale	B.Sc. (Ibadan); M.Sc. (Hull); Ph.D. (Southampton)	Reader

O. J. Ojo	B.Sc. (Ilorin); M.Sc. (Ibadan); Ph.D. (Ilorin)	Reader
S. M. A. Adelana	B.Sc., M.Sc. (Ilorin)	Lecturer I
O. O. Ige	B.Sc., M.Sc., Ph.D. (Ilorin)	Lecturer I
A. D. Adedoyin	B.Sc., M.Sc., Ph. D. (Ilorin)	Lecturer I
O. A. Omotoso	B.Sc. (EKSU), M.Sc. (Ibadan)	Lecturer II
A. Abdurrahman	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
L.M. Johnson	B.Sc. (Ilorin); M.Sc. (Derby)	Assistant Lecturer
Mercy T. Alebiosu	B.Sc. (CRU)	Assistant Lecturer
M.A. Yusuf	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
Oluwatoyin K. Ali	B.Sc. (Ilorin); M.Sc. (Derby)	Assistant Lecturer
Omolayo A. Omorinoye	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
K.O. Ibrahim	B.Sc. (Ilorin); M.Sc. (FUTM)	Assistant Assistant
P. O. Babayemisi	B.Sc., (Ed) (Lagos)	Chief Technologist
C. A. Obaseki	HND (Ibadan)	Chief Technologist
Rukayat T. Ayanlere	B.Sc. (Ilorin)	Technologist I
R. O. Olaoye	HND, ANISLT (Ilorin)	Technologist I
H. O. Abubakar	B.Sc., (Ilorin); PGD (FUTA)	Technologist I
A. K. Oniyangi	HND ( Kaduna)	Technologist II
R. L. Giwa	B.Sc. (Maiduguri)	Technologist II
V. C. Alepa	B.Sc. (Ilorin)	Technologist II

### DEPARTMENT OF GEOPHYSICS

L. I. Nwankwo	B.Sc. (Port Harcourt); M.Sc., Ph.D. (Ilorin)	Senior Lecturer & Ag. Head
S. Olatunji	B.Sc. (Ed) (Ilorin); M.Sc., Ph.D. (ABU)	Lecturer I
W. O. Raji	B.Sc., M.Sc. (Ilorin); Ph.D. (Liverpool)	Lecturer I
I. O. Folorunso	B.Sc., M.Sc. (Ilorin)	Lecturer II
A. K. Olawuyi	B.Sc. (Calabar); M.Sc. (Ilorin)	Lecturer II
T. O. Adeoye	B.Sc. (Ilorin); M.Tech. (FUTA)	Assistant Lecturer
Khadijah O. Aluko	B.Sc. (Ilorin); PGD, MAG (Lagos)	Technologist I
Ifedolapo G. Obadare	B.Sc. (Ilorin); MAG (Lagos)	Technologist II

### DEPARTMENT OF INDUSTRIAL CHEMISTRY

O. O. Dosumu	B.Sc., M.Sc. (Ilorin); Ph.D. (Ibadan)	Reader & Ag. Head
G.A. Olatunji	B.Sc. (OAU); Dip. Chem. Dr. rer. Nat (Berlin)	Professor
F.A. Adekola	B.Sc., M.Sc. (OAU); Adv. Dip. Anal. Chem.; Ph.D. (Paris)	Professor
Omolara O. Oluwaniyi	B.Sc. M.Sc., Ph.D. (Ilorin)	Senior Lecturer
F. O. Nwosu	B.Sc., M.Sc. (Ilorin); Ph.D. (Ibadan)	Senior Lecturer
G. B. Adebayo	B.Sc. (Lagos); M.Sc., Ph.D. (Ilorin)	Senior Lecturer
A. A. Baba	B.Sc. (Ed.), M.Sc., Ph.D. (Ilorin)	Senior Lecturer

M. F. Zubair	B.Sc., M.Sc. (BUK); Ph.D. (LAUTECH)	Senior Lecturer
G. V. Awolola	B.Sc., (Ilorin); M.Sc. (Ibadan)	Lecturer I
H. K. Okoro	B.Sc., M.Sc., (Ilorin); Ph.D. (CPUT)	Lecturer II
S. A. Adebayo	B.Sc., M.Sc. (Ilorin)	Lecturer II
F. O. Okeola	B.Sc. M.Sc. (Ilorin)	Lecturer II
M. O. Bamigboye	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
T. O. Abu	B. Sc., M.Sc. (Ilorin)	Assistant Lecturer
H.F. Babamale	B. Sc., M.Sc. (Ilorin)	Assistant Lecturer
A. A. Mohammed	B. Sc., M.Sc. (Ilorin)	Assistant Lecturer
B. O. Orimolade	B. Sc. (Ilorin)	Assistant Lecturer
O. D. Saliu	B. Sc. (Ilorin)	Assistant Lecturer
A. B. Adebayo	B. Tech. (FUTM); M.Sc. (Ibadan)	Chief Technologist
S.A. Ajala	PGD., ANIST.	Assistant Chief Technologist
C. I. Ozonowe	B.Sc. (Ed.) (Nsukka); MPA (Ilorin)	Principal Technologist
S.O. Bello	B.Sc. (Ilorin)	Technologist II

#### **DEPARTMENT OF MATHEMATICS**

O.A. Taiwo	B. Sc., M. Sc., Ph. D. (Ilorin)	Reader & Ag. Head
J.A. Gbadeyan	B. Sc. (ABU); M. Math, Ph.D. (Waterloo)	Professor

T.O. Opoola	B. Sc., M. Sc., (Karkov); Ph. D. (Ilorin)	Professor
O. M. Bamigbola	B. Sc. (Ed.), M.Sc., Ph. D. (Ilorin)	Professor
M. O. Ibrahim	B. Sc., M. Sc., Ph. D. (Ilorin)	Professor
R. B. Adeniyi	B. Sc., M. Sc., Ph. D. (Ilorin)	Reader
S. O. Makanjuola	B. Sc., M. Sc. (Ibadan); Ph. D. (ABU)	Senior Lecturer
E. O. Titiloye	B. Sc. (Ed.), M. Sc., Ph. D. (Ilorin)	Senior Lecturer
A. S. Idowu	B. Sc. (Ed.), M. Sc., Ph. D. (Ilorin)	Senior Lecturer
M. S. Dada	B. Sc. (Ed.), M. Sc., Ph. D. (Ilorin)	Senior Lecturer
K. Rauf	B. Sc. (Ilorin); M. Sc. (OAU); M.Sc., Ph. D. (Ilorin)	Senior Lecturer
K.O. Babalola	B. Sc., M. Sc. (OAU); Ph. D. (Ilorin)	Senior Lecture
Olubunmi A. Fadipe-Joseph	B. Sc., M. Sc. (Ibadan); Ph. D. (Ilorin)	Senior Lecturer
Yidiat O. Aderinto	B. Sc. (Ed.), M .Sc., Ph. D. (Ilorin)	Lecturer I
Catherine N. Ejieji	B. Sc. (Nsukka); M.Sc., Ph. D. (Ilorin)	Lecturer I
B. M. Yisa	B. Sc., M.Sc., Ph. D. (Ilorin)	Lecturer II
U. J. Abubakar	B. Sc., M. Sc. (Ilorin)	Lecturer II
H . O. Ibraheem	B. Sc. (Ilorin), M. Sc. (Swansea)	Assistant Lecturer
K. A. Bello	B. Sc., M. Sc. (Ilorin)	Assistant Lecturer



B. M. Ahmed	B. Sc., M. Sc. (Ilorin)	Assistant Lecturer
N. G. Bakare	B. Sc., M. Sc. (Ilorin)	Assistant Lecturer
T. O. Olotu	B. Sc., M. Sc. (Ilorin)	Assistant Lecturer
O.A. Uwaheren	B.Sc. (Ed.), M.Sc. (Ilorin)	Assistant Lecturer

#### **DEPARTMENT OF PHYSICS**

K. J. Oyewumi	B.Sc., M.Sc., Ph.D (Ilorin)	Reader & Ag. Head
J. O. Adeniyi	B.Sc., Ph.D. (Ibadan)	Professor
T. Akomolafe	B.Sc. (OAU), Ph.D (Leeds)	Professor
C. O. Akoshile	B.Sc. (Ibadan); M.Sc. (Athens Ohio); Ph.D. (Dallas)	Professor
I. A. Adimula	B.Sc. (Ilorin); M.Sc. (OAU); Ph.D. (Ilorin)	Professor
O. B. Awojoyogbe	B.Sc (EKSU); M.Sc. (OAU); Ph.D. ( FUTM)	Professor
E. O. Oyeyemi	B.Sc. (Ilorin); M.Sc.(Lagos); Ph.D. (Rhodes)	Reader
O. A. Falaiye	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer
O. A. Babalola	B.Sc., M.Sc., PGDC, Ph.D. (Ilorin)	Senior Lecturer
O. A. Oladipo	B.Sc.; M.Sc., Ph.D. (Ilorin)	Senior Lecturer
A. B. Alabi	B.Sc.; (OAU), M.Sc.; Ph.D. (Ilorin)	Senior Lecturer

T. B. Ajibola	B.Sc.; M.Sc.; Ph.D. (Ilorin)	Senior Lecturer
T. T. Ibrahim	B.Sc.; M.Sc. (Ilorin), Ph. D. (Stellenbosch)	Lecturer I
A. O. Olawepo	B.Sc.; (Ibadan), M.Sc.; Ph.D. (Ilorin)	Lecturer I
T. O. Lawal	B.Sc. (Ilorin); M.Sc. (Ibadan), Ph.D. (Ilorin)	Assistant Lecturer
S. O. Ige	B.Sc. (Ibadan); M.Sc.(Ilorin)	Assistant Lecturer
S. A. Bello	B.Sc. (UDUS); M.Sc. (Ilorin)	Assistant Lecturer
M. M. Orosun	B.Tech. (MAUTECH)	Assistant Lecturer
G. D. Adebajo	B.Sc. (Ilorin)	Assistant Lecturer
S. A. Gideon	B.Sc. (Ilorin); M.Sc. (OAU)	Graduate Assistant
N. Partric	B.Sc. (Benin); M.Sc. (Ilorin)	Graduate Assistant
J. O. Oyetunji	AIST. Dip. Elect.Int. Full Tech.	Chief Technologist
I. B. Adewole	HND; NIST; PGD	Chief Technologist
Victoria M. Eyeye	HND; NIST; PGD.	Technologist I
Adijat F. Shittu	HND	Technologist II

**DEPARTMENT OF STATISTICS**

W. B. Yahya	N.C.E; B.Sc., M.Sc. (Ilorin); PGDFM, MBA (EKSU), Ph.D. (Munich)	Senior Lecturer & Ag. Head
B. A. Oyejola	B.Sc. (ABU); M.Sc. Ph.D. (Reading)	Professor
E. T. Jolayemi	B.Sc.(ABU); M.Sc., Ph.D. (Michigan)	Professor
P. A. Osanaiye	B.Sc., M.Sc.(Ibadan); Ph.D. (Essex)	Professor
R. A. Ipinyomi	B.Sc. (ABU); M. Sc. (Ibadan); Ph.D.(Southampton)	Professor
B. L. Adeleke	B.Sc., M.Sc., Ph.D. (Ilorin); Dip. Agric. Stat. (Washington)	Professor
A. A. Adewara	B.Sc., M.Sc., Ph.D.(Ilorin); PGDE	Senior Lecturer
A. O. Adejumo	B.Sc., M.Sc. (Ilorin); Ph.D. (Munich)	Senior Lecturer
O. O. M. Sanni	N.C.E., B.Sc. (ABU); M.Sc., Ph.D. (Ilorin)	Senior Lecturer
G. M. Oyeyemi	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer
A. A. Abiodun	B.Sc., M.Sc., Ph.D. (Ilorin)	Senior Lecturer
A. O. Abidoye	B.Sc.(Ilorin); M.Sc. (Ibadan); Ph.D. (Ilorin)	Lecturer I
M. K. Garba	NCE, B.Sc. , M.Sc., Ph.D.(Ilorin)	Lecturer II
O. Job	NCE, B.Sc., M.Sc., Ph.D.(Ilorin)	Lecturer II
R. B. Afolayan	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
Olakiitan I. Adeniyi	B.Sc., M.Sc.(Ilorin)	Assistant Lecturer
N. A. Ikoba	B.Sc., M.Sc. (OAU)	Assistant Lecturer
A. W. Banjoko	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
Mariam O. Adeleke	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer



compounds. Isolation and purification of organic compounds.

**30h (T); C**

- CHM 115      General Practical Chemistry I      2 Credits**  
Theory and practice of quantitative chemical analysis, calculation, data analysis and presentation, Acid-base, oxidation-reduction reactions, precipitation and complexometric titrations. Gravimetric analysis.  
**15h (T); 45h (P), C**
- CHM 116      General Practical Chemistry II      1 Credit**  
Qualitative inorganic and organic analysis for elements in Groups IA, IIA, IIIA,IVA, IB, IIB and IIIB. Chemical analysis for functional groups: acidic, ketonic, carboxylic.  
**45h (P); C**
- CHM 131      Chemistry and Society      1 Credit**  
Renewable and non-renewable resources, energy source and depletion. Environmental effects of chemicals. Plastics, textiles and materials for aerospace technology. Chemical and radio-chemical hazards.  
**15h (T); E**
- CHM 132      General Inorganic Chemistry      2 Credits**  
Periodic table and periodic properties. Chemical bonding. Structures of solid. Chemistry of selected representative elements. Qualitative analysis. Hybridisation.  
**30h (T); C**
- CHM 212      Basic Physical Chemistry      3 Credits**  
Kinetic theory of gases. First law of thermodynamics. Phase equilibria, chemical kinetics and reaction mechanisms. Electrochemistry and electrochemical cells.  
**30h (T), 45h (P); C**
- CHM 213      Basic Analytical Chemistry      2 Credits**  
Theory of sampling. Statistical treatment of data. Theory of errors. Chemical methods of analysis: volumetric, gravimetric, complexometric and kinetic. Introduction to separation methods.  
**15h (T), 45h (P); C**
- CHM 235      Basic Organic Chemistry      3 Credits**  
Determination of structures of organic compounds. Electron theory in organic chemistry. Factors affecting structure and physical properties of organic compounds. Factors affecting availability of electrons. Stereochemistry of oxygenated organic compounds.

Substitution reactions in alkanes and alkenes. Electrophilic and nucleophilic substitution reactions in other compounds.

**30h (T), 45h (P); C**

**CHM 236 Basic Inorganic Chemistry**

**3 Credits**

Simple considerations of molecular orbital, valence bond and crystal field theories. Chemistry of hydrogen. Noble gases, boron and aluminium, carbon and silicon, nitrogen and phosphorus, oxygen and sulphur and the halogens. Introduction to organometallic chemistry

**30h (T), 45h (P); C**

**CHM 301 Chemical Kinetics and Thermodynamics**

**3 Credits**

Chemical kinetics. Theory of the rates of reaction in both gas phase and solutions Enzyme and acid-base catalysis. Chemical thermodynamics. Second and third laws of thermodynamics. Solutions and colligative properties.

**45h (T) ; C, PR: CHM 212, CC: CHM 325**

**CHM 307 Organometallic Chemistry I**

**2 Credits**

Classification of organometallic compounds. Preparation, structure and reactions including abnormal behaviour of organometallic compounds. Synthetic utility of organometallics. Generation and detection of free radicals from organometallic compounds.

**30h (T); E, PR: CHM 235, CHM 236**

**CHM 312 Polymer Chemistry I**

**2 Credits**

Definitions of basic terms. Outline sources of raw materials for polymers. Phase systems for polymerisation. Step-growth polymerisation free radical addition polymerisation, ionic polymerisation. Solubility and solution properties of polymers. Fibre forming polymers.

**15h (T), 45h (P); E**

**CHM 318 Industrial Chemical Processes I**

**2 Credits**

Production of primary intermediates and synthesis of industrial organic chemicals, polymers, adhesives, dyes, explosives, insecticides, herbicides, flavouring agents and pharmaceuticals. Fermentation process.

**15h (T), 45 (P); E**

**CHM 320 Industrial Chemical Technology I**

**2 Credits**

Heat transfer and mass transfer processes. Unit operations. Chemical technology equipment.

**30h (T); E**

**CHM 322 Practical Inorganic Chemistry**

**2 Credits**

Preparation and structural studies of inorganic and coordination compounds. Use of physical methods, chromatography,

magnetometry, mass, infrared and electronic spectroscopy for the characterisation of the compounds.

**90h (P); C, CC: CHM 324**

- CHM 324 Inorganic Chemistry 3 Credits**  
Comparative chemistry of the following elements (a) Ga, In, Ti, (b) Ge, Sn, Pb, (c) As, Sb, Bi and (d) Se, Te, Po. Chemistry of transition metals, lanthanides and actinides. Ligand and Crystal field theories. Introduction to radio-chemistry. Role of metals in biochemical systems.  
**45h (T); C, PR: CHM 236; CC: CHM 322**
- CHM 325 Practical Physical Chemistry 2 Credits**  
Chemical kinetics. Determination of rate constant, activation energy and order of reaction. Determination of standard thermodynamic quantities for a reaction. Phase rule. Thermochemistry and use of electrochemical principles in titration reactions. Conductance of electrolyte solutions. Solubility and viscosity measurements.  
**90h (P); C, PR: CHM 212; CC: CHM 301**
- CHM 328 Environmental Chemistry I 2 Credits**  
Brief survey of air, water and land pollution, and their effects on the environment. Formation and control of air pollutants. Persistent organic pollutants, noise and thermal pollutions. Solid wastes and their treatments. Energy sources and their pollution problems.  
**30h (T); C**
- CHM 329 Practical Organic Chemistry 2 Credits**  
Preparation of simple organic compounds. Chemical transformations to show the concept of synthesis and mechanisms of organic reactions.  
**90h (P); C, PR: CHM 235 ; CC: CHM 331**
- CHM 330 Natural Products I 2 Credits**  
Extraction, purification and isolation of natural products. Introduction to structural elucidation of natural products. Classification and chemistry of carbohydrates, terpenes, steroids, glycosides, alkaloids, amino acids, proteins and lipids.  
**30h (T); C, PR: CHM 235**
- CHM 331 Organic Chemistry 3 Credits**  
Alcohols and their reactions. Ethers and epoxides. Carboxylic acids and their derivatives. Aldehydes, ketones and amines. Formation of carbanions and their reactions. Aromatics, alicyclic and heterocyclic chemistry. Polyfunctional compounds.  
**45(T); C, PR: CHM 235; CC: CHM 329**

- CHM 334      Colour and Textile Chemistry      2 Credits**  
Colour and constitution. Physical and chemical properties of dyes and textiles. Classification of dyes and fibres. Dyeing synthetic fibres. Preparation and dyeing of natural and synthetic fibres. Colour fastness properties. Quality control procedures in the textile and dye industries.  
**15h (T); 45h (P), E**
- CHM 336      InstrUTMENTal Methods of Analysis      2 Credits**  
Basic principles and applications: flame photometry, atomic absorption photometry, X-Ray method, fluorescence and phosphorescence, refractometry, polarimetry, colorimetry, voltametry and electrophoresis.  
**15h (T), 45h (P); C**
- CHM 340      Industrial Raw Materials Resource Inventory      1 Credit**  
Survey of Nigeria's industries and their raw material requirements. Mineral chemistry. Fossils and their uses. Plant and animal products. Nuclear, solar and hydrodynamic sources of energy. Potentials and applications of locally available raw materials as industrial feedstocks.  
**15h (T); E**
- CHM 341      Quantum Chemistry I      3 Credits**  
Historical development of atomic structure. Schrodinger's equation and its application to simple systems including the hydrogen atom. Spectroscopic states of atoms and atomic spectra. Theory of chemical bonding: molecular orbital theory, valence bond theory and Huckel molecular orbital theory.  
**45h (T); C, PR: CHM 212, 236**
- CHM 342      Industrial Management      2 Credits**  
Industrial group and organisationalbehaviour. Motivation industrial law, legislation in wages, trade marks and patents. An introduction to the concepts and procedures of decision making in the management of business operations.  
**30h (T); E**
- CHM 343      Organic Reaction Mechanisms      2 Credits**  
Studies of types and mechanisms involved in substitution, elimination, addition and rearrangement reactions of aliphatic and aromatic compounds, and natural products. Oxidation and reduction mechanisms. Reactions of the intermolecular and intramolecular cyclisation types and stereochemical considerations.  
**30h (T); E, PR: CHM 235**
- CHM 344      Surface and Colloid Chemistry      2 Credits**  
Some general principles relating to surfaces. Electrical potentials. Attractive forces, solid-gas interface liquid-liquid interface and



solidliquid interface. Definition of colloid and history of colloid development. Types of colloids, polymers, proteins, gels, association colloids and detergent.

**30h (T); E**

- CHM 345 Applied Spectroscopy 2 Credits**  
Basic principles and applications of UV, IR, NMR and Mass spectroscopy in the determination of the constitution and elucidation of structures of compounds.  
**15h (T), 45h (P); C**
- CHM 401 Theory of Molecular Spectroscopy 2 Credits**  
Basic principles of spectroscopy theory: Basic instrumentation and applications of microwave, infrared and Raman, nuclear magnetic resonance (NMR), electron spin resonance (ESR), electronic Mossbauer spectroscopy and some latest spectroscopic techniques.  
**30h (T); C, PR: CHM 341**
- CHM 402 Quantum Chemistry II 2 Credits**  
Postulates of quantum mechanics, operators and angular momentum. Solution of the hydrogen atom problem. Theory of atomic spectra. Self Consistent Field theory. Computational aspect. Perturbation and variation methods. Computer applications.  
**30h (T); E, PR: CHM 341**
- CHM 404 Statistical Thermodynamics 2 Credits**  
Probability distribution laws. Statistical basis of entropy. Molecular partition functions: evaluation and applications. The canonical ensembles. Some applications of statistical thermodynamics, Maxwell-Boltzmann distribution of velocities, heat capacities, equipartition of energy and equilibrium state.  
**30h (T); E, PR: CHM 301, 341**

- CHM 406 Electrochemistry 2 Credits**  
Conductance of electrolyte solutions, transport number and the migration of ions in an electric field. Thermodynamics of electrolyte solutions. Electrochemical cells and electrode processes.  
**30h (T); C, PR: CHM 301**
- CHM 415 Environmental Chemistry II 2 Credits**  
Chemistry of natural waters, redox equilibria and complexation in natural waters. Catalysis by micro-organisms in water. Detailed water analysis. Water and waste water treatment with reference to specific industries.  
**15h (T), 45h (P); E, PR: CHM 328**
- CHM 418 Heterocyclic Chemistry 2 Credits**  
The synthesis and mechanism of fused heterocyclic system: quinolines, isoquinolines, benzofurans, benzothiophenes, indoles, benzophlyium salts, coumarins and chromones. Occurrence in nature and application of heterocyclic systems in drug synthesis.  
**30h (T); E, PR: CHM 331**
- CHM 419 Physical Organic Chemistry 2 Credits**  
Preparation and reactions of stereoisomers. Stereo selectivity, neighbouring group effects and a few special topics in physical organic chemistry.  
**30h (T); E, PR: CHM 345**
- CHM 420 Preparative Organic Chemistry 2 Credits**  
Modern methods in the synthesis of organic compounds. Selected literature to illustrate modern principles and approaches to synthesis. Thermal, photolytic and sigmatropic rearrangements. Fragmentations.  
**30h (T); E, PR: CHM 331**
- CHM 423 Coordination Chemistry 2 Credits**  
Definition, historical development and types of ligands. Coordination numbers and structural aspects. Nomenclature and isomerism. Preparation and thermodynamic stability. Structure and bonding, structural investigation by physical methods. Magnetometry and spectroscopic techniques. Reaction of metal complexes. Application of coordination compounds.  
**30h (T), C, PR: CHM 324**
- CHM 424 Non-aqueous Solvent 2 Credits**  
Active and passive solvent behaviour. Solvation and solvent structure. Solvates and solubilities. Solvolysis, liquid ammonia, anhydrous HF, 100% H<sub>2</sub>SO<sub>4</sub>, NO. Bromine trifluoride: physical properties, structure and solubilities. Techniques used in studying species in solutions. Conductivity and cryoscopic data. Examples and classification of organic and inorganic non-protonic liquids. Electrochemical applications.

**30h (T); E, PR: CHM 324**

- CHM 425      Reaction Kinetics      2 Credits**  
Collision theory. Transition state theory. Reaction co-ordinates. Unimolecular reaction theory. Bimolecular reaction mechanisms. Chain reaction mechanisms. Catalysis and heterogenous reactions. Photochemical reaction mechanisms.  
**30h (T); E, PR: CHM 301**
- CHM 427      Inorganic Reaction Kinetics and Mechanisms      2 Credits**  
Redox reactions; Mechanisms of electron transfer reactions: Outer-and inner-sphere mechanisms. Substitution reactions. General mechanism of square planar complexes of Pt (II) and other d<sup>8</sup> metal ions. Substitution reactions in octahedral complexes.  
**30h (T); E, PR: CHM 324**
- CHM 429      Seminar      1 Credit**  
Literature search. Presentation of seminars on comprehensive literature reviews of selected topics of research interests.  
**45h (P), C**
- CHM 430      Radio-Nuclear Chemistry      2 Credits**  
Natural radiations, fusion, fission, decay processes and nature of radiation. Nuclear models. Energetics of nuclear reaction. Principles and measurement of radioactivity. Applications of radioactivity. Radiation hazards and protection.  
**30h (T); E, PR: CHM 324**
- CHM 431      Colour Chemistry and Textile Technology      2 Credits**  
Chemistry and application of reactive dyes. Dyeing machineries. Colouring matters for food, drugs, ceramics, cosmetics, paper and colour photography.  
**15h (T), 45h (P); E, PR: CHM 334**
- CHM 432      Industrial Chemical Technology II      2 Credits**  
Hydrogen and carbon monoxide synthesis. Gas oxoprocess. Water gas. Source of hydrogen and its application. Industrial organic materials. Raw materials. Technical and economic principles of processes and product routes. Flow diagrams. Selected oils and fats, soaps and detergents, sugar, paint, varnishes, plastics, wood pulp and paper.  
**30h (T); E, PR: CHM 318**
- CHM 434      Medicinal Chemistry      2 Credits**  
Chemistry, synthesis, structure-activity relationship and medicinal use of sulfonamides, sulfones, antibiotics, antimalarials, amoebicides, triponocides, antihelminthics, antineoplastics and antiviral agents. Chemistry, synthesis, structure activity

relationships, synthesis analogue and medicinal use of alkaloids, glycoside, lipids and volatile oils.

**30h (T), E; PR: CHM 330**

- CHM 437 Photochemistry and Pericyclic Reaction 2 Credits**  
Interaction of radiation with matter. Electronic excitation, selection rules, deactivation routes, sensitisation, quenching, photofragmentation, rearrangement and pericyclic reactions. Molecular orbital symmetry.  
**15h (T), 45h (P); E, PR: CHM 324, 343**
- CHM 438 Organometallic Chemistry II 2 Credits**  
Introduction to organometallic compounds of the transition elements. Classification of ligands, electron rule, bonding, preparation of organic transition metal compounds. Reaction and structures of organometallic compounds of transition elements. The organic chemistry of ferrocene and related compounds. The role of organometallic compounds in some catalytic reactions.  
**30h (T); E, PR: CHM 324**
- CHM 439 Analytical Chemistry II 2 Credits**  
Potentiometric and pH methods. Conductometric methods. Electroanalytical methods. Radiochemical methods. Chromatography and solvent extraction. Amperometry, voltametry, potentiometry and coulometry.  
**15h (T), 45h (P); E, PR: CHM 336**
- CHM 440 Polymer Chemistry II 2 Credits**  
Copolymerisation. Stereospecific Polymerisation: polymer characterization -molar masses, chain dimensions and structures. Degradation of polymers. Polymer additives, polymeric surface coatings and adhesives. Industrially important thermoplastics and thermosetting polymers.  
**15h (T), 45h (P); E, PR: CHM 312**
- CHM 441 Industrial Chemical Processes II 2 Credits**  
Chemical processing of minerals. Metallurgy and hydrometallurgical processes. Industrial electro-chemistry. Manufacture of some heavy inorganic chemicals. Cement and binding materials. Inorganic fertilizers.  
**30h (T); E, PR: CHM 340**
- CHM 442 Natural Product II 2 Credits**  
Chemistry of natural products of pharmaceutical importance, terpenoids, steroids, alkaloids, flavanoids, prostaglandins and chlorophylls. General and specific methods of isolation, separation, purification and structure determination by chemical and spectroscopic methods. Biosynthesis of selected examples.  
**30h (T), C, PR: CHM 330**

- CHM 443      Molecular Polyhedra      2 Credits**  
Boron hydrides and caged compounds, homocyclic and heterocyclic inorganic rings, phosphorous and nitrogen compounds, sulphur and nitrogen compounds, etc. Metal-metal bonds and metal clusters.  
**30h (T); E, PR: CHM 324**
- CHM 444      Symmetry and Group Theory      2 Credits**  
Symmetry elements, operations and point groups. Group representations and point group character tables. Applications of group theory to molecular vibrations and chemical bonding.  
**30h (T); C, PR: CHM 341**
- CHM 499      Project      5 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.  
**225h (P), C**

## SUMMARY

### 100 Level

**Compulsory Courses:** CHM 101 (3), 112 (2), 115 (2), 116 (1), 132 (2) = 10 Credits

**Required Courses:** MAT 111 (3), 113 (3), PHY 115 (2), 142 (2), 191 (1), 192 (1),  
(2), 106 (2), PLB 108 (3), CSC 111 (2), GNS 111 (2), 112 (2)  
= 25 Credits

ZLY 103

**Total = 35 Credit**

### 200 Level

**Compulsory Courses:** CHM 212 (3), 213 (2), 235 (3), 236 (3) = 11 Credits

**Required Courses:** MAT 201 (3), 205 (2), CSC 211 (2), STA 203 (2), 205 (2), GNS 211 (2), 212 (2), PHY 214 (2), 243 (2), 295 (1),  
298 (1) = 21 Credits

**Direct Entry Students:** GNS 111 (2), 112 (2) = 4 Credits

**Total = 32 Credits**

**DE = 36 Credits**

### 300 Level

**Compulsory Courses:** CHM 301 (3), 322(2), 324 (3), 325 (2), 328 (2), 329 (2), 330 (2), 331 (3), 336 (2), 341 (3), 345 (2)  
= 26 Credits

**Required Courses:** GNS 311 (2), GSE 301 (3) = 5 Credits

**Electives Courses:** At least 10 Credits from the following courses:  
CHM 343 (2), 307 (2), 312 (2), 334 (2), 344 (2), 340 (1), 318 (2),  
320 (2), 342 (2), ICH 343 (2) = 10 Credits

**Total = 41 Credits**

### 400 Level

**Compulsory Courses:** CHM 401 (2), 406 (2), 423 (2), 429 (1), 442 (2), 444 (2), 499 (5)

**= 16 Credits**

**Elective Courses:**

14 Credits from either group A or B

Group A: CHM 402 (2), CHM 415 (2), 419 (2), 427 (2), 430 (2), 432 (2), 434 (2), CHM 440 (2), CHM 443 (2)

Group B: 404 (2), CHM 418 (2), 420 (2), 425 (2), 431 (2), 437 (2), 438 (2), 439 (2), 441 (2), CHM 424 (2),

**= 14 Credits**

**Total = 30 Credits**

**Graduation Requirements**

**UTME = 138 Credits**

**DE = 107 Credits**

## DEPARTMENT OF GEOLOGY AND MINERAL SCIENCES

### Course Description

#### B.Sc. Geology

- GEM 104 Earth History 2 Credits**  
Origin of the solar system. Origin and evolution of the atmosphere, hydrosphere and organism. Paleoclimates, paleoceanography, paleomagnetism and paleogeography. Fossil. Basic principles of stratigraphy.  
**15h (T), 45h (P); C**
- GEM 106 Introduction to Geology 2 Credits**  
The constitution of the earth. Earthquakes and earth's internal structure. Minerals. Magmatism and igneous rock. Weathering, transportation and sedimentary rocks. Metamorphism and metamorphic rocks. Deformation and geological structures.  
**15h (T), 45h (P); C**
- GEM 202 Optical Mineralogy 2 Credits**  
Principles of optical crystallography. Polarizing Microscope. Refraction. Plane polarized light. The Universal Stage. Observational Features: crystallization, colour, mode of aggregation, cleavage and orientation. Systematic identification and description of minerals.  
**15h (T), 45h (P); C**
- GEM 205 General Petrology 2 Credits**  
Magma: ascent and emplacement. Textures, structures and classification of igneous rocks. Metamorphism and Metamorphic rocks. Textures, structures and classification of sedimentary rocks.  
**15h (T), 45h (P); C**
- GEM 208 Introduction to Field Geology 2 Credits**  
Fieldwork requirements and preparation. Types and uses of locationing and directional equipment. Field observations and measurements: lithologies, structures, modes of occurrence and accessibility. Techniques of sampling and storage of geological materials. Data recording and geological interpretations.  
**90h (P); C**
- GEM 209 Introduction to Structural Geology and Map Interpretation 2 Credits**



Introduction to basic structural elements: folds, faults, lineations, foliations and joints. Topographical maps and their interpretation. Types of geological maps. Geological cross-sections. Map reading and map interpretation. Three-point problems and completion of outcrops.

**15h (T), 45h (P); C**

**GEM 211 Crystallography and Mineralogy**

**2 Credits**

Characteristics of crystals: symmetry elements, forms, systems and indices. Elements of crystal chemistry. The main rock forming minerals. Structures of minerals. Introduction to x-ray crystallography.

**15h (T), 45h (P); C**

**GEM 213 Physical Geology**

**1 Credit**

The structure and composition of the earth. Earth's surface processes. Agents of weathering, erosion and transportation. The development of land forms: influence of lithology and geological structure.

**15h (T); C**

**GEM 217 Principles of Stratigraphy**

**1 Credit**

History and fundamental principles of stratigraphic thought. Categories of stratigraphic units. The facies concept. Unconformities. Correlation using physical and biological criteria. Correlation problems. The geological time scale.

**15h (T); C**

**GEM 222 Mineral Resources and Environmental Geology**

**2 Credits**

Metallic and non-metallic mineral resources, composition, distribution and utilization. Fossil fuels. Surface and underground water. Pollution: sources, hazards and control. Prediction and control of geologic hazards.

**30h (T); C**

**GEM 224 Introduction to Paleontology**

**2 Credits**

Methods of fossilisation. Major uses of fossils in geology. Major groups of macrovertebrates: morphology, taxonomy and evolution. Common fossils in West Africa.

**15h (T), 45h (P); C**

- GEM 304      Geotectonics      2 Credits**  
Concept and evidence for plate tectonics. Paleomagnetism. Continental drift, sea floor spreading and mid-ocean ridges. Island arcs and transform faults. Plate tectonics in space and time.  
**30h (T); C**
- GEM 306      Geophysics      2 Credits**  
Gravity, magnetism, resistivity and seismology. Geophysical techniques in geological exploration. Interpretation of geophysical data.  
**30h (T); C**
- GEM 307      Geochemistry      2 Credits**  
Basic principles of geochemistry. Origin, structure and composition of the earth. Distribution of elements in the cosmic system. Geochemistry of different rock types. Weathering processes especially in tropical regions. Isotope geochemistry.  
**30h (T); C**
- GEM 311      Igneous Petrology      2 Credits**  
Volcanism and volcanic rocks. Plutonic rocks. Classification of igneous rocks. Petrography of igneous rocks. Physical and chemical properties of magmas. Differentiation of igneous rocks. Phase diagrams and crystallization in silicate systems. Igneous rocks of various geological environments.  
**15h (T), 45h (P); C, PR: GEM 205**
- GEM 317      Structural Geology      3 Credits**  
Concepts of stress and strain. Strain analyses. Deformation mechanism. Geological structures. Geometrical analysis.  
**30h (T); 45h, (P); C, PR: GEM 209**
- GEM 319      General Geology for Engineers      3 Credits**  
Geological processes. Earth's internal and external processes. Geomorphology. Properties of rocks and minerals. Classification of igneous, sedimentary and metamorphic rocks. Geotectonics. Elements of structural geology and its relation to engineering structures. (For Engineering students only).  
**30h (T); 45h (P)**

<b>GEM 320</b>	<b>Photogeology and Remote Sensing</b>	<b>2 Credits</b>
	Principles and methods of remote sensing. Interpretations of aerial photographs. Satellite imagery and their interpretation: LANDSAT, SPOT, Radar.	
	<b>15h (T), 45h (P); C</b>	
<b>GEM 321</b>	<b>Regional Geology of Africa</b>	<b>2 Credits</b>
	African Precambrian domains: geology, structures and evolution of radiometric ages. Development of Phanerozoic interior and coastal basins in Africa with emphasis on Nigeria.	
	<b>30h (T); C</b>	
<b>GEM 326</b>	<b>Advanced Geological Mapping</b>	<b>3 Credits</b>
	A 4-week independent geological mapping in selected geological province.	
	<b>135h (P); C, PR: GEM 208</b>	
<b>GEM 327</b>	<b>Metamorphism Petrology</b>	<b>3 Credits</b>
	Agents and types of metamorphism. Equilibrium. Metamorphic reactions and textures. Metamorphic assemblages and facies. Types of metamorphic rocks. Geothermometry and geobarometry.	
	<b>30h (T), 45h (P); C, PR: GEM 205, GEM 211</b>	
<b>GEM 328</b>	<b>Sedimentology I</b>	<b>3 Credits</b>
	Origin of sediments and sedimentary rocks. Sedimentary processes. Texture and composition of sedimentary rocks. Diagenetic processes. Properties of flows and sedimentary structures. Walther's law, facies concept and facies analysis. Introduction to depositional environments.	
	<b>30h (T), 45h (P); C, PR: GEM 205, GEM 211, GEM 217</b>	
<b>GEM 398</b>	<b>Students' Industrial Work Experience Scheme</b>	<b>3 Credits</b>
	A 3-month industrial attachment.	
	<b>135h (P); C</b>	
<b>GEM 401</b>	<b>Seminar</b>	<b>1 Credit</b>
	A comprehensive literature review on a selected topic.	
	<b>45h (P); C</b>	

- GEM 408 Hydrogeology 3 Credits**  
The hydrological cycle. Hydrologic properties of rocks. Occurrence and movement of groundwater. Types of aquifers. Physical and chemical properties of water. Hydrodynamics. Groundwater and well hydraulics. Development of groundwater resources. Groundwater inventory. Groundwater problems in Nigeria.  
**30h (T), 45h (P); C**
- GEM 410 Paleobiology 2 Credits**  
Principles of Paleobiology. Paleobiologic models. Macro- and micro-evolution. Sampling and statistical analysis of paleontological data.  
**30h (T); C**
- GEM 411 Mineral Deposits Geology 3 Credits**  
Systematic study of solid and energy mineral deposition and genesis. Geological exploration techniques and applications. Solid and energy mineral deposits of Nigeria.  
**30h (T), 45h (P); C**
- GEM 414 Applied Geophysics 3 Credits**  
Principles of geophysical methods. Geophysical surveys in applied geology. Acquisition, processing and interpretation of data. Geophysical case studies: mineral exploration, hydrogeology, environmental and pollution assessment.  
**30h (T), 45h (P); C, PR: GEM 306**
- GEM 416 Applied Geochemistry 3 Credits**  
Application of geochemical principles in mineral exploration and environmental geochemistry. Case histories of geochemical surveys. Geochemical analytical methods.  
**30h (T), 45h (P); E, PR: GEM 307**
- GEM 417 Geological Field Trip 2 Credits**  
A 2-week extended field excursion to the three major geological provinces of Nigeria.  
**90h (P); C**

- GEM 420 Marine Geology 3 Credits**  
Elements of physical, chemical and biological oceanography. Ocean floor: probing, structure, physiography and sampling. Geology of ocean basins. Distribution of marine sediments and mineral resources. Beach erosion and coastal management.  
**30h (T), 45h (P); C**
- GEM 421 Palynology 3 Credits**  
Palynology groups: morphology, taxonomy and paleoecology. Occurrences in the tropics. Relationship of palynomorphs to sedimentation. Palynostratigraphy. Organic matter in sediments. Applications in oil and coal industries. Paleobotany and the concept of continental drift.  
**30h (T), 45h (P); C**
- GEM 424 Sedimentology II 3 Credits**  
Depositional systems. Palaeocurrents and basin analysis.  
**30h (T), 45h (P); E, PR: GEM 328**
- GEM 425 Mining Geology 3 Credits**  
Mining methods and techniques. Mining mapping and reserve estimation. Principles of mineral extraction methods. Elements of mine and mineral economics.  
**30h (T), 45h (P), E, PR: GEM 222, GEM 317**
- GEM 427 Petroleum Geology 3 Credits**  
Composition of petroleum. Occurrence of petroleum. Common petroleum bearing facies. Petroleum in sedimentary basins: origin, migration and accumulation of petroleum. Petroleum exploration. Basin analysis and well logging. Petroleum recovery: Primary and secondary methods. The Niger Delta petroleum province.  
**30h (T), 45h (P); C, PR: GEM 328, GEM 321**
- GEM 429 Micropaleontology 3 Credits**  
Study of different groups of fossils. Major microfossil phyla: morphology, test structure, general distribution, ecology and evolution. Classification of protozoa, ostracods and conodonts.

**30h (T), 45h (P); C, PR: GEM 224**

**GEM 437    Engineering Geology**

**3 Credits**

Engineering properties of soils and rocks. Construction aggregates and quarrying techniques. Geological site investigations and foundation problems. Elements of pavement and foundation design.

**30h (T), 45h (P); C**

**GEM 499    Project**

**5 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**225h (P); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** GEM 106 (2), 104 (2) = 4 Credits

**Required Courses:** CHM 101, (3), 112 (2), 115 (2), 116 (1), 132 (2), PHY 115 (2), 125 (3), 142 (2),  
191 (1), 192 (1), MAT 111 (3), 112 (3), PLB 101 (3), ZLY 101 (3), GNS 111 (2), 112 (2)  
= 35 Credits

**Elective Courses:** At least 2 credits from the following: CSC 111 (2), 112 (2) = 2 Credits

**Total = 41 Credits**

### 200 Level

**Compulsory Courses:** GEM 202 (2), 205 (2), 209 (2), 208 (2), 211 (2), 213 (1), 217 (1), 222 (2), 224 (2),  
= 16 Credits

**Required Courses:** CHM 212 (3), 213 (2), PHY 243 (2), 293 (2), STA 203 (2), 206 (2), GNS 211 (2), 212  
(2), CVE 351 (3) = 20 Credits

**Direct Entry Students:** GNS 111 (2), 112 (2), GEM 104 (2), 106 (2) = 8 Credits

**Total = 36 Credits**

**DE = 44 Credits**

### 300 Level

**Compulsory Courses:** GEM 304 (2), 306 (2), 307 (2), 311 (2), 327 (3), 328 (3), 317 (3), 320 (2), 321 (2),  
326 (3), 398 (3) = 27 Credits

**Required Courses:** CSC 211 (2), 218 (2), GNS 311 (2), GSE 301 (3) = 9 Credits

**Electives Courses:** At least 2 credits from the following: CHM 301 (2), 324 (3), 328 (2), 336 (2)  
= 2 Credits

**Total = 38 Credits**

**400 Level**

**Compulsory Courses:** GEM 401 (1), 408 (3), 410 (2), 411 (3), 414 (3), 417 (2), 421 (3), 420 (3), 427 (3), 429 (3), 437 (3), 499 (5) = **34 Credits**

**Elective Courses:** GEM 416 (3), 424 (3), 425 (3)

**Total = 34 Credits**

**Graduation Requirements**

UTME = 149 Credits

DE = 116 Credits

**DEPARTMENT OF GEOPHYSICS**

**Course Description**

**B.Sc. Applied Geophysics**

- GPH 208 Introduction to Field Geology 2 Credits**  
Fieldwork requirements and preparation. Types and uses of locationing and directional equipment. Field observations and measurements lithologies, structures, modes of occurrence and accessibility, etc. Techniques of sampling and storage of geological materials. Data recording and geological interpretations  
**90h (P); C**
- GPH 212 Introduction To Earth Physics 2 Credits**  
Origin of the Earth. The Earth interior - the crust, the mantle and the core. Seismicity and earthquake zones. Occurrence of earthquakes, earthquake epicenter, seismically active zones, earthquake prediction. The nature of the gravity field of the earth. The measurement of gravity and the figure of the earth. The earth's magnetic field. Rock magnetism. Polar wandering and continental drift. Heat flow and geothermometry, geothermal gradient, geothermal exploration.  
**30h (T); C**
- GPH 222 Introductory Geomathematics 2 Credits**



Differential and integral calculus. Types of functions. Vector analysis, matrix algebra, solution of Laplace equations and spherical harmonic analysis. Fourier analysis. Statistical regression analysis, curve fitting techniques and analysis of errors. Bessel equation and Legendre polynomials. Solution of Matrix equations.

**30h (T); C**

**GPH 234 Introduction to Geophysical Methods**

**2 Credits**

Basic theories of Magnetic, Gravity, Seismic, Radiometric, Electrical and Electromagnetic Methods, Ground Penetrating Radar (GPR), Tomography

**30h (T); C**

**GPH 311 Electrical Methods**

**2 Credits**

Self Potential Method Types of natural Self Potential (SP). Origin of SP- Galvanic Cell Theory. Ph Theory and Sato and Mooney Electrochemical Half Cell Theory. InstrUTMENTation Field Procedures. Data Processing and Interpretation. Applications of SP Methods. Induced Polarization Phenomenon. Membrane polarization. Electrode polarization. Time and frequency domain IP measurements Chargeability, Frequency effects, Percentage Frequency Effect, Metal Factors and Phase measurements. Equivalence of Time and Frequency domain measurements. Time and frequency domain. IP Equipments. Field procedures, data processing and interpretation. Applications of the IP method. Electrical resistivities of rocks and minerals. Elementary Theory Potentials in homogeneous media, Single Current source at depth and at the earth's surface. Laplace's equation. Apparent Resistivity. Description of Electrode Arrays. Field procedure – Resistivity profiling and depth-sounding techniques. Interpretation methods Computer assisted interpretation techniques. Applications of the electrical resistivity method.

**15h (T), 45h (P); C**

**GPH 323 Magnetic Method**

**2 Credits**

Magnetism of rocks and minerals. Remanence susceptibilities of rocks and minerals. Basic Theory of the Magnetic Method. The Dipole Field. Poisson's relation. The main field of the Earth. Diurnal variations. Magnetic storm. Geological effects. InstrUTMENTation and field procedures. Ground Magnetic Survey. Reduction of magnetic data. Anomaly separation and interpretation. Air-borne magnetic surveys. Applications of magnetic methods in mineral exploration, geologic mapping and groundwater exploration. Case histories.

**15h (T), 45h (P); C**

**GPH 335 Gravity Method**

**2 Credits**

Theory of attraction and potential with applications to simple mass distributions. Newton's law of gravitation. Acceleration of gravity. Gravitational potential. Potential field equations. Derivatives of the potential. Gravity of the earth. The reference spheroid. The geoid. InstrUTMENTS and Data acquisition. Gravity data reduction. Regional, Residual anomaly separation. Interpretation of

gravity anomalies. Depth and total mass estimates. Applications of gravity method in mineral exploration, groundwater and geologic mapping.

**15h (T), 45h (P); C**

**GPH 384: Geophysical Field Methods and InstrUTMENTal Analysis 4 Credits**

Study of the essential elements of geophysical data acquisition systems. Seismic surveys using explosive or surface sources. Signal amplification, multiplexed, etc. methods in Electrical prospecting. Elements of currents and voltage measurement circuitries. Field surveys using gravimeters. Field procedures for the different EM methods. Geophysical Logging InstrUTMENTS and methods. InstrUTMENT circuitry in Induced Polarization Prospecting Methods.

**30h (T), 90h (P); C**

**GPH 386 Geophysical Field Work 5 Credits**

This is an independent geophysical field work lasting 3-4weeks during the fourth year inter semester break. Students are expected to be exposed to geophysical data acquisition (using different geophysical equipment), data presentation and interpretation, with respect to each method. The field work will also include geological mapping and map interpretation. A report on this exercise shall be written and submitted at the beginning of the second semester of the third year.

**15h (T), 180h (P); C**

**GPH 388 Industrial Experience (Report) 4 Credits**

Having undergone industrial training, well supervised by both industry- based supervisors and Unilorin staff, individual student is expected to write a comprehensive activity report encompassing all the knowledge acquired in the course of the training.

**15h (T); 135h (P); C**

**GPH 398 Industrial Experience 5 Credits**

Students are expected to undergo at least six (6) months industrial training in industries relevant to any of the branches of geophysics, with a view to develop more practical skills in the discipline. Students are supervised during the training period and shall be expected to keep log books and other records designed for the purpose of monitoring students' performance. Students' work will be assessed and graded by both the industry-based supervisor and UNILORIN Staff during the period of the industrial training and experience

**15h (T), 180h (P); C**

**GPH 347 Seismic Methods 2 Credits**

Basic theory of the seismic methods. Elasticity. Huygen's principle and ray path. Snell's law. Propagation of seismic waves in a homogeneous medium. Factors affecting seismic velocities. Types of seismic waves. Seismic refraction fundamentals. Horizontal and Multilayer refraction. Single dipping interface refraction profile. Fermat's principle (Least time). Statics. The Single refractor case. Field techniques. Processing and interpretation of seismic refraction data. Applications of the Seismic Refraction Method. Elementary concepts of the reflection seismology. Analytical treatment of elementary seismic reflection problems. Time-Depth charts. Velocity determination from reflection data. Reflections from a dipping interface. Determination of velocity and depth to interface. Characteristics of seismic events NMO, DMO, Multiples, Types of seismic noise. Attenuation of noise. Field methods and equipment for land survey. Marine equipment and methods. Processing and interpretation of seismic reflection data.

**15h (T), 45h (P); C**

**GPH 359      Electromagnetic Methods and Ground Penetrating Radar      3 Credits**

Classification of electromagnetic (EM) methods. Electromagnetic theory. Description of EM fields – Biot-Savart law, Straight line wire, rectangular loop, circular loop, vertical wire. Combinations of EM fields-Phase difference, Elliptic polarization, Mutual inductance. EM measurements-Polarization ellipse, Intensity measurement, Dip angle measurement, Measurement of phase component. Airborne EM survey. EM field procedures, data processing and Interpretation. Applications of electromagnetic methods. Theoretical Principles. Attributes of GPR. InstrUTMENTation, field procedure and data presentation. Field operational problems. Processing and interpretation of GPR data. Data processing and data interpretation pitfalls. Applications and case histories in sedimentary sequence, hydrogeology and groundwater contamination, engineering and archaeological investigations. Principle, Theories and Concept of Ground Penetrating Radar. InstrUTMENTation, Field procedure for data measurement and interpretation of GPR data.

**30h (T), 45h (P); C**

**GPH 409      Radiometric Method      1 Credit**

Constituents of the nucleus. Principles of radioactivity. Nuclear disintegrations. Radioactive decay processes. Radioactivity units. Radiometric exploration methods. Radioactivity of the earth's crust. Physical basis of gamma-ray method. Airborne, Car-borne, and Ground gamma-ray surveys. Radiometric assaying. Use of radiometric methods in exploitation of radioactive and non-radioactive ores. Gamma-ray measuring instrUTMENTS. Calibration of instrUTMENTS. Field operations and interpretation. Application of radio wave methods to rock investigations.

**15h (T); C**

**GPH 411      Seminar      1 Credit**

Use of library and electronic media (such as internet) for literature search, survey and, scientific writing, presentation of seminars on selected geophysical topics.

**45h (P); C**

**GPH 412 Borehole Geophysics**

**3 Credits**

General concepts of borehole geophysics. Fluid invasion. Electrical methods (Resistivity logging, Self-potential (SP) logging, Dipmeter, Induction logging, Induced polarization logging), Radioactivity methods (Gamma-ray logging, Density log, Neutron logging), Elastic-wave propagation methods (Sonic log), Magnetic methods, Gravity logging, Caliper logging. Field examples. Interpretation of logs, application of geophysical logs in oil and ground water exploration.

**45h (T); C**

**GPH 423 Geophysical Time Series Analysis**

**2 Credits**

Time series fundamentals. Purpose of signal processing. Periodic signals. Time domain description, frequency domain description. Fourier Integrals and Transforms. Theorems of Fourier Transform. Convolution, filtering and deconvolution. Correlation functions. Cross-Correlation. Auto-Correlation. Impulse Response. Laplace Transform. System Equation. Sampling the basis of good recording and processing. One dimensional sampling in time spatial sampling. Z-Transforms.

**45h (T); C**

**GPH 424 Special Topics And Case Histories**

**3 Credits**

Topics are selected to illustrate recent advances and developments in Applied Geophysics in any of the following areas Modelling, Time Series Analysis and Filters. Integrated geophysical methods in oil and ore prospecting. Choice of methods in a geophysical survey. Composite surveys in regional structural mapping, oil prospecting and searching for ores. Examples of combined geophysical programmes and case histories.

**30h (T), 45 (P); C**

**GPH 435 Engineering Geophysics**

**2 Credits**

Review of near-surface geophysical methods. Applications of geophysics in civil engineering site investigations—foundation problems in buildings, hydraulic structures, highways/runways/railways, underground/surface storage facilities. Location of construction materials. Investigation of integrity of existing engineering structures (e.g. earth embankment), Geophysical investigations for spread footing and pile foundations. Scope and limitations of engineering geophysics in site investigations.

**15h (T), 45 (P); C**

- GPH 447 Remote Sensing and Geographic Information System 3 Credits**  
Principles and methods of remote sensing. Interpretations of aerial photographs. Satellite imagery and their interpretation LANDSAT, SPOT, Radar.  
**30h (T), 45h (P); C**
- GPH 448 Seismic Exploration 3 Credits**  
This course covers a range of topics relevant to seismic exploration. Review of the principles and theories of Waves propagation, data acquisition, Survey planning, Geophones arrangements and field planning- instrUTMENTation, Seismic data processing, Data interpretation. Application of Geophysical softwares to the interpretation of seismic data and well log analysis. Basin Evaluation.  
**45h (T); C**
- GPH 436 Groundwater and Environmental Geophysics 3 Credits**  
Groundwater occurrence and movement. Aquifers-types and characteristics. Geophysical methods applied in groundwater exploration. Aquifer delineation in the Basement complex and sedimentary terrains. Mapping of geological structures favourable to groundwater accumulation. Estimation of aquifer characteristics from surface and subsurface (borehole) geophysical data. Borehole location strategy. Integrating groundwater geophysical methods field procedures, data presentation and interpretation. Case histories. Geophysical methods applied in environmental study. Determination of soil corrosivity, overburden protection capacity, hydraulic conductivity, coefficient of anisotropy and their uses in soil characterization and aquifer protection; Mapping of leachate and chemical pollution pIUTMEs, mapping of saline water zones and delineation of fresh/saline water interface. Monitoring of remediation processes and evaluation of hazardous wastes.  
**45h (T); C**
- GPH 459 Field Safety and First Aid 1 Credit** Meaning and scope of First Aid. Concept and significance of Safety Education. Types of accidents and implications, First aid treatments of physical injuries, unconsciousness and respiratory arrest. Artificial respiration and cardiopulmonary resuscitation, Emergency care for victims of foreign bodies in the ear, eyes, and nose, Practical demonstration of Safety measures and First Aid practices.  
**15h (T); C**
- GPH 450 Earthquakes and Plate Tectonics 3 Credits**  
Principles and fundamentals of earthquake seismology. Earthquake prediction, effects, reduction of the effects. Earthquake intensity and magnitude. Earthquake prone zones. Concept and evidence for plate tectonics. Paleomagnetism. Continental drift, sea floor spreading and mid-ocean ridges. Plate tectonics in space and time.  
**30h (T); R**

- GPH 471      Applied Geophysics for Geologists And Engineers I      3 Credits**  
Classification of geophysical methods. Introduction to gravity and magnetic methods. Gravity and magnetic data acquisition, data reduction and interpretation. Electrical methods of geophysical prospecting. Electrical properties of rocks. Concepts of electrical potential, current density and conductivity of rocks. Potentials distribution in a homogenous earth and apparent resistivity. Electrical resistivity data acquisition, processing and interpretation.  
**45h (T); C** (Designed for students of Geology and Engineering).
- GPH472      Applied Geophysics For Geologists And Engineers II      3 Credits**  
Induced Polarization method. Electromagnetic method. Classification of Electromagnetic methods. Exploration Seismology Fundamental of seismic Reflection and Refraction geophysical methods. Basic Theories. Field Procedures, Data Acquisition, Processing and Interpretation. Applications of above methods in mineral, petroleum and groundwater exploration, environmental and engineering studies. Case histories, including local examples.  
**45h (T); C** (Designed for students of Geology and Engineering).
- GPH 499      Project      5 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the department, culminating in the submission of a project.  
**15h (T), 180h (P); C**

## SUMMARY

### 100 Level

**Required Courses:** CHM 101 (3), 115 (2), CSC 111 (2), 112 (2), GNS 111 (2), 112 (2), MAT 111 (3), 112 (3), 113 (3), PHY 115 (2), 125 (3), 142 (2), 152 (3), 191 (1), 192 (1), GEM 104 (2), 106 (2)  
**Total = 38 credits**

### 200 Level

**Compulsory Courses:** GPH 212 (2), 222 (2), 234 (2) = 6 Credits

**Required Courses:** GEM 209 (2), 205 (2), 208 (2), 213 (1), 217 (1), 222 (2), 224 (2), GNS 211 (2), 212 (2), MAT 211 (3), 212 (3), PHY 225 (2), 295 (1), 243 (2), 252 (2), 298 (1), STA 203 (2), SVG 201 (2)  
**= 34 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2), GEM 106 (2), 104 (2) = 8 Credits

**Total = 40 Credits**

**DE = 48 Credits**

### 300 Level

**Compulsory Courses:** GPH 311(2), 323 (2), 335 (2), 347 (2), 359 (3), 398 (5), 388 (4), 384 (4), 386 (5)  
**= 29 Credits**

**Required Courses:** GNS 311 (2), GSE 301 (3), CSC 211 (3) GEM 311 (2), 317 (3)  
**= 13 Credits**

**Total = 42 Credits**

### 400 Level

**Compulsory Courses:** GPH 411 (1), 423 (2), 435 (2), 447 (3), 459 (1) 409 (1), 499 (5), 412 (3), 424 (3), 436 (3), 448 (3), 450 (1) = 28 Credits

**Required Courses:** GEM 304 (2), 427(3), 425 (3), 328 (3) = 11 Credits

**Elective Courses:** ECN 405(2), PHY 474 (2)

**Total = 39 Credits**

**Graduation Requirements**

**UTME = 159 Credits**

**DE = 129 Credits**



**DEPARTMENT OF INDUSTRIAL CHEMISTRY**  
**Course Description**

**B.Sc. Industrial Chemistry**

- |                |  |                  |
|----------------|--|------------------|
| <b>ICH 101</b> | <b>Basic Principles of Chemical Processes</b><br>Process variables, data presentation and analysis. Material balance and energy balances. Application in chemical metallurgical and petroleum processes.<br><b>15h (T); C</b>  | <b>1 Credit</b>  |
| <b>ICH 201</b> | <b>Industrial Drawing</b><br>Lettering, dimensioning, loci, camp profile true length. Auxiliary views, orthogonal projection.<br><b>30h (T), 45h (P); C</b>  | <b>2 Credits</b> |
| <b>ICH 202</b> | <b>Physical Chemistry I</b><br>Energetics: Bond dissociation energies. Energy cycles, including the Born harber cycle. Heats of formation and their determinations. Law of thermodynamics. Kinetic theory of gases. Phase equilibria, chemical kinetics and reaction mechanisms. Electrochemistry and electrochemical cells.<br><b>30h (T), 45h (P); C</b> | <b>3 Credits</b> |
| <b>ICH 203</b> | <b>Introduction to Analytical Chemistry</b><br>Introduction to theory of sampling and errors, Preparation of Standard solutions, chemical methods of analysis including volUTMEtric, gravimetric, Complexiometric, Redox and Kinetic methods. Solvent extraction and Chromatographic techniques. Chemical quality Assurance.<br><b>30h(T), 45h (P); C</b>  | <b>3 Credits</b> |
| <b>ICH 204</b> | <b>Chemical Industry and Society</b><br>Survey of Nigeria chemical industry and their raw materials requirements. Renewable and non-renewable resources, energy source and depletion. Environmental effects of chemicals. Potentials and application of locally available raw materials as industrial feed stocks.<br><b>15h (T); C</b>                    | <b>1 Credit</b>  |
| <b>ICH 205</b> | <b>Organic Chemistry I</b><br><b>Molecular structure and Isomerism:</b> Empirical and molecular formulae. Molecular constitution and constitutional isomerism. Molecular configuration and configurationally isomerism. Molecular conformation and conformational isomerism. Influence of molecular structure on physical properties.                      | <b>3 Credits</b> |

**Mechanism and Reactivity:** Modes of bond formation and fission. Types of reagent. Types of reactions. Electronic and steric effects. Kinetic and thermodynamic control of reaction. Elementary concepts of acidity and basicity.

**30h (T), 45h (P); C**

**ICH 206**

**Environmental Pollution 1**

**2 Credits**

The structure of the atmosphere. Chemical interactions between the atmosphere and the hydrosphere. Emissions: emissions sources, control and analysis. Survey of air, water and land pollution. Global warming and climate change phenomena.

**30h (T); C**

**ICH 208**

**Safety Methods in the Laboratory**

**2 Credits**

Personal protection and laboratory protocol. Safety equipment and facilities. Storage and inventory management. Guide to Chemical hazards and Toxicity: Characterizations, labeling and material safety data sheets (MSDS). Risk assessment and analysis: solvents, acids, bases and other toxic materials. First aid.

**30h (T); C**

**ICH 212**

**Inorganic Chemistry I**

**3 Credits**

Solid state structures of simple AB and AB<sub>2</sub> type compounds of the s, p and d block elements. Periodicity of the elements illustrated by a study of their simple compounds, the hydride acids and halides. The solution properties of the compounds including solvation, solute/solvent interaction and redox reactions.

**30h (T), 45h (P); C**

**ICH 311**

**Unit Operations**

**2 Credits**

Introductory fluid mechanics and fluid handling processes. Physicochemical industrial processes: grinding, size-reduction, filtration, distillation and solvent extraction processes.

**30h (T), 45h (P); C, PR: CHM 212**

**ICH 315**

**Inorganic Chemistry II**

**2 Credits**

Chemistry of s- and p-block elements: Relations between electronic structure, size and reactions of compounds. Chemistry of d- and f- block elements: Detection, nomenclature and isomerism of complex compounds. Crystal field theory, d-d spectra detection, nomenclature and isomerism of complex compounds. Crystal field theory, d-spectra, molecular orbital and valence bond theories. Comparative study of the chemistry of the transition elements and their compounds Lanthanides and actinides.

**30h (T), 45h (P); C, PR: ICH 212**

- ICH 317 Industrial Chemistry Laboratory I 2 Credits**  
An integrated laboratory course covering basic laboratory techniques: distillation, reflux, chromatography, solvent extraction, food analysis.  
**90h (P); C**
- ICH 321 Applied Chemical Thermodynamics and Kinetics 3 Credits**  
Conductance of electrolyte solutions. Heats of solution and viscosity measurement. Principles of thermodynamics. Phase equilibria. Chemical kinetics of complex reactions. Theory of reaction rates. Reactions in solution and catalysis.  
**45h (T); C, PR: ICH 202**
- ICH 323 Heat Transfer 2 Credits**  
Introductory heat transfer principles and applications in chemical industries. Forced and natural convections, steady-state conduction, radiation, boiling and condensation. Boilers and heat exchangers.  
**30h (T); C, PR: ICH 202**
- ICH 325 Industrial Management 2 Credits**  
Functions of management. Evolution and development of Management Schools of Thought. Organizational behaviour and Production. Production and Material Management, Management of small scale Industries. Industrial Safety management. Labour legislations and Industrial Relations.  
**30h (T); C**
- ICH 326 Industrial Training 6 Credits**  
All candidates enrolled in the B.Sc. Industrial Chemistry Programme are required to proceed on industrial attachment for 6 months (1-Tier SIWES programme)during Rain semester and long vacation. All students enrolled in this course would be required to submits a report and give presentation at the end of their period of attachment. The grading will normally be based on the reports, seminars and assessment of the industry-based supervisor.  
**270h (P): C**
- ICH 327 Organic Chemistry II 2 Credits**  
Chemistry of oxygen containing organic compounds e.g. alcohol, ether and epoxides. Organic acids and derivatives. Organic functional groups present in Industrial products. Formation of carbanions and their reactions. Aromatics, alicyclic and heterocyclic compounds chemistry. Polyfunctional compounds.  
**30h (T); C, PR: ICH 212**

- ICH 341 Instrumental Analytical Methods 2 Credits**  
Spectrometry. Fluorescence and phosphorescence. Electroanalytical methods. Liquid and Gas chromatography. Thermal methods of analysis. Radiochemical methods. Automation in analytical techniques.  
**30h (T); C**
- ICH 347 Experimental Physical Chemistry 1 Credit**  
Study of rate of chemical reactions, thermochemistry, conductance of electrolyte solutions, phase equilibria of solid-solid and liquid-liquid mixtures, solubility and viscosity measurements.  
**45h (P); C, CC: ICH 321, PR: ICH 202**
- ICH 355 Experimental Organic Chemistry 1 Credit**  
Preparation of simple organic compounds and simple oleochemicals, analysis of petroleum chemicals.  
**45h (P); C, CC: ICH 327, PR: ICH 205**
- ICH 401 Separation Methods 2 Credits**  
Samples preparation, Solvent extraction, Solid-phase Micro extraction, Chromatography techniques including Ion-exchange, High performance liquid, adsorption, Gas, size exclusion and Super critical chromatography. Applications to the analysis of environmental samples.  
**30h (T); C**
- ICH 402 Applied Surface and Colloid Chemistry 2 Credits**  
Interfacial relationships. Criteria for spreading monomolecular films on water. Electrical potentials. Attractive forces, solid-gas interface, liquid-liquid interface and solid-liquid interface. Adsorption isotherms. Colloidal systems. Surface energies, wetting, adhesion and contact angles. Micelle formation, Lyophilic and lyophobic properties, gels, association colloids and detergent.  
**30h (T); E**
- ICH 403 Mineral Processing 2 Credits**  
Physical processing of minerals and their classification. Mineral concentration. Liquid-solid separation and aggregation. Chemical leaching and Bioleaching of mineral ores. Unit operations in Chemical processing of minerals. Hydrometallurgical processes. Pyrometallurgical processing and metallurgical thermochemistry. Industrial Utilization of Minerals.  
**30h (T); C**
- ICH 404 Applied Electrochemistry 2 Credits**  
Thermodynamics and electrical surface phenomena. Electrolytic conductance. Electrode processes. Electrochemical cells. Thermodynamics and kinetics of electrode processes. The electrical double layer and its application. Hydrodynamic methods. Techniques based on the concept of impedance.

**30h (T); C, PR: ICH 321**

- ICH 405 Applied Spectroscopy 2 Credits**  
Basic principles and applications of UV, IR, NMR and Mass spectroscopy in the determination of the constitution and elucidation of structures of compounds.  
**15h (T); 45h (P); C**
- ICH 415 Industrial Methodology 2 Credits**  
Measurement and evaluation of work. Time, motion and method of studies. Reliability theory and quality control. Production and inventory control. Resource allocation. Critical Path Analysis (CPA) principles of economics and accounting. Ergonomic design of machine systems.  
**30h (T); C**
- ICH 421 Basic Industrial Chemicals 2 Credits**  
Industrial manufacture of sulphuric, nitric and hydrochloric acids, caustic soda, sodium bicarbonate; ammonia, chlorine products; Products of electrolysis. Mineral ore dressing, calcinations, roasting and smelting. Iron and steel, titanium and titanium dioxide; soda ash; fluorspar. Manufacture of industrial gases including Hydrogen, nitrogen, oxygen, noble gases.  
**30h (T); E**
- ICH 422 Water and Waste Water Treatment 2 Credits**  
Techniques for the characterization of wastewaters. Unit operations and processes in wastewater treatment. Health and environmental impacts of wastewater constituents. Advanced wastewater treatment and risk assessment for water reuse applications. Introduction to water waste minimization and associated methods.  
**30h (T); E**
- ICH 423 Food Analysis and Processing 2 Credits**  
Analysis of food samples for trace elements, vitamins and protein and food safety. Food preservation and packaging, preservation by fermentation, concentration, drying and dehydration and by chemical agents. Investigation of packaging types related to use with various food systems and packaging permeability. Food poisoning and problem of nutrient deficiencies.  
**30h (T); E**
- ICH 424 Radiochemistry and Nuclear Chemistry 2 Credits**  
Revision of proton-neutron nucleus, neutron excess, shell model and nuclear spin. Natural radioactivity, Induced radioactivity-mass and energy balance including recoil. Binding energy. Fission and Fusion. Reactor types classified by fuel, moderator coolant. Introduction to activation analysis. The use of isotopes in reaction mechanism and analysis. Detection systems, solids and liquid scintillation counting. Quenching and channel ration correction.

**30h (T); E**

- ICH 425      Catalysis      2 Credits**  
General principles of catalytic processes. Homogenous and heterogenous catalysis. Kinetics and mechanisms of catalytic processes. Industrial applications of catalysis. Chemistry and structure of commercial catalysts.  
**30h (T); E, PR: ICH 202**
- ICH 426      Non-Aqueous Solvents      2 Credits**  
Active and passive solvent behaviour. Solvation and solvent structure. Solvates and solubilities. Solvolysis, liquid ammonia, anhydrous HF, 100% H<sub>2</sub>SO<sub>4</sub>, NO. Bromine trifluoride: physical properties, structure and solubilities. Techniques used in studying species in solutions. Conductivity and cryoscopic data. Examples and classification of organic and inorganic non-protonic liquids. Electrochemical applications.  
**30h (T); E, PR: CHM 324**
- ICH 427      Seminar      1 Credit**  
Literature search. Presentation of seminars on comprehensive literature reviews of selected topics of research interest.  
**45h (P); C**
- ICH 428      Cement and Glass Technology      2 Credits**  
Cement Raw materials, Raw Meal Preparation, Methods of Manufacturing Cement, Constituent Compounds in Cement, Properties of Cement, Cement additives, Testing of Cement, Types of Cement. Definition and classification of glass. Glass products and utility. Raw materials, manufacturing and compositional analysis. Characteristics of special glasses. Safety considerations in glass manufacture  
**30h (T); E**
- ICH 429      Carbohydrate Chemistry      2 Credits**  
Carbohydrates: Monosaccharide's, disaccharides, polysaccharides – structures, properties, synthesis and applications. Introduction to glycosides.  
**30h (T); E**
- ICH 431      Macromolecular Chemistry      2 Credits**  
Classification of macromolecules; polymers and copolymers as natural, modified natural or synthetic substances. Polymer formation processes; methods, kinetics and mechanisms. The characterization of macromolecules; molar mass and distribution,

molecular size and shapes, stereochemistry. Crystallinity and methods of determination. Structural classification in natural macromolecules. Bulk structure, crystalline, amorphous, glassy and rubbery states. Inter-relation of structures and properties.  
**30h (T); E**

- ICH 432      Polymer Technology      2 Credits**  
Polymer characterization, criteria for polymer solubility, chain conformation, thermodynamics and phase equilibrium. Molecular weight size and distribution: Rheology of polymers: Mechanical properties and viscoelasticity, structure property relationships. Polymer types: thermosetting elastomers, plasticizers, resins and extrusion, spinning, vulcanization and reinforcement. Blow and injection moulding. Casting, testing and quality control: Chemical analysis. Birefringence measurement physical testing.  
**30h (T); E**
- ICH 435      Quality Control      2 Credits**  
Statistical quality control: Control charts, reliability and process capability analysis. Total quality management. National and international quality standards. Quality control practices in food processing, chemical and allied industries.  
**15h (T), 45h (P); C, PR: ICH 341**
- ICH 436      Lubricant Technology      2 Credits**  
Lubrication fundamentals, types of lubricants, mineral base oils, synthetic and biological (natural) base stocks, lubricant additives, lubricant specification and classification, engine oil classification based on end-users, lubricant testing, lubricant and the environments.  
**30h (T); E**
- ICH 438      Detergent and Cosmetics Chemistry      2 Credits**  
Surfactants and emulsifiers: types, preparations, properties and industrial applications. Cosmetics: preparations, properties and applications of cosmetics: face powder, creams, lotions, hair care products and lipsticks. Legal consideration and regulatory procedures governing cosmetics.  
**30h (T); E**
- ICH 442      Petroleum Chemistry      2 Credits**  
Composition, classification and properties of petroleum and petroleum gases. Processing of petroleum and hydrocarbons. Preparation and chemical transformation of primary petrochemicals.  
**30h (T); E, PR: ICH 205**
- ICH 457      Fertilizers and Agrochemicals      2 Credits**

Chemistry of organic and synthetic fertilizers, insecticides, herbicides, fungicides and growth regulators. Recent trends in the synthesis and structural elucidation of commercial fertilizers and pesticides. Effects of abuse of fertilizers and pesticides on the environment.

**30h (T); E**

**ICH 458 Medicinal Plant Products**

**2 Credits**

Chemistry, synthesis, structural-activity relationships, synthetic analogues and medicinal use of alkaloids, glycoside lipids and volatile oils.

**30h (T); E**

**ICH 461 Environmental Pollution II**

**2 Credits**

Spreading and modelling of air pollutants in the atmosphere. Purification of waste gases. Oxides of sulphur and nitrogen, and particulates and other gaseous pollutants. Methods of purification of waste gases. Effectiveness of purification installations.

**30h (T); E, PR: ICH 356**

**ICH 463 Industrial Chemistry Laboratory II**

**2 Credits**

An integrated laboratory course covering detergents and cosmetics, fertilizers and pesticides, environmental pollution, surface chemistry and electrochemistry, textile, sugar and polymer technology.

**90h (P); C, PR: ICH 354**

**ICH 464 Sugar Technology**

**2 Credits**

Definition, sources and classification of sugars. Structures, properties and tests for sugar. Production of sugar: Crushing, Shredding, Extraction, Liming, Clarification. Crystallization and drying. Bagging and by-products of sugars. Uses of sugars and by-products

**30h (T); E**

**ICH 465 Textile and Colour Chemistry**

**2 Credits**

Classification of dyes and textile fibres. Natural Regenerated and Synthetic fibers. Physical and Structural Properties of fibres. Preparatory processes: Singeing, desizing, scouring, bleaching, mercerization and optical brightening. Colour and constitution. Theory of dyeing. Dyeing preparation, structure and application of dyes. After treatments and quality control: Colour fastness.

**30h (T); E**

**ICH 466 Organometallic Chemistry**

**2 Credits**



Compounds having metal-carbon bonds: sigma – and pi bonded compounds. Their structure, properties and uses. Energy considerations applied to extraction of elements and thermal stability of compounds in aqueous and non-aqueous solvents. Inorganic reactions in solutions: Types of reaction, effects of solvent. Oxidation-reduction and substitution reactions. Kinetics of fast reactions, methods of study of SN<sup>1</sup>, SN and ion-pair mechanism.

**30h (T); E**

**ICH 499**

**Project**

**5 Credits**

A selection of topics will be organized and made available to students at the beginning of 7<sup>th</sup> semester. The project topics may involve research in the laboratory, library search or an industrially based topic discovered during the period of attachment. Each student will be supervised by one member of the academic staff. The results of the project are to be presented in a typed bound dissertation which will be orally examined at the end of the 8<sup>th</sup> semester.

**225h (P); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** ICH 101 (1) = 1 Credit

**Required Courses:** CHM 101 (3), CHM 112 (2), CHM 132 (2), CHM 115 (2), CHM 116 (1), MAT 111 (3), MAT 112 (3), PHY 115 (2), PHY 142 (2), PHY 191 (1), PHY 192 (1), ZLY 103 (2), PLB 108 (3), CSC 111 (2), GNS 111 (2), GNS 112 (2) = 33 Credits

**Total = 34 Credits**

### 200 Level

**Compulsory Courses:** ICH 201 (2), ICH 203 (3), ICH 204 (1), ICH 206 (2), ICH 208 (1), ICH 205(3), ICH 202(3), ICH 212(3) = 18 Credits I C H

**Required Courses:** MAT 201 (3), MAT 206 (2), PHY 214 (2), PHY 243 (2), PHY 295 (1), PHY 298 (1), CSC 211 (2), STA 203 (2), GNS 211 (2), GNS 212 (2) =19 Credits

**Total = 37 Credits**

**Direct Entry Students:** GNS 111(2) and GNS 112(2) = 4 Credits

**Total = 41 Credits**

### 300 Level

**Compulsory Courses:** ICH 311 (2), ICH 321 (3), ICH 315 (2), ICH 323 (2), ICH 317 (2), ICH 325 (2), ICH 341 (2), ICH 326 (6), ICH 355(1), ICH 347(1), ICH 327(2) = 25 Credits

**Required Courses:** GNS 311 (2), GSE 301(3) = 5 Credits

**Total = 30 Credits**

### 400 Level

**Compulsory Courses:** ICH 402 (2), ICH 404 (2), ICH 499 (5), ICH 415 (2), ICH 427 (1), ICH 435 (2), ICH 401 (2), ICH 463 (2), ICH 405 (2) =20 Credits

**Elective Courses:** A minimum of 6 credits from the following: ICH 421  
 (2), ICH 422 (2), ICH 423 (2), ICH 461 (2), ICH 424 (2), ICH 425 (2), ICH 457 (2), ICH 428 (2), ICH  
 429 (2), ICH 431 (2), ICH 432 (2), ICH 465 (2), ICH 433 (2), ICH 436 (2), ICH 438 (2),  
 ICH 442 (2), ICH 403 (2)  
**= 6 Credits**  
**Total = 26 Credits**

**Graduation Requirements:**

**UMTE = 128 Credits**

**DE = 98 Credits**

**DEPARTMENT OF MATHEMATICS**

**Course Description**

**B. Sc. Mathematics**

- MAT 111 Elementary Set Theory and Numbers 3 Credits**  
 Elementary set theory, subsets, union, intersection, complements and Venn diagrams. Real numbers, integers, rational and irrational numbers. Mathematical induction. Real sequences and series and arithmetic and geometric progressions. Theory of quadratic equations. Binomial theorem Complex numbers, algebra of complex numbers, the Argand diagrams, De Moivre's theorems and nth roots of unity. Circular measure: trigonometric functions of angles of any magnitude, addition and factor formulae.  
**45h (T); C**
- MAT 112 Elementary Differential and Integral Calculus 3 Credits**  
 Functions of a real variable. Graphs, limits and idea of continuity. The derivative, as limit of rate of change. Techniques of differentiation, maxima and minima. Extrema curve sketching. Integration: definite integrals, reduction formulae, application to areas and volUTMEs (including approximate integration), and trapezium and Simpson's rules.  
**45h (T); C**

- MAT 113      Elementary Vectors, Geometry and Mechanics      3 Credits**  
 Geometric representation of vectors in 1 – 3 dimensions, components and direction cosines. Addition and scalar multiplication of vectors and linear independence. Scalar and vector products of two vectors. Differentiation and integration of vectors with respect to a scalar variable. Two-dimensional coordinate geometry. Straight lines, circles, parabola, ellipse, hyperbola, tangents and normal. Kinematics of a particle. Components of velocity and acceleration of a particle moving in a plane. Force, momentum, laws of motion under gravity, projectiles and resisted vertical motion. Elastic string and simple pendulum. Impulse, impact of two smooth spheres and a sphere on a smooth surface.  
**45h (T); C**
- MAT 114      Elementary Algebra and Trigonometry      3 Credits**  
 Mapping, bijection, composition, inverse mapping, binary operations, associativity, identity elements and inverse element and distributivity. Relations: fundamental theorem of equivalence relations. Trigonometric ratios, sums and products formulae, multiple and sub-multiple angles, graphs of trigonometric functions and inverse circular functions. Solutions of triangles and trigonometric equations. Heights and distance in 2 and 3 dimensions geometry. Equations of line and planes, and other applications. Angle between two lines. Methods of integration. Double integrals. Differential equations. Taylor's and Maclaurin's theorems.  
**45h (T); C**
- MAT 115      Mathematics for Agriculture and Biosciences I      2 Credits**  
 Differential Calculus: ordinary and partial derivatives. Maclaurin and Taylor's series. Integral calculus and standard integrals. Methods of integration and double integrals. Differential equations with constant coefficients.  
**30h (T); R (Not for Mathematics Major)**
- MAT 116      Mathematics for Agriculture and Biosciences II      2 Credits**  
 Sequences and series: arithmetic and geometric. Binomial theorem. Matrices, determinants and solution of systems of linear equations. Vectors: addition and product. Coordinate geometry.  
**30h (T); R (Not for Mathematics Major)**
- MAT 201      Mathematical Methods I      3 Credits**  
 Real-valued functions of a real variable. Review of differentiation and integration and their applications. Mean value theorem and Taylor series. Real-valued functions of two and three variables. Partial derivatives: chain rule and extremum. Lagrangian multipliers, increments, differentials and linear approximations. Evaluation of line integrals.  
**45h(T); C**

<b>MAT 203</b>	<b>Sets, Logic and Algebra</b> Introduction to the language and concepts of modern mathematics. Basic set theory, mappings, relations, equivalence order relations and Cartesian products. Binary logic and methods of proof. Binary operations. Algebraic structures: semi-groups, groups, rings, integral domains and fields. Number systems: properties of integers, rationals, real and complex numbers. <b>45h (T); C</b>	<b>3 Credits</b>
<b>MAT 206</b>	<b>Linear Algebra II</b> System of linear equations: change of basis, equivalence and similarity. Eigenvalues and eigenvectors. Minimum and characteristic polynomials of a linear transformation. Cauley-Hamilton theorem. Bilinear and quadratic forms and orthogonal diagonalisation. Canonical forms. <b>30 h (T), C, PR: MAT 203, MAT 213.</b>	<b>2 Credits</b>
<b>MAT 208</b>	<b>Real Analysis I</b> Bounds of real numbers, convergence of sequences of numbers, monotone sequences and the theorem of nested intervals. Cauchy sequence, tests for convergence of series. Absolute and conditional convergence of series and re-arrangements. Completeness of reals and incompleteness of rationals. Continuity and differentiability of functions of $\mathbb{R} \rightarrow \mathbb{R}$ . Rolle's and Mean value theorems for differentiable functions. Taylor series. <b>30h (T); C</b>	<b>2 Credits</b>
<b>MAT 210</b>	<b>Introduction to Complex Analysis</b> Complex number and topology of complex plane. Limits and continuity of functions of complex variable. Properties and examples of analytic functions. Branch-points. Cauchy-Riemann equations. Harmonic function. <b>30h (T); E</b>	<b>2 Credits</b>
<b>MAT 211</b>	<b>Elementary Differential Equations I</b> First order ordinary differential equations ODEs: existence and uniqueness of solution. Second order ordinary differential equations with constant coefficients. General theory of nth order linear equations. Laplace transform method. Simple treatment of partial differential equations in two independent variables. Applications of ODEs and PDEs to physical, life and social sciences. <b>45h (T); C</b>	<b>3 Credits</b>
<b>MAT 212</b>	<b>Introduction to Numerical Analysis</b> Solution of algebraic and transcendental equations. Curve fitting, error analysis, interpolation and approximation. Zeros of non-linear equations in one variable. Systems of linear equations. Numerical differentiation and integration. Initial value problems in ordinary differential equations.	<b>3 Credits</b>

**45h (T); C**

- MAT 213    Linear Algebra I    2 Credits**  
Vector space over the real field, sub-spaces, linear independence, basis and dimension, Linear transformations and their representation by matrices. Rings null space and rank: singular and non-singular transformations and matrices. Algebra of matrices.  
**30h (T); C**
- MAT 214    Mathematical Package I    1 Credit**  
Algebraic computations using mathematical softwares such as MATLAB, MATHCAD and MATHEMATICA.  
**45h (P); C**
- MAT 306    Abstract Algebra I    3 Credits**  
Normal subgroups and quotient groups. Monomorphism, isomorphism theorems and Cayley's theorems. Direct products. Groups of small order, groups acting on sets and Sylow theorems. Ideal and quotient rings. P.I.D's, and U.F.D's Euclidean rings. Irreducibility, field extensions, degree of an extension and minimum polynomial. Algebraic and transcendental extensions. Straight-edged and compass constructions.  
**45h (T), C; PR: MAT 203**
- MAT 307    Real Analysis II    3 Credits**  
Riemann integral of functions of  $\mathbf{R}^n$ . Continuous mono-positive functions. Functions of bounded variation. Reimann-Stelities integral. Pointwise and uniform convergence of sequences and series of functions  $\mathbf{R}^n$ . Effects on limits (sum) when the functions are continuous, differentiable or Reimannintegrable. Power series.  
**45h (T), C, PR: MAT 208**
- MAT 308    Introduction to Mathematical Modelling    3 Credits**  
Methodology of model building: identification, formulation and solution of problems, Cause-effect diagrams. Equation types: algebraic, ordinary differential, partial differential, difference, integral and functional equations. Applications of mathematical models to physical, biological, social and behavioural sciences.  
**45h (T), C, PR: MAT 201; MAT 311**
- MAT 309    Discrete Mathematics    3 Credits**  
Groups and subgroups: group axioms, permutation group and cosets. Graphs: directed and undirected graphs, cycles, connectivity, applications (flow charts) and state transition graphs. Lattices and Boolean algebra, Finite fields: mnipolynomials, irreducible polynomials and polynomial roots. Applications (error-correcting codes, sequences generators).

**45h (T); C, PR: MAT 203**

- MAT 311 Mathematical Method II 3 Credits**  
Series solution of second order linear equations. Bessel, Legendre and hyper-geometric equations and functions. Gamma and Beta functions, Sturm-Liouville problems. Orthogonal polynomials and functions, Fourier, Fourier-Bessel and Fourier-Legendre series. Expansion in series of orthogonal functions. Fourier transformation. Solution of Laplace, wave and heat equations by Fourier method.  
**45h (T); C; PR: MAT 211**
- MAT 313 Geometry 3 Credits**  
Coordinates in  $\mathbb{R}^3$ . Polar coordinates, distance between points, surfaces and curves in space. The plane and straight line. Basic projective geometry, affine and Euclidean geometries.  
**45h (T); E**
- MAT 316 Introduction to Operations Research 3 Credits**  
Phases of operations research study. Classification of operations research models: linear, dynamic and integer programming. Decision theory. Inventory models. Critical Path Analysis and project controls.  
**45h (T); E**
- MAT 317 Differential Geometry 3 Credits**  
Vector functions of a real variable. Boundedness, limits, continuity, differentiability and functions of class  $C^m$ . Taylor's formulae. Analytical functions. Curves, regular, differentiable and smooth. Curvature and torsion, tangent line and normal plane. Vector. Functions of vector variable. Linear continuity and limits. Directional functions of class  $C^m$ . Taylor's theorem and inverse function theorem. Concept of a surface; parametric representation, tangent plane and normal lines. Topological properties of simple surfaces.  
**45h (T); E, PR : MAT 313**
- MAT 321 Optimization Theory 3 Credits**  
Linear programming models. The simplex method, formulation and theory. Duality integer programming and transportation problem. Two-person zero-sum games. Non-linear programming and quadratic programming. Kuhn-Tuckers methods Optimality criteria. Single variable optimization. Multivariate techniques. Gradient methods.  
**45h (T); E, PR: MAT 201, MAT 211**
- MAT 322 Metric Space Topology 3 Credits**  
Set metrics and examples. Open spheres (or balls), open sets and neighbourhoods. Closed sets, interior, exterior, frontier, limit points and closure of a set. Dense subsets and separable space. Convergence in metric space.

45h (T); C

- MAT 323 Analytical Dynamics I 3 Credits**  
Degree of freedom. Holonomic and non-holonomic constraints. Generalized coordinates. Lagrange's equation for holonomic systems: force dependent on co-ordinates only and force obtainable from a potential. Impulsive force. Lagrange's equations for non-holonomic systems. Lagrangian multipliers and variational principles. Calculus of variation. Hamilton's principles. Canonical transformation. Normal modes of vibrations; Hamilton-Jacobi equations.  
45h (T); E
- MAT 324 Vector and Tensor Analysis 3 Credits**  
Vector algebra. Vector, dot and cross products. Equation of curves and surfaces. Vector differentiation and applications. Gradient, divergence and curl. Vector integration: line, surface and volume integrals. Green's, Stoke's and divergence theorems. Tensor products and vector spaces. Tensor algebra. Symmetry and Cartesian tensors.  
45h (T); C
- MAT 325 Elementary Differential Equations II 3 Credits**  
Ordinary differential equations: solution of first order systems, linear dependence, Wronskian, reduction of order, variation of parameters and Cauchy-Euler equations. Sturm-Liouville problem. Orthogonal polynomials and functions. Partial differential equations: general and particular solutions and linear equations with constant coefficients. First and second order equations: eigen-function expansions and methods of variation of parameters.  
45h (T); C, PR : MAT 211
- MAT 326 Complex Analysis II 3 Credits**  
Laurent expansions: isolated singularities and residue. Residue theorem, calculus of residue and application to evaluation of integrals and to summation of series. Maximum modulus principle. Argument principle. Rouché's theorem. The fundamental theorem of algebra. Principle of analytic continuation. Multiple valued functions and Riemann surfaces.  
45h (T); C, MAT 307
- MAT 327 Abstract Algebra II 3 Credits**  
Group: definition, examples including permutation groups, subgroups, cosets, Lagrange theorem and applications. Cyclic groups: Rings, definition, examples including  $\mathbb{Z}$ ,  $\mathbb{Z}_n$  rings of polynomials and matrices. Integral domains and fields. Polynomial rings, and factorization. Euclidean algorithm for polynomials, H.C.F and L.C.M. of polynomials.  
45h (T); C, PR : MAT 203
- MAT 328 Dynamics of a Rigid Body 3 Credits**



General motion of a rigid body as a translation plus a rotation. Moment and products of inertia in three dimensions. Parallel and perpendicular axes theorems. Principal axes. Angular momentum and kinetic energy of a rigid body. Impulsive motion with examples involving one and two dimensional motion of simple systems. Moving frames of reference. Coriolis force. Motion near the earth's surface. The Foucault's pendulum. Euler's dynamical equations for motion of a rigid body with one point fixed. The symmetrical top procession.

**45h (T); E**

**MAT 329**

**Complex Analysis I**

**3 Credits**

Functions of complex variables. Limits and continuity of functions of a complex variable. Deriving the Cauchy-Riemann equations. Analytic functions. Bilinear transformations and conformal mapping. Contour integral. Cauchy's theorems and their main consequences. Convergence and convergence variable. Power series. Taylor series **45h (T); C.**

**MAT 332**

**NUTMERical Analysis**

**3 Credits**

Polynomial and splines approximations; orthogonal polynomials and Chebyshev approximations, least squares, cubic spline and Hermite approximations. NUTMERical integration. Boundary value problems. Introduction to nUTMERical solution of partial differential equations. NUTMERical computations using subroutines.

**30h (T), 45h (P); C PR : MAT 212**

**MAT 334**

**Total Differential Equations**

**2 Credits**

Equations of the form  $Pdx + Qdy + Rdz = 0$ . Condition for integrability and exactness. Integrable equation. Pairs of total equations in three variables and use of multipliers. General and special integrals. Geometrical interpretation and applications.

**30h (T); E; PR: MAT 211**

**MAT 335**

**Mathematical Package II**

**1 Credit**

Application of mathematical packages, such as MATLAB, MATHCAD, MATHEMATICA. etc to approximation methods in series, differential and integral equations.

**45h (P); C**

**MAT 401**

**Ordinary Differential Equations**

**3 Credits**

Existence and uniqueness theorems, dependence of solutions on initial data and parameters and properties of solutions. General theory for linear differential equations with general theory for linear differential equations with constant coefficients. Two-point Sturm-Liouville boundary value problem. Self-adjointness. Linear and non-linear equations. Theorem and solution of Lyapunov equation. Controllability and observability.

**45h (T); C, PR: MAT 311**

**MAT 402**

**Partial Differential Equations**

**3 Credits**

Theory and solution of first order equations and second order linear equation, classification. Characteristics and canonical forms. Cauchy problem. Elliptic equations: Laplace's and Poisson's formulae and properties of harmonic functions. Hyperbolic equations: retarded potential transmission line equation. Riemann method. Parabolic equations: singularity function, boundary and initial-value problems.

**45h (T); C, PR: MAT 311, 325.**

**MAT 403      Functional Analysis**

**3 Credits**

Hilbert spaces. Bounded linear functional. Operators on Banach spaces. Topological vector spaces. Banach algebra.

**45h (T); C, PR: MAT 322**

**MAT 405      General Topology**

**3 Credits**

Topological spaces: definition, open and closed sets, neighbourhoods and coarser and finer topologies. Basis and sub-basis. Separation axioms, compactness, local compactness, connectedness. Construction of new topological spaces from given ones. Sub-spaces and quotient spaces. Continuous functions, homeomorphisms and topological invariants. Spaces of continuous functions: pointwise and uniform convergence.

**45h (T); C, PR: MAT 322.**

**MAT 406      Lebesgue Measure and Integrals**

**3 Credits**

Lebesgue measure: measurable and non-measurable sets. Measurable functions. Lebesgue integral: integration of non-negative functions, the general integral and convergence theorems.

**45h (T); C**

- MAT 407      Mathematical Methods III      3 Credits**  
 Calculus of variation, Lagrange's functional and associated density. Necessary condition for a weak relative extremum. Hamilton's principle. Lagrange's equations and geodesic problems. The DuBois-Raymond equation and corner conditions. Variable end-points and related theorems. Sufficient conditions for a minimum. Isoparametric problems. Variational integral transforms. Laplace, Fourier and Banedtransformed. Complex variable methods and convolution theorems. Application to solution of differential equations.  
**45h (T); C, PR: MAT 325**
- MAT 408      Quantum Mechanics      3 Credits**  
 Particle wave density. Quantum postulates. Schrodinger equation of motion. Potential steps and wells in 1-dimension. Heisenberg formulation and classical limit of quantum mechanics. Computer Brackets. Linear harmonic oscillator. Angular momentum. 3-dimensional square well potential. The hydrogen atom. Collision in 3-dimeasional. Approximation methods for stationary problems. Systems of many particles (Pauli principle).  
**45h (T); E**
- MAT 409      General Relativity      3 Credits**  
 Particles in a gravitational field; curvilinear coordinates and intervals. Covariant differentiation. Christoffel symbol and metric tensor. The constant gravitation field rotation. The curvilinear tensor. The action of function for the gravitational field. The energy momentum and tensor. Newton's law. Motion in a centrally symmetric gravitational field. The energy momentum. Pseudo-tensor gravitational waves. Gravitational fields at large distance from bodies. Isotropic space. Space-time metric in the closed and in the open isotropic models.  
**45h (T); E**
- MAT 410      Electromagnetism      3 Credits**  
 Maxwell's field equations. Electromagnetic waves and electromagnetic theory of light. Plane electromagnetic waves in non-conducting media. Reflection and refraction at plane boundary. Wave guide and resonant cavities. Simple radiating systems. The Lorentz-Einstein transformation. Energy and momentum. Electromagnetic 4-vectors. Transformation of E.H. fields. The Lorentz force.  
**45h (T); E, PR: MAT 324**
- MAT 411      Analytical Dynamics II      3 Credits**  
 Lagrange's equations for non-holonomic systems, Lagrangian multipliers, variational principles, integral definition of gradient, divergence and curl line, surface and volUTME integral; Green's, Guass' and Stoke's theorems. Curvilinear coordinates, Simple notion of tensors. The Use of tensor notation.  
**45h (T), E, PR: MAT 323**

- MAT 412**      **Field Theory**      **3 Credits**  
 Gradient, divergence and curl. Further treatment and application of the differential definitions. The integral definition of gradient divergence and curl Line, surface and volume integral; Green's, Gauss and Stoke's theorems. Curvilinear coordinates. Simple notion of tensors. The use of tensor notation.  
**45h (T); E, PR: MAT 324**
- MAT 413**      **Fluid Dynamics I**      **3 Credits**  
 Real and ideal fluids. Differentiation following the motion of fluid particles. Equations of motion and continuity for incompressible inviscid fluids. Velocity potential and Stoke's stream functions. Bernoulli's equation with application to flow along curved paths. Kinetic energy. Sources, sinks, double in 2-and 3-dimensions, limiting stream-lines. Images and rigid planes. Kelvin's theorem, speed of sound, Mach number, flow past circular, cylinder with circulation and aerofolis. Joukowski hypothesis.  
**45h, (T); E, PR: MAT 323**
- MAT 415**      **System Theory**      **3 Credits**  
 Lyapunov theorems. Solution of Lyapunov stability equation  $AP + PA = Q$ . Controllability and observability. Theorem on existence of solution of linear systems of differential operations with constant coefficients.  
**45h (T); E**
- MAT 416**      **Measure Theory**      **3 Credits**  
 Abstract integration on  $L^p$ - spaces.  
**45h (T); E**
- MAT 417**      **Advanced Algebra**      **3 Credits**  
 Modules. Free module-bases, endomorphisms and matrices. Invariant factors. Decomposition theorems. Lattice theory, Noetherian and Artinian modules and rings. Hilbert basis theorem. Chinese remainder theorem. Canonical forms.  
**45h (T); E, PR: MAT 327**
- MAT 418**      **Algebraic Number Theory**      **3 Credits**  
 Algebraic number theory: algebraic numbers, quadratic and cyclotomic fields. Factorization into irreducible, ideals and Minkowski's theorems, class-group and class number. Fermat's last theorem, Dirichlet's unit theorem.  
**45h (T); E, PR : MAT 306, 327**

<b>MAT 419</b>	<b>Galois Theory</b> Galois theory: algebraic elements, splitting field, fundamental theorem, finite field, cubic, quadratic and quintic equations. <b>45h (T); E, PR : MAT 306, MAT 327</b>	<b>3 Credits</b>
<b>MAT 420</b>	<b>Analytic Number Theory</b> Prime number. Euclid-Chebyshev's and Fermat's theorems. Quadratic reciprocity. Diophantine equations. Dirichlet problem. <b>45h (T); E.</b>	<b>3 Credits</b>
<b>MAT 422</b>	<b>Continuum Mechanics</b> Bodies, configurations and motions. Referential and spatial descriptions of motions. Mass, momentum, force and torque. The theory of stress. Equations of motion. The kinetic equation, first and second laws of thermodynamics. <b>45h (T); E, PR : MAT 311, MAT 324</b>	<b>3 Credits</b>
<b>MAT 425</b>	<b>Applied Functional Analysis I</b> Metric spaces and fixed points; metric spaces, optimal economic growth problems and fixed points by successive approximations. Applications of contraction mapping principle. Integration theory: fundamental result, integration in $S$ and closure of $S_1$ and $S_2$ . Complete space of integrable functions. <b>45h (T); E, PR; MAT 322</b>	<b>3 Credits</b>
<b>MAT 426</b>	<b>Applied Functional Analysis II</b> Separability and compactness. Algebraic structure of linear vector spaces. Normal spaces and continuous operators. Linear product spaces and Hilbert spaces. Minimization of quadratic functionals. <b>45h (T); E, CC: MAT 425</b>	<b>3 Credits</b>
<b>MAT 427</b>	<b>Computational Methods in Optimization I</b> Fundamental set operations, cost functions and optimization problems and norms of vectors. Local and global solutions. Existence theory: topological properties of sets, and sequences. Bolzano-Weierstrass theorem: existence of minima and maxima. <b>45h (T); E, PR: MAT 321</b>	<b>3 Credits</b>
<b>MAT 428</b>	<b>Computational Methods in Optimization II</b> Differentiation and Newton's method: Gradient and Jacobians, necessary condition for minimum and Hessian matrix. Convexity: convex functions and sets. Sufficient condition for minimum, convexity and the Hessian. Bases and eigenvectors. Gradient methods. Equality constraints. Linear inequality constraints. <b>45h (T); E, CC: MAT 427</b>	<b>3 Credits</b>
<b>MAT 429</b>	<b>Integral Equations</b>	<b>3 Credits</b>

Classification of Integral equation: -Volterra and Fredholm types. Transformation to differential equations. Neumann series and Fredholm alternative for degenerate Hilbert – Schmidt kernels. Reduction of ordinary differential equations to integral equations. Symmetric kernels and eigen function expansion Applications.

**45h (T); E, CC MAT 401**

**MAT 433**

**NUTMERical Analysis II**

**3 Credits**

NUTMERical quadrature: Romberg, Gauss, integrable singular integrals, infinite range and multiple integrals. Discrete and continuous Tau methods for solving ODEs and error analysis. Partial differential equations; finite difference methods, stability, convergence and errors. Orthogonal expansions.

**45h (T); E, PR: MAT 332**

**MAT 434**

**Complex Analysis III**

**3 Credits**

Local and general properties of conformal mapping and simple (Schmidt) functions. Application of the principles of reflection. Representation of a polygon on a half-plane. The Schwarz-Christoffel transformation formula. Principles of symmetry. Dirichlet problem.

**45h (T); E, PR: MAT 304, MAT 326**

**MAT 436**

**Fluid Mechanics II**

**3 Credits**

Water wave motion. Shock wave theory. Dynamics of real fluids, Boundary layer theory at high Reynolds number.

**45h (T); E, CC: MAT 413**

**MAT 438**

**Elasticity II**

**3 Credits**

Geometry of homogenous deformation. Stress field concept. Isothermal constitutive relations. Linearized elasticity. Basic principles for boundary value problems. Some elastostatic fields.

**45h (T); E, PR: MAT 401**

**MAT 499**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270h (P); C**



## SUMMARY

### 100 Level

**Compulsory Courses:** MAT 111(3), 112(3), 113(3), 114(3) = 12 Credits

**Required Courses:** CSC 111(2), 112(2), GNS 111(2), 112(2), PHY 115 (2), 152 (3), 191(1), 192(1), STA 121(2), 124 (2), 131 (2),  
134(2) = 23 Credits

**Total = 35 Credits**

### 200 Level

**Compulsory Courses:** MAT 201 (3), 203 (3), 206 (2), 208 (2), 211(3), 212 (3), 213 (2), 214 (1)  
= 19 Credits

**Required Courses:** CSC 211 (3), 218 (3), GNS 211 (2), 212 (2), STA 221 (3), 222 (3)  
= 16 Credits

**Elective Courses:** A minimum of 2 Credits from the following:  
MAT 210 (2), CSC 202 (3), 204 (2), 210 (2), STA 223 (3), 224 (3)  
= 2 Credits

**Total = 37 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2) = 4 Credits  
**DE = 41 Credits**

### 300 Level

**Compulsory Courses:** MAT 306 (3), 307 (3), 308 (3), 311 (3), 322 (3), 324 (3), 325 (3), 326 (3), 327 (3), 329 (3)  
332 (3), 335 (1) = 34 Credits

**Required Course:** GNS 311 (2), GSE 301(3) = 5 Credits

**Elective Courses:** At least 2 Credits from the following: CSC 304 (2), 305 (2), MAT 313 (3), 316 (3),  
317 (3), 321 (3), 323 (3), 328 (3), 334 (2), STA 311 (3)  
= 2 Credits



**Total = 41 Credits**

**400 Level**

**Compulsory Courses:** MAT 401 (3), 402 (3), 403 (3), 405 (3), 406 (3), 407 (3), 499 (6)  
**= 24 Credits**

**Elective Courses:** A minimum of 6 Credits from the following: MAT 408 (3), 409 (3), 410 (3),  
412 (3), 413 (3), 415 (3), 416 (3), 417 (3), 418 (3), 419 (3), 420 (3), 425 (3), 426 (3), 427 (3), 428 (3), 429 (3),  
433 (3), 434 (3), 436 (3), 438 (3) **= 6 Credits**

**Total = 30 Credits**

**Graduation Requirements**

**UTME = 133 Credits**

**DE = 110 Credits**

**DEPARTMENT OF PHYSICS**

**Course Description**

**B.Sc. Physics**

**PHY 115 Mechanics and Properties of Matter I 2 Credits**

Units and dimensions. Scalars and vectors. Particle kinematics. Newton's laws. Friction, work and energy. Centre of mass. Simple harmonic motion and rigid body dynamics. Kepler's laws. Pressure in fluids, intermolecular forces, Hooke's law and Young's modulus, Fluid flow streamline turbulence, Stokes' law and surface tension.

**30h (T); C**

**PHY 125 Heat, Sound and Optics 3 Credits**

Temperature, thermometers, heat transfer and PVT surfaces, Kinetic theory, first and second laws of Thermodynamics. Transverse and longitudinal waves and standing waves. Intensity, beats and Doppler effect. Electromagnetic spectrum. Huygen's principle. Images formed by a single surface, thin lenses and aberrations. The eye, optical instrument, interference, single slit diffraction, diffraction grating and polarization. Malus' law.

**45h (T); C**

**PHY 142 Atomic and Nuclear Physics 2 Credits**

Theory of atomic structure, Thompson, Rutherford and Bohr's theories and the hydrogen atom. Properties of the electron, em, C.R.O. and Millikan's experiment. Properties of the nucleus. Natural radioactivity, wave – particle duality of light, x-rays and photoelectricity. Thermionic emission and Diode-value.

**30 h (T); C**

- PHY 152      Electricity and Magnetism I      3 Credits**  
Coulomb's law, Gauss's theorem, Capacitors, Ohm's law, Kirchoff's laws, electrical energy, DC bridges, Potentiometer, Magnetic effect of current, Electromagnetic induction, Moving coil and Ballistic galvanometers, Multimeters, DC and AC meters and generators, Magnetic materials: paramagnetism, diamagnetism, ferromagnetism. Hysteresis, Power in AC circuits, Semiconductors, Conductivity and mobility, Rectification.  
**45h (T); C**
- PHY 191      Practical Physics I      1 Credit**  
At least six experiments from the following: use of measuring instrUTMEnts, viscosity, surface tension, oscillation about an equilibrium position, Hooke's law, moment of inertia, focal lengths of lenses, refractive index, optical instrUTMEnts, the sonometer, heat capacity, volUTME expansion and latent heat.  
**45 (P); C**
- PHY 192      Practical Physics II      1 Credit**  
At least six experiments from the followings: potential difference and internal resistance of cells, use of potentiometer circuit; the metre bridge, simple current measuring instrUTMEnts. Planck's constants and radioactivity.  
**45h (P); C**
- PHY 208      Introduction to Astronomy and Space Science      2 Credits**  
Elementary celestial mechanics, Astronomical instrUTMEnts: observations and measurements, Optical, millimeter and radio telescopes. Structure of the universal solar system, Constellations, Galaxies, Life history of stars, The red-shift, Gravitation, Relativity and Cosmology, Space environment, Rockets and Space engineering.  
**30h (T); C**
- PHY 214      Mechanics and Properties of Matter II      2 Credits**  
Reviews of Newtonian mechanics, Gravitational potential energy, Conservation of energy and momentum, Rotation of rigid bodies, Interatomic and intermolecular bonding, Crystal structure, Elasticity, Viscosity, Thermal properties of solids, Diffusion in solids. **30h (T); C**
- PHY 225      Vibration and Waves      2 Credits**  
Oscillatory systems and complex solutions, Waves in elastic media, Resonance. Interference, Huygen's principle, Reflection, Refraction. Thin lenses, Optical instrUTMEnts, Michelson interferometer, Diffraction and resolving power, Bragg's law. **30h (T); C**

<b>PHY 243</b>	<b>Heat, Atomic and Nuclear Physics</b> Laws of thermodynamics, absolute zero, heat engines, kinetic theory, heat transfer. Planck's law, photoelectric and Compton effects, Frank-Hertz experiment, Discharge tubes, Atomic spectra, Bohr's theory. Radioactivity, fission, fusion, radiation detection, elementary particles, cosmic rays, biological effects of radiation. <b>30 h (T); C</b>	<b>2 Credits</b>
<b>PHY 252</b>	<b>Electricity and Magnetism II</b> Linear circuits and DC bridges, AC networks, Magnetic induction, Transients, Biot-Savarts' law, Lorentz force, Faraday's law, AC motors and generators, Junction diode, The triode, Transistor amplifier, diode rectification, power supply. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PHY 291</b>	<b>Practical Physics III</b> Experiments to illustrate the principles of physics. learnt in the theory courses. Topics include Elastic constants, Moment of inertia, Acceleration due to gravity using compound pendulum, Viscosity. Calorimetry, Conductivity, Thermoelectricity, temperature, Coefficient of resistance, Light spectra and Radiation detection. <b>90h (P); C</b>	<b>2 Credits</b>
<b>PHY 292</b>	<b>Practical Physics V</b> Experiments to illustrate the principles of physics learnt in the theory courses. Topics include oscillatory systems. Telescope, microscope. Newton's rings, Young's experiment, grating and prism spectrometer. Potentiometer, Wheatstone and Carey Forster bridges, maximum power theorem, oscilloscopes. <b>90h (P); C</b>	<b>2 Credits</b>
<b>PHY 293</b>	<b>Practical Physics IV</b> A selection on principles of Physics in PHY 291 relevant to student's theory course <b>45h (P); (Not for Physics major)</b>	<b>1 Credit</b>
<b>PHY 294</b>	<b>Practical Physics VI</b> A selection on principles of Physics in PHY 292 relevant to student's theory course <b>45h (P); (Not for Physics major)</b>	<b>1 Credit</b>
<b>PHY 303</b>	<b>Energy Physics</b> Energy and power principles: demands and outlooks, transformation of energy, energy costs, thermal pollution. Energy from fossil, Hydroelectric generation: principles and problems, cost, storage capacity, reserves, efficiency and environmental effects.	<b>2 Credits</b>

Energy from nuclear reactions, energy in the future breeder reactors, fusion power, solar power, geothermal power, tidal power. promise and problems. Excursion to an energy station (with a submission of a write-up).

**30h (T); C**

**PHY 314**

**Classical Mechanics and Special Relativity**

**3 Credits**

Conservative forces, Central forces, System of particles, principles of virtual work, generalized coordinates and Lagrange's equations. Hamiltonian mechanics, Rotating frames, rotation of rigid body, Euler's angles, Motion of symmetric body, Normal modes, Coupled oscillations. Galilean relativity, Lorentz transformations, space-time diagram and point events, World lines and proper time, proper length, Mass-energy relation, Relativistic kinematics and dynamics, Conservation laws and invariants, Electric and magnetic fields. Point interactions, Collisions and particle creation. Four vectors and law of mechanics.

**45h (T); C; PR: PHY 214**

**PHY 324**

**Waves and Optics**

**3 Credits**

Coupled oscillators, wave equation, group and phase velocities. Reflection and absorption coefficients. Acoustic impedance, standing waves and normal modes. Lenses and lens systems. Polarization, polarizers, Babinet principle, Dichroism, birefringence, interferometers, interference filters, diffractions and zone plate, Cornu's spiral, Fourier series and integrals. Holography and lasers.

**45h (T); C; PR: PHY 225**

**PHY 331**

**Thermodynamics and Statistical Physics**

**3 Credits**

Thermodynamic systems, thermodynamic potentials, free expansion of a gas and throttling process, phase transition, low temperature physics, statistical ensemble: Probability, microstates and macrostates statistical mechanics, Boltzmann distribution, Curie's law, partition function and systems.

**45h (T); C; PR: PHY 243**

**PHY 342**

**Quantum Physics**

**3 Credits**

Black-body radiation, Bohr atom, Many electron atoms. Zeeman and Paschen effects. Relativistic Compton effect, de-Broglie waves, wave-particle duality. Schrodinger equation, wave functions and probability amplitudes, stationary states. The Heisenberg uncertainty principle, simple operators, potential well, potential barrier and tunneling. Simple harmonic oscillator, Hydrogen atom.

**45 (T); C; PR: PHY 243**

**PHY 353**

**Electromagnetic Theory I**

**3 Credits**

Coulomb's law, Gauss law, potential, dipole moment, dielectrics, capacitance. Laplace and Poisson's equations, Lorentz law. Hall effect, Biot-Savart's law, Ampere's law, current loop, magnetic moment, magnetic susceptibility. Electromagnets. Electromagnetic induction, Faraday's law, magnetic circuits and reluctance, magnetic energy. Maxwell's equation of electromagnetic field.

**45h (T); C, PR: PHY 252**

- PHY 354 Electromagnetism 2 Credits**  
Advanced AC theory, impedance and AC bridges. Power and phase. InstrUMENTs for measurements of power, phase, voltage, three phase measurements and magnetic measurements.  
**30h (T);C, PR: PHY 252**
- PHY 357 Electronics I 2 Credits**  
Introduction to Electronics, Components and Symbols, Semiconductor Physics – Energy Band theory – Insulator, Metals, Semiconductors, Intrinsic Semiconductor, Extrinsic Semiconductor, PN – Junction diodes – Fabrication, Characteristics, Applications.  
Zener Diodes, Tunnel Diode, Varactor Diode, PIN Diodes, Point Contact Diode, Schottky Diode. Varistors and Thermistors. Rectifiers, Voltage Multiplier, Bipolar Junction Transistor – Operation, Biasing, Transistor circuit configuration and Transistor Characteristics, Single stage transistor amplifier circuits, Load lines and Biasing, Hybrid Parameters of Bipolar Junction Transistor Circuits.  
**15h (T), 45h (P); C, PR: PHY 252**
- PHY 358 Electronics II 3 Credits**  
Introduction to UJTs, JFET-construction, characteristics, JFET Amplifiers and Parameters, JFET DC load line and FET biasing, Hybrid parameters of JFET circuits and Applications. MOSFETS- construction, characteristics, MOSFET in Switches, Amplifiers, MOSFET Biasing. Amplifier Frequency Response (BJT and UJT), Differential Amplifiers, Feedback Amplifiers, Oscillators and waveform generations, Opto-electronic devices – Emitters, sensors and opto-couplers. Solar cells, Transistor Multivibrators and 555 Timer circuits, Operational Amplifiers – Differential Amplifiers, Inverting Amplifiers, Noninverting amplifiers, General applications of Op – Amps: Current Amplifiers, Followers, Integrator, Differentiator, Summing, Passive and Active Filters.  
**30h (T), 45h (P); C, PR: PHY 252; CC: PHY 357**
- PHY 365 Mathematical Methods in Physics 3 Credits**  
Functions of complex variables. Fourier methods. Laplace transform. Generalised functions: delta, step and Green's functions. Ordinary differential equations. Forced and damped oscillations. Sturm-Liouville problem. Wave equations in two and three dimensions and Poisson's equation. Legendre functions and Bessel functions. Spherical harmonics. Harmonic Analysis.  
**45h (T); C**
- PHY 391 Practical Physics and Treatment of Data I 3 Credits**  
Review of treatment of data. Forbe's bar and heat waves in solids. AC bridges and potentiometers. Characteristics of galvanometers, hysteresis loss in ferromagnetic materials. Damped and free oscillations. Coupled oscillations.  
**15h (T), 90h (P); C**
- PHY 392 Practical Physics and Workshop Practice III 2 Credits**

Section A. Soldering welding, measurements of lengths, angles, shapes, hand and machine tools, carpentry, workshop health and safety. Section B: Advanced spectrometers, Spectro-photograph, Michelson and Fabry-Perot interferometers, Young's modulus of glass by Cornu's method, Fresnel's reflection of EM waves. **90h (P); C**

- PHY 393 Practical Physics and Treatment of Data II 2 Credits**  
Review of treatment of data. Selection of experiments from PHY 391  
**15h (T), 45h (P); E** (Not for Physics major)
- PHY 394 Practical Physics IV 1 Credit**  
Selection of experiments from PHY 392 section B relevant to students' theory courses **45h (P); E** (Not for Physics major)
- PHY 405 Seminar 1 Credit**  
Literature search and use of library. Scientific writing; Literature survey and presentation of seminars on selected topics.  
**45h (P); C**
- PHY 408 Principles of Physics 2 Credits**  
Nature of science, role of hypothesis, theory and law, symmetry principle, revolutions in Physics, survey of historical development of Physics from ancient Egyptian astronomy to present day search for sub-nuclear particle, the contributions of Copernicus, Galileo, Newton, Einstein, and recent Nobel Laureates such as Glashow, Weinberg and Abdus-Salam.  
**30h (T); E**
- PHY 409 Measurement Method 2 Credits**  
Measuring instrUTMEnts. Input-output configuration and various inputs characteristics. Operational and sinusoidal transfer functions; zero, first and second order instrUTMEnts. Measurement of motion, pressure and force, resistance strain gauges, capacitive and piezoelectric transducers. Thermoelectric sensors, frequency measurement by variation method, resonant circuit and bridge methods. Absolute determination of frequency.  
**30h (T); E**
- PHY 416 Computational Physics 2 Credits**  
History and types of computers. Algorithm and Flow charts. Fortran 95, 2003, C++, Python, Mathematica, MATLAB: Functions and Subroutines, Matrix operations. NUMERical methods: Interpolation, Differentiation, Integration, ODE. Development of some Physics application softwares.  
**15h (T), 45h (P); E**
- PHY 417 General Relativity 2 Credits**

Principles of equivalence. Extension of Lorentz Symmetry. Vector spaces. Euclidean point spaces. Absolute differential calculus. Einstein field equations. Linearization of the field equations, Solar system. Tests of relativistic gravitation, generation and detection of gravitational variation. Cosmological models.

**30h (T); E, PR: PHY 363**

**PHY 423**

**Acoustics**

**2 Credits**

Sound levels and spectrum measurement of levels. Loudspeakers, ultrasonic generators and microphones. Applications of acoustic device to non-destructive testing, medicine, radar and solar wave propagation in isotropic materials. Piezoelectric transducers. Measurement of acoustics impedance. Acoustics rooms measurement of reverberation time.

**30h (T); E**

**PHY 432**

**Statistical Physics**

**3 Credits**

Probability theory, ensembles, canonical distribution and phase space. Partition function and equipartition theorem. Specific heats of solids. Maxwell's velocity distribution, identical particles and symmetry requirements. Transport phenomena in gases, Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac statistics. Blackbody radiation, conduction in metals.

**45h (T); C, PR: PHY 331; CC: PHY 462**

**PHY 433**

**Vacuum Techniques**

**2 Credits**

Molecular velocities, Maxwell-Boltzmann distribution and laws, flow conductance and impedance. Viscous flow, Molecular flow, Rate of exhaust through tubes and orifices. Vacuum pumps, mechanical pumps, molecular pumps, coin getter pumps, cryogenic pumps, measurements of gas pressure, high and ultrahigh vacuum gauges.

**30h (T); E**

**PHY 442**

**Semi-conductor Physics**

**2 Credits**

Principles of tunneling, WKB approximation: application to triangular and parabolic barriers. Tunnel diode, p-n junction transistor, junction F.E.T. - derivation of conductance and pinch-off, surface physics, surface states. Schottky barrier diodes, Metal-oxide semiconductor transistor, Opto-electronic devices.

**30h (T); E, PR: PHY 355; CC: PHY 446**

**PHY 443**

**Solid State Physics I**

**2 Credits**

Crystalline state: two and three dimensional lattice types, crystal structures and lattice defects. Binding forces in solids, bulk modulus, ionic crystals and lattice vibrations. Thermal properties of solids. Einstein and Debye theories of heat capacity of solids. Fermi-Dirac distribution function, electrical and thermal conductivity of metals.

**30h (T); C, PR: PHY 214**

- PHY 444      Solid State Physics II      2 Credits**  
 Wave equation of electron in a periodic potential. Band theory of metals, semiconductors and insulators. Introduction to electrical, magnetic and optical properties of materials. Superconductivity. Introduction to dielectric properties of materials.  
**30h (T); E, CC: PHY 443**
- PHY 446      Nuclear and Particle Physics I      2 Credits**  
 Review of nuclear properties, Nuclear size and shapes, Nuclear models: Fermi gas model, Shell model and Collective model. Alpha decay, Beta decay, Curie plots, Electron capture, Gamma decay, Internal conversion. Fusion, Fission, Reactors, Nuclear detectors. Elementary particles, The four forces, Feynman diagrams, Conservation laws.  
**30h (T), E; PR: PHY 342**
- PHY 447      Nuclear and Particle Physics II      2 Credits**  
 Deuteron, Neutron-proton and Proton-proton scattering at low energies, Wave analysis, Effective range theory, Nuclear forces: central and non-central components. Nuclear models: Shell model and Collective model. Dynamics of nuclear reactions, Reaction cross-sections. Compound nucleus formation and break-up. Resonance scattering and reactions. Optical model. Accelerators. Conservation laws.  
**30h (T); E, CC: PHY 446**
- PHY 448      Principles of Spectroscopic Techniques      2 Credits**  
 Interaction of radiation with matter. Rotational and vibrational energies of di- and poly-atomic molecules. Microwave and infrared spectroscopies. Quantum theory of Raman effect and Raman spectroscopy. Photo-electron spectroscopy, SCA, Auger and Mossbauer spectroscopy. Spin resonance techniques. Secondary ion mass spectroscopy. **30h (T); E, PR: PHY 342, PHY446**
- PHY 449      Microwave Theory and Applications      2 Credits**  
 Waves and field distributions in rectangular and circular waveguides. Microwave measurements, Standing wave ratio, Waveguide components in microwave test bench and in surface and satellites communication systems.  
**30h (T); E**
- PHY 454      Communications      2 Credits**  
 Analysis of linear systems. Analysis in frequency and time domains. Fourier and Laplace transforms. Delta and step functions. Power spectrum, D.S.B., S.S.B. Phase, amplitude and frequency modulations. Demodulation. Stereo-broadcasting. Multiplexing of signals, in TDM, FDM, CDMA, TDMA, digital modulation noise, noise sources in electronic systems, noise power spectrum and measurements. GSM techniques.  
**30h (T); E, PR: PHY 357, PHY 365**
- PHY 456      Electromagnetic Theory II      3 Credits**



Maxwell's equations, wave equation, plane waves in isotropic dielectric, reflection, refraction, propagation in charged media. Transmission line theory, Smith chart and twin line. Coaxial, rectangular and circular guides. Strip line, elementary dipole fields, radiation resistance, directivity, efficiency and gain. Parabolic and horn reflectors.

**45h (T); C, PR: PHY 353**

**PHY 457**

**Digital Electronics**

**2 Credits**

Number systems and codes – Decimals, Complements, Binary numbers and arithmetic, octal, Hexadecimal, Other number systems and arithmetics, Logic gates, Circuits and Boolean algebra – Boolean Postulates, De Morgans theorems, Duality, Theorems, Simplification and Minimization of Boolean expressions, SOP, POS and Canonical forms of logical expressions, Minterms, maxterms. Karnaugh map, Arithmetic Circuits – Half Adder, Full Adder, Subtractor, Multiplexers, Demultiplexers, Encoders, Decoders, Flip Flops – RS-Flip Flop, D-Flip Flop, JK- Flip Flop, Counters, Digital-to- Analogue and Analogue-to-Digital converters, Microcontrollers.

**30h (T); E, PR: PHY 357**

**PHY 458**

**Plasma Physics**

**2 Credits**

Definition of plasma temperature and Debye length. Motion in E and D fields, Time varying fields. Adiabatic invariants, Fluid equations, Drifts and Waves in plasma: electron plasma waves, sound waves, ion waves-lower hybrid frequency, electromagnetic waves, fusion and astrophysical plasma.

**30h (T); E, PR: PHY 353**

**PHY 461**

**Quantum Mechanics I**

**2 Credits**

Schrodinger equation, Hydrogen atom and Harmonic oscillator, State vector, Dirac , Representations: coordinate, momentum, energy. Magnetic moments. Matrix mechanics. Identical particles, The exclusion principle and many electron atoms. The periodic table, simple molecules, Fermi and Bose gases; Time independent perturbation: variational principles. Adiabatic and Sudden approximation.

**30h (T); C, PR: PHY 342**

**PHY 462**

**Quantum Mechanics II**

**3 Credits**

Time dependent perturbation theory, Scattering theory, Potential scattering. Green's functions and partial wave methods, Group theory and the quantum theory of atoms, molecules and crystals. Group representations, The full rotation group and angular momentum, Clebsch-Gordan coefficients, Spin-orbit interaction and hyperfine structure. Molecular electronic wave functions, Normal modes of vibration, Molecular rotation. Symmetry properties of crystals, the group of the K-vector, crystalline electric fields.

**45h (T); E, CC: PHY 461**

**PHY464**

**Mathematical Methods in Physics II**

**3 Credits**

Linear algebra and functional analysis. Transformations in linear vector spaces and matrix theory. Hilbert space and complete sets of orthogonal functions. Partial differential equations. Solution of boundary value problems. Calculus of residues and application to evaluation of integral and summation of series.

**45h (T); E, PR: MAT 325**

- PHY 465      Quantum Electronics      2 Credits**  
Quantum mechanics of the interaction of radiation and atomic systems. Einstein coefficients, Atomic susceptibilities, Spontaneous and induced transitions. Semiconductor lasers, Laser amplifiers, Oscillators and noise, Electro-optic effect and its applications.  
**30h (T); E**
- PHY 471      Physics of Solid Earth      2 Credits**  
The earth in space, radioactivity and geochronology. Geothermics and planetary heat budget, geodesy and global gravity. Seismology and the planetary interior. Geomagnetism and palaeomagnetism, technophysics and geodynamics. Methods of geophysical survey: magnetic, electrical, gravity, seismic and heat flow.  
**30h (T); E**
- PHY 472      Physics of the Lower Atmosphere      2 Credits**  
Geopotential, hydrostatic equation. Static stability, Distribution of temperature and water vapour. Cloud growth, precipitation, electrical charge generation and dissipation. Global wind system, geostrophic and thermal winds. Solar and terrestrial radiation. Principles of radiative transfer, vertical fluxes of heat, methods of atmospheric probing and remote sensing.  
**30h (T); E**
- PHY 473      Ionospheric Physics      2 Credits**  
Composition and height distribution of the neutral atmosphere. Formation of the ionosphere: regular characteristics and irregularities. Radio wave propagation in homogeneous and ionized gas, measurement of ionospheric parameters, geomagnetism and the ionosphere.  
**30h (T); E**
- PHY 474      Geomagnetism      2 Credits**  
Development of geomagnetism, The earth's main magnetic field: the central and eccentric dipoles. Harmonic analysis. Geomagnetic field variations: secular, solar and lunar. The equatorial electrojet, magnetic disturbances and storms. Solar wind.  
**30h (T); E**
- PHY 475      Introduction to Solar Energy Physics      2 Credits**

Solar interior. Solar constant: calculation and measurement. Solar radiation intensity reaching the earth's surface under clear sky condition and under cloud and aerosol covers. Solar energy harnessing, Natural solar conversion systems. Methods of solar collection. Thermal and electrical conversion systems. Economics of solar conversion systems.

**30h (T); E**

**PHY 476 Crystallography and Electron Microscopy**

**2 Credits**

Production of X-ray, lattice, crystal systems, planes and directions. Symmetry and point groups. Stereographic projection. Bragg's law and diffraction methods. Structure factor. Laue and powder methods. Optical microscope and its limitations. Electron microscope in transmission and scanning modes. Analytical and high transmission voltage electron microscopy.

**30h (T); E**

**PHY 477 Electrical and Magnetic Properties of Materials**

**2 Credits**

Free electron theory, band model, types of conductors, semiconductors, insulators-dielectric and polymers, conductivity of semiconductors. Dielectric polarization, ferroelectricity and piezo-electricity. Polymerization and elastomeric. Superconductivity, electron spin, diamagnetism, paramagnetism, ferromagnetism; magnetic domains; soft and hard magnetic materials, ferrites.

**30h (T); E**

**PHY 478 Surface Physics**

**2 Credits**

Interfaces, Physical characterization of surfaces using light microscopy. Electron diffraction. Field ion microscopy and atom probe techniques. Electronic structure of solid surfaces. Transport of matter at surfaces. Chemical characterization of surfaces using ESCA, and Resonance Techniques (EPR and MNR).

**30h (T); E**

**PHY 479 Biophysics**

**2 Credits**

Force and equilibrium. Swimming and muscle force. Heat transfer, energy from metabolism, athletic performance. Fluid statics, blood vessels and the circulatory system. Ballistocardiography, electrocardiography, feedback and control, body temperature and nerve cells. The Hodgkin-Huxley equations. Sound, anatomy of the ear, theories of hearing, physiological optics and visual acuity.

**30h (T); E**

**PHY491 Advanced Practical Physics I**

**2 Credits**

Interferometry, Magnetic materials, Gravitation, Hall effect. Franck-Hertz experiment, Spectroscopy, Thermodynamics, Optics, Atomic and nuclear physics. Optoelectronics, Vacuum techniques, Electrical measurements.

**30h (P); C**

**PHY 493 Advanced Practical Physics II**

**1 Credit**

Selection of experiments from PHY 491 relevant to students' theory courses (Cannot be taken by Physics students).

**45h (P); E**

**PHY499**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**15h (T), 225h (P); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** PHY 115 (2), 125 (3), 142 (2), 152 (3), 191 (1), 192 (1) = 12 Credits

**Required Courses:** MAT 111 (3), 112 (3), 113 (3), 114 (3), CHM 111 (3), 112 (2), 115 (2), 116 (1), GNS 111 (2), 112 (2) = 26 Credits 132 (2),

**Elective Courses:** At least 2 Credits from STA 122 (2), 124 (2) = 2 Credits  
**Total = 40 Credits**

### 200 Level

**Compulsory Courses:** PHY 225 (2), 243 (2), 214 (2), 252 (2), 291 (2), 292 (2), 208 (2)  
= 14 Credits

**Required courses:** MAT 201 (3), 211 (3), CSC 211 (3), 218 (3), STA 223(3), GNS 211(2), 212 (2)  
= 19 Credits

**Elective Courses:** At least 6 Credits from MAT 212 (3), STA 224 (3), CHM 212 (3), 236 (3)  
= 6 Credits  
**Total = 39 Credits**

**Direct Entry Students:** GNS 111(2) , 112 (2) = 43 Credits

### 300 Level

**Compulsory Courses:** PHY 303 (2), 314 (3), 324 (3), 331 (3), 342 (3), 353 (3), 354 (2), 357 (2), 365 (3), 391 (3), 392 (2) = 32 Credits 358 (3),

**Required Courses:** MAT 311 (3), 324 (3), 332 (3), GNS 311 (2), GSE 301 (3) = 14 Credits

**Elective Courses:** MAT 310 (2), 323 (3), 325 (3), 326 (3), 328 (3), 329 (3), CSC 202 (3)  
**Total = 46 Credits**

### 400 Level

**Compulsory Courses:** PHY 405 (1), 432 (3), 443 (2), 456 (3), 461 (2), 491 (2), 499 (6)  
= **19 Credits**

**Elective Courses:** At least 8 Credits from the following:  
PHY409 (2), 416 (2), 444 (2), 446 (2), 454 (2), 462 (2), 457 (2) = **8 Credits**

At least 4 Credits from the following:  
PHY471 (2), 472 (2), 473 (2), 474 (2), 475 (2), 476 (2), 477 (2), 478 (2), 479 (2)  
= **4 Credits**

**Total = 31 Credits**

**Graduation Requirements**

UTME = 144 Credits

DE = 108 Credits

## DEPARTMENT OF STATISTICS

### Course Description

#### B.Sc. Statistics

<b>STA 121</b>	<b>Introduction to Probability</b> Probability as a measure of uncertainty. Sample points and events. Combination of events. Definitions and basic properties of probability. Joint and conditional probabilities. Combinatorial analysis <b>30h (T); C</b>	<b>2 Credits</b>
<b>STA 124</b>	<b>Introduction to Probability Distribution</b> Random variable, Bernoulli trials. Binomial, Geometric, Poisson, Uniform and Normal distributions. Concepts of linear regression, correlation and association of attributes. <b>30h (T); C</b>	<b>2 Credits</b>
<b>STA 125</b>	<b>Basic Concepts of Sample Survey</b> Populations. Census and sample survey. Comparison of sample and census. Sampling and non-sampling errors. Definition of concepts in sampling. Various sampling techniques. Use of random numbers. <b>45h (T); C</b>	<b>3 Credits</b>
<b>STA131</b>	<b>Introduction to Statistical Inference I</b> Statistical data: source, collection and preliminary analysis by table, graphs and simple statistics to include measures of location, dispersion, skewness, Kurtosis and correlation. <b>30h (T); C</b>	<b>2 Credits</b>
<b>STA 132</b>	<b>Laboratory for Inference</b> Presentation and analysis of data. Curve fitting and goodness of-fit tests. Construction of questionnaires and simple index numbers. Use of random numbers and statistical tables. <b>90h (P); C</b>	<b>2 Credits</b>
<b>STA 134</b>	<b>Introduction to Statistical Inference</b> Time series, demographic measures and index numbers. Inference estimation and tests of hypothesis. Regression and correlation of data <b>30h (T); C</b>	<b>2 Credits</b>
<b>STA 201</b>	<b>Statistics for Agriculture and Biological Sciences I</b>	<b>2 Credits</b>

Use of Statistical Methods in Biology and Agriculture. Frequency distributions. Laws of Probability. Binomial, Poisson and Normal probability distributions.

**30h (T) (Not for Statistics Students)**

- STA 203**      **Statistics for Physical Sciences and Engineering I**      **2 Credits**  
Measures of location and dispersion in simple and grouped experimental data. Elements of probability and probability distributions; Normal, Binomial, Poisson, Geometric. Negative Binomial.  
**30h (T); R**
- STA 204**      **Statistics for Agricultural and Biological Sciences II**      **2 Credits**  
Estimation and tests for hypotheses. Design of simple agricultural and biological experiments. Analysis of variance and covariance, Simple regression and correlation. Contingency tables.  
**30h (T); PR: STA 201**
- STA206**      **Statistics for Physical Sciences and Engineering II**      **2 Credits**  
Estimation and tests for hypotheses concerning the parameters of distributions. Regression, correlation and analysis of variance. Contingency table. Non-parametric inference.  
**30h (T); PR: STA 203**
- STA 207**      **Biostatistics**      **3 Credits**  
Use of Statistical methods in Medical Sciences. Frequency distributions. Estimation and tests of hypothesis: normal, t-tests, chi-square and F-tests. Regression and Correlation. Simple Analysis of Variance.  
**45h (T) (Not For Statistics Students)**
- STA 208**      **Health and Vital Statistics**      **3 Credits**  
Sources of demographic statistics includiprobability. Addition and multiplication laws of probability. Conditional probability. Prior and posterior probability of events. Independent events. Bayes theorem. Discrete and continuous density functions. Cumulative distribution functions. Mean, variance and higher-moments. Chebyshev's inequality. Binomial, Poisson, Uniform and Normal distributions.  
**45h (T); C**
- STA 222**      **Probability Distributions II**      **3 Credits**  
Moment generating functions and its properties. Limit theorems in probability Central limit theorem for independently and identically distributed random variables. Distribution of order statistics. Hypergeometric, multinomial, negative binomial,



exponential, beta, Cauchy, log-normal, Gamma, t, Chi-square and F distributions. Bivariate probability distributions. Conditional expectation. Variance and covariance.

**45h (T); C, PR: STA 221**

**STA 223**

**Statistical Methods I**

**3 Credits**

Sampling distributions, Central t, Chi-square and F distributions. Mean and variance of moments. Tests of significance concerning means, proportions and variance using t, Chi-square and F statistics. Theory of attributes. Contingency tables, Chi-square test and goodness-of-fit test.

**30h (T), 45h (P); C**

**STA 224**

**Statistical Methods II**

**3 Credits**

Simple linear regression and correlation. Elementary polynomial and multiple regression curves. Multiple correlation coefficients. Tests concerning correlation and regression coefficients. Fitting of straight line, polynomial and regression plane.

**30h (T), 45h (P); C**

**STA 311**

**Probability Distribution II**

**3 Credits**

Brief revision of basic concepts. Probability generating functions. Univariate and bivariate moment generating functions, univariate characteristics functions, and inversion formula. Various modes of convergence. Laws of large numbers and the central limit theorem using characteristic functions. Random walk and Markov chains. Introduction to Poisson processes.

**45h (T); C, PR: STA 222**

**STA 312**

**Analysis Of Variance I**

**3 Credits**

Analysis of simple, double and multiple classifications of balanced data in crossed and nested designs. Analysis of variance involving unbalanced data, incomplete tables, missing values, etc. Treatment of non-normality and heterogeneity of variances in data.

**45h (T); C, PR: STA 222**

**STA 323**

**Biometry**

**3 Credits**

Purpose, history and structure of Biological assays. Types of biological assays. Terminologies, Name of direct assays Applications to strephanth use. Precision of estimates.

**45h (T); E**

**STA 333**

**Regression Analysis I**

**3 Credits**

Linear estimation. Multiple linear regression equations. Partial correlation coefficients. Gauss-Markoff linear model. Least square estimators. Estimable functions. Tests of independence of regression coefficients. Testing of

hypotheses relating to linear models. Cochran's theorem. Model selection procedures. Use of dummy variables. Non-linearity in parameters requiring simple transformation.

**45h (T); C, PR: STA 224**

**STA 335 Design and Analysis of Experiments I**

**3 Credits**

Basic concepts; randomization, replication and error control. Basic designs: Completely randomized designs, Randomized complete block designs and Latin Squares designs. Missing plot techniques. Choice of optimum designs. Factorial experiments: analysis of  $2^n$  and  $3^n$  factorial experiments. Orthogonality, Transformations. Analysis and efficiency of the above designs. Analysis of Covariance.

**45h (T); C**

**STA 341 Statistical Inference I**

**3 Credits**

Point estimation method of Moments, Least Squares, maximum likelihood and some properties of point estimator. Unbiasedness, sufficiency, completeness and uniform variance unbiasedness. Fisher's information. Cramer-Rao inequality. Interval estimation. Tests of hypotheses. Neyman-Pearson theorem.

**45h (T); C, (PR): STA 222**

**STA 342 Statistical Inference II**

**3 Credits**

Methods of estimation: Mini-max, MLE Optimum properties of estimators Sufficiency and factorization theorem. Rao-Blackwell theorem. Test of hypotheses. Discussion of optimality properties of tests.

**30h (T), 45h (P); C, PR: STA 341**

**STA 348 Statistics Quality Control I**

**3 Credits**

Quality assurance in modern business. Control charts for attributes: P-chart, C-chart, S-chart, acceptance sampling by attributes: single, double and multiple sampling plans. Sequential sampling plan. Sampling by variables.

**45h (T); E**

**STA 349 Econometrics I**

**3 Credits**

Basic concepts of econometrics in the linear model: Tests of specification and mis-specification, predictive and non-predictive and various hypotheses. Multi-collinearity. GLS, Linear restriction, dummy variables and seasonal variations. Dynamic models.

**45h (T); E**

**STA 351 General Statistical Methods**

**3 Credits**

Sampling distribution. Binomial, Poisson, Uniform and Normal distributions. Point and interval estimations. Simple and multiple linear regression

**45h (T); E**

<b>STA 352</b>	<b>Economic and Social Statistics</b> Index numbers: Laspeyres, Pasche and Fisher's formulae. Errors in index numbers. National income accounting Statistics relating to Nigerian banking and accounting system Scope, Coverage, Source and Limitations of Nigerian industrial, agricultural, commercial, financial and social statistics. <b>45h (T); E</b>	<b>3 Credits</b>
<b>STA 353</b>	<b>Basic Statistics</b> Measuring variability: Bias and Errors in measurement. Collection, tabulation and presentation of data. Frequency distribution, histograms, measures of averages and dispersion. Some important distributions. Fitting of common distributions to data. Common tests of significance. Correlation and regression analysis. <b>45h (T); E</b> (Not opened to statistics minor nor major students and any body who had STA 202).	<b>3 Credits</b>
<b>STA 354</b>	<b>Statistical Computing</b> Programming in BASIC AND FORTRAN Computer languages, Computing of mean, variance, correlation and other moments. Storing and ranking of data. Basic statistical computing in regression analysis and the analysis of designed experiments. Use of some statistical packages like SPSS, SAS covering input-output of data. <b>30h (T), 45 (P); C</b>	<b>3 Credits</b>
<b>STA 358</b>	<b>Student Industrial Work Experience</b> Students will be attached to some Statistical and Industrial organizations for 10 m- 12 weeks during the long vacations. Students should present a report and a seminar. <b>135h (P); E</b>	<b>3 Credits</b>
<b>STA 362</b>	<b>Statistical Inference III</b> Sequential analysis. Non-Parametric tests: Chi-square, Sign, Median, Run, Wilcoxon and Kolmogrov-Smimov rank tests. Consistency and Relative Efficiency. Distribution free confidence and tolerance intervals. Large sample theory for confidence interval. Chi-square tests for Multinomial distributions. <b>45h (T); E. PR: STA 341</b>	<b>3 Credits</b>
<b>STA 363</b>	<b>Sample Survey I</b> Organization of sample surveys: Planning, execution and analysis of large-scale surveys with special emphasis on Nigeria. Various problems arising in sample surveys. Use of sample surveys over complete enUTMERation. <b>30h (T); 45h (P); C</b>	<b>3 Credits</b>
<b>STA 364</b>	<b>Sample Survey II</b>	<b>3 Credits</b>

Basic concepts: Sampling designs and sampling strategy. Sampling and non-sampling errors. Standard sampling procedures: Simple random sampling, stratified sampling, linear and circular systematic sampling, varying probability sampling with replacement, cluster sampling. Two stage sampling with equal number of ssu per fse. Ratio, regression, difference and product methods of estimation in SRSWOR.

**30h (T); 45h (P); C**

- STA421 Regression Analysis II 2 Credits**  
Partial correlation coefficients. Canonical correlation. Tests of independence of regression coefficients. Selection of the best regression equation. Multicollinearity and other problems associated with ‘Best Regression Models’  
**30h (T); C, PR: STA 333**
- STA 423 Analysis of Variance II 2 Credits**  
Analysis of variance involving unbalanced data such as with missing observations. Multivariate analysis of variance. Analysis of multifactor, multi-response data. Non-normality, heterogeneity of variance, etc.  
**30h (T); C**
- STA 432 Design and Analysis of Experiments II 3 Credits**  
Factorial experiments. Confounding in  $2^n$  and  $3^n$  experiments. Fractional factorial and replication in  $2^n$  factorial experiments. Split plot. Incomplete block and Lattice designs, BIBD and PBIBD. Response surface designs. Rotatable designs  
**45h (T); C, PR: STA 335**
- STA 433 Statistical Method and Field Experimentation 3 Credits**  
Introduction to field experiments. Selection of designs for specific situations: collection and analysis of data. Analysis of variance and covariance. Design of experiments. Using and analyzing data from the following: pair plot, completely randomized, complete blocks, Latin squares and split-plot designs. Factorial experiments.  
**45h (T)** (Not for Statistics minors or majors).
- STA 435 Demography 3 Credits**  
Data sources. Population census, vital registration, demography, sample surveys, international classification of diseases, injuries and causes of death. Birth and death rates. Mortality indices. Measures of fertility. Reproduction rates. Standardization and vital statistics in Nigeria.  
**30h (T), 45h (P); C**
- STA 442 Sampling Surveys III 3 Credits**  
Ratio and regression methods of estimation in various sampling schemes. Double sampling procedures. Sampling on successive occasions. Multiphase and multi-stage sampling. Cost functions. Confidence intervals for population mean and proportion.

**45h (T); E, PR: STA 364**

**STA 445**

**Statistical Inference IV**

**3 Credits**

Decision theory: Elements of the theory of Games and Decision theory. Criteria of preference of decision procedures. Estimation theory: Minimax, Bayes and other decision procedures. Testing of hypotheses; including testing of equality of K means, multinomial probabilities and contingency tables.

**45h (T); E, PR: STA 342**

**STA 446**

**Time Series Analysis**

**3 Credits**

Objectives, types of variation. Tests and smoothing analysis of trend. Fourier representations of cyclical change, periodogram and spectrogram. Stationary time series. Correlogram and its interpretation. Non-stationary time series. Introduction to spectral analysis.

**45h (T); C**

**STA 447**

**Psychometrics**

**3 Credits**

Introduction to Scaling procedures: Scaling individual test items. Percentile scaling, sigma-scaling, T-scaling of rating or ranking. Test theory item analysis; parallel test, methods of estimating reliability and validity, intelligence tests, etc. Element of factor analysis.

**45h (T); E**

**STA 448**

**Statistical Quality Control II**

**3 Credits**

MIL-STD-105D. Description and procedures. Dodge-Romig sampling plans. MIL-STD-414. Description and use of tables. Cumulative sum charts. Control chart for individual units. Process capability analysis. Evolutionary operations. Chain sampling continuous sampling, skip-lot sampling. Lot-Plot methods. Other sampling methods.

**45h (T); E, PR: STA 348**

**STA 449**

**Elementary Categorical Data Analysis**

**3 Credits**

Probability models for 2 x 2 tables. Hypergeometric, product Binomial and multinomial models. Fisher's exact test Measure of association for 2 x 2 tables: odds ratio and Log-odds ratio. Correlation coefficient type statistics. Measure of sensitivity, specificity, and predictive accuracy. Some models under dichotomous response: logistic, probit and complimentary log-linear models.

**45h (T); E, PR: STA 222**

**STA 453**

**Elements of Stochastic Processes**

**3 Credits**

Family of random variables. Conditional expectation. Variance and covariance in case of multivariate distributions. Convolutions. Various types of stochastic processes. Probability generating function (pgf). Discrete time Markov chain (M.C.). Classification states. Elementary Queuing models. Poisson processes. Birth and Death Processes.

**45h (T); C, PR: STA 222**

**STA 456**

**Operations Research**

**3 Credits**

Stochastic and non-Stochastic phenomena and models. Linear programming. Feasible and optimum solution. Geometric method for optimum solution. Elements of non-linear and stochastic programming Application to transportation, storage and shortest route and other

**45h (T); E**

**STA 457**

**Multivariate Analysis**

**3 Credits**

Multivariate distributions and associated marginal and conditional distributions. Estimation of mean vector and variance matrix. Test of hypotheses. Hotelling's T and Mahalanobis's D Discrimination and Classification, Principal components and factor analysis.

**45h (T); E, PR: STA 222**

**STA 458**

**Applied Multivariate Analysis**

**2 Credits**

The course is meant to emphasize on the application part of multivariate analysis avoiding the mathematical proofs of the results. The topics covered are to be same as in STA 457. Practical Application on mathematic analysis.

**90h (P); E**

**STA 494**

**Seminar**

**1 Credit**

A student would be required to give a seminar on a topic approved by the Department. **45h (P); C**

**STA 499**

**Project**

**5 Credits**

The project shall involve collection, analysis and interpretation of primary and, or, secondary data in an area approved by the Head of Department. A student would be required to submit a critical report on his/her work in triplicate to the Department for evaluation purpose.

**225h (P); C**

## SUMMARY

**100 Level**

**Compulsory Courses:** STA 121 (2), 124 (2), 125 (3), 131 (2), 132 (2), 134 (2) = **13 Credits**

**Required Courses:** CSC111 (2), 112 (2), GNS111 (2), 112 (2), MAT 111 (3), 112 (3)  
= **14 Credits**

**Elective Courses:** Minimum of 3 Credits taken from Agriculture, Biology, Chemistry,  
Computer Science, Economics, Geology, Mathematics and Physics.  
= **3 Credits**  
**Total = 30 Credits**

**200 Level**

**Compulsory courses:** STA 221(3), 222(3) 223(3), 224(3) = **12 Credits**

**Required Courses:** GNS 211 (2), 212 (2), CSC 211 (2), MAT 201 (3), 211 (3), 213 (2)  
= **14 Credits**

**Elective Courses:** At least 4 Credits taken from CSC 213 (3), 212 (2), 214 (2), 216 (2),  
MAT 211 (3), 203 (3), 206 (2), 208 (2), 212 (3) or any other course(s)  
from Chemistry, Computer Science, Economics, Geology, Mathematics  
and physics  
= **4 Credits**  
**Total = 30 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2) = **4 Credits**



### **300 Level**

**Compulsory Courses:** STA311 (3), 312 (3), 341 (3), 342 (3), 333 (3), 335 (3), 364 (3), 363 (3),  
354 (3) = **27 Credits**

**Required Courses:** GSE 301 (3), GNS 311 (2) = **5 Credits**

**Elective Courses:** At least 6 credits taken from MAT 312 (3), 320 (3), STA 358 (3),  
STA 336 (3), 348 (3), 349 (3), 352 (3), MAT 311(3), 306 (3) or any other  
course(s) from Chemistry, Computer Science, Economics, Geology,  
Mathematics and physics. = **6 Credits**  
**Total = 38 Credits**

### **400 Level**

**Compulsory courses:** STA 421 (2), 423 (2), 435 (3), 432 (3), 443 (3), 453 (3), 494 (1), 496 (5)  
= **22 Credits**

**Elective Courses:** At least 9 credits taken from STA 447 (3), 456 (3), 457 (3), 458 (2),  
442 (3), 445 (3), 448 (3), 449 (3) or any other course(s) from Chemistry,  
Computer Science, Economics, Geology, Mathematics and Physics. = **9 Credits**  
**Total = 31 Credits**

### **Graduation Requirements**

**UTME = 120 Credits**

**DE = 111 Credits**

**FACULTY OF SOCIAL SCIENCES**

**DEAN'S OFFICE**

A. Jimoh

B.Sc. (ABU); M.A. (Queens);  
Ph.D. (OAU)

Professor & Dean

Azumi A. Adi                      B.Sc. (ABU)                      Faculty Officer

**DEPARTMENT OF ECONOMICS**

A. Usman                      B.Sc. (ABU); M.Sc. (Ilorin); Ph.D. (ABU)      Senior Lecturer & Ag. Head

I. O. Taiwo                      B.Sc. (Ibadan); M.Sc.,  
Ph.D. (London)                      Professor

A. Jimoh                      B.Sc., (ABU), M.A. (Queens);  
Ph.D. (OAU)                      Professor

H.M. Bandara                      B. Ec. (Sri Lanka); M.Sc.  
(Sri. Jayewardenepura); Ph.D.  
(Strathdyde, UK)                      Professor

G. T. Arosanyin                      B.Sc., M.Sc. (ABU);  
Ph.D. (OAU)                      Reader

G. T. Ijaiya                      B.Sc., M.Sc., (Jos); Ph.D. (UDUS)                      Reader

R. A. Bello                      B.Sc., M.Sc., Ph.D.(ABU)                      Senior Lecturer

H. I. Mobolaji  
(Leicester)                      B.Sc., M.Sc.(Ibadan) ;                      Senior Lecturer

P h . D .

A. F. Oshodi                      B.Sc. (Ibadan) ; M.Sc., (Lagos)                      Lecturer I

I.A. Abdulraham                      B.Sc., M.Sc. (Maiduguri)                      Lecturer I

S. B. Akanbi                      B.Sc. (UDUS) ; M.Sc., Ph.D. (Ilorin)                      Lecturer I

A. T. Yakubu                      B.Sc.(Ilorin) ; M.Sc. (Ibadan) ; Ph.D. (Ilorin)                      Lecturer I

A. A. Kilishi	B.Sc. (Ilorin) ; M.Sc., Ph.D. (Ibadan)	Lecturer I
M. A. Yaru	B.Sc. (Ilorin); M.Sc. (ABU)	Lecturer I
I. O. Balogun	B.Sc., M.Sc., (Ibadan)	Lecturer II
D. Mustapha	B.Sc. (BUK) ; M.Sc. (UDUS) ; Ph.D. (Malaysia)	Lecturer II
S. O. Adewara	B.Sc., M.Sc. (Ilorin), Ph.D. (Cape Town)	Lecturer II
G .Olaseinde-Williams	B.Sc.(ACU ) ; M.Sc. EMU, North Cyprus)	Assistant Lecturer
Nafisat Abdulazeez	B.Sc.(Maiduguri); M.Sc. (ABU)	Assistant Lecturer
M. A. Ojuolape	B.Sc. (Ilorin); M.Sc. (Surrey, U.K)	Assistant Lecturer
H.A. Yusuf	NCE (Ilorin), B.Sc. (Ed.), M.Sc. (Ibadan)	Assistant Lecturer
M.K. Alabi	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
J. A. Sanni	B.Sc. (Khartoum)	Graduate Assistant

#### **DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL MANAGEMENT**

Rodah M.Olanrewaju	B.Sc.(Ibadan), M.Sc.(Ilorin); Ph.D. (FUTM)	Senior Lecturer & Ag.Head
J. F.Olorunfemi	B.Sc.(Ibadan); Ph.D. (Bristol)	Professor

A. F.Adedayo	B.Sc. (ABU); M.Sc. (London); Ph.D. (Ilorin)	Professor
R. A.Olawepo	B.Sc., M.Sc., Ph.D. (Ilorin)	Professor
L. T.Ajibade	B.Sc., M.Sc.(BUK); Ph.D.(OAU), Adv. Cert. GIS (FSSO)	Reader
E.O. Oriola	B.Sc. (Ilorin), M.Sc., Ph.D. (Ibadan), MBA (Ife) Adv. Cert. (Oyo).	Senior Lecturer
S. L.Tilakasiri	B.Sc., M.A., M.Sc., Ph.D. (Sweden); PGD (Norway)	Senior Lecturer
U. A.Raheem	B.Sc., M.Sc., Ph.D. (Ibadan), Adv. Cert. (Oyo)	Senior Lecturer
Y. A. Ahmed	B.A (Ed.), M.Sc., Ph.D. (Ilorin)	Senior Lecturer
K. A.Iroye	B.Sc., M.Sc., Ph.D. (Ilorin); PGDE (Ado-Ekiti)	Lecturer I
G. P. Afolayan	B.A. (ABU), M.Sc., (Jos), MBA (Ilorin), PGD (Rotterdam), Ph.D. (Ilorin).	Lecturer I
Afolabi M.Tunde	B.Sc., MBA, M.Sc., Ph.D. (Ilorin), PGDE (Kaduna)	Lecturer I
B. A.Usman	B.Sc.(ABU); M.Sc.(Ilorin); Ph.D. (ABU), PGDE (NTI)	Lecturer I
I.O. Orire	B.Sc., M.Sc. (Ilorin); PGDE (NTI); Ph.D. (ABU)	Lecturer I

D. O. Ajewole      B.Sc., M.Sc., Ph.D. (Ilorin); PGDE (Kaduna)      Lecturer II

N.A Malik      B.Sc. (Maiduguri), M.Sc. (Lagos), Ph.D. (Ilorin).      Lecturer II

Tolulope M. Agaja      B.Sc. (Ilorin), M.Sc. (Ibadan).      Lecturer II

E. A. Adeleke      B.Sc., M.Sc (Ilorin).      Assistant Lecturer

Enekole, E. Adeniyi      B.Sc., (Jos), M.Sc. (Ilorin), PGDE (Kaduna).      Assistant Lecturer

R. A. Olaitan      B. Tech. (Bauchi).      Graduate Assistant

#### **DEPARTMENT OF POLITICAL SCIENCE**

J. O. Olaniyi      B.Sc., M.Sc. (Ibadan); Ph.D. (Ilorin)      Senior Lecturer & Ag. Head

A. E. Davies      B.Sc. (Aristotle); M.Sc. (OAU); Ph.D. (Lagos)      Professor

H. A. Saliu      B.A. (BUK); M.Sc. (OAU);  
Ph.D. (BUK).      Professor

Adedoyin J. Omede      B.Sc., M.Sc., Ph.D. (Lagos).      Senior Lecturer

E. O. Ojo      B.Sc., M.Sc., Ph.D. (Ibadan)      Senior Lecturer

F.A. Aremu      B.Sc. (Jos); M.Sc. (UDUS);      Senior Lecturer      Ph.D. (Beppu,  
Japan).

L. Saka      B.Sc., M.Sc. (Ibadan) ; Ph.D. (Sintok)      Lecturer I

J. O. Durojaiye      B.Sc. (Ibadan); M.Sc. (OAU)      Lecturer I

A. A. Muhammad      B.Sc., M.Sc. (Ilorin).      Lecturer I

Fatima.O. Aliu	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
A.R. Bakare	B.Sc. (Ilorin) ; M.Sc. (Ibadan)	Assistant Lecturer
O.M. Adebisi	B.Sc. (Ilorin) ; M.Sc. (Ibadan)	Assistant Lecturer
A. Abubakar	B.Sc. M.sc (Ilorin)	Assistant Lecturer
A.A. Isiaq	B.Sc.; M.Sc. (Ilorin)	Assistant Lecturer

## **DEPARTMENT OF PSYCHOLOGY**

Prof. B. Salawu	B.Sc. (ABU); M.Sc. (Lagos); Ph.D. (Ibadan)	Professor & HOD
A.S. Opayemi	B.Ed.; M.Sc.; Ph.D. (Ibadan)	Senior Lecturer
O.D. Fagbamila	B.Sc; M.Sc.; (Ilorin)	Assistant Lecturer
Omolara R. Faworaja	B.Sc. (Lincon,Uk); M.Sc. (Anglia Ruskin, Uk)	Assistant Lecturer
Basirat A. Ibrahim	B.Sc.; M.Sc. (Ibadan)	Assistant Lecturer

## **DEPARTMENT OF SOCIAL WORK**

J.O. Fayeye	B.Sc., M.Sc. PhD. (Ibadan)	Reader & Ag. Head
M.A. Yahaya	B.Sc.; M.Sc.; MSW (Ibadan)	Assistant Lecturer
S.T. Saliman	B.Sc (Sokoto); M.Sc. (Ibadan)	Assistant Lecturer
M.S. Yusuf	B.Sc. (Ilorin)	Graduate Assistant
A.Abdulhammed	B.Sc. (Sokoto)	Graduate Assistant



## DEPARTMENT OF SOCIOLOGY

Deborah.S.Adekeye	B.Sc.,M.Sc.,M.P.A.,Ph.D.(Ilorin)	Senior Lecturer & Ag. Head
B. Salawu	B.Sc., (ABU); M.Sc. (Lagos) ; Ph.D. (Ibadan)	Professor
N. Yusuf	B.Sc., M.Sc., Ph.D. (Ibadan)	Professor
A.Y. Muhammed	B.Sc., M.Sc., M.I.L.R., P.G.D.E., Ph.D. (Ilorin)	Senior Lecturer
R.A.Seniya	B.Sc. (OAU); M.Sc. (Ibadan)	Senior Lecturer
A. A. Abdullahi	B.Sc. (BUK) ; M.Sc. (Ibadan); Ph.D. (South Africa)	Lecturer I
O. A. Fawole	B.Sc., M.Sc., Ph.D.(Ilorin).	Lecturer I
R. O. Yousouph	B.Sc., (Ilorin); M.Sc., Ph.D. (Ibadan).	Lecturer I
M. A. Adebisi	B.Sc., M.Sc., (Lagos); Ph.D. (Cameroon)	Lecturer I
A. Raji	B.Sc., M.Sc. (Ilorin), PGDE	Assistant Lecturer
S.Z. Abdulbaqi	B.Sc. (UDUS) ; M.Sc. (Ilorin)	Assistant Lecturer
S.J. Akor	B.Sc.,PGDM.(Jos) ; MBA(UDUS) ; M.Sc. (Ilorin)	Assistant Lecturer
A.G.Olatunji	B.Sc., M.Sc. (Ilorin)	Assistant Lecturer
T.O. Tejideen	B.Sc.; M.Sc. (Ilorin)	Assistant Lecturer

Kafayat.O.Mahmoud B.Sc. (Ilorin)

Graduate Assistant

M. Issah B.Sc. (Ilorin)

Graduate Assistant

## DEPARTMENT OF ECONOMICS

### Course Description

#### B.Sc. Economics

- ECN 101 Principles of Economics I 3 Credits**  
Nature and scope of economics. Production and exchange. Location and localization of industries. Price theory and its application. National income.  
**45h (T); C**
- ECN 102 Principles of Economics II 3 Credits**  
Analysis of money and banking. Elementary models of income and employment. Introductory concepts in international trade theory. Taxation and public expenditure. Introduction to budgeting and national development planning.  
**45h (T); C**
- ECN 103 Introduction to Statistics I 2 Credits**  
Definition and scope of statistics. Basic concepts in statistics. Statistics in everyday life. Measurement and types of data in Economics. Sources, nature, uses and limitations of published economic and related statistical data in Nigeria. Methods of data collection: census and survey.  
**30h (T); C**
- ECN 104 Introduction to Statistics II 2 Credits**  
Techniques of data presentation: frequency distribution, tables, curves and cumulative frequency. Measures of central tendency and dispersion. Elementary probability theory. Standard and normal distributions.  
**30h (T); C**
- ECN 105 Introductory Mathematics for Economics I 2 Credits**  
Mathematical concepts in the Social Sciences. Set theory. Factors, surds and indice. Logarithms, equations, inequalities and functions. Sequences and elementary matrix algebra. Trigonometry: trigonometric functions and their inverse. Implicit functions. Permutations and combinations.  
**30h (T); C**
- ECN 106 Introductory Mathematics for Economics II 2 Credits**  
Co-ordinate geometry. Introduction to calculus, differentiation and integration. Economic applications of differentiation and integration.  
**30h (T); C**

<b>ECN 107</b>	<b>Applied Economics I</b> Survey of West African economies. Transport and communications. Population structure. Labour movements. Income level and its distribution. Agricultural and industrial production. Distributive trade. Public policies. <b>45h (T); E</b>	<b>3 Credits</b>
<b>ECN 108</b>	<b>Applied Economics II</b> West African monetary system. West African Currency Board. Development of money and capital markets. Problems of unemployment. Foreign trade, structure and direction. Private and public enterprises. Problems of plan implementation in ECOWAS. <b>45h (T); E</b>	<b>3 Credits</b>
<b>ECN 201</b>	<b>Microeconomics I</b> Basic concepts in microeconomics. Tools of economic analysis. Problems of scarce resources. Allocation of resources in product and factor markets. Equilibrium analysis. Demand and supply theory. Elasticity of demand and supply. Cobweb theory. <b>45h (T); C</b>	<b>3 Credits</b>
<b>ECN 202</b>	<b>Microeconomics II</b> Introductory Dynamics. Utility approach to consumer behaviour. General equilibrium of exchange. Production theory. Theory of costs. Equilibrium under different market structures. Pricing of factors of production. <b>45h (T); C</b>	<b>3 Credits</b>
<b>ECN 203</b>	<b>Macroeconomics I</b> Scope and Methodology. National income accounting. Macroeconomic aggregates of the classical and Keynesian systems. Monetarist system. Domestic economic stabilization. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ECN 204</b>	<b>Macroeconomics II</b> Macroeconomic theory of consumption, savings and investment. Money supply and demand. Monetary and fiscal policies. Price control and inflation. <b>30h (T); C</b>	<b>2 Credits</b>
<b>ECN 205</b>	<b>History and Structure of the Nigerian Economy I</b>	<b>2 Credits</b>

Analysis of development of economic and social organizations in the pre-colonial and post-colonial periods. Role of agriculture, industry, money and banking, and international trade in Nigeria's economic development. Growth of income, employment, wages and prices. Public development institutions.

**30h (T); C**

**ECN 206 History and Structure of the Nigerian Economy II 2 Credits**

National income and expenditure. Monetary and fiscal policies in Nigeria. Monetary institutions. Trade and transport systems. Contribution of sectors of the Nigerian economy to national output and their interrelationship. Role of national institutions. Economic development and social change.

**30h (T); C**

**ECN 207 Statistics I 2 Credits**

Population and sample. Probability theory and distribution. Sampling. Point and interval estimation.

**30h (T); C**

**ECN 208 Statistics II 2 Credits**

Simple tests of hypotheses. Simple regression analysis. Time series analysis. Index numbers.

**30h (T); C**

**ECN 209 Mathematics for Economics 2 Credits**

Derivatives of trigonometric functions. Sequence and series. Maclaurin expansion and Taylor's theorem. Partial and total derivatives. Differential and difference equations. Applications of partial derivatives. Maxima and minima. Lagrangian multiplier. Matrix Algebra. Simultaneous linear equation models. Input-output analysis.

**30h (T); C**

**ECN 210 History of Economic Thought I 3 Credits**

Nature and importance of economic thought. Ideas of the early Christian fathers. Mercantilism. The Physiocrats. Classical economics. Reactions against classicism, socialism and economic nationalism. Islamic ideas on economic activity.

**45h (T); C**

**ECN 211 Theories of Human Resources 2 Credits**

Job search. Labour mobility and hiring policy. Wage administration and policy. Manpower planning. Elements of industrial psychology. Industrial relations in Nigeria: theory and practice.

**30h (T); E**

- ECN 212      Labour Economics      2 Credits**  
Demand and supply of labour. Theories of wage determination. Theories of unemployment. Wage differentials. Trade Unionism.  
**30h (T); E**
- ECN 213      Monetary Economics      2 Credits**  
Definition, origin, kinds and functions of money. Demand and supply of money. Expansion and contraction of money by banks. Theories of interest rate. Inflation as a monetary phenomenon. Developments in monetary thought. Monetary policy.  
**30h (T); C**
- ECN 214      Urban and Regional Economics      2 Credits**  
Application of microeconomics to urban economy. Applied location theory. Theories of socio-economic development and change at international, regional and intra-urban levels. Urban problems and basic needs: housing, employment, environmental quality, poverty and provision of urban services. Problems and role of the state in urban and regional development.  
**30h (T); E**
- ECN 301      Microeconomics III      2 Credits**  
Mathematical treatment of microeconomic theory using Linear programming. Advanced treatment of price and output determination under perfect competition, oligopoly, and monopoly.  
**30h (T); C,    PR: ECN 201 & ECN 202**
- ECN 302      Microeconomics IV      2 Credits**  
Mathematical treatment of the general equilibrium microeconomics. Exchange theory, offer and contract curves. Introduction to capital theory. Types of production function.  
**30h (T); C,    PR: ECN 201 & ECN 202**
- ECN 303      Macroeconomics III      2 Credits**  
Concept of national income. Comparison of classical, Keynesian and monetarist system approach. Introduction to macro-rational expectation proposition and the Ricardian Equivalence hypothesis.  
**30h (T); C,    PR: ECN 203 & ECN 204**
- ECN 304      Macroeconomics IV      2 Credits**  
Problems of unemployment and inflation. ISLM analytical apparatus. Relative effectiveness of monetary and fiscal policies.  
**30h (T); C,    PR: ECN 203 & ECN 204**

- ECN 306 Applied Statistics II 2 Credits**  
 Nature of data: time-series, cross-sectional and panel data. Major sources of data. Questionnaire design. Advanced treatment of sampling techniques. Model building in economics. Further treatment of time-series analysis and index numbers.  
**30h (T), C, PR: ECN 207, ECN 208**
- ECN 307 Econometrics and Research Methods 2 Credits**  
 Definition and scope of econometrics. Stages of econometric research. Simple linear econometric model. Ordinary least squares estimator: multicollinearity, homoscedasticity and autocorrelation. Identification problem. Simultaneous equation models and the two-stage least squares method.  
**30h (T); C**
- ECN 308 History of Economic Thought II 2 Credits**  
 Marginalism. The Austrian school. Mathematical economics. Reactions against orthodoxy. German historical school and institutionalism. Welfare and Keynesian economics: exploration of contributions from the Third World.  
**30h (T); C, PR: ECN 210**
- ECN 309 Development Economics 2 Credits**  
 Distinction between development and growth. Development and underdevelopment. Theories of development: Classical, Marxian, Schumpeterian and Harrod-Domar. Characteristics of a developing country. Obstacles to development and strategies to remove them. Dualism, balanced and unbalanced growth. Technological resources. Aids and international trade. Policy issues and case studies.  
**30h (T); C**
- ECN 310 Public Policy I 2 Credits**  
 General theoretical framework of public policy. Concept of the public sector. Pricing, investment and financing of public sector enterprises. Role and determinants of the size of public sector.  
**30h (T); C**
- ECN 311 Transport Economics 3 Credits**  
 Introduction to transport economics. Elements of transport. Modes of transport. Transport and development. Demand and Supply of transport. Transport financing. Introduction to data collection in transport analysis. Other topical issues in transport economics for developing countries.  
**30h (T), 15h (P); E**
- ECN 312 Public Finance I 2 Credits**

Fiscal functions. Fiscal institutions in Nigeria. Public goods and merit wants. Introduction to taxation. Personal income taxation. Trends in government activities. Efficiency in government expenditures. Introduction to fiscal stabilization. Economics of public debt.

**30h (T); C**

**ECN 313**

**International Trade**

**3 Credits**

International Trade and economic theory. Domestic versus international trade. Classical and modern theories of international trade. Terms of trade. Effects of trade on factor prices. Stolper-Samuelson. Protection in international trade. Economic integration e.g. ECOWAS.

**45h (T); E**

**ECN 314**

**Financial Institutions**

**2 Credits**

Importance of money in the modern economy. Financial institutions. Relationship between central authority and financial institutions. Commercial, development and merchant banks. Non-bank financial institutions. Money and capital markets in less developed countries. International financial organizations.

**30h (T); E**

**ECN 315**

**Applied Monetary Economics**

**2 Credits**

Structure and functions of the financial system. Demand and supply of money and other financial assets. Interest rate determination. Inflation. macroeconomic objectives and stabilization policies. Monetary policies: instruments, goals and relative effectiveness.

**30h (T); E**

**ECN 316**

**Political Economy**

**2 Credits**

Basic distinguishing features of bourgeois and dialectical methods of analysis. Historical materialism. Classification of social systems. Theory of social classes. Marxist theory of capital accumulation. Metropolitan and satellite economic relations. Colonialism and neo-colonialism. Stages of socialist and capitalist developments.

**30h (T); E**

**ECN 317**

**Mathematical Economics I**

**2 Credits**

Linear and non-linear models. Static and dynamic models. Advanced treatment of input-output analysis. General equilibrium analysis.

**30h (T); E**

**ECN 318**

**Tourism Economics**

**2 Credits**



Tourism concepts. Tourism types(Segmentation). Tourism demand. Tourism supply. Market structure of international tourism. Passenger transport, accommodation, travel and tourism operation. Tourism marketing. Impact of tourism. Tourism development in developing countries with special reference to Nigeria.

**30h (T); E**

**ECN 319**

**Economics of Cooperative Movements**

**2 Credits**

Concepts and principles of cooperatives. Types and roles of cooperatives. Organizational structure. Sources of finance. Problems and prospects.

**30h (T); E**

**ECN 320**

**Health Economics**

**2 Credits**

Economics of health and health economics. Health and health systems. Supply and demand for health. Markets. Health financing. Health policy in Nigeria. Economic evaluation in health. Health and development. Health issues in Nigeria.

**30h (T); E**

**ECN 321**

**Industrial Economics**

**2 Credits**

Scope and methodology of industrial economics. Theories of the firm. Growth of the firm. Diversification, mergers and innovation. Investment economics, risk and uncertainty. Cost of capital. Sources of finance. Industrial pricing and marketing. Government intervention in industry and public policy. Industrial location. Industrial practices and policies in Nigeria.

**30h (T); E**

**ECN 401**

**Microeconomics V**

**2 Credits**

Fundamental quantitative relationships. Optimization in theories of consumption and production. Dynamic analysis. Theory of the firm and its application to monopoly, oligopoly, monopolistic and perfect competition.

**30h (T);C, PR: ECN 301, ECN 302**

**ECN 402**

**Microeconomics VI**

**2 Credits**

Theories of determination of wages, rent, interest and profit. General equilibrium and disequilibrium. Welfare economics and notions of efficiency and equity. Externalities, social and private costs. Other areas of market failure.

**30h (T); C, PR: ECN 301, ECN 302**

**ECN 403**

**Macroeconomics V**

**2 Credits**

Statics, dynamic and general equilibrium. Models of income determination. Advanced theories of consumption, saving and investment. Theories of money and interest. General equilibrium in the product and money markets. Effectiveness of economic policy.

**30h (T); C, PR: ECN 303, ECN 304**

- |                |  |                  |
|----------------|--|------------------|
| <b>ECN 404</b> | <b>Macroeconomics VI</b>   | <b>2 Credits</b> |
|                | The Classical-Keynesian models of employment and output. Theories of inflation. Philips relation. Models of economic growth. Keynesian and monetarist interpretation of the trade cycle. New Classical macroeconomics.   |                  |
|                | <b>30h (T); C, PR: ECN 303, ECN 304</b>  |                  |
| <b>ECN 405</b> | <b>Project Evaluation I</b>  | <b>2 Credits</b> |
|                | Definition, classification and evaluation of projects. Project cycle. Project and overall view of development programmes. Data requirements. Location and size of project. Identification and computation of relevant costs and benefits. Investment criteria. Commercial profitability.                                 |                  |
|                | <b>30h (T); C</b>  |                  |
| <b>ECN 406</b> | <b>Project Evaluation II</b>   | <b>2 Credits</b> |
|                | Welfare economics and the principle of social cost-benefit analysis. Valuation and shadow prices. Accounting prices for traded goods. Social profitability, efficiency and equity in project selection. Uncertainty, risk and sensitivity analysis. Cash flow analysis. Project Evaluation and Review Techniques (PERT). |                  |
|                | <b>30h (T); C</b>  |                  |
| <b>ECN 407</b> | <b>Comparative Economic Systems</b>  | <b>2 Credits</b> |
|                | Types of economic systems. Comparative analysis of goals. Methodologies and techniques of central planning in capitalist, socialist and developing economies. System in transition. Programmes and proposals for economic reforms. Features of underdeveloped countries.   |                  |
|                | <b>30h (T); C</b>  |                  |
| <b>ECN 410</b> | <b>Public Finance II</b>   | <b>2 Credits</b> |
|                | Areas of market failure. Taxation and resources allocation. Taxation: income inequality and equity. Tax structure, public expenditures, public debt, and public enterprise pricing. Inter-governmental fiscal relations. Budgeting and planning. Fiscal stabilization.   |                  |
|                | <b>30h (T); R</b>  |                  |
| <b>ECN 411</b> | <b>Economics of Production</b>   | <b>2 Credits</b> |

Nature and scope. Production functions and cost. Industrial location. Production planning and control. Plant layout and raw materials handling. Quality control. Inventory management. Method analysis, work measurement and incentive plans.

**30h (T); E**

**ECN 412**

**Applied Statistics III**

**2 Credits**

Application of common statistical techniques and review of regression analysis. Formulation and estimation of common models: demand, supply, consumption and investment equations. Extended studies on hypothesis testing. Statistical methods of making forecasts in Economics.

**30h (T); C, PR: ECN 306**

**ECN 413**

**Issues in Development**

**2 Credits**

Development and under-development. Development theories. Economic and non-economic factors in development experience. Role of the state in promoting development. Problems and Policies of development. Prospects of Nigeria's development.

**30h (T); C, PR: ECN 304**

**ECN 414**

**Econometrics**

**2 Credits**

Introduction to algebra of econometrics. General linear model and generalized least squares procedures. Violations of linear model assumptions: autocorrelation, multicollinearity and heteroscedasticity. Errors in variables. Identification problems: meaning, detection and correction. Simultaneous models and estimations.

**30h (T); E, PR: ECN 307**

**ECN 415**

**Mathematical Economics II**

**2 Credits**

Mathematical programming. Dynamic programming. Optimal control theory with emphasis on Bellman and Pontryagin approaches. Game theory and applications. Linear, difference and differential equation systems.

**30h (T); E, PR: ECN 317**

**ECN 416**

**Petroleum Economics**

**2 Credits**

Petroleum and the economy. Petroleum resources around the world. Optimum rate of oil extraction. Cost analysis. Price fixing. Role of Multinational Corporations in Nigeria's oil sector.

**30h (T); E**

**ECN 417**

**International Finance**

**3 Credits**

Coverage and measurements of balance of payments in Nigeria. Adjustment policies. Foreign exchange market, exchange rate and key currencies. Transfer problems and capital movements in international services. International monetary systems.

**45h (T); E**

- ECN 418 International Economic Relations 2 Credits**  
 Structure and direction of Nigerian trade. Nigeria's policy on trade and payments. Export instability and consequences on balance of payments. Payments adjustment in Nigeria. Nigeria and international organisations: Commonwealth, OECD, EU, IMF, World Bank. Nigeria and the ECOWAS.  
**30h (T); E**
- ECN 419 Demography 2 Credits**  
 Definition of terms. Sources of data. Fertility measures and trends. Family planning. Mortality measure and trends. Life table. Migration: internal and international. Population: composition, growth, measurement and trends.  
**30h (T); E**
- ECN 420 Public Policy II 2 Credits**  
 Relationship between the size of public sector and economic development. Analysis of selected public policies in Nigeria: monetary, exchange rate, public debt, developmental, industrial and other policies.  
**30h (T); C**
- ECN 421 Nigerian Public Finance 2 Credits**  
 Main issues in Federal finances. Structure of public revenue and expenditure. Inter-governmental transfer and regional/state revenues. Problems of public debt in Nigeria. Budgetary processes of Nigerian governments.  
**30h (T); E**
- ECN 423 Economic Planning I 2 Credits**  
 Rationale for planning. Origin and types of planning. Planning machinery and processes. Planning data. Plan implementation and performance. Development planning in Nigeria. Planning experiences of other countries.  
**30h (T); C**
- ECN 424 Economic Planning II 2 Credits**  
 Planning models and social accounting framework. Planning techniques: input-output analysis and linear programming. Resource projection and consistency test. Programme balancing.  
**30h (T); C**
- ECN 499 Project 6 Credits**  
 Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**SUMMARY**

**100 LEVEL**

**Compulsory Courses:** ECN 101(3), 102(3), 103(2), 104(2), 105(2), 106 (2) = **14 Credits**

**Required Courses:** ACC 101(3), BUS 101(3), 103(3), FIN 112(3), GNS 111(2), 112 (2)  
= **16 Credits**

**Elective Courses:** (a) At least one of ACC 102(3), BUS 102(3) = **3 Credits**  
(b) At least two Credits from the following: POS 111(3), 114(3), SOC 101(2)  
= **2 Credits**

**Total = 35 Credits**

**200 LEVEL**

**Compulsory Courses:** CN 201 (2), 202 (2), 203 (2), 204 (2), 205 (2), 206 (2), 207 (2),  
208 (2), 209 (2), 210 (3) = **21 Credits**

**Required Courses:** SOC 217 (2), ECN 216 (2), POS 221 (2), GNS 211 (2), 212 (2)  
= **10 Credits**

**Elective Courses:** (a) At least one of ECN 212 (2), 213 (2) = **2 Credits**  
(b) At least 3 Credits from the following: ACC 201 (3), 202 (3),  
BUS 201 (3), 203 (2) = **3 Credits**

**Total = 36 Credits**

**Direct Entry Students:** GNS 111 (2), 112 (2) = **4 Credits**

**300 LEVEL**

**Compulsory Courses:** ECN 301 (2), 302 (2), 303 (2), 304 (2), 306 (2), 307 (2), 308 (2),  
309 (2), 310 (2), 312 (2) = **20 Credits**

**Required Courses:** GPY 301 (2), BUS 301 (3), GNS 311 (2), GSE 301 (3)  
**=10 Credits**

**Elective Courses:** At least 6 Credits from ECN 313 (3), 314 (2), 315 (2), BUS 313 (3), 314 (3), ACC 214 (3)  
**= 6 Credits**

**Total = 36 Credits**

#### **400 LEVEL**

**Compulsory Courses:** ECN 401 (2), 402 (2), 403 (2), 404 (2), 405 (2), 406 (2), 407 (2),  
412 (2), 413 (2), 423 (2), 424 (2), 499 (6) **= 28 Credits**

**Required Courses:** ECN 410 (2), 420 (2) **= 4 Credits**

**Elective Courses:** (a) At least one from ECN 411 (2), 417 (2)  
(b) At least one from ECN 414 (2), 416 (2) **= 4 Credits**  
**Total = 36 Credits**

#### **Graduation Requirement**

**UTME=143 Credits**

**DE= 111 Credits**

### **DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL MANAGEMENT**

#### **Course Description**

#### **B.Sc. Geography and Environmental Management**

**GPE 121 Introduction to Environmental Systems I 3 Credits**

Definition, scope and basic elements of Environmental System. Composition and structure of the lithosphere; atmosphere, and biosphere. First order relief forms of the earth. Introduction to energy and mass budgets including atmospheric motion, solar radiation and water budgets. Climatic elements and interaction with vegetation, animals and humans in ecosystems.

**45h (T); C**

- GPE 122      Introduction to Environmental Systems II      3 Credits**  
Radiation transfer processes in the earth–atmosphere systems. Oceanic circulations and their effects. The cycling of matters and energy in ecosystems. Agents and processes of landform shaping and soil genesis. Major emphasis on the genesis, distribution and utility of surface features.  
**45h (T); C**
- GPE 131      Introduction to Human Geography      3 Credits**  
Definitions and scope of human geography. Man-Environment relationships. Global cultures and human types. World population distribution and patterns. Patterns and factors of economic activities with particular reference to Africa.  
**45h (T); C**
- GPE 132      Introduction to Man-Environment Interaction      3 Credits**  
Global environmental issues affecting climate; sustainable agriculture; waste management; deforestation; population and energy. Human response and decision-making tools and implications. Case studies of industrialization.  
**45h (T); C**
- GPE 141      Nigerian Environment      3 Credits**  
Physical and Human phenomena in Nigeria. Spatial patterns; ecological zones; growth and distribution of population. Natural resource base. Agricultural production and marketing systems. Industrialization. Transport development. Intra-regional and external interaction. Development strategies.  
**45h (T); C**
- GPE 193      Introduction to Map Work      3 Credits**  
Representation and analysis of relief, hydrographic, and cultural features, on topographical maps. Type of statistical maps and diagrams. Graphical presentation of geographical data.  
**30h (T); C**
- GPE 194      Introduction to Cartography      3 Credits**  
Development of cartographic skills: basic drafting, lettering, shading and colouring. Geometrical drawings. Cartographic representation of statistical data.  
**30h (T); C**
- GPE 196      Introduction to Environmental Management      3 Credits**

Introduction the complex interaction among social, political, cultural, economic framework for modern environmental management. Basic environmental issues, challenges and opportunities. Holistic and interdisciplinary perspectives to environmental management. Environmental problems in Nigeria – Case studies.

**45h (T); C**

**GPE 221**

**Environmental Science**

**3 Credits**

Systems approach to the study of environmental science. Energy systems in the atmosphere, hydrosphere, lithosphere and biosphere. Current environmental issues including environmental pollution and natural hazards, erosion, drought, earthquakes, hurricanes, etc.

**45h (T); C**

**GPE 222**

**Principle of Geomorphology and Soil Geography**

**3 Credits**

Meaning and scope of geomorphology. Rock types, their origin and characteristics. Nature and origin of second order relief forms of the continents. Structural landforms. Meaning and scope of soil geography. Soil formation processes.

**45h (T); C**

**GPE 223**

**Principles of Climatology and Biogeography**

**3 Credits**

Forces that drive the atmosphere. Major features and models of atmospheric circulation. Weather-Producing systems. Man's influence on the atmosphere. Basic structure and dynamics of plant communities. Factors influencing plant growth. Survey of characteristics, distribution and controlling factors of vegetation.

**45h (T); C**

**GPE 231**

**Spatial Organization**

**3 Credit**

Concept of space and types of geographic space. Basis pattern of geographic location. Space perception and locational decision. Spatial organization and reorganization.

**45h (T); C**

**GPE 232**

**Man-Environment Interaction**

**3 Credits**

An overview of the human impact on the environment. The feedback-system in man-environment interaction. Domain of environmental alteration - household, community, urban-rural environmental problems. Population, settlement and human economic activities. Agricultural practices and farming systems.

**45h (T); C**

**GPE 293**

**Surveying and Map Analysis**

**3 Credits**

Simple surveying equipment and their uses. Distance and area measurements. Basic principles of surveying (chain and tape survey). Obstacles to chaining. Compass traversing and error of closure. Plane tabling. Simple reciprocal leveling. Quantitative



analysis of physical drainage and cultural features on topographical map. Analysis of other selected maps - geographical, land-use and weather maps.

**45h (T); C**

- GPE 296      Geographic Information System      3 Credits**  
Map making instruments. Elements of map making. Scale construction on the map. Map reproduction, enlargement and reduction. Conventional symbols in map making. Development of geographic data collection procedures, space searching, routines and sampling. Geo-coding procedures and data banks. Application of Geographic Information System (GIS); land-use survey, census taking. regional planning etc.  
**45h (T); C**
- GPE 298      Industrial Training Attachment      1 Credit**  
Acquisition of practical skills in geography and environmental management in industries for a period of 12 weeks. Industrial attachment report.  
**45h (P); C**
- GPE 299      Local fieldwork      1 Credit**  
Field study of the local environment to demonstrate classroom lessons learnt in the systematic aspect of Geography as well as familiarize students with the geography of the local environment.  
**45h (P); C**
- GPE 301      Computer Application in the Social Sciences      2 Credits**  
Basic Components of a computer: computer memory system, storage devices and ports, some inputs and output devices. Introduction to MSW. Working with MSW - creating, editing, saving a document, etc. Font manipulation, working with charts and graphs.  
**30h (T); R**
- GPE 311      Geographic Thought      3 Credits**  
The scope and definition of geographic thought. History of geographic thought from ancient time through the middle ages to the present time. Paradigms and revolution, positivist, humanistic and structuralist approaches. Changing themes in modern geographic methods and philosophy. Case studies.  
**45h (T); C**
- GPE 321      Climatology      2 Credits**

Scope, contents and trends in climatology. Approaches to the study of climatology. The climate system. Energy and water balance models. Climate classifications. Evidence and theories of climatic change. Measurements of, and estimation of climatic elements.  
**30h (T); C**

**GPE 322      Geomorphology      2 Credits**  
Climate and geomorphological processes. Tropical geomorphology. Landforms and climatic change. Rivers and river patterns. Geomorphologic processes and landforms. Fluvial morphometric models in geomorphology.  
**30h (T); C**

**GPE 324      Hydrology      2 Credits**  
Scope and development of hydrology. The Hydrological Cycle. Aspects of hydrometeorology. Surface and ground water hydrology. A descriptive interpretation and detailed inventory of hydro-climatic data. Problems associated with geographical distribution.  
**30h (T); E**

**GPE 325      Soil Geography      2 Credits**  
Pedology and Geography. Soil constituents and properties. Soil formation processes. Soil survey and classification. Major soils of the world. Soil erosion and conservation.  
**30h (T); E**

**GPE 326      Biogeography      2 Credits**  
Scope, content and development of biogeography. The concept of ecosystem. Ecosystem processes. Vegetation types. Factors affecting flora and fauna distribution at various scales. Vegetation changes through time, adaptation, succession and climax. Biodiversity and Soil conservation.  
**30h (T); C**

**GPE 328      Political Geography      2 Credits**  
Contemporary issues in geo-politics and political geography. Political regions - states, capitals, cores and hinterland areas. Frontiers, boundaries, landlocked and water fringed states. Problems of racial, ethnic and minority states. Politics of resource exploitation and management. Electoral problems and processes (e.g. voting behavior). International organization and unions.  
**30h (T); E**

**GPE 331      Population Geography      3 Credits**  
World Population growth, birth and death rates and measurements. Social and economic characteristics of population. Population and resources. Methods of demographic data collection. Concepts and theories of demography. The Crowded Planet.  
**45h (T); C**

- GPE 336 Economic Geography 2 Credits**  
 Economic Geography - Concepts, scope, methods and approaches. Location patterns. Structure and impacts of rural urban economic activities. Economic Regions. Spatial interdependence. Case Studies of economic activities.  
**30h (T); C**
- GPE 339 Settlement Geography 3 Credits**  
 Origin, theories and evolution of human settlements. Factors, types and distributional pattern of settlements. Settlements morphology and management.  
**45h (T); E**
- GPE 342 Social Geography 3 Credits**  
 Definition and scope of social Geography. Concepts of human ecology and social space. The spatial patterns of social life and social groups. Territorial division of labor and capitalist development. Residential location, segregation and social deviance. Social geography and public policy.  
**45h (T); E**
- GPE 344 Geography of Africa 2 Credits**  
 Nature of the physical and human environment. Farming systems. Population characteristics, structure and mobility. Urbanization pattern and processes. Regional resource bases and industrialization. Regional aspects of development. Political development and regional economic co-operation.  
**30h (T); C**
- GPE 346 Location Theory 3 Credits**  
 Role of location theories in geography. Evolution of theories relating to land use, industrial location, urban spatial structure, settlement distribution (central place theory, diffusion theory), service activities, transport, etc.  
**45h (T); C**
- GPE 348 Elements of Medical Geography 2 Credits**  
 Ecology, epidemiology and diffusion of some tropical diseases. The spatial aspects of health care delivery systems and health policy in Nigeria. Orthodox Traditional Health Systems and practice.  
**30h (T); E**
- GPE 391 Field and Laboratory Techniques 1 Credits**  
 Relevance of laboratory in geography and Environmental management. Basic Laboratory equipment in Environmental Management: Wet Laboratory, GIS and remote sensing Laboratory, Cartography laboratory. Laboratory analyses in physical

geography: Soil analysis, water analysis, vegetation analysis. Laboratory analysis in man's environment: basic procedures in mapping.

**15h (T); C**

- GPE 392      Data Analysis and Computer Appreciation      2 Credits**  
Sources of geographical data and methods of their collection. Data description and characteristics. Samples comparisons and analysis of relationship. Point, line and areal patterns. Use of computers in geographical analysis.  
**30h (T); C**
- GPE 393      Fieldwork      3 Credits**  
Formulation of fieldwork objectives. Field observations and measurements in physical and human geography. Presentation of fieldwork report. Supervised fieldwork programme in selected areas in Nigeria.  
**15h (T), 90h (P); C**
- GPE 394      Remote Sensing and Air-Photo interpretation      2 Credits**  
Introduction to remote sensing techniques. Instruments and methods of air-photo reading. Construction of overlaps and sketch maps. Measuring and plotting from air photo. Interpretation of physical and socio economic landscapes in selected air-photographs. Flights plan.  
**15h (T), 45h (P); E**
- GPE 395      Cartography      3 Credits**  
Evolution of cartography, Symbolization and map compilation. Scaling and map projection. Principles and methods of classical mapping and diagrams. Map evaluation.  
**30h (T), 45h (P); C**
- GPE 396      Philosophy and Methodology      3 Credits**  
Paradigms, theories, models and system analysis in geography. Types, Objectives and procedures of geographical investigation. Presentation and analysis of fieldwork data.  
**45h (T); C**
- GPE 398      Industrial Training Attachment      2 Credits**  
Attachment with industries. Institutions/organizations for 12 weeks for acquisition of practical skills of the concepts learnt in map work, GIS, human and physical geography.  
**90h (P); C**
- GPE 399      Transport Geography      3 Credits**

Issues and scope of transport geography. Transport evolution. Network analysis-morphological, functional and topological (graph theoretic) approaches. Flow analysis. Introduction to transport planning. Transport and development.

**45h (T); E**

**GPE 422**

**Applied Climatology**

**3 Credits**

Nature and scope. Climate resources. Climate based hazards and their management. Urban climates. Climates and economic activities, agriculture, and transportation. Climate and human health. Weather forecasting and modification.

**45h (T); E**

**GPE 424**

**Applied Geomorphology**

**3 Credits**

Meaning and scope of geomorphology. Geomorphologic applications in urban landscape planning, engineering, soil erosion control, mining and excavation. River Basin as a geomorphic unit. Depth of weathering and regolith aquifers.

**45h (T); E**

**GPE 425**

**Vegetation Studies**

**3 Credits**

Plants species and their ecological properties. Interference and co-existence among plant species. Plant environments. Plant migration and range development. Structure and functioning of vegetation. Analysis of patterns in vegetation. Plant geographic techniques.

**45h (T); E**

**GPE 426**

**Environment and Development in Nigeria**

**3 Credits**

Environmental problems of Nigeria with emphasis on land-use planning and resource exploitation. Industrialization, pollution, transportation, energy, and hazards. Environment and development policies and strategies. Case Studies.

**45h (T); C**

**GPE 427**

**Resource Management and Conservation**

**3 Credits**

Concepts and principles of Resource Management and conservation. Inventory, policy and management of natural resources. Nature, significance, distribution, and problems associated with water, forest, wildlife, soils, and recreational resources. Resource conservation techniques and policies. Case Studies.

**45h (T); E**

**GPE 428**

**Population, Health and Environment**

**3 Credits**

An overview of the interdependence of man and his environment. Principles of environmental management in relation to human health. Urban health issues. Social determinants of population health. The role of the environmentalist in health planning.

**45h (T); C**

- GPE 429**      **Geography of Climate Change**      **3 Credits**  
Theory of Climate change. Evidence of global climate change. Interaction and interrelationships of humans and the environmental systems. Problems and consequences of climate change. Policy issues on climate change. Climate change in Nigeria.  
**45h (T); E**
- GPE 431**      **Governance and Sustainability**      **3 Credits**  
Introducing the concept of sustainability and environmental governance. A comprehensive overview of the major issues, ideas, institutions and interests that make up the global politics and implications for sustainable development. The competing perspectives on the sources of global environmental problems and how they can best be alleviated. The evaluation of environmental agenda in world wealth. Poverty and global environmental agreement and treaties.  
**45h (T); E**
- GPE 432**      **Urban and Regional Geography**      **3 Credits**  
Origin and growth of urban and regional planning. Pioneers of urban and regional planning concepts. Urban and regional planning processes. Urban design and environment. Strategies for rural development. Development control and implementation. Community land use game. Urban and regional planning policies in Nigeria.  
**45h (T); E**
- GPE 433**      **Manufacturing Geography**      **3 Credits**  
Plant location decision and cost variability. Scale and agglomeration economics. Technology, industrial linkages and industrial change and movement. Industrial analysis and manufacturing impact of small, medium and large plants on urban, rural and regional development. Case studies.  
**45h (T); E, PR. GPE 336**
- GPE 434**      **Geography and Inequality**      **3 Credits**  
Alternative perspectives on uneven development. Spatial equity, Inequality and quality of life. Social policy, social measurements and territorial social indicators. Regional inequality under socialism, capitalism and apartheid. Spatial inequality and quality of life in Nigeria.  
**45h (T); E, PR. GPE 342**
- GPE 436**      **Environmental Planning**      **3 Credits**  
Theories, concepts and scope of environmental planning. Perspectives on planning for the environment. Environmental planning process. Taking stock of local and urban environment and creating environmental action plans. Planning for natural areas and built environment. Case studies e.g. planning for water supply or waste recycling etc.  
**45h (T); C**

<b>GPE 437</b>	<b>Rural System Analysis</b> Evolution and history of rural settlements. Classification of settlement and functions. Structure of the Nigerian rural economy. Rural land use, food security and constraints. Rural development policies and constraints to rural development etc. <b>45h (T); E</b>	<b>3 Credits</b>
<b>GPE 441</b>	<b>Environmental Impact Assessment</b> Concept of Environmental Impact Assessment (EIA). Approaches to and justification for EIA measures. Legislative Acts on EIA in Nigeria. Problems and performance standards. Case study of major reports. <b>30h (T); C</b>	<b>2 Credits</b>
<b>GPE 443</b>	<b>The Developing World</b> Definition and classification of developing countries. Characteristics of under development and poverty of the developing economies. Production systems and interaction with global economy. Spatial distribution of natural and human resources and technology. Development, constraints and strategies. <b>30h (T); C</b>	<b>2 Credits</b>
<b>GPE 444</b>	<b>The Developed World</b> Differences between developing and developed world. Social, political and economic frameworks of the capitalist and centrally planned states. Historical evolution and geographical bases of economies of western Europe, USA, Japan and USSR. International trade and implications for global economy. <b>30h (T); C</b>	<b>2 Credits</b>
<b>GPE 452</b>	<b>Land Evaluation and Management</b> Need for, purposes of, and approaches to land evaluation in different planning environments. Terrain analysis and the land systems method. Role of remote sensing in land resources appraisal. Land capability classification systems and agricultural land evaluation. <b>45h (T); E, PR. GPE325</b>	<b>3 Credits</b>
<b>GPE 453</b>	<b>Water Resources</b> Water as a strategic resource. Worlds water resources inventories and surveys. Use of water for industrial, domestic, commercial and agricultural purposes. Harnessing of water resources for rural and urban use: Boreholes, wells, dams etc. Case Studies of water supply in Nigeria. <b>45h (T); E, PR. GPE324</b>	<b>3 Credits</b>
<b>GPE 454</b>	<b>Disaster and Society</b>	<b>3 Credits</b>

Concept of Disaster. Natural Disasters. Human-induced disasters (technological). Geophysical events and impacts on human society. Reducing vulnerability - responses. Policies and adaptations. Disaster perception and decision making. Impact of legislative changes and institutional preparedness at local, state and national levels.

**45h (T); E**

**GPE 455**

**Watershed Management**

**3 Credits**

River basin as a unit of development and sustainable management. Land use/land cover management and water quality. basin water use and reservoir operation. Watershed instrumentation. Hazards within the watershed: siltation, sedimentation, pollution, erosion, flood, low flow etc. Riparian rights and water laws. Hydro-politics and international river basin. Approaches to watershed management and planning. Case studies.

**45h (T); E**

**GPE 456**

**Geography of Food and Agriculture**

**3 Credits** Land management strategies, crop and

livestock farming. Agrarian change and extension services. Agriculture and national development planning in Nigeria. Physical and human resources in tropical agriculture. The political economy of food production. Food production and environment, food and cultures food and spatial pattern of malnutrition.

**45h (T); E**

**GPE 491**

**Quantitative Techniques**

**3 Credits** Application of advanced statistical

techniques in geography: multiple and partial regression techniques, trend surface and time series analysis, factor analysis, Introduction to Markov chains and non-parametric statistics.

**30h (T), 45h (P); C, PR. GPE 392**

**GPE 492**

**Geographic Information System and Environmental Management**

**3 Credits**

Application issues of Geographic Information Systems to environmental resource management, forecasting and monitoring. Use of GIS software in environmental hazard modeling. Etc

**30h (T), 45h (P); C**

**GPE 496**

**Tourism, Recreation and Environment**

**3 Credits** Nature, concepts and definition of Tourism

and Recreation. Spatial distribution and environmental/social/cultural/economic impacts of Tourism and Recreation. Factors influencing the growth of Tourism and Recreation. Tourism and Recreation planning and development in Nigeria. Case studies.

**45h (T); E**



**GPE 499**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270h (P); C**

## SUMMARY

### 100 LEVEL

**Compulsory Courses:** GPE 121 (3), 122(3), 131(3), 132(3), 141(3), 193(3), 194(3), 196(3)  
= 24 Credits

**Required Courses:** GNS 111(2) and 112(2) = 4 Credits

**Electives Courses:** At least 6 Credits from the following (3 Credits from each semester)

**Either:**

**H:** BUS 101 (3) 103 (3) ECN 101 (3) POS 111 (3) SOC 101 (3) (2)

**R:** ECN 102 (2) POS 114 (3) SOC 104 (2)

**OR:**

**H:** ZLY 101 (2) 103 (2) CHEM 101 (3) STA 121 (2) 125 (2)

**R:** PCB 108 (3) EM 104 (2) 106 (2) CHM 112 (2) = 6 Credits

**Total = 34 Credits**

### 200 LEVEL

**Compulsory Courses:** GPE 221 (3), 222(3), 223(3), 231(3), 232(3), 293(3), 296(3), 298(1) and 299(1)  
= 23 Credits

**Required Courses:** GNS 211(2), 212(2), SOC 217(2), ECN 216 (2) and POS 221  
= 10 Credits

**Direct Entry Students:** GNS 111(2) and 112(2) = 4 Credits

**Electives Courses:** At least 4 Credits from the following (2 credits in each semester)

**Either:**

**H:** BUS 203(2), ECN 201 (3), SOC 213 (2)

**R:** BUS 202 (2), ECN 202 (3), SOC 210 (2), 206 (2)

**OR:**

**H:** AXR 203 (2), AGY 201 (2), 205 (3), MCB 201 (3), CHM 201 (3),  
204 (2), STA 223 (3)

203 (3), GEM

**R:** AXR 204 (2), BCH 202 (3), 204 (2), MCB 202 (3), CHM 202 (3), 204 (2),  
222 (2), STA 224 (3) = 4 Credits

GEM 218 (2),

**Total = 37 Credits**

### 300 LEVEL

**Compulsory Courses:** 311(3), 321(2), 322(2), 326(2), 331(3), 336(2), 344(2), 346(3), 391(1),  
393(3), 395(3), 396(3) and 398(1) =31 Credits

392 (2),

**Required Courses:** GPE 301 (2), GNS 311(2) and GSE 301 (3) = 7 Credits

**Electives Courses:** At least 3 credits from the following:

**H:** GPE 339 (3) 399 (3) 325 (2)

**R:** GPE 324 (2) 328 (3) 342 (3) 394 (3) 348(2) = 3 Credits

**Total = 40 Credits**

### 400 LEVEL

**Compulsory Courses:** GPE 426 (3), 428(3), 436(3), 441(2), 443(2), 444(2), 491(3), 492(3), and 499(6)  
= 27 Credits

**Electives Courses:** At least 6 credits from the following (3 Credits in each semester)

**H:** 425(3), 431(3), 432(3), 433(3), 435(3), 437(3), 429(3), 453(3) 455(3) and 496(3)

**R:** 422(3), 424(3), 434(3), 452(3), 454(3), 456(3) = 6 Credits

**Total = 33 Credits**

### Graduation Requirements:

UTME = 144

D/E = 114



## DEPARTMENT OF POLITICAL SCIENCE

### Course Description

#### B.Sc. Political Science

- POS 111 Introduction to Political Science 3 Credits**  
Nature of political science, state, society and nation. Power, authority and influence. Theory of sovereignty and separation of powers. Constitution and constitutionalism. Types of government: presidential and parliamentary systems, legitimacy, democracy and dictatorship. Other forms of political ideology. Party systems: electoral and social change, public opinion.  
**45h (T); C**
- POS 112 Nigerian Constitutional Developments 3 Credits**  
Annexation of Lagos. Amalgamation of 1914. Discussions of Clifford, Richard, MacPherson, Lyttleton, Independence and Republican Constitutions. Rise of nationalism. Party politics during colonial era. Electoral systems in Nigeria before and after independence. Nigerian Civil service: origin and development.  
**45h (T); C**
- POS 114 Organization of Government 3 Credits**  
Organization of government into Legislature, Executive and Judiciary. Functions of government. Theory of separation of powers. Application of the theory of checks and balances. Forms of political administrative system: unitarism, federalism, confederalism, parliamentary and presidential systems as well as the hybrid. Political parties and pressure groups as facilitators in organizing the state. Law making powers of the state and the legislative process. Types of political executive.  
**45h (T); C**
- POS 115 Nigerian Legal System I 2 Credits**  
Concept of legal system. Nature and functions of law. Classification of law. Sources of Nigerian law: legislation, judicial precedents, case law, customary law, Islamic law, English common law and equity. Reception and application of English Law in Nigeria.  
**30h (T); C**
- POS 116 Nigerian Legal System II 2 Credits**  
Judicial institutions in Nigeria. Role of the Judiciary. The history and development of the courts. Types of courts and their jurisdiction. Methods of seeking redress in courts. Judiciary personnel, appointment and tenure. Independence of the judiciary. Legal aid system.

**30h (T); C**

- POS 117 Elements of Democracy 3 Credits**  
Origin and meaning of democracy. Its variations and practices across social settings. Differences between democracy and other forms of governmental organisation.  
**45h (T); C**
- POS 211 Introduction to Nigerian Government and Politics I 2 Credits**  
Protectorates of Southern and Northern Nigeria. Amalgamation of 1914. Election and politics in Nigeria. Politics of agitation. Development of political parties. Politics of alliance. Political leadership. Constitution-making. Civil war and its effect on Nigerian politics. Parliamentary system of government. Political instability and the collapse of the First Republic.  
**30h (T); C**
- POS 212 Introduction to Nigerian Government and Politics II 2 Credits**  
Issues in Nigerian politics. The Military. Civil-military relations, Federal arrangement and division of powers. Politics of census. State creation. Elections and electoral system. Presidential system in Nigerian. Ethnic relations and politics. Federal Character, Revenue Allocation, Religion and Politics in Nigerian. Political corruption. Establishment of enduring democracy in Nigeria.  
**30h (T); C**
- POS 213 Introduction to International Relations 3 Credits**  
Meaning and scope of international relations. Actors in international relations and the structure of the international system. Basic characteristics of the system. Elements of nation power. Interaction among states. War and peace in international relations. Third World countries in the international institutions.  
**45h (T); C**
- POS 214 Introduction to Public Administration 3 Credits**  
Meaning and scope of Public Administration. Rationale for administration. Public administration and private management. Public administration, actors in administration and administrative behavior. Administrative organisation and re-organisation.  
**45h (T); C**
- POS 215 Introduction to Political Theory 2 Credits**  
Introduction to major political ideas in their historical and social context. Differences between political ideas and political movement, ideology and functions. Discussions of major ideologies: monarchism, liberalism, democracy, fascism, conservatism, totalitarianism and socialism.

**30h (T); C**

- POS 216      Introduction to Political Analysis      2 Credits**  
Nature of politics. Approaches and models in political analysis. Theories in political analysis, behaviouralism, its origin and growth. Political communication, violence and political alienation. Political representation: direct and indirect democracy and theory of mandate. Regime types and political corruption.  
**30h (T); C**
- POS 217      Foundations of Political Economy      3 Credits**  
Relationship between politics and economics. Economics and determinants of political power. Class analysis and political power relations. Structures and super structures. Conservatives, liberal and Marxist perspectives of development. Marxist dialectical materialism. Political economy of the African states.  
**45h (T); C**
- POS 218      Introduction to Local Government Studies      3 Credits**  
Theories of local government. Local government and local administration. Centralization and decentralization. Devolution: relationship between local government and other levels of government. Control of local government. Party politics at local government level. Funding of local governments. Local government as catalyst of rural development. Problems and prospects of viable local government system.  
**45h (T); C**
- POS 222      Introduction to Comparative Politics      3 Credits**  
Logic of comparative social enquiry. Objectives and techniques of comparative enquiry. Approaches to the study of comparative politics: single country approach, multi-country, synchronic approach, etc. Paradigms and model building. Problems in comparative politics.  
**45h (T); C**
- POS 220      Introduction to African Politics      3 Credits**  
Evolution of politics from the pre-colonial time to the present day. Imperialism and colonialism. Colonial policies and decolonization process. Emergence of one-party states. Problems of nation building. National integration, political instability and modernization, praetorianism, secession and civil war. Problems and prospects of democracy in Africa. Africa in the international political system.  
**45h (T); C**

- POS 311      Classical Political Thought      2 Credits**  
Scope and importance of political thoughts. Examination of the political thoughts of the classical writers. Plato and Aristotle. The Greek-city states and the concept of democracy in the classical era. Political thoughts of St. Augustine, Thomas Aquinas and Machiavelli.  
**30h (T); C**
- POS 312      Contemporary Political Thought      2 Credits**  
Examination of selected political thinkers: Thomas Hobbes, John Locke, J.S. Mill, Jeremy Beutham; J.J. Rousseau and Karl Marx. Emphasis on the concept of the state, freedom of the citizen and the authority of the state.  
**30h (T); C**
- POS 313      Research Methods      2 Credits**  
Introduction to research methods in political science. Logic of political research, descriptive and quantitative methods in political enquiry. Research design, language of variables, hypothesis and problem formulation. Distribution, tables, summarization of political information and data, frequency distribution, tables graphs and inferential statistics. Sampling theory and techniques. Sources of information and problems of reliability. Methods of referencing in political science.  
**30h (T); C**
- POS 314      Contemporary Political Analysis      2 Credits**  
Contending paradigms in contemporary political analysis, evaluation of their philosophical and ideological roots. Elite approach, group theory, functionalism, system analysis and communication theory, games theory and cybernetics. Structural analysis. Theories of political government. Decision making approach.  
**30h (T); C**
- POS 315      Political Behaviour      2 Credits**  
Determinants of political behaviour, political socialization, political/ civil culture, political participation and apathy. Electoral behaviour, followers and leaders and election. Public opinion and its assessment. Political communication. Community power. Gender and politics.  
**30h (T); C**
- POS 316      Public Policy Analysis      2 Credits**  
Theories and Models of policy-making. Factors influencing policy formulation, implementation and process. Concepts of Planning, Programming and Budgeting and Strategies (PPBS). Basic techniques of network construction and analysis from the perspective of administrative systems. Policy output and change. Policy monitoring and evaluation: cost-effectiveness, analysis and critique.  
**30h (T); C**



- POS 317**      **Comparative Federalism**      **2 Credits**  
The genesis of political dynamics of comparative federal system. Theory, practice and suitability of federal system to the problems of nation-building. Comparative analysis of the federal structures in at least four states among the federal states. Nigeria, U.S.A., Germany, India, Canada, Brazil and the new Russia.  
**30h (T); C**
- POS 318**      **Public Administration in Nigeria**      **2 Credits**  
Evolution of public administration in Nigerian from colonial era. Ecology of Nigerian Public Administration. Administrative controls. Reorganization and reforms in the public service. Field and administration. Running of public corporations in Nigeria. Administrative structure. Ethics in Public Administration. Revenue allocation. Discussion on administrative efficiency and effectiveness. Public administration and political development. Problem of public administration.  
**30h (T); C**
- POS 319**      **Theories of International Relations**      **2 Credits**  
Concepts and theories of international relations, powers, conflict and accommodation, systems theories, linkage politics, theory of coalition and alliances. Models, games and simulations. New international political order.  
**30h (T); C**
- POS 320**      **Globalization**      **2 Credits**  
Concept of globalization and its relevance to inner-state relations. Components of globalization and their significance to relations among states. Schools of thought on globalization. Critique of globalization especially from the third world perspective.  
**30h (T); E**
- POS 321**      **Politics of International Economic Relations**      **2 Credits**  
Economic basis of some of the actions and reactions in international politics. Theory of unequal exchange and the North-South problems, South-South economic cooperation. New International economic order, genesis of debates and outcome. The role of international economic institutions: World Bank, IMF, OECD, ECOWAS, AU and EU. Prospects and problems of economic integration, Multinational corporations and development.  
**30h (T); E**
- POS 322**      **Conflict Management**      **2 Credits**  
Causes of conflict. Types of conflict and conflict analysis. Escalation and de-escalation of conflict. Conflict handling styles. Approaches to conflict management. Peace building measures. Post conflict measures.  
**30h (T); E**

- POS 323      Methodology of Comparative Politics      2 Credits**  
 History and concepts of comparative politics. Scientific method and logic of comparison. Classification systems in comparative politics. Case study. Approach competing paradigms or orientations in comparative political analysis. Strategy of a cross –system theorizing. Problems in cross national research.  
**30h (T); C**
- POS 324      Africa in Global Affairs      2 Credits**  
 Contemporary international relations among African states. International political system. Relations between African States and former colonial powers and other world powers. Africa and the United Nations. Foreign policies of some African states. Politics within NEPAD, AU, Non alignment and African States.  
**30h (T); E**
- POS 325      Personnel Administration I      2 Credits**  
 Man and work in a historical context. Significance of human resources in relation to achieving national development goals. Nature and scope of personnel administration. Training administration in the public and private sectors. Theories of motivation. Training and development. Recruitment and selection. Job involvement and job satisfaction. Evolving sound personnel policy in an industrial setting and public institution. Functions of personnel manager or administrator.  
**30h (T); E**
- POS 326      Theory and Practice of Marxism      2 Credits**  
 Evolution and characteristics of Marxist theory. Impact of the theories on Western and Third World countries. Dialectics, contributions of Marx, Mao and Lenin. Development of socialist thoughts as influenced by Marxism. Marxist thought in African, Asia and Latin America.  
**30h (T); E**
- POS 327      Politics of Privatization and Commercialization      2 Credits**  
 New global economic values. Public enterprises in Nigeria. Major arguments in favour of privatization and commercialization. Demerits of privatization and commercialization. Conduct of revitalization and commercialization. General observation; efficiency, poverty and geographical spread.  
**30h (T); E**
- POS 328      Foreign Policy Analysis      2 Credits**  
 Nature, objectives, determinants, and decision-making in foreign policy. Theories and categories. Actors in foreign policy. Instruments of foreign policy.  
**30h (T); E**

- POS 329**      **Politics and the Mass Media**      **2 Credits**  
 Survey of the role of mass communication media: the print and electronic media. Influence of the mass media on the conduct of political campaigns. Mass media and national integration. Public opinion and election in Nigeria. Relationship between the media and the state.  
**30h (T); E**
- POS 330**      **Quantitative Analysis**      **2 Credits**  
 Methods of analyzing politics using the quantitative data. Sampling theory and techniques. Statistical summation of political information and data. Frequency distribution, tables, graphs and inferential statistics.  
**30h (T); C**
- POS 331**      **Politics of Middle East**      **2 Credits**  
 The Middle East as a strategic region. Arab –Israel Wars. Involvement of other regions. Economic and political interests in the region. The peace process. Homelands for Palestinians. Self-rule for Palestinians. Militant groups in the region.  
**30h (T); E**
- POS 332**      **Political Sociology**      **2 Credits**  
 Nature, scope and development of political sociology. Concept of power, authority, influence, interest and legitimacy. Theory of elites, Michel’s Iron Law of Oligarchy. Political socialization, participation and recruitment. Social structures and politics. Trade Unions and the military.  
**30h (T); E**
- POS 333**      **Personnel Administration II**      **2 Credits**  
 Personnel management issues: compensations, job analysis, welfare matters and performance appraisal. Labour management relations. Collective- bargaining in public and private sectors. Disciplinary measures and Procedures. Strike and lock-outs. Morale and productivity. Leadership.  
**30h (T); E**
- POS 411**      **Civil-Military Relations**      **2 Credits**  
 Causes and consequences of the increasing role of the military in politics in the Third World Countries. Theory of civil-military relations. Concepts of military–industrial complex. Evaluation of the performances of the military in politics. Military disengagement in Nigeria. The military as a class. Promoting the supremacy of the civil over military rule. Military as protectors of democratic order. Civil society.  
**30h (T); C**
- POS 413**      **State and Economy**      **2 Credits**

Role of government in the management of modern economy with special reference to Nigeria and other African countries. Relationships between government and private enterprises. Government intervention, policy statements and legislations. Investment in public sector to industrialization policy and private investment. Role of foreign capital, aid, technology and expertise in the domestic economy. Regulated and deregulated economy.

**30h (T); C**

**POS 414      Development Administration**

**2 Credits**

Nature of underdevelopment. Development planning models. National cultures, political, and administrative systems. Specific problems of less-developed countries. Problems of transferring administrative capability from one country to another. Capacity-building strategies. Political and administrative development. Types of foreign aid. Promotion of working with aid givers.

**30h (T); C**

**POS 415      Democratic Practice in Africa**

**2 Credits**

Democracy as the best form of government, Practice across the African continents. Problems of democracy in the continent. Its perception as serving a utilitarian value.

**30h (T); C**

**POS 416      Administrative Law**

**2 Credits**

Nature, scope and sources of administrative law. Sources of power of administrative agencies. Relationships between administrative law, rule of law and separation of powers. Delegation of powers. Discretionary powers. Delegated legislation. Administrative adjudication and judicial review of administrative action.

**30h (T); C**

**POS 417      Local Government Administration of Nigeria**

**2 Credits**

Development analysis of local government administration in Nigeria from colonial era to the present. Various reforms of local government system. Party politics and local government. Traditional institutions and local government. Local government autonomy. Central-Local government relation, Federal and States. Funding the local government. Problems of local government. Local government commissions or boards. Local government and national development.

**30h (T); C**

**POS 418      Nigerian Foreign Policy**

**2 Credits**

Internal setting of Nigeria's foreign policy. Pressure groups, domestic schisms, consensus building and external influence. Nigeria's neighbours and wider African setting. The effect of civil war on Nigeria's foreign policy. Nigerian foreign policy in comparison other African Countries.

**30h (T); C**

- POS 419 International Law and Organizations 2 Credits**  
Nature, scope and evolution of international law. Sources of international law. Subject of international law. Rights and obligations of states and individuals. Status of international and municipal law recognition and extradition, international organizations, nature and evolution. Leagues of nations: UN and OAU.  
**30h (T); C**
- POS 422 Political Party and Pressure Groups 2 Credits**  
Nature evolution types and functions of political parties; types and functions, Party systems, techniques of operations, internal dynamics of political parties and funding. Political parties in Nigeria. Pressure groups: types, characteristics, objectives and techniques of operations. Public opinion in relation to political parties and pressure groups. Leaders and followers. Distinction between pressure groups and political parties.  
**30h (T); C**
- POS 423 African Political Thought 2 Credits**  
Traditional political ideas, concept of authority, order and policy. Pan-Africanist and other issues linking the indigenous and contemporary African Political thinking. African socialism and humanism.  
**30h (T); E**
- POS 424 Poverty and Development in Nigeria 2 Credits**  
Examination of the nexus between poverty and development. Interface between poverty and development in Nigeria. Indicators of poverty level. Approaches to poverty reduction and their limitations. Poverty analysis.  
**30h (T); C**
- POS 425 Electoral Processes 2 Credits**  
Elections and their importance. Electoral body and laws guiding the conduct of elections. Steps toward an election. Counting of votes and announcement of election results. Problems militating against free and fair elections in Nigeria. Legitimacy of elections and electoral disputes.  
**30h (T); E**
- POS 426 Inter –government Relations 2 Credits**  
Meaning and scope of inter-governmental relations with emphasis on the informal structures and processes. Conflict and cooperation in inter-governmental relationship and their implications.  
**30h (T); C**

- POS 427 Comparative Foreign Policy 2 Credits**  
Foreign policies of the major powers and the medium powers with emphasis on their capability, goals and strategies. Concept of national interest as perceived by the greater power vis-à-vis the interest of the others. Universal interest versus regional or sub-regional interests.  
**30h (T); C**
- POS 428 South East Asia 2 Credits**  
Strategic and economic importance of South East Asia as a region and its attraction to African countries. Relationships between major power States. Lessons of the developments in the region for African States. The current debate on the region. The future of the region.  
**30h (T); E**
- POS 429 Comparative Local Government Administration 2 Credits**  
Theoretical basis of different local government systems: British, French and American with Nigerian system. Comparison of main features of devolution and deconcentration. Management techniques, community power, finance and central-local relationships.  
**30h (T); E**
- POS 430 Food Security and Development in Africa 2 Credits**  
Food security as an important component of national security. Linkage between food security and development. Food insecurity as an impediment to development efforts in Africa.  
**30h (T); C**
- POS 432 Comparative Public Administration 2 Credits**  
Development, scope and problems of comparative public administration. Comparative public administration with emphasis on the public service, accountability and reform.  
**30h (T); E**
- POS 499 Project 6 Credits**  
Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.  
**270h (T); C**

## SUMMARY

### 100 LEVEL

**Compulsory Courses:** POS 111(3), 112(3), 114(3), 115(2), 116(2), 117(3) = 16 Credits

**Required Courses:** GNS 111(2), 112(2), ECN 101(3), 102(3), BUS 103(3), SOC 101(2),  
102(2), HIS 101(3), 108(3) = 23 Credits

**Total = 39 Credits**

### 200 LEVEL

**Compulsory Courses:** POS 211 (2), 212(2), 213 (3), 214 (3), 215 (2), 216 (2), 217 (3), 218 (3),  
219 (3), 220 (3) = 26 Credits

**Required Courses:** GNS 211(2), 212(2), BSS 201(2), 202(2), 203(2), SOC 209(2),  
201(2), 205(2) = 16 Credits

E C N

**Total = 42 Credits**

**Direct Entry:** GNS 111 (2), 112 (2) = 4 Credits

### 300 LEVEL

**Compulsory Courses:** POS 311(2), 312 (2), 313(2), 314(2), 315(2), 316(2), 317(2), 318 (2),  
319 (2), 323 (2), 330 (2) = 22 Credits

**Required Courses:** GNS 311(2), GSE 301(3), GPY 301(2) = 7 Credits

**Elective Courses:** At least 10 Credits from the following: POS 320(2), 321(2), 322(2), 324(2), 325(2), 327(2), 328(2), 329(2), 332(2),  
333(2), 331(2) = 10 Credits

**Total = 39 Credits**

### 400 LEVEL

**Compulsory Courses:** POS 411(2), 413(2), 414(2), 415(2), 416(2), 417(2), 418(2), 419(2),  
422(2), 424(2), 426(2), 427(2), 430(2), 499(6) = 34 Credits

**Elective Courses:** At least 4 Credits from the following: POS 423 (2), 425 (2), 428 (2),  
429(2), 432(2) = 4 Credits  
**Total = 38 Credits**

### **Graduation Requirements**

**UTME=** 158 Credits

**DE=** 123 Credits

## **DEPARTMENT OF PSYCHOLOGY**

### **Course Description**

#### **B.Sc. Psychology**

- PSY 101 Introduction to Psychology I 3 Credits**  
Definitions, basic concepts and history, elements of psychological bases of behaviour, chemical fundamentals of motivation and emotion, sensation and perception, basic units of nervous system, consciousness and visual sensory processes.  
**45h (T); C**
- PSY 102 Introduction to Psychology II 3 Credits**  
Human information processing, memory theories, learning, human development, personality, consumer psychology, abnormal psychology, forensic/legal psychology.  
**45h (T); C**
- PSY 103 Quantitative Methods in Psychology 3 Credits**  
The meaning of statistics and parameters, the difference between parametric and non-parametric statistics, classification and graphical representation of data, slopes of distribution, measures of central tendency, measures of variability, test of normality, testing hypothesis.  
**45h (T); C**



<b>PSY 104</b>	<b>History of Psychology</b> Meaning of Psychology, origin and development of Psychology as an academic discipline, schools of Psychology, studies on Africans in the area of child development, intelligence and cognition, perception and development, trends and changes in methods of psychological investigation. <b>45h (T); C</b>	<b>3 Credits</b>
<b>PSY 105</b>	<b>Basic Concepts in Experimental Psychology</b> General assumptions underlying the scientific method of inquiry, types of scientific investigation, hypothesis, variables, validity, reliability, sampling method, steps in conducting experimental investigation. <b>45h (T); C</b>	<b>3 Credits</b>
<b>PSY 106</b>	<b>Learning Processes</b> Learning and concept formation, the process of classical conditioning, the process of operant conditioning, schedule of reinforcement, concept of punishment, theory of cognitive mapping, insight learning, latent learning, observational learning, imitation and modelling. <b>45h (T); C</b>	<b>3 Credits</b>
<b>PSY 201</b>	<b>General Experimental Psychology</b> Methods of inquiry in Psychology, introspection, observation, clinical/case studies, survey, field study, laboratory experiments, basic assumptions of scientific inquiry, steps in conducting Psychological experiments, perception and visual illusion, depth perception, light discrimination, ethical considerations in Psychological research. <b>15h (T), 45h (P); C</b>	<b>2 Credits</b>
<b>PSY 202</b>	<b>Abnormal Psychology</b> Common types, causes, diagnostic characteristics of mental disorders observable in the Nigerian and other cultures, minor and serious types of mental and personality disturbances, case studies. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PSY 203</b>	<b>Physiological Psychology</b> History of physiological Psychology, philosophical and biological roots of physiological Psychology, basic neuro-anatomy and the nervous system, neural control of environment, neural transmission of impulses <b>30h (T); C</b>	<b>2 Credits</b>
<b>PSY 204</b>	<b>Industrial Psychology</b> Industrial Psychology with African perspectives and principles, practices and problems, the nature of work and organizations in Africa, major deterrent factors, techniques, tools and problems, personnel testing in organization, criteria, performance appraisal,	<b>2 Credits</b>

personnel training and problems of training in organization, motivation, moral, incentives and supervision in African organizations.

**30h (T); C**

- PSY 205      Social Psychology      2 Credits**  
Introductory survey of Social Psychological concepts, influence of group processes, social interactions, organizational variables and culture, social modifications of basic drives, attitudes, social perception, group structures, analysis of socio-psychological fabrics of African societies.  
**30h (T); C**
- PSY 206      Developmental Psychology      2 Credits**  
Development in early, middle and late childhood, physical development, an appraisal of theoretical models of Freud, Erikson and Piaget, analysis of the cognitive and social development of the Nigerian child.  
**30h (T); C**
- PSY 207      Psychobiology      2 Credits**  
Meaning of Psychobiology, relevance of Biology to understanding human behaviour, the nature-nurture debate, behavioural genetics, principles of ethnology and comparative Psychology, primate societies and social organizations, animal communication (bees, bats,).
- PSY 208      Personality Theories      2 Credits**  
An overview of the dominant theories of personality, implications of personality theories for psycho analysis, psychoanalytic intervention, psychotherapeutics, existential and humanistic, behavioural and transactional analysis, Gestalt schools.  
**30h (T); C**
- PSY 209      Psychopathology of Deviant Behaviour      2 Credits**  
Theories and general conceptions of deviant behaviour in adult and children, analysis of problems of deviance on a socio-psychological scale, in-depth study of some deviant behaviour patterns, a critical analysis of mental illness and criminal responsibility, psychopathic personality, alcoholism and drug addiction, suicide and prostitution.  
**30h (T); C**
- PSY 210      Rehabilitation Psychology      2 Credits**  
Conceptions and problems of rehabilitation, crisis intervention, behaviour modification, value clarification, assertiveness training, philosophical principles and guidelines for rehabilitative counselling, ethical consideration in rehabilitation.  
**30h (T); C**

- PSY 211      Psychology of Ethnicity and Ethnic Groups      2 Credits**  
 Foundations of ethnicity and ethnic groups, race, manifestation of ethnic behaviour in different forms scapegoating, religious riots, segregation into quarters, quota system, resistance to interethnic marriages, mechanisms for fostering ethnic harmony (NYSC, education, travels and tourism, model schools, mass media, etc.).  
**30h (T); C**
- PSY 212      Practical Psychology      2 Credits**  
 The application of Psychological principles to address day-to-day problems in home, offices and social institutions, application of aspects of social psychology, abnormal psychology, environmental psychology, individual and personal psychology  
**90h (P); C**
- PSY 301      Psychological Study of Behaviour      2 Credits**  
 State of consciousness (wakefulness and sleep), sleep disorders, language and communication, language disorders, instinct and motivation (hunger, thirst, homeostatis and sex), auditory system and visual system.  
**30h (T); C**
- PSY 302      Psychology of Substance Abuse      2 Credits**  
 Diagnosis of alcoholism and drug addiction, rehabilitation of drug addict, various stages of alcoholism, drug types and psychological problems associated with them.  
**30h (T); C**
- PSY 303      Sensory Process      2 Credits**  
 Laboratory exercises in sensory processes, review of sensory mechanisms in vision and audition, analysis of the structure of sensation, laboratory exercises on frequency analysis, pitch perception, colour vision, threshold measurement and adaptation.  
**15h (T), 45h (P); C**
- PSY 304      Clinical Psychology I      2 Credits**  
 A survey of the history, practice and theoretical foundations of Clinical Psychology, differential diagnosis and treatment, role of Clinical Psychologist in community mental and health delivery.
- PSY 305      Personality Assessment      2 Credits**  
 Concepts and scope of personality assessment, history of personality assessment, principles and methods of personality assessment, problems of personality assessment, projective techniques and personality inventories, Rorschach ink-blot test, Holtzman ink-blot test, Thematic Perception Test.  
**15h (T), 45h (P); C**

<b>PSY 306</b>	<b>Statistical Techniques in Psychology</b> Descriptive statistics, inferential statistics, techniques of hypothesis testing, Chi Square, Correlation coefficients, Regression analysis. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PSY 307</b>	<b>Research Methods in Psychology</b> Examinations of the main approaches to psychological research, epistemological and philosophical foundations of psychological research, sampling and sampling techniques, methods of data collection, Ethical issues in human experimentation <b>30h (T); C</b>	<b>2 Credits</b>
<b>PSY 308</b>	<b>Psychological Testing</b> Origin, nature and scope of psychological testing, Methods and steps in Psychological test construction, psychological test validation, reliability, standardization, uses and types of psychological tests, procedures and guidelines of questionnaire construction, constraints and limitations of psychological tests, social and ethical issues in psychological test construction. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PSY 309</b>	<b>Practicum in Test Construction</b> Alternative versus free response, test construction for speed versus typical performance, paper and pencil versus performance test, structural versus projective test, assessment test versus prediction, vocation aptitude test, anxiety scale test, intelligence test. <b>90h (P); C</b>	<b>2 Credits</b>
<b>PSY 310</b>	<b>Psychology of Adolescence</b> An examination of the theories relating to development from adolescence through adulthood with emphasis on unique tasks and challenges confronted by individuals at each developmental stage. <b>30h (T); C</b>	<b>2 Credits</b>
<b>PSY 311</b>	<b>Psychology of Women</b> A review of the personality of women, biological differences and socio-psychological and cultural factors, mortality rates of women, role participation and women's liberation movement, mental abilities, women and career. <b>30h (T); E</b>	<b>2 Credits</b>
<b>PSY 312</b>	<b>Correctional Psychology</b>	<b>2 Credits</b>

An examination of the nature, principles and techniques of criminal behaviour control, law of policing, sentencing and prison experience, theories of punishment, penal system, psychotherapeutic and behavioural methods of criminal control in various socio-economic contexts.

**30h (T); E**

- PSY 313      Social Psychology of Race and Ethnic Relations      2 Credits**  
Methods, theories, problems, empirical data of Psychology in the area of ethnicity, race and culture in relation to personality development, cognition, pathology with laboratory investigations.  
**15h (T), 45 (P); E**
- PSY 314      Psychological Aspects of Disability      2 Credits**  
Analysis of disability (physical and emotional), society's view of disability referral programmes, role of Psychologist (practical field experience is required).  
**15h (T), 45 (P); E**
- PSY 315      Comparative Psychology      2 Credits**  
Comparative analysis of the behaviour of animal with emphasis on learning and conceptual; tasks, ethnology, comparative ethnological and laboratory studies of animal behaviour, genetic and acquired behaviour patterns, critical period phenomenon, shyness, reinforcement in comparative psychology, social cohesion, social dispersal.  
**15h (T), 45 (P); E**
- PSY 316      Human Memory      2 Credits**  
An overview of the major variables and task acquisition of verbal material, method and theory of acquisition, long and short-term memory, artificial memory, theoretical intersection between long term and short term memory.  
**30h (T); E**
- PSY 317      Child Psychopathology      2 Credits**  
An overview of major childhood disturbances, issues, theories and trends in      research, case history  
review, laboratory exercises required.  
**15h (T), 45 (P); E**
- PSY 318      Psychology of Social Work and Welfare      2 Credits**

An examination of the role of voluntary organizations, provision of social services in Nigeria, case study approach in volunteering and social welfare, forms and types of social welfare services in Nigeria.

**30h (T); E**

**PSY 319**

**Counselling Psychology**

**2 Credits**

Definitions, psychoanalytic theories, behaviourism, client-centred theory, Gestalt, existential, rational and emotive theories, transactional analysis, types of counselling, modes and methods of obtaining information in counselling, intervention techniques, practicum.

**15h (T), 45 (P); E**

**PSY 320**

**Cross-Cultural Psychology**

**2 Credits**

Research methods in cross-cultural psychology, psychological conception of culture, sociological perspective on culture, anthropological view of culture.

**30h (T); E**

**PSY 321**

**Basic Environmental Psychology**

**2 Credits**

Definitions and history, territoriality, experimental studies of territories, personal space, privacy, crowding and social interaction, cross-cultural comparison of dwellings in Nigeria, accident reduction in the environment, design of institutions, spatial aspects of sports and recreation.

**15h (T), 45 (P); E**

**PSY 322**

**Cognitive Psychology**

**2 Credits**

Developments in cognition in adolescence, early, middle and late adulthood, physical and mental development in adolescence and adulthood, personality and social development, implication of development at these stages for educational policy.

**30h (T); E**

**PSY 323**

**Psychology of Personnel Management**

**2 Credits**

Personnel management in psychological perspective, personnel selection techniques, recruitment, selection and placement, Training and development performance appraisal, motivation, satisfaction and morale, leadership and supervision, management of industrial conflicts, collective bargaining.

**30h (T); E**

**PSY 324**

**Political Psychology**

**2 Credits**

Application of contemporary psychological theories, concepts and methods in the study of political behaviour, context and structure of political beliefs and attitudes, personality of politicians, power and politics, psychology of non-elected politicians, misperceptions among foreign policy advisers, group processes and decision making, elections and electoral practices.

**30h (T); E**

- PSY 401      Psychological Testing and Test Construction      3 Credits**  
History, nature and functions of measurement in Psychology, basic statistics in psychological testing, test typology and classification, application of test and measurement, standardization, reliability, validity, application of psychological tests and testing procedures to actual processes and steps in the construction of an objective psychological test as well as test administration.  
**15h (T), 90h (P); C**
- PSY 402      Practicum in Psychotherapy      3 Credits**  
Definition and scope of psychotherapy, basic principles in psychotherapy, objectives of psychotherapy, models of psychotherapy, psychoanalytic model, human behaviour therapy and modification, flooding and impulsive therapy, biofeedback technique, modelling aversion therapy.  
**15h (T), 90 (P); C**
- PSY 403      Psychology of Union-Management relations      3 Credits**  
Basic issues concerning industrial conflicts, role of social and industrial psychologist in development and maintenance of industrial harmony, psychological aspect of labour-management relations, quality of work life and positive union-management relations.  
**45h (T); C**
- PSY 404      Cognitive Processes      3 Credits**  
Psychology and language, structure of language, genetic epistemology, developmental epistemology, comparative research in cognitive processes, educational process and the elaboration of human consciousness, the concept of schema, Henry Head's notion of schema, Jerome Bruner's notion of schema, Jean Piaget's notion of schema, etc.  
**15h (T), 90 (P); C**
- PSY 405      Clinical Psychology II      3 Credits**  
Historical perspective of clinical psychology, concept and scope of clinical assessment, objectives of clinical assessment, requirements of effective clinical assessment, stages of clinical assessment, clinical observation, clinical interview, psychological testing, psycho-physiological assessment, ethical issues in clinical assessment.  
**15h (T), 90 (P); C**
- PSY 406      Psychobiological Study of Behaviour      3 Credits**  
Human sexuality definition, components of sexuality, sexuality education, benefits of sexuality education, characteristics of sexually healthy person, anatomy and physiology of human reproductive system, sex roles and sex typing, theories of sex role development and gender differences, human sexuality and the media, law culture, religion and society.

**45h (T); C**

- PSY 407 Health Psychology 2 Credits**  
Psychological approaches to illness, personality in relation to disease, psychological variable and disease process (hypertension, pain coronary, heart disease and other psychosomatic illnesses), stress and illness, coping with stress.  
**30h (T); E**
- PSY 408 Social Perception 2 Credits**  
Man's knowledge of world around him, basic sensory processes, organization and differentiation of precepts, effects of culture, experience and personality on perception of physical and social world ( laboratory exercises are required).  
**15h (T), 45h (P); E**
- PSY 409 Psychological Aspects of Leadership 2 Credits**  
An overview of the nature, role and problems of leadership, survey and methods of study utilized to train select leaders.  
**30h (T); E**
- PSY 410 Advanced Experimental Psychology 2 Credits**  
Application of the various psychological theories with statistical and research methods, in-depth laboratory analyses  
**90 (P); E**
- PSY 411 Organizational Psychology 2 Credits**  
Application of the principles of social psychology to individual phenomena, application of the parameters of organizational effectiveness to case studies, profitability and morale, classical theories of organization, application of power interaction to industrial corporations and unions.  
**30h (T); E**
- PSY 412 Psychology of Human Performance 2 Credits**  
Application of psychological methods and principles of man-machine system, man's capabilities and limitations, performance appraisal, research and problems.  
**15h (T), 45 (P); E**
- PSY 413 Psychology of Vocational Behaviour 2 Credits**



Definition of work related concepts, psychological aspects of work, factors that influence vocational behaviour, theories of occupational choice, Holland's personality theory, Super's developmental theory, Ginzberg's process theory, chance theory, sociological theories, need theory.

**30h (T); E**

**PSY 414**

**Psychology of Social Change**

**2 Credits**

Basic concepts in change, introduction to and analysis of social problems, strategies for change, actors in changes process, ethics in social change.

**30h (T); E**

**PSY 415**

**Consumer Behaviour**

**2 Credits**

Introduction to the nature of consumer behaviour, individual factors, motivation and personality theories, social factors, cultural factors, economic factors, political factors and changes in their environment.

**30h (T); E**

**PSY 416**

**Current Issues in Psychology**

**2 Credits**

Issues that are germane to Nigeria in relation to Psychology in general, cultism, crime, HIV/AIDS, drug abuse, societal conflict and its impact, child abuse, life expectancy, environmental pollution and its impact on people and unemployment.

**30h (T); E**

**PSY 499**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270h (P); C**

## SUMMARY

### 100 LEVEL

**Compulsory Courses:** PSY 101 (3), PSY 102 (3), PSY 103 (3), PSY 104 (3), PSY 105 (3), PSY 106  
(3) = 18 Credits

**Required Courses:** ECN 101 (3), SOC 101 (2), SOC 104 (2), SOC 106 (2), POS 111 (3), POS 114  
(3), GNS 111 (2), GNS 112 (2) = 19 Credits

**Total = 37 Credits**

### 200 LEVEL

**Compulsory Courses:** PSY 201 (2), PSY 202 (2), PSY 203 (2), PSY 204 (2), PSY 205 (2), PSY 206  
(2), PSY 207 (2), PSY 208 (2), PSY 209 (2), PSY 210 (2), PSY 211 (2), PSY 212 (2)  
= 24 Credits

**Required Courses:** SOC 209 (2), SOC 217 (2), ECN 216 (2), POS 221 (2), GNS 211(2), GNS 212  
(2) = 12 Credits

**Total = 36 Credits**

**Direct Entry Student:** GNS 111 (2), 112 (2) = 4 Credits

### 300 LEVEL

**Compulsory Courses:** PSY 301 (2), PSY 302 (2), PSY 303 (2), PSY 304 (2), PSY 305(2), PSY 306 (2), PSY  
307 (2), PSY 308 (2), PSY 309 (2), PSY 310 (2) =  
20 Credits

**Required Courses:** GPY 301 (2), GSE 301 (3), GNS 311 (2) = 7 Credits

**Electives Courses:** At least 12 Credits from the following: PSY 311 (2), PSY 312 (2), PSY 313 (2), PSY 314 (2), PSY 315 (2), PSY 316 (2), PSY 317 (2), PSY 318 (2), PSY 319 (2), PSY 320 (2), PSY 321 (2), PSY 322 (2), PSY 323 (2), PSY 324 (2), PSY 325 (2) = 12 Credits  
**Total = 39 Credits**

**400 LEVEL**

**Compulsory Courses:** PSY 401 (3), PSY 402 (3), PSY 403 (3), PSY 404 (3), PSY 405 (3), PSY 406 (3), PSY 499 (6) = 24 Credits

**Electives Courses:** At least 12 Credits from the following: PSY 407 (2), PSY 408 (2), PSY 409 (2), PSY 410 (2), PSY 411 (2), PSY 412 (2), PSY 413 (2), PSY 414 (2), PSY 415 (2), PSY 416 (2) = 12 Credits  
**Total = 36 Credits**

**Graduation Requirements**

**UTME** = 148 Credits

**DE**=115 Credits

## DEPARTMENT OF SOCIAL WORK

### Course Description

#### B.Sc. Social Work

- |                |   |                  |
|----------------|---|------------------|
| <b>SOW 101</b> | <b>Principles of Social Work</b>  | <b>3 Credits</b> |
|                | Principles and practice of social work: client self-determination, client voluntary engagement, non-judgemental approach in casework relations, individualisation of clients and challenges, preservation of clients privacy and confidentiality, rights of clients to the knowledge and information on casework encounter. |                  |
|                | <b>45h (T); C</b>   |                  |
| <b>SOW 102</b> | <b>Group Dynamics and Processes</b>   | <b>2 Credits</b> |
|                | Definition and typology of groups in social settings. Group membership and socialisation. Group pressure and social behaviour, inter-and -intra group relations and processes. Social movement and group behaviour. Group boundary maintenance. Team-work and motivation. Group-think and collective errors.                |                  |
|                | <b>30h (T); C</b>   |                  |
| <b>SOW 103</b> | <b>Introduction to Social Welfare Agencies</b>  | <b>2 Credits</b> |
|                | Meaning, structure and functions of social welfare agencies. Types and location of social welfare agencies in Nigeria, Legal framework for the establishment of Agencies, and Agency-Client relation in formal social work organisations. Evaluation of social work agencies in civil and military regimes.                 |                  |
|                | <b>30h (T); C</b>   |                  |
| <b>SOW 104</b> | <b>Introduction to Social Care and Needs Assessment</b>   | <b>3 Credits</b> |
|                | Support services in social care. Concepts of need. Needs of different client groups. Methods of referrals. Support for individual clients. Stereotype and prejudices in need assessment and care. Best practices in need assessment and social care.  |                  |
|                | <b>45h (T); C</b>   |                  |
| <b>SOW 105</b> | <b>Introduction to Social Casework</b>  | <b>2 Credits</b> |
|                | Principles of social casework. The rights of staff and clients in social casework. Casework management and service delivery. Feed back and redress in casework. Knowledge base for social casework-practice, proven and assumptive knowledge. On-set and termination of casework.   |                  |
|                | <b>30h (T); C</b>   |                  |
| <b>SOW 106</b> | <b>Working with Clients in Health and Social Care</b>   | <b>3 Credits</b> |

Caring relationship and roles, response to care. Types of support, Effective and anti-discriminatory interaction, Building self-caring using the five value areas and ethics.

**45h (T); C**

- SOW 107      Introduction to Communication and Interpersonal Relations      2 Credits**  
Developing communication skills. The importance of communication. Communication and effective caring skills. The act and art of listening. Non-verbal communication and body language. Reflective listening and silence. Communicating respect for others. Observing and understanding other people. Obstacles to effective communication.  
**30h (T); C**
- SOW 108      Social Networking and Collaborative Processes      2 Credits**  
Conceptualising conflict, competition and confrontation as social behaviour. Need for co-operation and collaboration in social work. Interdependence and inter-relationship in system of care. Management of overlapping functions and duplicity. Modalities for networking and collaboration in social work.  
**30h (T); C**
- SOW 109      Code of Ethics and Best Practices in Social Work      2 Credits**  
Social Workers' ethical responsibilities to clients. Ethical responsibilities to colleagues and in practice settings. Ethical responsibilities as professionals and to the Social Work Profession. Ethical responsibilities to the wider society. Personal and professional values.  
**30h (T); C**
- SOW 110      Introduction To Developmental Psychology      3 Credits**  
Theories of human development. Stages and ages of life. Human development and heredity. Environmental factors and human development.  
**45h (T); R**
- SOW 111      Introduction to Psychology      3 Credits**  
Definition and meaning of psychology. History and development of psychology as a discipline. Focal areas of psychology. Motivation and self actualisation. Behaviour modification and change.  
**45h (T); C**
- SOW 122      Introduction to Family Law In Nigeria      2 Credits**  
General introduction to family law, Nature of the family law, Sources of Nigerian Family law. Law of succession in Nigeria

**30h (T); E**

- . SOW 201 Introduction To Group Work 2 Credits**  
The meaning and types of group clients, Group membership roles, Leadership development and Management of deviant groups – gangs, mobs, drug addicts etc. Initiating group work. Positive team building and collaboration. Mentoring groups for growth and development.  
**30h (T); C**
- SOW 202 Socio-Legal Framework for Social Work 2 Credits**  
Development and dimension of social welfare policies in Nigeria. Phases in the development of social-welfare policy. Public opinion and social policy development. Structural components of social welfare programmes. Benefits and eligibility criteria.  
**30h (T); R**
- SOW 203 Introduction to Rehabilitation Processes 2 Credits**  
Concepts of social functioning and empowerment. The Rs of Rehabilitation: reformation, reconstruction and restoration. Social factors as social exclusions. Rehabilitation planning needs and resources. Evaluation of re-integration and empowerment. Social agencies and rehabilitation effectiveness.  
**30h (T); C**
- SOW 204 Modalities and Principles of Social Work Intervention 2 Credits**  
The concept of stress, strain and crisis. Client’s willingness to enter casework relations. The organisation and stages of social work intervention. Resource mobilisation for intervention. Stakeholders and significant other collaborating for intervention. Monitoring and evaluation of prognosis in intervention.  
**30h (T); R**
- SOW 205 Social Processes and Social Work 2 Credits**  
Social stratification, equality and diversity. Discrimination and poverty. Population explosion and unemployment. Rural-Urban migration and destitution. Unemployment and threat to security-order, life and property.  
**30h (T); C**
- SOW 206 Fields and Application of Social Work 2 Credits**  
Checklist for the practice of social work. Highlight of different fields of social work. The process of social work generalist practice micro/mezzo and macro practice of social work. Highlight of employment settings for social workers by field of practice.  
**30h (T); C**
- SOW 207 Introduction To Social Statistics 2 Credits**

Definition of basic statistical concepts: statistic, estimate, parameter, population, variables etc. Data collection and transcription to tables. Distinction between descriptive and inferential statistics. Data presentation in quantitative and qualitative studies. Statistics of social services: housing, education, employment etc.

**30h (T); C**

- SOW 208      Empowerment and Human Diversity      2 Credits**  
Identification of the population-at-risk. Modality for seeking strength in diversity (resiliency). Empowerment for women in group. Promoting ability in disability. Support services for singles, widow, aged and terminally ill.  
**30h (T); R**
- SOW 209      Social Work in Cross-Cultural Settings      2 Credits**  
Identification of similarities and differences in people, groups and culture. Empathetic study of foreign cultures. Setting up best practices in social work practice in simple and homogenous societies. Adoption of ethnographic and anthropological principles for social work practice and service delivery.  
**30h (T); C**
- SOW 210      Introduction to Critical Thinking and Emotional Intelligence      2 Credits**  
Meaning and types of emotional intelligence. Harvesting the gains of emotional intelligence in social world practice. Importance of values in decision making. Meaning of problem solving, creativity-thinking critically and creatively. Understanding and diagnosing problems, generating and evaluating solutions. Impediment to solutions, creativity and problem solving.  
**30h (T); R**
- SOW 211      Management of Disadvantaged and Challenged Groups      2 Credits**  
Defining developmental and physical challenges. Cerebral palsy, hearing impairment, visual impairment, multiple disabilities, etc. Ethical implications for social work practices with challenged clients. Treatment, legislative and community approach to management of the disadvantaged. Creating linkages with the community for the client.  
**30h (T); R**
- SOW 212      Deviance and Planned-Change Processes      3 Credits**  
Definition and typology of deviance. The concepts of ‘normal’ and abnormal. Planned-change process: engagement, assessment, planning, implementation, evaluation and termination. Implementation of change process with macro-client systems.  
**45h (T); R**
- SOW 214      Advocacy and Service Delivery      2 Credits**

Assessment of the impact of social policy on the quality of life of citizens. Reconciliation of people's needs with programme goals. Assessment of the extent to which benefits address needs. Modalities for service payment and delivery styles. Identification of the approaches to policy analysis.

**30h (T); E**

- |                |   |                  |
|----------------|---|------------------|
| <b>SOW 216</b> | <b>Religious and Spiritual Intervention in Social Work</b>  | <b>3 Credits</b> |
|                | Professional application of the awareness of spiritual and religious approaches to vulnerable people in situation of pain and crisis.   |                  |
|                | <b>45h (T); R</b>   |                  |
| <br>           |   |                  |
| <b>SOC 215</b> | <b>Research Method in Child Labour</b>  | <b>2 Credits</b> |
|                | Conceptual overview of Child labour, Children as subject of research, Different research methods in child labour- ethnographic, observations, interviews projective techniques, FGD, and other participatory approaches; Issues of ethics in child labour research and practical assignments. |                  |
|                | <b>30h (T); E</b>   |                  |
| <br>           |   |                  |
| <b>SOC 218</b> | <b>Introduction to Social Psychology</b>  | <b>3 Credits</b> |
|                | Meaning and focus of social psychology. Social psychology and sociology. Social psychology and human values. The self in a social world: self concept, self efficacy control. Self esteem motivation.   |                  |
|                | <b>45h (T); R</b>   |                  |
| <br>           |   |                  |
| <b>SOW 301</b> | <b>Theories of Social Work</b>  | <b>3 Credits</b> |
|                | Theoretical perspectives on psychological social and process base for social work. The five principles for generic social work and Social structural theories.  |                  |
|                | <b>45h (T); C</b>   |                  |
| <br>           |   |                  |
| <b>SOW 302</b> | <b>Research Method in Social Work I</b>   | <b>3 Credits</b> |
|                | Methods of data collection, sampling methods and type of data. Observation and analytical skills on documents. Methods of report writing.   |                  |
|                | <b>45h (T); C</b>   |                  |
| <br>           |   |                  |
| <b>SOW 303</b> | <b>Research Methods in Social Work II</b>   | <b>3 Credits</b> |
|                | Definition, purposes and types of research. Social case work method for data generation. Relationship between research topic, problem, objectives and literature.   |                  |
|                | <b>45h (T); C</b>   |                  |
| <br>           |   |                  |
| <b>SOW 304</b> | <b>Social Work In Mental Health</b>   | <b>3 Credits</b> |



Mental health, mental illness and social roles. Casework encounter clients who have mental health problems. Role of social workers in mental health. Cultural competence in mental health. Barriers to receiving mental health services.

**45h (T); R**

- SOW 305      History and Development of Social Work      2 Credits**  
The focus will be on the development of the social work progression. Social work in 1950s, social work in the 1960 to early 1980 and social work today.  
**30h (T); C**
- SOW 306      Social Work and Services for Children and the Youths      2 Credits**  
The scope of the course consists among others the steps in developing creative employment for youths through macro practice, prevention of school violence, teenage sexual activity, pregnancy and parenting issues, provision of information about sex.  
**30h (T); C**
- SOW 307      Social Work and Services for the Family      2 Credits**  
Child welfare practice in retrospect. Major thrusts of services for children and families. Child abuse and neglect and child protective services. Child day care and other supportive services. Kinship care foster family care and adoption.  
**30h (T); C**
- SOW 308      Community Organisation For Development      3 Credits**  
Organisation and community setting in social work practices. The special circumstances of social work practice in rural communities. Locating the strengths inherent in communities. Inter-agency co-operation for community services. Using the generalist approach in community organisation and development.  
**45h (T); R**
- SOW 309      Gerontology and Services for the Elderly      2 Credits**  
International perspective – “Global Graying”. Common problems facing elderly people. Demographic characteristics of the elderly population. Contexts for social work practice with the elderly. Empowerment for the diverse population of elderly people.  
**30h (T); C**
- SOW 310      Social Problems and Social Reconstruction      2 Credits**  
Perspectives and definitions of social problems. Basic assumptions on social problem. Social conditions generating social problems. Palliative and Proactive measures for management of social problems. Resource mobilisation to tackle social problems. Social possibilities.

**30h (T); R**

- SOW 311 Social Work and Services for the Challenged 2 Credits**  
Defining developmental disabilities/challenges. Services to people with mobility, developmental and cognitive challenges. Supportive services in aid of individual, physical, intellectual and emotional development. Mobilisation of resources for empowerment of the challenged.  
**30h (T); R**
- SOW 312 Social Work and Services For the Military and Related Agencies 2 Credits**  
Understanding the peculiarities of military and security services. Services that are related to housing, deployment, welfare of troops in peace support operations. Services to dependents and next of kins of fallen personnel. Rehabilitation of demobilised soldiers. Health care for the wounded and amputees.  
**30h (T); R**
- SOW 313 Social Work and Services in Healthcare 2 Credits**  
Definition and classification of health problems. Social work roles in health care. Health care policy and problems in the macro environment. Problems in managed care. Ethical dilemmas in managed care. Sustainability of a more culturally competent health care system. Means testing and resource mobilisation for indigent patients. Evaluation of consequences of life experiences.  
**30h (T); R**
- SOW 314 Social Work In Occupations and Industry 2 Credits**  
The role of social workers in promoting safety and general welfare of the work force is emphasised . the work setting and workers safety. Work-injury reduction and compensation. Basic minimum welfare provisions in occupation points. Reward system and industrial peace. Management of post-work-injury rehabilitation. Human resource planning and development. Cordial colleague relationship at shop-floors.  
**30h (T); R**
- SOW 316 Internship in Social Work Agencies 2 Credits**  
Working in an organisational structure under supervision. Trainees' role in internship-counselling, case management, resource mobilisation etc. Accepting responsibilities and proper docUTMENTation. Promoting agencies profile through compliance to code of ethics.  
**30h (T); C**
- SOW 401 Management of Intra- And Inter-Communal Conflicts 3 Credits**

Social Workers as community mediators. Understanding value, issues, interests, positions etc that generate conflicts within and between communities. Negotiating and building confidence for mediating among stakeholders. Utilisation of community resources and power base in management of conflict. Social workers' neutrality in communal conflict.

**45h (T); C**

**SOW 402      Social Work in War, Refugee Camps and Emergency      3 Credits**

Disempowerment effects of war and emergency. Disadvantaged groups in war and emergency. Rehabilitation processes for war victims, displaced persons and the wounded. Management of refugee and resettlement camps. Collaborative processes for care and welfare.

**45h (T); C**

**SOW 403      Administration of Social Agencies      3 Credits**

Organisational structure of social agencies. Mission and vision for resources and care. Distribution and channels of resource to clients. Rationing and economic appraisal. Sole practice and collaborative relations among agencies. Staffing, training, posting and discipline of personnel. Funding and resource mobilisation.

**45h (T); C**

**SOW 404      Social Mediation In Community Conflicts      3 Credits**

Meaning, types and articulation of community mediation. Community coordination and cooperation for conflict mediation. Power, authority and state actions in conflict mediation. Joint community actions in mediation fact finding and peace commission.

**45h (T); C**

**SOW 405      Social Work and Services in Criminal Justice System      2 Credits**

Introduction to crime and criminal justice. Criminal justice setting and forensic social work social work in adult and juvenile corrections. Role of social workers in rehabilitation process.

**30h (T); C**

**SOW 406      Social Work and Globalisation      2 Credits**

Understanding the concept and forms of globalisation. Globalisation of social work care. Global perspectives on the fields of social work. Implications and complications of globalisation for social work practice in the third world. Global crisis and care.

**30h (T); E**

**SOW 407      Social Work and Services In Schools      2 Credits**

School social work. Creative empowerment for youth. Management of school related problems – truancy, vagrancy, hyperactivity, vandalism etc. Networking with school and peers. Home visit and parent day school. Pupil grievances and redress process.

**30h (T); R**

- SOW 408 Principles of Management and Services Delivery 3 Credits**  
 ConsUTMERism and social work. The balance of power and the consUTMEr. A model of service provision. Motivations for service provision. The weakness of consUTMErs. Best practice in service delivery.  
**30h (T); E**
- SOW 409 Policies and Programme to Combat Poverty in Nigeria 2 Credits**  
 Poverty as a global social problem. Gender family structure and poverty. Social class and poverty. Factors in prevalence of poverty. Social work roles. Social insurance policy. Public Assistance Policy stereotype about public assistant recipients. Supplemental security income.  
**30h (T); R**
- SOW 410 Sociology of Religion 3 Credits**  
 Sociological perspectives of religion as a social institution. Characteristics of religion. Religion in social conditions of existence. Roles of religion in the society. Application of religion and spirituality to social work.  
**45h (T); E**
- SOW 411 Social Practicum Placement 3 Credits**  
 Selection of appropriate agency for practice experience and mentoring. Schedule of placement in social agencies. Loggin and docUTMENTentation of activities. Evaluation and assessment by assessors.  
**45h (P); C**
- SOW 412 Social Security Management 2 Credits**  
 Strategies to increase income and social functioning. Risk avoidance and spreading. Contractual conditions in social security. Old age, survivors and disability management. General assistance – formal and informal. Temporary assistance to needy families. Roles of financial institutions in management of social security.  
**30h (T); E**
- SOW 414 Social Work and Information Technology 3 Credits**  
 IT basics. Memory and storage. Stand alone computers and networks. Using computers safely. Using IT in social work. Word Processing. Combining information from different sources. Spreadsheets, graphs, charts and graphics.  
**45h (T); E**
- SOW 416 Social Work Practicum Placement II 2 Credits**  
 SWOT (Strength, Weakness, Opportunity and Threat) analysis of mentoring agencies. Client assessment of social workers on practicum. Mentoring Agencies report and assessment of social workers on practicum attachment.

**30h (P); C**

**SOW 499**

**Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270h (T); C**

**SUMMARY**

**100 LEVEL**

<b>Compulsory Courses:</b>	SOW 101(3), 102(2), 103(2), 104(3), 105(2), 106(3), 107(2) 108(2), 109(2), 110(3), SOC 101(2)	<b>= 26 Credits</b>
<b>Required Courses:</b>	SOW 111(3), RCR 105(2), 106(2), GNS 111(2), 112(2)	<b>=11 Credits</b>
<b>Elective Courses:</b>	SOW 122(2)	<b>= 2 Credits</b>
	<b>Total</b>	<b>= 39 Credits</b>

**200 LEVEL**

<b>Compulsory Courses:</b>	SOW 201(2), 203(2), 205(2), 207(2), 209(2)	<b>= 10 Credits</b>
<b>Required Courses:</b>	SOW 202(2), 204(2), 206(2), 208(2), 210(2), 211(2), 212(3), 215 (3), 218(3), CSC227 (2), SOC 217 (2), ECN 216 (2), GNS 211(2), 212(2)	<b>= 31 Credits</b>
<b>Elective Courses:</b>	At least 2 Credits from the following: SOW 214(2), SOC 215(2)	<b>= 2 Credits</b>
	<b>Total</b>	<b>= 43 Credits</b>

<b>Direct Entry Students:</b>	GNS 111 (2), 112 (2)	<b>= 4 Credits</b>
-------------------------------	----------------------	--------------------

**300 LEVEL**

<b>Compulsory Courses:</b>	SOW 301(3), 302(3), 303(3), 305(2), 307(2), 309(2), 316(2)	<b>= 17 Credits</b>
----------------------------	--	---------------------

<b>Required Courses:</b>	SOW 304(3), 306(3), 308(3), 310(2), 311(2), 312(2), 313(2), 314(2), (2), GSE 301(2), GNS 311(2)	<b>= 25 Credits</b>
--------------------------	--	---------------------

GPE 301

**Total = 42 Credits**

**400 LEVEL**

**Compulsory Courses:** SOW 401(3), 402(3), 403(3), 404(3), 405(2), 411(3), 499(5) = **22 Credits**

**Required Courses:** SOW 407(2), 409(2), 416(2), 499(6) = **12 Credits**

**Elective Courses:** At least 6 Credits from the following:  
SOW 406(2), 408(2), 410(3), 412(2), 414 (3) = **6 Credits**

**Total = 40 Credits**

**Graduation Requirements:**

**UTME = 164 CREDITS**

**DE =129 CREDITS**

## DEPARTMENT OF SOCIOLOGY

### Course Description

#### **B.Sc. Sociology**

- SOC 101 Introduction to Sociology I 2 credits**  
Subject matter of sociology; the problem of social order; sociology and other related disciplines; culture and socialisation; agents of socialisation; basic concepts in sociology; community, culture and society, norms, folkways, laws, mores, deviance, crime and sanctions; social facts and psychological facts; social groups; small and large groups; job prospects in sociology.  
**30h (T); C**
- SOC 102 Introduction to Sociology II 2 credits**  
Elements of social structure; social roles and statuses; social structure in global perspective; social network and technology; introduction to the founding fathers of Sociology and their contributions; organization; power and authority; major theoretical perspectives in sociology; introduction to micro-macro sociology or structure and agency debate.  
**30h (T); C**
- SOC 103 Social Anthropology 2 credits**  
Introduction to anthropology and social anthropology; anthropology and related disciplines; theorizing the evolution of man; historical, theoretical and methodological perspectives in social anthropology; basic concepts in social anthropology; culture, society, kinship and marriage; descent grouping; socio-political and economic systems in ancient and modern societies.  
**30h (T); C**
- SOC 104 Nigerian Heritage 2 credits**  
Culture versus heritage; tangible and intangible heritage; symbols of heritage peculiar to major ethnic groups in Nigeria; historical and sociological study of the ancient and contemporary Nigerian civilisations: the NOK, Hausa-Fulani; Yoruba-Ife and Benin-Edo etc; the importance of Nigerian heritage; impact of civilization on heritage in Nigeria; conserving heritage for sustainable development; global declarations on heritage preservation.  
**30h (T); C**
- SOC 105 Introduction to African Society and Culture I 2 credits**  
Role Archaeology in understanding African cultural heritage; archaeological, historical and the ethnographic evidence; definition of African cultural heritage; understanding the past; early man; cultural diversity in Africa; development of farming and sedentary life-styles; growth of cities; arts and crafts, early trade patterns; traditional institutions, cultural practices and heritage resources; clanship and descent among specified cultures.  
**30h (T); C**

- SOC 106      Introduction to African Society and Culture II      2 Credits**  
 Socio-political and economic systems in Africa; the Buganda kingdom, the Nuer, the Ashantis, the Akandes; Stratified politics in Burundi and Rwanda; religions in Africa; Syncretism and Charismatism in African religions; Africa and witchcraft; Afrocentric and Eurocentric views on issues relating to culture and belief systems in Africa; Africa and knowledge system; social production of knowledge.  
**30h (T); C**
- SOC 107      Introduction to Psychology      2 Credits**  
 Subject matter of psychology; basic concepts and methods in psychology; psychology and other social sciences; introduction to personality psychology; the person like all other persons, like some other persons and like no other persons; socialisation and personality development; psychoanalytic theory of human behaviour; socio-biology and human nature; theories of learning, motivation and perception; application of psychology to everyday life.  
**30h (T); C**
- SOC 108      Elements of Scientific Thought      2 Credits**  
 Meaning of science; classification of science; history of scientific thought; scientific knowledge and the goal of scientific research; characteristics of science; inductive and deductive reasoning; theories versus models; hypothesis formulation; basics of sociological paradigms; philosophical dualism in sociology; research designs; social surveys, experiment etc; methods of research; hypothesis formulation; primary and secondary data; problem of science and research in Africa.  
**30h (T); C**
- SOC 109      Basic Social Institutions      2 Credits**  
 Basic social institutions; their origin and attributes; treatment of basic social institutions: Kinship descent, marriage, family, political, religious and economic institutions; a discussion of their functions and inter-relatedness; essential theoretical orientation on basic social institutions of society; research methods in social institution; latent and manifest functions.  
**30h (T); C**
- SOC 110      Social Man in Human Society      2 Credits**  
 Man's place in nature; anthropological consideration of man as a social being; man's physical, psychological and social equipment for group living; the human community; essence of culture and civilization; rights, duties and rewards in community living; development and social development; theoretical orientations of social development; moral development of man in society; Socialization and anticipatory socialization among others.  
**30h (T); C**
- SOC 201      History of Sociological Thought I      2 Credits**



Nature and Scope of Social Theory; historical survey of the nature and development of social thought; origin and development of sociological thought; social forces and intellectual forces in development of sociology; introduction to masters of sociological thought: Comte, Marx, Weber, Pareto, Durkheim etc.

**30h (T); C**

**SOC 202      History of Sociological Thought II      2 credits**

The 18<sup>th</sup> century Enlightenment period and sociological thought; the French and Industrial Revolutions and sociological thought; developments of sociology in Germany, France, Britain, Italy, and America; theorizing in the 19<sup>th</sup> century; Herbert Spencer, George Simmel; Sigmund Freud; perspectives in sociological theorizing; positivism, structural functionalism, conflict theories; interpretive tradition, symbolic interactionism; the possibility of sociological thought to African reality, history and experience.

**30h (T); C**

**SOC 203      Social Statistics      2 Credits**

Role of statistics in sociological research; the fear of statistics among sociology students; distinction between data and information; hypothesis formulation and testing; descriptive and inferential statistics.

**30h (T); C**

**SOC 204      Introduction to Population Studies      2 Credits**

Meaning of population; nature of population growth; effects of growth and causes; history of World population Growth and Development; elements of Demography - Population Composition, Structure and Characteristics; theories of population; Fertility; Reproductive Health, Family Planning and HIV/AIDS; social mobility; mortality; migration; population Growth and Development in Nigeria.

**30h (T); C**

**SOC 205      Social Change      2 Credits**

The inevitability of change in human society; meaning of social change; characteristics of social change; sources of social change; approaches to change; social change and family system; theories of social change; collective behaviour; social movements and social change; the concept of globalization; Pan Africanism and globalization; social change in Africa.

**30h (T); C**

**SOC 206      Language in Society and Culture      2 Credits**

Conceptual meaning of language, language as a means of communication; verbal and nonverbal communication; relationship between human, society and culture; family as the first contact of language; human and animal languages; call system; social and

cultural functions of language; language and societal development; man as a prisoner of language (the Sapir-Whorf hypothesis); language problems of the new states; language policy;

**30h (T); C**

**SOC 207**

**Foundations of Sociology**

**2 Credits**

Organisation of society: types of society, social stratification, social facts, social action and social mobility. Culture and the society: culture shock, cultural relativism and cultural universals. Culture diffusion: role conflict and role strains. Sociological imagination. Methods of sociological research. Sociology and common sense: uses of sociological knowledge. Nature versus nurture. Socialization.

30h (T); C

**SOC 208**

**Comparative Social Institutions**

**2 Credits**

Social institutions in human society; nature and functions of social institutions; institutions in comparative perspective; marriage and family in traditional and modern African societies; world's major religious institutions and modes of expression; a comparison of African traditional and modern religions; contrasting political systems; education: social and political uses; the media: social and political uses.

**30h (T); C**

**SOC 209**

**Social Structure of Nigeria**

**2 Credits**

Meaning of social structure; the Nigerian social structure; history of Nigeria; demographic changes in Nigeria: rural urban migration; political institution in transition: from military to civilian governments; the family in transition: traditional versus modern family; socialization in transition; formal and informal education; health institution; social stratification; social problems in Nigeria.

**30h (T); C**

**SOC 210**

**Sociology of Mass Communication**

**2 Credits**

Media as an agent of socialization; theoretical and practical debates regarding the role of the mass media; media businesses; media as information source and entertainment; impacts of the media, media audiences; major paradigms in mass communication processes; globalization, ICT and mass communication; the new media and the changing Nigerian society.

**30h (T); E**

**SOC 211**

**Sociology of the Family**

**2 Credits**

Kinship, marriage and the family; descent groups; types of family; theories of the family; forbes' development cycle of domestic groups; social change and the family; parental authority; mate selection and the family; authority structure and interpersonal

relations in modern family; power and decision-making in modern family; violence in modern family; alternative lifestyles in modern societies and their implications on modern family structure.

**30h (T); E**

**SOC 212      Gender Studies and Development      2 Credits**

Important issues in gender studies; important concepts in gender studies; gender roles, gender division of labour, gender based violence, gender parity index; gender inequality; gender issues in Nigeria; gender and reproductive health problems in Nigeria; women and domestic violence; feminist perspectives in gender inequality; feminist movement in Nigeria.

**30h (T); E**

**SOC 213      Sociology of Education      2 Credits**

Concept of education; educational institutions as agents of socialization; education and cultural development in Africa; history and goals of education; traditional versus modern system of education; theory and research in sociology of education; education and inequality in Nigeria; race, ethnicity, and education; social class and education; gender and education; teaching as a profession in Nigeria; the state of education and educators in Nigeria; sociological theories of education.

**30h (T); E**

**SOC 214      Issues in Child Rights in Nigeria      2 Credits**

Introducing the concept of a child; child rights in Nigeria; psycho-social development of a child (Freud, Erickson); child labour and abuse; debates around circumcision; United Nations convention on the Rights of the child; demand and supply factors in child labour; theories of child labour (conflict, functionalist, strain theories etc).

**30h (T); E**

**SOC 301      Social Research I      2 Credits**

Meaning of social research; pure and applied research; method and methodology; basic concepts in social research; research process; hypotheses and propositions; method of problems versus method of topics; how to form researchable questions; research designs; methods of data collection; literature search, review and theoretical expositions; relationship between theory and research.

**30h (T); C**

**SOC 302      Social Research II      2 Credits**

Qualitative vs. quantitative research; ontological, epidemiological, philosophical and methodological issues; shades of research design: types of research tools, the concepts of validity and reliability; steps in social research; sampling techniques; writing an undergraduate project; research proposal; data analysis and discussion of findings; ethical issues in social research.

**30h (T); C**

- SOC 303 Industrial Sociology 2 Credits**  
Issues in industrial sociology; history of industrialization; patterns of industrial relations in Nigeria; labour process; classical and contemporary perspectives in labour process; job satisfaction, human motivation and orientation to work; unionism and industrial conflicts; structures and management of trade unions; collective bargaining; elite theories and trade union management.  
**30h (T); C**
- SOC 304 Contemporary Social Problems 2 Credits**  
Sociology, order and social problems; personal vs. social problems; categories of social problems; conditions and characteristics of social problems; objective and subjective meanings of social problem; contemporary social problems; poverty, unemployment, religious/ethnic conflicts, drugs and crime, terrorism, sexual deviance, infectious diseases; theories of social problems.  
**30h (T); C**
- SOC 305 Sociology of Crime and Delinquency 2 Credits**  
Concept of crime: typology of crime, crime, deviance and delinquency. Introduction to criminology. Theories of crime. Measurement of crime: criminalistics, crime statistics, principles of criminal law and social control measures. Criminal justice system: role of vigilante groups in crime prevention, treatment and rehabilitation of offenders.  
**30h (T); C**
- SOC 306 Medical Sociology 2 Credits**  
Rationale and scope of medical sociology; medical sociology and other health social sciences; social factors and human health; culture, health and illness; medical pluralism; personal and social determinants of health and illness; doctor–patient relationship; socio-cultural aspects of women’s health; the hospital as a social system; technology and the sociology of health care; traditional and modern medicines; theories in medical sociology.  
**30h (T); C**
- SOC 307 Social Movements 2 Credit**  
Social movements and the role of new media; movements across human history; abolition of slavery, Civil Right Movements, Movement for Gay Rights, Anti-AIDS Activism, Occupy Wall Street; globalization and social movements; movements in Nigeria; some specific theories of social movement.  
**30h (T); C**
- SOC 308 Political Sociology 2 Credits**  
Introduction to political sociology; scope of political sociology; power and authority; political culture and socialization; participation and the mass media; political ideologies; theories in political sociology; origin of the modern state in the European and African Contexts; political sociology in African context; nationalism, postcolonial politics, economic and power elites in Africa.

**30h (T); C**

- SOC 309 Rural Sociology 2 credits**  
Meaning of rural sociology; social organisation at community levels; historical overview of rural sociology; conceptual problems in rural sociology; basic structure of rural societies in Nigeria, settlement patterns, family arrangements, politics, religion, health, education, and economy; migration and rural communities in Africa; social change and rural development in Africa; social inequality and poverty in rural Africa; theories in rural sociology.  
**30h (T); C**
- SOC 310 Inter-Group Relations 2 Credits**  
Nature and dynamic of inter-group transactions; plural societies; intergroup relations at local and international levels and consequences; the Israelis and Palestinians, Apartheid in South Africa, genocide, xenophobia, Hutu and Tutsi of Rwanda, the Fulani/herdsmen conflicts; power relations and social production of knowledge at global levels; sociological theories in intergroup relations.  
**30h (T); C**
- SOC 311 Formal Organizations 2 Credits**  
Structural properties of organizations and consequences; formal and informal organizations; simple and complex organizations; interconnectedness between organizations; types of formal organization; formal organization and bureaucracy; influence and power structure; peculiarities of bureaucracy in Nigeria; gender, race and ethnicity in organizations; conflict, power and politics; theoretical issues in formal organization.  
**30h (T); C**
- SOC 312 Social Stratification and Mobility 2 credits**  
Concepts of social stratification and mobility; social stratification and differentiation; origin and functions of social stratification; stratification and conflict; class, status and power; inequality by gender, sex and age; gender issues in informal sectors; racial and ethnic inequality; open and closed class system; social mobility; types and characteristics; social mobility in Nigeria; social stratification at world level.  
**30h (T); C**
- SOC 313 Gerontology 2 credits**  
Meaning of gerontology; biology and psychology of growing old; aging and culture; transition and problems of aging; social isolation and aging; retirement; aging and health. Social support for the elderly; urbanization and the problem of aging; theories of aging; aging and disengagement, aging and activity, aging and inequality; aging, death and dying; social policy and the elderly in Nigeria.  
**30h (T); E**

- SOC 314      Urban Sociology      2 Credits**  
Definition of urban sociology; basic structure of urban life in Africa; politics and religion, economics and family, education and health; social changes: urban growth (rural-urban migrations); The development of the city; industrialization and urbanization; voluntary associations and their integrative functions; social problems in urban Nigeria; theoretical perspectives in urban sociology.  
**30h (T); E**
- SOC 315      Sociology of Law      2 Credits**  
Issues in sociology of law; law as a mechanism of social control and as a field of knowledge; law and society, traditional legal cultures; norms, mores, law and sanctions; significance of law in human society; law, social relations and social integration; conflict resolution and social control; issues of civil rights and power arrangement; gender and law; power and law; vulnerability, protection and human rights; sociological theories of law.  
**30h (T); E**
- SOC 316      Sociology of Religion      2 Credits**  
Scope of sociology of religion; types of religious activity and modes of expression; religion and religiosity; the concept of ritual; religion in simple and complex societies; religious pluralism; sectarianism and patterns of conflict and accommodation; traditional and modern religions; secularization and religion; religious issues in Nigeria; common theories in sociology of religion.  
**30h (T); E**
- SOC 318      Human Resource Management      2 Credits**  
Identification of human resources needed in an organization or department: knowledge, skills and concepts. Personality and motivation: manpower planning, leadership styles, HRM policies and practices, employer-employee management and recruitment strategies.  
**30h (T); E**
- SOC 401      Contemporary Sociological Theories I      2 Credits**  
New developments in modern sociological thought; social forces and development of contemporary sociological thought. Connection between classical and contemporary sociological theories; evolution and neo-evolutionism; modern feminist sociological theories; structuralism and post-structuralism; interpretative tradition; the ideas of Michel Foucault (knowledge, truth and power); structure versus agency debates; postmodernism and postmodern social theories.  
**30h (T); C**
- SOC 402      Contemporary Sociological Theories II      2 Credits**

Sociological theories and scientific explanations; philosophy of positivism and phenomenology; consensus and conflict approaches, the ideas of Habermas; historically-oriented Marxism; social construction of reality, ethnomethodology, symbolic interactionism, dramaturgical analysis and other ideas of Erving Goffman; exchange and rational choice theories; application of contemporary theories to African reality, history and culture.

**30h (T); C**

**SOC 403 Demographic Analysis**

**2 Credits**

Definition, nature and scope of demography. Sources, uses and limitations of population data; population census; sample surveys; vital registration; population registers; non-traditional sources of data; international sources of data; availability of population data in Sub-Sahara Africa; basic demographic methods; population growth; population composition; assumptions, types and functions of life table; conventional life table; introduction to migration analysis; population policy.

**30h (T); C**

**SOC 404 Regional Ethnography of Sub-Saharan Africa**

**2 Credits**

Meaning of Ethnography; the basic concepts in regional ethnography; ethnographic research; qualitative and quantitative methods in ethnography; relevance of ethnography in achieving sustainable development in Sub-Sahara Africa; human origin and early man; physical anthropology; archaeology; race and racism; cultural regions of African language; peoples and cultures of Africa; linguistics in Africa.

**30h (T); C**

**SOC 405 African Social Thought**

**2 Credits**

Social production of knowledge; the concept of academic imperialism; a survey of African social philosophy and thought; Ibn-Khaldun (the Muqadimah), Usman Dan Fodio (Foundation of Justice), Claude Ake; Walter Rodney, Leopold Senghor (The Concept of Negritude), Chinua Achebe (Things Fall Apart), Areoye Oyebola (Black Man's Dilemma), Akiwowo and sociology of knowledge etc; social science as academic imperialism.

**30h (T); C**

**SOC 406 Urbanization and Labour Migration**

**2 Credits**

Basic concepts in urbanization; forms and causes of urban growth in various part of the world; problems of African cities; characteristics and nature of Nigerian cities; labour migration studies; population movement in Africa; post-colonial trends in migration; migration theory and Classifications; internal migration systems in the developing countries; demographic perspectives of migration; cohort analysis of migration; African migration and regional disparities.

**30h (T); C**

**SOC 407 Sociology of Entrepreneurship**

**2 Credits**

Meaning, types and importance of entrepreneurship; evolution of entrepreneurship; pathways to entrepreneurial ventures; legal issues in entrepreneurship; entrepreneurial strategy and growth; the environment, economy and entrepreneurship; ethics, social responsibility and social entrepreneurship; indigenous vs. non-indigenous entrepreneurs in Nigeria; gender and entrepreneurship in Nigeria; theories of entrepreneurship and entrepreneurial behaviour.

**30h (T); C**

**SOC 408**

**Sociology of Globalization**

**2 Credits**

Definition of globalization; globalization and culture; globalization and international trade; globalization and labour; globalization and Nigerian labour law; globalization as a Blessing and Curse; Ritzer and *the globalization of nothing*; McDonaldisation of the world; North- South divides in globalization; Africa within the global; African culture and the threat of globalization; poverty, aids and trade; theories of globalization.

**30h (T); C**

**SOC 409**

**Sociology of Development**

**2 Credits**

Basic concepts in sociology of development; the Post-World War II international context and the origins of development; economic and social dimensions of development; major theories in sociology of development; political economy of international relations (inequality among nations in a globalized world); the New International Economic Order (NIEO) and implications of economic regionalization for global development; Africa and the rest of the world (BRICS).

**30h (T); C**

**SOC 410**

**Models In Sociological Analysis**

**2 Credits**

Meaning of Model as both a process and an action; model as a product and guide to research; types of Models; Characteristics of a good model; model building in Sociology; importance of model in sociological analysis; models and theories; classical sociological models; Marxian class model; Paretonian Elite Model; contemporary sociological models; relevance and applicability of classical and contemporary models.

**30h (T); C**

**SOC 411**

**Comparative Health Care Delivery System**

**2 credits**

Global perspective of health care delivery systems; practices, organization, accessibility and performance; medical pluralism; typology of medical system; politics and policies of health care system; capitalist, socialist and mixed-health systems; health and budgeting; comparative analysis of orthodox and non-orthodox medicine; health insurance schemes; health insurance policies in Africa; political economy of health; community engagement; health promotion and education.

**30h (T); E**

**SOC 412**

**Environmental Sociology**

**2 Credits**



Environmental problems and human populations; basic concepts in environmental sociology; human progress vs. ecological collapse; modern environmentalism; environment and public health, disease, global warming, flood, access to food, and water; migration, urbanization and the environment; technology and biodiversity; environmental resource management; mining and environmental degradation; traditional and modern methods of forest management; national security and global stability; theories in environmental sociology.

**30h (T); C**

**SOC 413**

**Military Sociology**

**2 credits**

The military as a social institution; military and the society; military as a total institution; functions and organization of the military; the origins of modern military organization; the role of the military in diplomacy and internal relations; military culture; concepts of war and peace; theories of war and peace; the contemporary war system; the social effects of war; peace projects; peacekeeping organizations; the Nigerian military and international peacekeeping; the Nigerian military, insurgency and internal security; theories and methods in military sociology.

**30h (T); E**

**SOC 414**

**Sociology of Health and Illness Behaviour**

**2 Credits**

Health, illness, and medicine from a sociological perspective; major sociological perspectives on health and illness; the influence of culture on health and illness behaviour as well as treatment; the conception/perception of mental illness across cultures; social causes of disease; theories of disease causation: germ theory and multi-causal models of disease causation.

**30h (T); E**

**SOC 415**

**Penology**

**2 Credits**

Concept of penology; correctional concepts; cultural context of punishment and treatment of offenders; socialization and social control; computing crime statistics and correctional statistics; correctional populations and Staff; theories of deviance; sanctions; principles of punishment; Jails, detention and community corrections; the prison experience; correction of juvenile offenders; capital punishment.

**30h (T); E**

**SOC 416**

**Sociology of Youth**

**2 Credits**

Basic concepts in sociology of youth; adolescence, young people or persons, teenagers and youth; societal construction of youth; transition to adulthood; youth in historical and societal contexts; education, work, gender and sexuality; peers, identity, politics, and youth culture; youth unrest; youth, political violence, revolution, insurgency/terrorism; youth, collective behaviour and social movements; youth and reproductive health issues; youth and crime; youth and drugs; youth and unemployment; youth and politics; theorizing youth unrest in Nigeria.

**30h (T); E**

**SOC 418**

**Sociology of Work**

**2 Credits**

Nature of work and its centrality in the lives of human beings; history of industrial sociology and growth of formal organizations and bureaucracy; industrial revolution and growing division of labour; sociological theories of formal organization; management in formal organizations; industry and society; worker participation and self-management; worker alienation; the rise of trade unions (unionization) in Nigeria; gender and work; wage and salary in Nigeria; labour process theories;

**30h (T); E**

**SOC 499**

**Research Project**

**6 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an area approved by the Department, culminating in the submission of a project.

**270 (T); C**

## SUMMARY

### 100 Level

**Compulsory Courses:** SOC 101 (2), SOC 102 (2), SOC 103 (2), SOC 104 (2), SOC 105 (2), SOC 106 (2), SOC 107 (2), SOC 108 (2), SOC 109 (2) SOC 110 (2) = **20 Credits**

**Required Courses:** SOW 101 (2), POS 111 (3), POS 114 (3), HIS 101 (3), HIS 122 (3), GNS 111 (2), GNS 112 (2) = **18 Credits**

**Total = 38 Credits**

### 200 Level

**Compulsory Courses:** SOC 201 (2), SOC 202 (2), SOC 203 (2), SOC 204 (2), SOC 205 (2), SOC 206 (2), SOC 207 (2), SOC 208 (2), SOC 209 (2) = **18 Credits**

**Required Courses:** ECN 216 (2); PSY 205 (2), POS 211 (2), POS 212 (2), GNS 211 (2), GNS 212 (2), SOC 217 (2), CSC 227 (2) = **16 Credits**

**Elective Courses:** **At Least 4 Credits From:**  
SOC 210 (2), SOC 211 (2), SOC 212 (2), SOC 213 (2), SOC 214 (2)  
= **4 Credits**  
**Total = 38 Credits**

### 300 Level

**Compulsory Courses:** SOC 301 (2), SOC 302 (2), SOC 303 (2), SOC 304 (2), SOC 305 (2), SOC 306 (2), SOC 307 (2), SOC 308 (2), SOC 309 (2) SOC 310 (2), SOC 311 (2) SOC 312 (2)  
= **24 Credits**

**Required Courses:** GPE 301 (2), GNS 311 (2), GSE 301 (3) POS 315 (2), POS 312 (2)  
= **11 Credits**

**Elective Courses:** **At Least 4 Credits From:**  
SOC 313 (2), SOC 314 (2), SOC 315 (2), SOC 316 (2), SOC 318 (2)  
= **4 Credits**

**Total = 39 Credits**

**400 Level**

**Compulsory Courses:** SOC 401 (2), SOC 402 (2), SOC 403 (2), SOC 404 (2), SOC 405 (2),  
(2), SOC 407 (2), SOC 408 (2), SOC 409 (2) SOC 410 (2) SOC 412 (2) SOC 499 (6)  
**= 28 Credits**

SOC 406

**Elective Courses:** **At Least 9 Credits From:**  
SOC 4011 (2), SOC 413 (2), SOC 414 (2), SOC 415 (2), SOC 416 (2), SOC 418 (2)  
**= 4 Credits**

**Total = 32 Credits**

**Graduation Requirements:**

**UTME = 147**

**DE = 108**

**FACULTY OF VETERINARY MEDICINE**

**DEAN'S OFFICE**

S.F. Ambali	DVM , M.Sc Ph.D. (Zaria)	Professor & Dean
J.O. Aiyedun	DVM, M.PVM, Ph.D.(Ibadan)	Lecturer I
A. A. Ojibara	B.Sc. (Kano), MBA(Ilorin)	Faculty Officer

**DEPARTMENT OF VETERINARY ANATOMY**

S.O. Salami	DVM, M.Sc. Ph.D. (Zaria)	Professor & Ag. Head
Z. Jaji	DVM; MV.Sc.(Maiduguri)	Lecturer I
Esther S. Kigir	DVM, MV.Sc. (Maiduguri)	Lecturer I
R. A. Adeyeye	AIMLT, FIMLT;M.Sc. Job: PGDM(Bauchi)	Asst. Chief Technology

**DEPARTMENT OF VETERINARY MEDICINE**

S.A. Ameen	DVM, M.Sc., Ph.D. (Ibadan)	Senior Lecturer & Ag. Head
A. G. Ambali	DVM (ABU); MV.Sc. Ph.D. (Liverpool)	Professor
M. Shittu	DVM,(ABU); MV.Sc, (Reading, England)	Snr. Research Fellow
N. Furo	DVM, M.Sc. (Maiduguri)	Lecturer I
Deborah A. Adah	DVM, M.Sc. (Zaria)	Lecturer I
Y. A. Baba	DVM, (Zaria)	Lecturer II

#### **DEPARTMENT OF VETERINARY MICROBIOLOGY**

A. E. Itodo	DVM, MSc. Ph.D (Zaria)	Reader & Head
M. A. Raji	DVM, MSc. (ABU); Ph.D (SUA)	Professor
A.I. Raufu	DVM (Ibadan) MSc; Ph.D (Maiduguri)	Snr. Lecturer
O. B. Daodu	DVM, M.Sc. (Ibadan)	Lecturer II
F.S. Oladunni	DVM (Abeokuta)	Lecturer II
O. A. Ahmed	DVM (Maiduguri)	Lecturer II
Hafsat A.S. Abdulrahaman	HND	Technologist II
Sarah O. Ajiboye	HND	Technologist II
Hafsat M. Abdullahi	HND	Technologist II

#### **DEPARTMENT OF VETERINARY PARASITOLOGY AND ENTOMOLOGY**

J.P. Fabiyi	BSc, MSc (ABU), PhD (Townsville)	Professor & Head
M.I. Ahmed	DVM (Maiduguri), MSc (Zaria), PhD (Maiduguri)	Professor

Temitope U. Kolapo	DVM, M.Sc. (Ibadan)	Lecturer I
Karimat. Hussain	DVM (Zaria)	Lecturer II
D. O. Folaranmi	AIML;FIMLS	Asst. Chief Technologist
Idiat M. Sanda	B.Sc. (Unilorin), AMLS	Technologist II

#### **DEPARTMENT OF VETERINARY PATHOLOGY**

O.O. Oduye	DVM (Glasgow), M.Sc (London), Ph.D (Ibadan)	Professor & Head
A. Mohammed	DVM , MSc.(Zaria)	Lecturer I
Jemilat A. Atata	DVM (Zaria)	Lecturer II
M. Bolaji	B.Sc. (Ilorin); AMLS	Technologist II
A. A. Adegboye	B.Sc. (Ilorin) AMLS	Technologist II

#### **DEPARTMENT OF VETERINARY PHARMACOLOGY AND TOXICOLOGY**

K. T. Biobaku	DVM, MSc., Ph. D. (Sokoto)	Snr. Lecturer & Ag. Head
S.F. Ambali	DVM; MSc; Ph.D (Zaria)	Professor
G. J. Akorede	DVM (Maiduguri)	Lecturer II
R. Suleiman	AD. Dipl., AIST (London), AMPSN	Chief Technologist

#### **DEPARTMENT OF VETERINARY PHYSIOLOGY AND BIOCHEMISTRY**

Olabisi.M. Azeez	DVM (Ibadan); MSc. Ph.D(Lagos)	Snr.Lecturer & Ag Head
Okediran	DVM (Ibadan) M.Sc. Ph.D (FUNAAB)	Snr. Lecturer
A.S. Adah	DVM, MSc. (Zaria)	Lecturer I

Folashade H. Olaifa	DVM, M.Sc. (Zaria)	Lecturer I
D. O. Ibrahim	HND	Principal Technologist

### **DEPARTMENT OF VETERINARY PUBLIC HEALTH AND PREVENTIVE MEDICINE**

S. Nuru	BV.Sc. (Glasgow); Ph.D. (ABU)	Professor
J.O. Aiyedun	DVM; MPVM., Ph.D. (Ibadan)	Lecturer I
L.I. Ghali-Mohammed	DVM (ABU), MPH (Ilorin)	Lecturer I
I. A. Odetokun	DVM, M.Sc. (Ibadan)	Lecturer I
O. O. Oludairo	DVM, (Ibadan); M.Sc. (ABU)	Lecturer I
Nusirat Elelu	DVM (Maiduguri); M.P.H. (ABU)	Lecturer I
Kaltume M. Mohammed	DVM (Maiduguri)	Lecturer II
O. O. Akintola	B.Sc. (Maiduguri), ANIST	Chief Technologist
Sikirat O. Akande	HND	Technologist II

### **DEPARTMENT OF THERIOGENOLOGY AND PRODUCTION**

E.O. Oyedipe	DVM ABU), MSc (Minnessota), Ph.D (ABU)	Professor & Head
O. O. Oni	DVM (Ibadan) M.Sc. Ph.D (ABU)	Professor
A. O. Olatunde	DVM (ABU) MPVM (Ibadan)	Lecturer I
L. O. Raji	DVM, M.Sc. (Ibadan)	Lecturer I
D. Iliyasu	DVM, (Maiduguri) M.Sc. (ABU)	Lecturer I

**VETERINARY TEACHING HOSPITAL**

E. O. Oyedipe	DVM (Zaria); M.Sc. (Minnesota); Ph.D. (Zaria)	Professor & Director
G. B. Atoyebi,	DVM (Zaria); MV.Sc (Liverpool)	Snr. Registrar II
F.R. Olowoleni	DVM (Nsukka)	Snr. Registrar I
R. A. Obalowu	DVM (Zaria)	Snr. Registrar II
Rashidat B. Balogun	DVM (Zaria)	Snr. Registrar II
Foluke T. Olusanmi	DVM (Sokoto)	Registrar
H. O. Jegede	DVM (Zaria)	Registrar
A. A. Shafi	HND	Technologist II

**Course Description**

<b>FVM 298</b>	<b>Veterinary Field Attachment I</b>	<b>3 Credits</b>
	A long vacation field practice of six weeks duration in a farm. Inspection visits will be conducted to such places by the academic staff of relevant departments to assess students' participation.	
	<b>135h (P); C</b>	
<b>FVM 398</b>	<b>Veterinary Field Attachment II</b>	<b>3 Credits</b>
	A long vacation field practices of six weeks duration in diagnostic laboratories. Inspection visits will be conducted to such places by the academic staff of relevant departments to assess students' participation.	
	<b>135h (P); C</b>	
<b>FVM 498</b>	<b>Veterinary Field Attachment III</b>	<b>3 Credits</b>



A long vacation field practices of six weeks duration. In an abattoir and control posts. Inspection visits will be conducted to such places by the academic staff of relevant departments to assess students' participation.

**135h (P); C**

**FVM 598**

**Veterinary Field Attachment IV**

**3 Credits**

A long vacation field practices of six weeks duration in Clinics and Veterinary Teaching Hospitals. Inspection visits will be conducted to such places by the academic staff of relevant departments to assess students' participation.

**135h (P); C**

**FVM 699♥**

**Project**

**4 Credits**

Each student under the guidance of an approved supervisor is required to conduct research in an approved area by the department, culminating in the submission of a project. **180h (P); C**

♥ = *to run for both semesters (2 credits each)*

## DEPARTMENT OF VETERINARY ANATOMY

- VAN 101      Microscopy (practical)      1 Credit**  
General introduction of different types of microscope parts and their uses. Principle of microscopic techniques and histological section preparation and study.  
**45h (P); C**
- VAN 102      Introductory Veterinary Anatomy      1 Credit**  
General introduction to veterinary Anatomy. Definition of anatomical terms and terminologies. Description of various branches of veterinary Anatomy.  
**15h (T); C**
- VAN 104      Animal Cell Biology      2 Credits**  
Introduction to animal cell structure, cellular components and functions, differences between eukaryotic and prokaryotic cells. Description of cell organelles and their structures.  
**15h (T), 45h (P); C**
- VAN 201      Veterinary Gross Anatomy I: Osteology, Syndesmology and Myology      3 Credit**  
General and comparative description of the osteology, syndesmology and Myology of Domestic Animals.  
**30h (T), 45h (P); C**
- VAN 202      Veterinary Gross Anatomy III: Neuroanatomy, Endocrine and Special Senses.      3 Credits**  
General and comparative description of the nervous and endocrine systems, as well as the special sense organs of Domestic Animals.  
**30h(T), 45(P); C**
- VAN 203      Avian Anatomy      2 Credits**  
General studies of the bones, Structure and classification of bones, muscles, respiratory, digestive and reproductive systems of the chicken. Description of comparative differences with the other domestic birds.  
**15h (T); 45 (P); C**
- VAN 204      Introductory Embryology      1 Credit**  
General Introduction to embryology as a branch of anatomy, description and definitions of terms and terminologies in embryology, description and explanation of laws and theories that led to the development of embryology.  
**15h (T); C**

- VAN 205**      **Gross Anatomy II: Digestive, Angiology, Respiratory and Urogenital**      **3 Credits**  
General and comparative studies of splanchnology (ie digestive, respiratory, cardiovascular and urinogenital organs) of domestic animals.  
**30h (T), 45h (P); C**
- VAN 301**      **Veterinary Embryology**      **3 Credits**  
General studies of the principles of embryology. Studies of phases of embryological development. Description and definitions of the stages of embryogenesis in mammals and avian. Studies of some embryonic disorder.  
**30h (T), 45h (P); C**
- VAN 303**      **Veterinary Histology I: Basic**      **2 Credits**  
General studies of the histological characteristics of four basic tissues: epithelial, connective, muscular and nervous tissues.  
**15h (T), 45h (P); C**
- VAN 302**      **Veterinary Histology II: Systemic**      **2 Credits**  
General and comparative microscopic studies of the organ systems of domestic animals.  
**15h (T), 45h (P); C**
- VAN 501**      **Veterinary Clinical Anatomy**      **2 Credits**  
Topographical consideration of structures of domestic animals often involved clinical practices. Application of radiography and ultrasonography in the study of normal organs in domestic animals.  
**15h (T), 45h (P); C**

**DEPARTMENT OF VETERINARY MICROBIOLOGY**

**VMB 302**

**General Microbiology**

**3 Credits**

History of Microbiology of organisms, physiology and biochemistry of organisms, bacteriological techniques and methods. Sterilization and Disinfection. Antibiotics, Taxonomy and Nomenclature of organisms. Environmental bacteriology.

**30h (T), 45h (P); C**

- VMB 401 Pathogenic Bacteriology 3 Credits**  
General characteristics, growth requirements, resistance pathogenicity, immunity, diagnosis and public health significance of animal pathogenic bacteria.  
**30 h (T), 45h (P); C**
- VMB 402 Virology 2 Credits**  
Structure, characteristics and classification of viruses. Pathogenesis, immunity and transmission of viruses. Nature and importance of prions and virion.  
**15h (T), 45h (P); C**
- VMB 403 Mycology and Higher bacteria. 1 Credit**  
Mycology, Rickettsial and related organisms, mycoplasma and related organisms.  
**15h (T), C**
- VMB 405 Veterinary Immunology 1 Credit**  
Historical perspectives. Anatomy and histology of immunological organs, macrophages, lymphocytes and plasma cells. Immune responses, Antigen reaction. Principles of Immunotherapy. Vaccines, Immunization and Immunological aspects of cancer.  
**15h (T); C**
- VMB 601 Veterinary Microbiology Clinics I 1 Credit**  
Culture media preparations. Sample collection, equipment preparation and laboratory isolation and identification of bacteria, viruses, fungi and other higher bacteria.  
**45h(P); C**
- VMB 602 Veterinary Microbiology Clinics II 1 Credit**  
Culture media preparations. Sample collection, equipment preparation and laboratory isolation and identification of bacteria, viruses, fungi and other higher bacteria.  
**45h(P); C**



Introduction, aetiology, clinical signs, diagnosis, treatment and control of specific diseases of infectious and non-infectious nature in horses and other equidae.

**15h (T); C**

**VMD 506**

**Avian Medicine**

**2 Credits**

Introduction, aetiology, clinical signs, diagnosis, treatment and control of specific diseases of infectious and non-infectious nature in poultry/avian species.

**30h (T); C**

**VMD 601**

**Large Animal Clinics I**

**3 Credits**

Medical, Surgical and radiographic techniques of all small and large ruminants, equine and porcine. Clinical exercises involving clerking, physical examination and sample collection, medical and surgical diagnostic, therapeutic and preventive techniques.

**45h (P); C**

**VMD 602**

**Large Animal Clinics II**

**3 Credits**

Medical, Surgical and radiographic techniques of all small and large ruminants, equine and porcine. Clinical exercises involving clerking, physical examination and sample collection, medical and surgical diagnostic, therapeutic and preventive techniques.

**45h(P); C**

**VMD 603**

**Small Animal Clinics I**

**3 credits**

Medical, Surgical and radiographic techniques of all small and large Companion animals and other canine and feline species. Clinical exercises involving clerking, physical examination and sample collection, medical and surgical diagnostic, therapeutic and preventive techniques.

**45h(P); C**

**VMD 604**

**Small Animal Clinics II**

**3 credits**

Medical, Surgical and radiographic techniques of all small and large Companion animals and other canine and feline species. Clinical exercises involving clerking, physical examination and sample collection, medical and surgical diagnostic, therapeutic and preventive techniques.

**45h(P); C**

**VMD 605**

**Avian and Aquatic Animal Medicine Clinic I**

**3 credits**

Medical, Surgical and radiographic techniques of avian and aquatic animal species. Clinical exercises involving clerking, physical examination and sample collection, medical and surgical diagnostic, therapeutic and preventive techniques.

**45h(P); C**

- VMD 606 Avian and Aquatic Animal Medicine Clinic II: 3 credits**  
Medical, Surgical and radiographic techniques of avian and aquatic animal species. Clinical exercises involving clerking, physical examination and sample collection, medical and surgical diagnostic, therapeutic and preventive techniques.  
**45h(P); C**
- VMD 607 Veterinary Ambulatory Practice I 3 credits**  
Medical and surgical diagnostic, therapeutic and preventive technique outside a conventional clinical set-up. Sampling methods and handling from field to the laboratory. **45h (P); C**
- VMD 608 Veterinary Ambulatory Practice II 3 credits**  
Medical and surgical diagnostic, therapeutic and preventive technique outside a conventional clinical set-up. Sampling methods and handling from field to the laboratory.  
**45h (P); C**
- VMD 609 Clinical Conference/Seminar I 1 Credit**  
Case work-ups and Seminar presentation by each student to be coordinated by the clinic coordinator.  
**45h (P); C**
- VMD 610 Clinical Conference/Seminar II 1 Credit**  
Case work-ups and Seminar presentation by each student to be coordinated by the Clinic Coordinator.  
**45h (P); C**

#### **DEPARTMENT OF VETERINARY PATHOLOGY**

- VPA 302 General Pathology 3 Credits**  
A lecture/laboratory study of the general principles of veterinary pathology with emphasis on inflammatory, degenerative and neoplastic changes in tissues of domestic animals.  
**30h (T), 45h (P); C**
- VPA 401 Systemic Veterinary Pathology I 3 Credits**  
A study of the pathology of the alimentary Respiratory, cardiovascular, skin and special senses. Postmortem diagnostic procedure.  
**30h (T), 45h (P); C**



- VPA 402 Pathology of Infectious Diseases 2 Credits**  
A study of the pathology of infectious animal diseases that are of importance in the tropical environment.  
**15h (T), 45h (P); C**
- VPA 403 Systemic Veterinary Pathology II 3 Credits**  
A study of the pathology of the nervous, haematopoietic, urinary, genital, endocrine and musculoskeletal systems. Postmortem diagnostic procedures.  
**30h (T), 45h (P); C**
- VPA 404 Avian and Aquatic Animal Pathology 2 Credits**  
Systemic and special pathology of the avian and aquatic animal species. Gross and microscopic pathology of nutritional, bacterial, fungal, viral, rickettsial, chlamydial, parasitic and neoplastic diseases of avian and aquatic animals in the tropics. Post-mortem diagnostic procedures for the avian and aquatic animals.  
**15h (T), 45h (P); C**
- VPA 501 Veterinary Clinical Pathology 3 Credits**  
A study of clinical haematology and biochemistry, as well as exfoliative and diagnostic cytology.  
**30h (T), 45h (P); C**
- VPA 601 Veterinary Pathology Clinics I 1 Credit**  
Clinical procedures for carrying out postmortem of dead domestic and companion animals with the sole aim of making diagnosis. Also included is haematological and clinical chemistry procedures, and histochemistry.  
**45h(P); C**
- VPA 602 Veterinary Pathology Clinics II 1 Credit**  
Clinical procedures for carrying out postmortem of dead domestic and companion animals with the sole aim of making diagnosis. Also included is haematological and clinical chemistry procedures, and histochemistry.  
**45h(P); C**

## DEPARTMENT OF VETERINARY PHYSIOLOGY AND BIOCHEMISTRY

- VPB 201      Introductory Physiology and Haemodynamics      1 Credit**  
Historical perspectives, General concept and definition of physiological terms, branches of physiology; General structure and function of blood and its formed elements, lymphatic and other body fluids.  
**15h (T); C**
- VPB 202      Veterinary Physiology III: Reproductive and Endocrine Physiology      2 Credits**  
Reproductive physiology including male and female reproductive processes. Reproductive and other endocrine hormones and their functions.  
**15h (T), 45h (P); C**
- VPB 203      Veterinary Physiology I: Renal      2 Credits**  
Renal physiology, nephron and glomerular functions. Water and electrolyte balance. Antidiuretic hormone and diuretics. Physiology of micturition.  
**30h (T); C**
- VPB 205      Veterinary Physiology IV : Cardiovascular and Respiratory      2 Credits**  
The cardiovascular physiology. Blood pressure and heart rate control and regulation. Digestion in monogastric animals and ruminants Avian digestion. Respiratory physiology.  
**30h (T), C**
- VPB 207      Veterinary Physiology III : Physiology of Digestion      1 Credit**  
Food Digestion and utilization in monogastric , ruminant and Avian species.  
**15h (T), C**
- VPB 204      Metabolism of Carbohydrate      2 Credits**  
Glycolysis; Glycogenesis; Glycogenolysis; Citric acid cycle; Hexose monophosphate (HMP) gluconeogenesis; Metabolism of monomers; Regulation of and disorders of carbohydrate metabolism.  
**15h (T), 45h (P); C**
- VPB 206      Protein Metabolism      2 Credits**  
Chemistry and biochemistry of protein structure, metabolism and functions; Biosynthesis and catabolism of amino acids; plasma proteins and functions, Urea cycle; Ketogenic and glucogenic amino acids; Inborn errors of amino acid metabolism.  
**15h (T), 45 (P); C**

<b>VPB 208</b>	<b>Lipid Metabolism</b>	<b>1 Credit</b>
	Blood lipids; Biosynthesis, classification, metabolism and utilization of lipids; cholesterol and triacylglycerol metabolism; Phospholipids; Oxidation of fats; Unsaturated fatty acids; Essential fatty acids and disorders of fat/lipid metabolism.	
	<b>15h (T); C</b>	
<b>VPB 209</b>	<b>Practical Physiology I</b>	<b>1 Credit</b>
	Physiology practicals on renal, cardiovascular, respiratory and Digestive Physiology	
	<b>45h (P); C</b>	
<b>VPB 301</b>	<b>Veterinary Physiology V: Neuromuscular</b>	<b>2 Credits</b>
	Impulse propagation and conduction. Central and autonomic nervous system muscles and bones. Reflex mechanism and types. Neurotransmitters. Physiological properties and functions of the autonomic nervous system.	
	<b>30h (T), C</b>	
<b>VPB 302</b>	<b>Molecular Cell Biology</b>	<b>2 Credits</b>
	A sub-cellular and molecular basis of cell function and mode by which cells multiply replicate and pass genetic information including DNA structure and protein synthesis. cellular interactions and signaling	
	<b>15h (T), 45h (P); C</b>	
<b>VPB 303</b>	<b>Veterinary Physiology VI: Central Nervous System and Special Senses</b>	<b>2 Credits</b>
	Classification of reflexes; classification and properties of nerve fibres. Origin and propagation of nerve impulse. Sensory and Motor functions of the spinal cord and the brain.	
	<b>30h (T); C</b>	
<b>VPB 305</b>	<b>Veterinary Physiology VII: Avian and Environmental Physiology</b>	<b>1 Credit</b>
	Effect of environment on physiological processes. Environmental factors altering physiological processes, Physiology of adaptation, Physiology of thermoregulation. Physiology of the Avian and aquatic animals.	
	<b>15h (T); C</b>	
<b>VPB 307</b>	<b>Practical Physiology II</b>	<b>I Credit</b>
	Practicals on the physiology of the peripheral and central nervous system, special senses, avian and environmental physiology.	
	<b>45h (P); C</b>	
<b>VPB 309</b>	<b>Rumen and Lactation Biochemistry</b>	<b>2 Credits</b>
	Chemistry and biochemistry of Rumen microbes; Prebiotics; Probiotics; Production of volatile fatty acids; Belching; Chemistry and biochemistry of milk secretion, production and ejection.	

**30h (T); C**

**VPB 311**

**Nucleic Acid Metabolism**

**2 Credits**

Nucleic acid structure and composition; biosynthesis and function, DNA structure and replication, DNA mutation and repair mechanisms, RNA structure, transcription, post-transcriptional processing, proteomes and proteomics, DNA-based information technologies.

**15h (T), 45h (P); C**

**DEPARTMENT OF VETERINARY PARASITOLOGY AND ENTOMOLOGY**

**VPE 301**

**General Parasitology**

**2 Credits**

Definition of terms in Veterinary Parasitology. Classification and taxonomy of arthropods, helminths and protozoan of veterinary importance. General health effects of parasites; Principles of diagnosis and control of parasites. Effectors system of parasite killing.

**30h (T); C**

**VPE 401**

**Veterinary Protozoology**

**3 Credits**

Introduction and classification of Protozoan parasites of veterinary importance. Protozoan transmitted by insects – *Trypanosomes*, *Plasmodium*, *Leishmania*, *Leucocytozoon*, *Haemobartonella* and *Entamoeba*; Protozoan transmitted by contact and resistant cysts - *Eimeria*, *Balantidium*, *Giardia*, *Toxoplasma*, *Sarcocystis* and *Bedsonia*.

**30h (T), 45h (P); C**

**VPE 402**

**Veterinary Entomology**

**2 Credits**

Vectors, binomial system of nomenclature, ecology and role in disease transmission, distribution, population dynamics, veterinary/medical importance. Control of arthropods, insecticides and insecticide resistance.

**15h (T), 45h (P); C**

**VPE 403**

**Veterinary Helminthology**

**3 Credits**

Life cycle, pathogenicity and control of (1) Platyhelminths Trematodes (Digenea and Aspidobothrial) Cestodes (*Pseudophyllidea* *Cyclophyllidea*) (*Nemathyelminths* *Nematodes richostrongylloide* *Strongloidea*, *Rhabdoitidea*, *Spirurids*, *Filaroidea*). *Aphasmida*, Control of helminth parasites.

**30h (T), 45h (P); C**

**VPE 601**

**Veterinary Parasitology Clinics I**

**1 Credit**

Procedures for sample collection, transportation, handling and laboratory isolation and identification of parasites of domestic and companion animals.

**45h (P); C**

**VPE 603**

**Veterinary Parasitology Clinics II**

**1 Credit**

Procedures for sample collection, transportation, handling and laboratory isolation and identification of parasites of domestic and companion animals.

**45h (P); C**

## DEPARTMENT OF VETERINARY PUBLIC HEALTH AND PREVENTIVE MEDICINE

- VPH 101 Environmental Health 1 Credit**  
Biosecurity measures, environmental pollution and control, water sources, contamination and purification, waste management, occupational hazard, public health significance of rodents, birds and insects. Reproductive health and personal hygiene.  
**15h (T); C**
- VPH 103 Veterinary Ethics 1 Credit**  
Regulations, rules and orders relating to animal movement, importation, trade cattle routes and animal welfare, concept of professionalism and professional competence, veterinary ethics, practice and societal expectations. Regulating of importations, marketing and uses of veterinary biologicals, implementation of veterinary laws in Nigeria, Veterinary Council of Nigeria as a regulatory body for veterinary practice in Nigeria.  
**15h (T); C**
- VPH 402 Biostatistics 1 Credit**  
Veterinary recording and data types. Classification and tabulation of data. Descriptive and inferential statistics. Uses of statistics in veterinary practice and research.  
**15h (T); C**
- VPH 501 Epidemiology and Preventive Medicine 3 Credits**  
Epidemiology: Definitions and studies. Occurrence, frequencies and implications. Herd health, immunity and management. Disease surveillance and reporting. Diseases in populations. Mass action against diseases, chemo-prophylaxis, chemotherapy; seroprophyllaxis, serotherapy. Immunization.  
**30h (T), 45h (P); C**
- VPH 502 Veterinary Jurisprudence 1 Credit**  
Legislations regulating veterinary practice, legal and Professional responsibilities of veterinary surgeons. Law on the control of veterinary drugs. Organization of veterinary services in Nigeria. 15h (T); C

- VPH 504      Food Hygiene      2 Credits**  
Meat hygiene; principles and procedure. Slaughter facilities in Nigeria. Construction and function of abattoir. Food preservation methods and quality assessment. Water, meat and milk-borne diseases. Food poisoning from beef, pork, poultry, fish and shellfish. Control of vermin. Detection of drug residues in meat. Effluent and their management.  
**15h (T), 45h (P); C**
- VPH 506      Veterinary Economics and Business Management      2 Credits**  
Basic micro and macroeconomic concepts in animal production and health. Cost of public health schemes. Economics of livestock production, marketing and veterinary services. Livestock production functions including data collection and analysis, marketing theory in relation to livestock production, application of economic theory and quantitative analysis. Capital investment and depreciation of capital, the economics of egg, meat and milk production. Livestock feed economics and marketing, input/return relationship in livestock production. Project appraisal, report writing and feasibility studies. Business organizations, administration and promotion.  
**30h (T); C**
- VPH 508      Zoonoses      2 Credits**  
Concepts, definitions and classification of zoonoses. Introduction, clinical signs, early detection/diagnosis, prevention control and eradication of the diseases. Ecology, water sources and purification, waste disposal. The role of rodents, birds, flies and mosquitoes in the epidemiology of identified zoonotic diseases. Emerging zoonoses.  
**30h (T); C**
- VPH 510      Computer Application in Veterinary Medicine      1 Credit**  
History of computers. Hardware components, Operating and application software's. Features and Uses of word processing and other packages. Introduction to Spreadsheets, Database Management Systems and designing Computer-based Veterinary disease reporting systems. Introduction to geographic information system (GIS) and its use in biological risk management. Use of Global Positioning System in geo-referencing and estimating pattern of spread of disease. Computer aided animal population census and ecosystem health. Other uses of computers in veterinary practice  
**45h (P); C**
- VPH 601      Veterinary Public Health Clinics I      1 Credit**  
Abattoir visits, meat inspection, sample collection, transportation, handling and laboratory analysis. Procedures for sample collection (milk and milk products).  
**45h (P); C**

**VPH 602**      **Veterinary Public Health Clinics II**      **1 Credit**  
Abattoir visits, meat inspection, sample collection, transportation, handling and laboratory analysis. Procedures for sample collection (milk and milk products).  
**45h (P); C**

**DEPARTMENT OF VETERINARY PHARMACOLOGY AND TOXICOLOGY**

**VPT 302**      **General/Neuropharmacology**      **2 Credits**  
History and basic principles of Veterinary Pharmacology and toxicology including drug forms, absorption, metabolism, excretion; mechanisms of action and drug quantization. Pharmacology of the autonomic and central nervous systems.  
**15h (T), 45h (P); C**

**VPT 304**      **Radiation Biology**      **2 Credits**  
History and uses of radiation, radiation physics and chemistry and biological effects of radiation. Radiation Genetics.  
**15h (T), 45h (P); C**

**VPT 401**      **Systemic Veterinary Pharmacology**      **3 Credits**  
Drugs acting on the digestive, renal, cardiovascular, endocrine, reproductive, and respiratory systems of animals. Principles of hypersensitivity, histamine, serotonin, Prostaglandins and related drugs. Anti-inflammatory drugs.  
**30h (T), 45h (P); C**

**VPT 402**      **Veterinary Chemotherapy**      **3 Credits**  
A study of chemotherapeutic agents including anti-protozoan, anti-cancer drugs, anthelmintics, antiseptics, disinfectants, vitamins and immune–therapeutic drugs.  
**30h (T), 45h (P); C**

**VPT 403**      **Introductory Toxicology**      **1 Credit**  
Historical perspectives, classification of toxic agents, Factors altering toxicity, principles and general management of poison, toxicokinetics, toxicodynamics and target organ toxicity.  
**15h (T); C**

**VPT 404**      **Veterinary Toxicology**      **3 Credits**



General principles of toxicology. Toxicology of heavy metals, pesticides, poisonous plants and animals, toxins, and environmental poisons. Toxicological antidotes and clinical usages.

**30h (T), 45h (P); C**

- VPT 501      Veterinary Clinical Pharmacology      2 Credits**  
Principles of drugs dependency, compounding and prescription. Common drugs abbreviations. The therapeutic strategies, choice of drugs monitoring of therapeutic responses. Formulation of veterinary drugs. Medicinal plants of veterinary importance. **15h (T), 45h (P); C**
- VPT 601      Veterinary Pharmacy Clinics I      1 Credit**  
Clinical studies of drug prescription, drug interaction, drug synergy, indications and contraindications. Dosages, route of administrations, excretions and withdrawal period.  
**45h(P); C**
- VPT 602      Veterinary Pharmacy Clinics II      1 Credit**  
Clinical studies of drug prescription, drug interaction, drug synergy, indications and contraindications. Dosages, route of administrations, excretions and withdrawal period.  
**45h(P); C**
- VPT 603      Veterinary Toxicology Clinics I      1 Credit**  
Procedures for clerking, toxicological samples, handling and analysis, clinical and forensic toxicology and toxicological reporting, Management of toxicology emergencies. **45h (P); C**
- VPT 604      Veterinary Toxicology Clinics II      1 Credit**  
Procedures for clerking, toxicological samples, handling and analysis, clinical and forensic toxicology and toxicological reporting, management of toxicology emergencies.  
**45h (P); C**

## DEPARTMENT OF VETERINARY SURGERY AND RADIOLOGY

- VSR 402**      **Introductory Surgery and Anaesthesiology**      **3 Credits**  
Principles and objectives of surgery; instruments and operating room conduct. Suture patterns, Suture materials, Suturing needles, Dressing materials. Preoperative evaluation Surgical techniques. Post-surgical evaluation. Pre anaesthetic assessment and classification of patients. Anaesthetic agents in small and large animals; Administration of inhalation anaesthetic agents Wound healing and complications.  
**30h (T), 45h (P); C**
- VSR 501**      **Small Animal Surgery**      **3 Credits**  
Gastrointestinal surgery. Urogenital surgery and Reproductive surgery (male and female). Ophthalmic surgery. Aural surgery. Repair of skin defects. Plastic and reconstructive surgery. Surgery of upper and lower respiratory systems, Herniorrhaphies.  
**30h (T), 45h (P); C**
- VSR 502**      **Orthopaedics**      **2 Credits**  
General examination, infectious and non-infectious conditions of bones, joints, nerves and ligaments. Diaphyseal classification of fractures. Classification of pelvic fractures. Management of fractures-Closed reduction and external immobilization: Open reduction and internal fixation. Types of materials used as coaptation; ;materials used for internal fixation. Subjective and objective methods of fracture healing evaluation. Complications of fracture healing. .  
**15h (T), 45h (P); C**
- VSR 503**      **Large Animal Surgery**      **3 Credits**  
Wound management: Definitions and wound care. Abdominal surgery in ruminants and equine. Tracheal surgery: Surgical and clinical treatment of udder conditions. Urogenital and caesarian surgery. Castration and other male surgical procedures.  
**30h (T), 45h (P); C**
- VSR 504**      **Large Animal Lameness**      **1 Credit**  
Examination of animals for soundness and writing of certificates. Causes , treatment and prevention of lameness in large animals.  
**15h (T); C**
- VSR 505**      **Introduction to Radiology and Imaging**      **1 Credit**  
Principles and types of medical imaging, uses of imaging techniques. Types of machines used for imaging, Design of X ray building, Protective facilities in X ray room. Dark room facilities.  
**15h (T); C**
- VSR 506**      **Diagnostic Imaging**      **2 Credits**

Radiographic equipment. Care of X-ray machine. X-ray production using Technique chart. Production of good quality and diagnostic X-ray film. Safety devices in dark room. Storage of X ray film. Types of cassettes.. Radiographic interpretation and therapeutic uses of X-ray. Safety considerations in radiography, principles and applications of ultrasonography, computer scan tomography and magnetic resonance imaging.

**15h (T), 45h (P); C**

## **DEPARTMENT OF THERIOGENOLOGY AND PRODUCTION**

- VTP 201      Animal Management and Husbandry      3 Credits**  
Introduction to livestock husbandry, species, breeds and distribution. Animal behaviour. Livestock production systems; extensive, semi-intensive, intensive. Estimation of liveweight and age. Economics and welfare implications in the management of all species. Emphasis on birth weight, litter size, weaning age/weight, growth rate. Disbudding, milk production and processing: hand/machine milking, maintenance of milking installations, milk storage, cooling, hygiene, quality, cheese making. dry hoof trimming. Tagging and branding. Grooming of companion animals.  
**30h (T), 45h (P); C**
- VTP 202      Aquaculture      2 Credits**  
Principles of aquaculture, water needs and adequacy of drainage area, minimum pond length and drainage area protection, hydrologic estimates and soil groupings. Fish pond, design and construction, water quality management and basic strategies in the effective management of aquatic renewable resources. Ration formulation.  
**15h (T), 45h (P); C**
- VTP 204      Animal Breeding and Genetics      2 Credits**  
Variance, co-variances, partitioning of phenotypic variance. Genotype by environment interaction; Statistical tools for studying inheritance; Estimation of genetic parameters (heritability, repeatability, genetic correlations); In breeding, line breeding and relationship, cross-breeding in practice, selection principles and methods; breeding (mating) systems; breeding plans for different farm animal species; foundation stock development. Genetic improvement for various livestock traits.  
**15h (T) 45h (P); C**
- VTP 203      Feeds and Feeding      2 Credits**

Survey of Nigerian feeds and feeding stuffs. Classification of feeds, feeding stuffs and feed supplements into roots, tubers, cereals, legumes, roughages, etc. Chemistry, processing and nutritive values of livestock feeding stuffs, their storage, quality control and evaluation of feeding stuffs and feeds. Feeding standard and ration formulation. Concentrate feeds, cereals, legumes and oil seeds. Chemistry and nutritive values of some Nigerian grasses and legume species. Protein and energy requirements of livestock and fish.

**15h (T), 45h (P); C**

**VTP 206**

**Range Management**

**1 Credit**

Introduction and principles of rangeland management, Taxonomy and economy of range plants, tools of rangeland management, range productivity, careful use and management of rangeland resources (plants, animals, soil, and water), concept of range improvement, management and utilization, environmental effect of soil-range-plant-animal relationships.

**15h (T); C**

**VTP 208**

**Veterinary Livestock Extension Techniques**

**2 Credits**

Extension Techniques concept, scope and role in increasing livestock productivity in Nigeria. Its philosophy and objective with special reference to livestock extension service delivery. Communication process and its application in livestock extension work. Barrier to communication measures to overcome these barriers, participatory approaches. Adoption and diffusion of livestock innovations. Role of extension worker in the adoption process. Principles of adult learning. Attitude and its change process. Extension programme development. Extension oriented jobs available to veterinary graduates in livestock sector. Extension methods, and audio visual aids, their effectiveness, choice, planning, use measuring livestock extension performance, and follow up. Communication skills: Speaking, preparing and delivering a speech, conducting interviews and discussions. Writing: art of good writing. Writing for newspapers and magazines. Writing letters, reports and articles frequently required for the job of an extension workers. Reading: Tips for developing effective reading skills. Communication methods: role of radio, television, internet, newspapers, magazines, leaflets, seminars, workshops, cattle fairs and livestock sale market.

**15h (T), 45h (P); C**

**VTP 301**

**Wildlife and Zoo Management**

**1 Credit**

Principles of wildlife management and their ecology, Fundamental concepts of zoo animal management including health and safety, feeding and handling, enclosure management, behavior and population management, maintenance of records and permits. Veterinary treatment techniques for zoo animals. Includes preventative health care and identification of health problems, restraint, immobilization, and transport, administration of prescribed medication, and care of geriatric and neonate animals.

**15h (T); C**

**VTP 302**

**Animal Production I: Ruminants and Monogastrics**

**2 Credits**

Introduction and historical perspectives, ruminant and monogastric animals breeds and selection, Ruminant and monogastric production techniques, Anatomy and Physiology of ruminant and monogastric animal gastrointestinal system, Microbiology, physiology and biochemistry of rumen. Metabolic processes and pathways; Non-protein nitrogen utilization; Feed additives, proximate analysis; ration formulation, use of agro-industrial by-products in ruminant feeding; Principles of monogastric nutrition. Nutrient requirements for various classes and species of non-ruminant animals. Water in relation to nutrition, nutritional/metabolic disorders in ruminant and monogastric animals. **30h (T); C**

- VTP 304      Animal Production II: Avian and Aquatic      2 Credits**  
History of the domestic fowl, fish and other aquatic animals. Types and breeds of domestic birds, inheritance of qualitative traits, breeding for improvement, parent and grand parent production, Special husbandry (housing and feeding including ration formulation) requirements of broilers, layers, breeders, cockerels, fish and other aquatic animals. Rearing and management technique. Special requirements of turkey, guinea fowls, ducks, ostrich and quail, fish and other aquatic animals.  
**30h (T); C**
- VTP 306      Companion Animal Production and Training      2 Credits**  
Types and breeds of companion animals, uses of companion animal diseases, breeding, companion animal behaviour and psychology, Nutritional requirement and feed formulation, management and housing requirements, companion animal care and grooming, care of the hoof, Bathing tips, tooth care. Basic training of puppies and adult dogs.  
**30h (T); C**
- VTP 401      Veterinary Gynaecology      3 Credits**  
Review of physiology of reproduction, Clinical examination of female animals, Clinical examination of the non-pregnant cow, pregnancy diagnosis, infertility and sterility in animals, general diseases influencing sexual functions, Special techniques.  
**30h (T) 45h (P); C**
- VTP 402      Andrology and Artificial Insemination      1 Credit**  
Introduction, Anatomy, functions and clinical examination of male reproductive organs, Serving ability and behaviour in male animals, Examination of the bull for breeding soundness, Infertility in male animals, Diseases of testis and accessory organs in male animals, Artificial Insemination, Semen production and disorders, Semen collection, handling, transportation, evaluation and preservation, Heat detection methods, Oestrus synchronization techniques, Methods of AI, sexual health in AI program, Animal Biotechnologies, MOET, Genetic engineering.  
**45h (P); C**
- VTP 501      Veterinary Obstetrics      3 Credits**

Introduction Obstetrical Anatomy, Physiology of gestation period, abortion, parturition, dystocia, Procedure preliminary to handling of dystocia, Obstetrical operations, postpartum physiology, Injuries and diseases of the puerperal period, Care of the postparturient dam, Care of the postparturient dam, Care and diseases of the neonates. **30h (T), 45h (P); C**

- VTP 502 Neonatal Diseases and Care 1 Credit**  
Definition of Terms, classification, post obstetrical complications, abnormal conditions of the placenta, vagina, uterus, care of the newborn, housing and routine nursing, Neonatal care, umbilical care, mastitis – clinical signs, diagnosis and treatment, management of the udder diseases of the newborn, determinants of mortality in neonates, investigating neonatal deaths, general principles in the treatment of infectious diseases in neonates, economic impact of neonatal diseases, diagnosis and management. **15h (T); C**
- VTP 601 Veterinary Theriogenology Clinics I 2 Credits**  
Clinical exercises involving clerking, physical examination and sample collection from animals with infertility and other reproduction problems. Diagnosis, differential diagnosis and treatment of animals with reproduction problems. **90h(P); C**
- VTP 602 Veterinary Theriogenology Clinics II 2 Credits**  
Clinical exercises involving clerking, physical examination and sample collection from animals with infertility and other reproduction problems. Diagnosis, differential diagnosis and treatment of animals with reproduction problems. **90h(P); C**

### **SUMMARY**

#### **100 Level**

**Compulsory Courses:** VAN 101 (1), 102 (1), VAN 104 (2), VMD 102 (1), VPH 101 (1), 103 (1)  
**= 7 Credits**

**Required Courses:** CHM 101 (3), 112 (2), 115 (2), 116 (1), 132 (2), CSC 111 (2), 112 (2), GNS 111  
(2), 112 (2), MAT 115 (3), 116 (3), PHY 115 (2), 152 (3), 191 (1), 192 (1), STA 132 (2), ZLY 101 (2), 103 (2),  
106 (2) = **39 Credits**

**Total =46 Credits**

### 200 Level

**Compulsory Courses:** FVM 298 (3), VAN 201 (3), 202 (3), 203 (2), 204 (1), 205 (3), VMD 201 (2), VPB 201(1), 202 (2), 203 (2), 204 (1), 205 (2), 206 (2), 207 (1), 209 (1), VTP 201 (3), 202 (2), 203 (2), 204 (2), 206 (1), 208 (2) = 44 Credits

**Required Courses:** GNS 211 (2), 212 (2) = 4 Credits

**Total = 48 Credits**

### 300 Level

**Compulsory Courses:** FVM 398 (3), VAN 301 (3), 302 (3), 303 (2), VMB 302 (3), VPA 302 (3), VPB 301 (2), 302 (2), 303 (3), 305 (1), 307 (1), 309 (2), 311 (2), VPE 331 (2), VTP 302 (2), 304 (2), VTP 301 (1), 302 (2), 304 (2), 306 (2) = 43 Credits

**Required Courses:** GSE 301 (3), GNS 311 (2) = 5 Credits

**Total = 48 Credits**

### 400 Level

**Compulsory Courses:** FVM 498 (3), VMB 401 (3), 402 (2), 403 (1), 405 (1), VMD 402 (2), VPA 401 (3), 402 (2), 403 (3), 404 (2), VPE 401 (3), 402 (2), 403 (3), VPT 401 (3), 402 (3), 403 (1), 404 (3), VSR 402 (3), VTP 401 (3), 402 (1) VPH 401 (1) = 48 Credits

**Required Courses:** Nil

**Total = 48 Credits**

### 500 Level

**Compulsory Courses:** FVM 598 (3), VAN 501 (2), VMD 501 (2), 502 (2), 503 (3), 504 (1), 506 (2), VPA 501 (3), VPH 501 (3), 502 (1), 504 (2), 506 (2), 508 (2), 510 (1), VPT 501 (2), VSR 501 (3), 502 (2), 503 (3), 504 (1), 505 (1), 506 (2), VTP 501 (3), 502 (1) = 47 Credits

**Required Courses:** Nil

**Total = 47 Credits**

### 600 LEVEL

**Compulsory Courses:** FVM 699 (2) (2), VPA 601 (1), 602 (1), VMB 601 (1), 602 (1), VMD 601 (3), 602 (3), 603 (3), 604 (3), 605 (3), 606 (3), 607 (3), 608 (3), 609 (1), 610 (1), VPE 601 (1), 602 (1), VPH

601 (2), 602 (2),

VPT 601 (1), 602 (1), 603 (1), 604 (1), VTP 601 (2), 602 (2)  
= 48 Credits

**Required Courses:** Nil

**Total**

= 48 Credits

**Graduation Requirement:**

UTME: 285 Credits

DE: 243 Credits

**GENERAL STUDIES DIVISION**

W. O. Egbewole

LL.B. (OAU); BL.; LL.M. (OAU);

Ph.D. (Ilorin)

Professor & Director

S. D. Kolawole

Senior Executive Officer

**Objectives of the Programme:**

1. To improve the language and communication skills of all students and to help them develop adequate competence in the Use of English Language as a tool for their present studies and future employments.
2. To assist students to develop and expand awareness of their social, cultural and physical environments which invariably will prepare them to function effectively in their society.
3. To cultivate in the student desirable habits, values and attitudes of patriotism, nationalism and to appreciate the status of the Constitution as the will of the people and sensitize students to the functions and obligations of Government.



4. To introduce students to the broad areas of the Sciences and create an awareness of the services of Science to man and the effect of science on the human society.

**GNS 111      Use of English I      2 Credits**

Information collection and usage. Collection and organisation of materials. Logical presentation of papers. Use of the Library. Reference sources. Techniques of fast reading and writing. Continuous writing. Oral communication, public speaking and phonetics.

**15 (T), 45h (P); R**

**GNS 112      Use of English II      2 Credits**

A basic course in effective listening skills. Use of the English Language relevant to students' disciplines. Structure of the sentence types. Verbs. Classification of nouns, punctuation. Writing of essays. Sentence construction. Outlines and paragraphs.

**15 (T); 45h (P); R**

**GNS 211      Philosophy, Logic and Nigerian Culture      2 Credits**

Communication in human society. Human creativity. Foundation of Philosophy. Freedom, human rights and concepts of justice. Logical thought and critical reasoning. Laws of thought. African civilization, development, religions and culture. Nigerian perception of his world. Culture areas of Nigeria and their characteristics.

**30h (T); R**

**GNS 212      Introduction to Social Sciences and**

**Citizenship Education****2 Credits**

Basic principles of Sociology and Anthropology. The development process. The Nigerian economy: history and policies. Citizens  
Citizenship Education in Nigeria: Arms of the Nigerian Government and Constitution Federation. Ethics and discipline in  
National life. National identity. The Nigerian environment. Foreign policy and international relations. Social ills: examination,  
malpractice, bankruptcy, etc and their sanctions. Basic principles of accounting and management.

**30h (T); R****GNS 311 History and Philosophy of Science****2 Credits**

Agriculture in Nigeria. Man and the universe: origin, nature and cosmic environment. Concept of disease. Parasites and diseases.  
Use and abuse of human body. Concept of matter. Energy: sources, generation, distribution, inter-conversion and conservation.  
Threat and implication of nuclear war. Science and technology in the society and service of man. Relevance of scientific research  
and advances in human society. Ethics and technology. Environmental effects of chemicals, plastics, textiles and wastes.  
Environmental sanitation. Chemical and radio-chemical hazards, Computer and its applications.

**30h (T); R****GNS 303; 302; 114 Digital Skill Acquisition****1 Credit**

**Computer Fundamentals:** types of computers, computer network and information sharing, elements of a personal computer,  
Understanding Memory, Identifying Input/output Devices, storage systems, types of Printers, and troubleshooting techniques.  
**Computer Security and Privacy:** Protecting data and computer, safe working environment, ergonomics, computer viruses, and  
data backup.

**The Internet and the Web:** Internet providers, connections and protocols. E-mail, internet services, E-commerce, Browsers,  
search tools, Web utilities, Intranets, extranets, and firewalls.

**Office Applications:** Operating Systems, Word processor, spreadsheet, database management system, and presentation graphics.

**15h(T):(C)**

## TECHNICAL AND ENTREPRENEURIAL CENTRE

Gunu Umar.

B.Sc. (UDUS);M.Sc.,Ph.D. (Ilorin)

Ag. Director

### **GSE 202 Introduction to Entrepreneurship Studies**

**2 Credits**

1-Nature, Purpose and Scope of Business; 2-Concept of Entrepreneurship and Characteristics of entrepreneurs; 3- Small Scale Business; 4- Nigerian Business Environment; 5-Entrepreneurship Opportunities in Nigeria; 6- Creativity & Innovation in Entrepreneurship; 7-Feasibility study & Feasibility Report; 8-Validation of Products & Service Ideas; 9-Business planning; 10-Marketing of Products & Services; 11-Human resources management in Entrepreneurship; 12- Sources of Finance; 13-Essential Accounting Records; 14- Application of Engineering, innovations & Inventions to Entrepreneurship; 15- Entrepreneurship & the law; 16-Workshop Practice for Entrepreneurs.

**10h (T); R**

### **GSE 301 Entrepreneurial Skills Acquisition**

**2 Credits**

Entrepreneurship in Practice:

Students are required to choose one skill from the following options:

- 1 Plastic Making
- 2 Training & Consultancy
- 3 Bar Soap Making
- 4 Powdered Detergent Making
- 5 Liquid Detergent Making

- 6 Hair Cream Making
- 7 Body Cream & Ointment Making
- 8 Hair Shampoo Making
- 9 Liquid Toilet Wash Making
- 10 Liquid Air freshener Making
- 11 Piggery
- 12 Apiculture (Bee Keeping)
- 13 Photography
- 14 Food Processing & Packaging
- 15 Shoe Making
- 16 Leather Bag Making
- 17 Belt Making
- 18 Pastries
- 19 Men Native Garment Making
- 20 Female Native Garment Making
- 21 Men English Garment Making
- 22 Female English Garment Making
- 23 Textile Stone Application
- 24 Vegetable Oil Production
- 25 Juice Extraction & Production
- 26 Bead Making & Wire Works
- 27 Fisheries & Aquaculture
- 28 Fish Feed Making
- 29 General Printing

- 30 Screen Printing
- 31 Book Binding
- 32 Building, drawing & Draughtmanship
- 33 Water Treatment & Packaging
- 34 Paint Production
- 35 Paint Application Skill
- 36 Domestic Electrical Wiring
- 37 Radio & TV Repair
- 38 Poultry
- 39 Poultry Feed Making
- 40 Auto Mechanical Repair
- 41 Auto Electrical Repair
- 42 Auto Body Panel Repair
- 43 Auto Body Spraying
- 44 Small Engine Repair(Generator& Motorcycle)
- 45 Plumbing and Pipe fitting
- 46 Refrigeration & Air-conditioning
- 47 Welding & Fabrication
- 48 Ceramic Production
- 49 Tiles Production
- 50 Tile Works
- 51 Inverter Building
- 52 Music

53	Dance
54	Creative Arts
55	Stage Design/ Scenic Design
56	Interior Decoration
57	Web Designing
58	Blogging
60	Computer Repair
61	Computer Graphic Design
62	Computer Programming
63	Fumigation & Pest Control
64	Waste Management & Recycling
65	Biogas Technology
66	Moringa Production & Marketing
67	Events Management
68	Heliciculture (Snailry)
69	Grass cutter Production
70	Quail Production & Management
71	Horticulture & Landscaping
72	Audio & Video Production
73	Choreography
74	Acting
75	Directing
76	Lighting
77	Instrumentation

78	Composition
79	Yoghurt Production
80	Dry Cleaning
81	Bread Making
82	Germicide & Disinfectants
83	Make-up & Cosmetologist
84	Tie & Dye
85	Hat Making
86	Hair Dressing
87	Hair Weaving
88	Braiding
89	Barbing & Stylistics
90	Interlocking Tiles Laying
91	Weaving/Aso-Oke
92	Plastic Welding
93	POP Decoration
94	Aluminum Fabrication
95	Embroidery
96	Key Smith (Key cutting)
97	Bag Making
98	Knitting
99	Germicide & Disinfectants
100	Glass blowing

- 101 Commercial Herbal Cultivation,  
Collection and Packaging
- 102 Upholstery
- 103 Store Keeping
- 104 Book Keeping
- 105 Marketing
- 106 Salesmanship
- 107 Tourism
- 108 Carpentry and Joinery
- 109 Machine Woodworking
- 110 Auto Parts Merchandising
- 111 Block Laying, Brick Laying and  
Concrete Work
- 112 Electrical Installation and  
Maintenance Work
- 113 Stenography
- 114 Catering Craft Practice
- 115 Furniture Making
- 116 Wig making
- 117 Cattle Breeding
- 118 Goat Breeding
- 119 Sheep Breeding
- 120 Rice Cultivation
- 121 Soya beans Cultivation
- 122 Cashew Cultivation



- 123 Ginger Cultivation
- 124 Palm Oil Production
- 125 Vegetables Cultivation
- 126 Yam Cultivation
- 127 Potatoes (Sweet/Irish)  
Cultivation
- 128 Fruits Cultivation
- 129 Block Brick & Concrete Making