

**DEPARTMENT OF FORESTRY AND
WILDLIFE RESOURCES MANAGEMENT**

**UNIVERSITY OF CALABAR
CALABAR, NIGERIA**

**UNDER GRADUATE
STUDENT'S ACADEMIC BROCHURE
2019 – 2022**

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Department's contacts:

General contact

E-mail: forestry_ wildlifeunical@yahoo.com

Postal address:

Department of Forestry and Wildlife Resources Management
 Faculty of Agriculture, Forestry and Wildlife Resources Management
 University Calabar
 P.M.B. 1115, Calabar
 Cross River State 54000 1
 Nigeria.

Websites: University of Calabar: www.uncial.edu.ng

Students Portal: <http://unical.nucdb.edu.ng/portal/>

Transcripts portal: <http://alumni.unical.edu.ng/>

DEPARTMENT'S OFFICERS 2002-DATE

PAST HEADS OF DEPARTMENT

1. Dr. ICHIRE OJATING (2002-2004)
2. PROF. A. U OGOGO (2004- 2006 & 2008-2010)
3. PROF. D. A. OGAR (2006-2008)
4. PROF. E. I. INAH (2010-2013)
5. DR. A. A. NCHOR (2013-2015)
6. MR. F. A. AYA (2015-2016)
7. PROF. E. I. INAH (2016-2019)
8. PROF. D. A. OGAR (2019-Date)

Current Head of Department/Chairman of Departmental Board:

Prof. David A. Ogar

Phone: 08056349914

E-mail: daveogar@yahoo.com

Examination officer

Dr. S. I. Okweche

Phone: 07034967125

Email: idokosi@unical.edu.ng

Registration Officer:

Mrs. Regina Anoh

Phone: 07062340883

Email: eriomregina@gmail.com

Seminar Coordination:

Dr. O. I. Ibor

Phone:08033486980

Email: otu_crs@yahoo.co.uk

Project Coordinator:

Dr. P. B. Ita

Phone: 07061207038

Email: ita.philipbassey@yahoo.com

Practical Year Coordinator

Dr. Vincent Ebu

Phone: 08133786762

Email: ebutality@gmail.com

PREAMBLE

Welcome to the Department of Forestry and Wildlife Resources Management, University of Calabar, Calabar

Department of Forestry and Wildlife Resources Management was established in 2002 to train theoretically and practically sound manpower for effective and sustainable management of Nigeria's renewable natural resources.

Our Department is a home for sustainable management of Forest, Wildlife and Eco-tourism systems. We train foresters, wildlifers and climate change experts at undergraduate and postgraduate levels. The Department is endowed with well trained and experienced Lecturers, Technologists and Administrative staff. We also have the following facilities for effective training: adequate classrooms, laboratories, resource centre and library, wood workshop for skill acquisition, 20 hectares of forest plantation with multipurpose indigenous tree species, standard forest nursery stocking numerous tree seedlings, grasscutter and snail farms.

Our graduates have employment opportunities, scholarship and research grants nationally and internationally, in addition to Non-Governmental Organizations (NGOs) engagement and self employment.

Professor David A. Ogar
Head of Department

| ACADEMIC STAFF | | | |
|------------------------------------|----------------------------------|---|--------------------------------|
| 1 | PROF. DAVID ABUA OGAR | M | PROFESSOR/HEAD OF DEPARTMENT |
| 2 | PROF. INAH, EMMANUEL IDOKO | M | PROFESSOR |
| 3 | PROF OGOGO, AUGUSTINE ABUA | M | PROFESSOR |
| 4 | DR. NCHOR, AYUK ATIM | M | ASSOCIATE PROFESSOR |
| 5 | DR. OFFIONG, ERIC ETIM | M | SENIOR LECTURER |
| 6 | DR. EBU, VINCENT TAWO | M | LECTURER I |
| 7 | DR. OKWECHE, SIMON IDOKO | M | LECTURER I |
| 8 | ASUK, SIJEH AGBOR | M | ASSISTANT LECTURER |
| 9 | ANOH, REGINA ADO | F | ASSISTANT LECTURER |
| 10 | OKO, PIUS AGAJI | M | ASSISTANT LECTURER |
| 11 | IDIEGE, ALICE OBUGO | F | GRADUATE ASSISTANT |
| SENIOR ADMINISTRATIVE STAFF | | | |
| 12 | EKPO, UDUAK ASUQUO | F | DPO/DEPARTMENTAL SECRETARY |
| 13 | IDIONG, EMEMOBONG UNWANA | F | ASSISTANT REGISTRAR |
| 14 | TITUS, WILLIE MONDAY | M | ASSISTANT REGISTRAR |
| 15 | ANYANWU ANN AMARACHI | F | ASSISTANT REGISTRAR |
| 16 | BASSEY, ETIM BASSEY | M | SNR DATA PROCESSING OFFICER II |
| 17 | EDET, OKANG PAULINUS | F | ADMIN ASSISTANT |
| 18 | EZIAGHIGHALA, IKECHUKWU | M | ADMIN ASSISTANT |
| 19 | ANIM, DORATHY AGBO | F | ADMIN ASSISTANT |
| 20 | ADULA, PATRICIA ONYI | F | ADMIN ASSISTANT |
| 21 | EYIMESE, SUNDAY KAYANG | M | ADMIN ASSISTANT |
| TECHNICAL STAFF | | | |
| 22 | IKONGIWHEYE, VINCENT UNIMDEBESHI | M | PRINCIPAL FOREST TECHNOLOGIST |
| 23 | CHOKPA, RITA VINCENT | F | TECHNOLOGIST I |
| 24 | ODU, CECILIA NJIJA | F | SENIOR TECHNOLOGIST |
| 25 | UDO, UTIBE SUNDAY | F | SENIOR AGRIC SUPERINTENDENT |
| 26 | AYUK, JOY AGBOR | F | TECHNOLOGIST I |
| 27 | NJOK, LOVETH ANIENA | F | TECHNOLOGIST I |
| 28 | ASIGBE, ANAKAN AYAN | M | TECHNOLOGIST II |
| 29 | UDUMO, USANI UDUMO | M | TECHNOLOGIST II |
| 30 | UBI AKEDO IBIANG | M | TECHNOLOGIST II |
| 31 | OGAR, GABRIEL WODAH | M | AGRIC OFFICER II |
| 32 | BESHEL, BLESSING SOLOMON | F | AGRIC OFFICER II |
| 33 | MGBE, MARYLYN ENA | F | AGRIC OFFICER II |
| 34 | OTU, KEVIN BANKONG | M | TECHNOLOGIST II |
| 35 | AGBOR, IMMACULATA EMMANUEL | F | TECHNOLOGIST II |
| 36 | ATANA, EKPENYONG EKPO | M | PRINCIPAL LAB TECHNOLOGIST |
| JUNIOR STAFF | | | |
| 37 | OGAR, ONAH MARK | M | SENIOR CLERICAL OFFICER |
| 38 | IDAKA, CHARLES SIMEON | M | FIELD OVERSEER I |
| 39 | EGBE, BARNABAS SAMUEL | M | SENIOR DRIVER |
| 40 | EMEM, BERNARD UDO | F | SNR. CARETAKER |
| 41 | ODEY, JUSTINA UFELECHI | F | CARETAKER |

1.0 INTRODUCTION

Some forty years ago, what constitutes the present Cross River State was ninety percent naturally stocked with a variety of tropical rainforest timber and non-timber species. Timber species of first class African wood such as *Khaya ivorensis*, *Lourea trichiloides* and *Mansonia altissima*, also known as African Mahoganies, occurred at high frequency in various parts of the rainforest in Cross River State.

Milicia excelsa (Iroko), *Nauclea diderichii* (Opepe), *Lophira alata* (Iron wood), all of which are known for their durability in wood construction industries, were in abundance, and it did not require distant logging to locate and extract reasonable cubic metres of the species for wood construction firms.

As a further observation, tree species such as *Baillonella toxisperma* (*Mimusops*), *Brachystegia nigerica* and *B. eurycoma* (Achi) and *Azalia bipindensis* (Apa), which are indigenous to Cross River State, were some two decades ago underrated as low quality wood with little or no commercial value. Today, these species are among the first class timber species in international wood markets simply because the species have been studied and found useful for various construction purposes. The Department of Forestry and Wildlife Resources Management, University of Calabar do the same by studying a vast number of tropical rain forest species found in Cross River State with a view to commercializing them. The forest resources of Cross River State still have immense potential to continue to contribute to the Gross Domestic Product (GDP) of Nigeria.

It is undoubted that currently, Cross River State is seriously facing environmental crisis arising from the misuse of its forest resources. The principal targets are the tree species that are frequently cut and converted to dimensional pieces for paltry sums of money. The negative consequences of mismanaging Cross River State forests include the following:

- i. Erosion of the forest floor due to canopy removal followed by drastic reduction in droplets interception during torrential rainfalls.
- ii. Impoverishing agricultural soils through soil erosion, thus causing poor agricultural yield for peasant farmers in Cross River State.
- iii. Pollution of streams and rivers through situations arising from surface run-off during torrential rainfalls.
- iv. Groundwater evaporation during the dry season by drying up of streams and disruption of aquatic life cycles in the small streams of Cross River State forest ecosystems.
- v. Disturbance from timber exploitation causes Cross River State wildlife to move across and beyond our international boundaries in search of food,

water and more peaceful habitats for settlement. In fact, the ecological balance in most of our accessible forests are disrupted.

Timber, as a capital resource is being removed at a rate faster than the natural in-growth of our forest. This suggests that a rapid depletion trend is operating in our natural forests.

Recently, some 2800km² of the forest in Cross River State was carved out and constituted as a National Park. Another 1500km² was designated a support zone for the National Park. If the Federal Government is keen on this investment, then wildlife and park management will turn out to be a big future business. The University of Calabar is therefore training young Nigerians and providing them with the technical and professional skills they need to successfully manage our forests, wildlife and national park for improved productivity and sustainable utilization.

Currently, the intellectual manpower needed to mobilize rural communities and advise on how the trend can be reversed is either not there or grossly inadequate. The University of Calabar should therefore have no choice than to step up and operate a machinery of training young people to accept the challenges and responsibilities of training young people to accept the challenges and responsibilities of managing Cross River State Forest and Wildlife Resources on sustainable basis. Also our graduates are equipped to manage Forest and Wildlife resources globally, work in ecotourism, honey production, grass cutter and snail farming, research institutes and job creators using Non –timber forest products (NTFPs) etc.

2.0 THE PHILOSOPHY BEHIND FOREST AND WILDLIFE RESOURCES MANAGEMENT

The guiding principle behind Forest and Wildlife Resources Management is to create awareness among our students and the rural dwellers that forest resources when wisely used, can improve and sustain one's per capita income and contribute to the Gross Domestic Product of Nigeria. Throughout the five-year course of study, the lecturers consciously make efforts to produce competent human resources that will sustainably manage the forest resources at our disposal.

The overall philosophy is to train students to acquire scholastic competence and technical skills to enable them apply themselves as well as forest and wildlife resources managers in the development of the Nigeria economy.

3.0 GOALS AND OBJECTIVES

In consonance with the philosophy earlier expressed graduates of Forestry and Wildlife Resources Management of the University of Calabar are equipped to accomplish the following tasks:

- (a) Carry out tripartite roles of teaching, researching and disseminating information through publication of papers for the benefit of mankind;
- (b) Draw up good and flexible forest and wildlife resources management plans that will stimulate the interest of stakeholders to manage their resources on sustainable basis;
- (c) Provide the student with the relevant skills to carry out independent research in forest and wildlife resources and produce useful results or guidelines for the modification of management plans when the need arises.
- (d) Compete very well in job markets for positions that call for using skills in resource management and perform well when such positions are entrusted to them.
- (e) Advise community forest and woodlot owners on how best they can use their forest and wildlife resources to improve their standards of living on sustainable basis, and;
- (f) Carefully apply the skills they have acquired to establish and operate private enterprises of their own.

4.0 ADMISSION REQUIREMENTS

4.1 REQUIREMENT FOR DIRECT ENTRY

Two 'A' level passes in Chemistry and Biology or Agricultural Science or Zoology or Botany Special consideration (Waiver): Calabar accepts NCE/OND in Agriculture, Forestry, Wildlife or Fisheries Management from recognized institutions into 200 level. Calabar accepts HND in Forestry, Wildlife and Fisheries Management from recognized institutions into 300 level.

4.2 UTME ADMISSION

Five 'O' level credit passes in English, Chemistry, Mathematics, Biology and one of Physics, Economics, Further Mathematics, Statistics and Geography.

Special consideration (Waiver): Calabar requires 5 credit passes at not more than two (2) sittings to include English Language, Biology/Agriculture Science, Chemistry, Mathematics and anyone of Geography, Physics and Economics.

UTME SUBJECTS

English, Chemistry, Biology or Agricultural Science and Mathematics or Physics.

NOTE:

All direct entry applications must be made through the Joint Admission and Matriculation Board.

4.3 JOINT ADMISSION AND MATRICULATION BOARD

A candidate may qualify for admission into the Faculty of Agriculture by satisfying the following:

- (a) Obtaining a score in Joint Matriculation Examination of not less than the minimum score required by the Faculty.
- (b) Possessing one of the following qualifications:
 - i. West Africa School Certificate with passes at Credit level in at least five subjects including English Language, Mathematics, Agricultural Science or Biology, Chemistry and Physics.
 - ii. General Certificate of Education with credit passed at ordinary level in at least five subjects including: English Language, Mathematics, Agricultural Science or Biology, Chemistry and Physics.
 - iii. Senior Secondary School Certificate with credits in at least five subjects including: English Language, Mathematics, Agricultural Science or Biology, Chemistry and Physics.

4.4 PRE-DEGREE PROGRAMME

Students with 5 credits in NECO/WAEC are qualified to do a one year pre-degree programme upon which successful candidates can proceed to a degree programme in Forestry and Wildlife Resources Management. The Faculty of Agriculture runs a One-Year Pre-degree Programme to enable candidates make up for their deficiencies. There are two categories of Pre-degree admission:

- i. Candidates who satisfy the requirements in section 4.2 above, i.e. have five 'O' level credits and at least a minimum acceptable score in the Joint Matriculation Examination but have a pass in English and Mathematics are allowed to retake these subjects preparatory to being admitted into the Faculty.
- ii. Candidates who did not satisfy the Joint Admission Examination requirements but have three credits at 'O' level GCE or Senior Secondary School Certificate, one of which must be a science subject, are admitted to the one year pre-degree course. In addition, the candidate would have attempted to other science subjects.

Pre-degree students are not allowed to matriculate until they have remedied their deficiencies. Candidates who fail to pass such deficiencies and pass the Pre-degree courses at the end of the session are required to withdraw from the University.

5.0 REGISTRATION PROCEDURE

- i. All fresh students whose names appear on the admission lists published in the media should confirm their admission status with Head of Department (HOD).
- ii. After confirming their names on the admission list available in the HOD's office, students should obtain from the HOD written clearance with which they should proceed to pay their school charges at the bank designated for the Faculty.
- iii. ***No students should proceed to pay his/her school charges without clearance from their HOD as no refunds will be made to persons who remit their school charges into banks without clearance.***
- iv. Students duly cleared to pay their school charges should, after payment, log in their scratch cards with Socket works <<http://ww.myunical.net>> to obtain their online receipts.
- v. All students both new and returning, should present their online receipts to their HOD or Departmental Registration officers (DRO) for the collection of their Class Admit Cards (CACs) and Time-Table Cards (TTCs) .
- vi. **All students must use the CACs and TTCs to register with Department Registration Officer for all courses otherwise the courses unregistered will not be credited to them.**
- vii. The Class Admit Card for each course and the Time-Table Cards should be handed over to the Lecturer teaching that course for necessary administrative action(s).
- viii. All students should know that all registration activities are to be carried out within the Department of Forestry and Wildlife Resources Management, as such they should report to the HOD or Departmental Registration Officer (DRO) for all registration matters. The name of the Departmental Registration officer is on page 1.
- ix. **Any student caught with fake receipts, scratch cards, Class Admit Cards or Time Table/Personal Data Cards will automatically be expelled from the University.**
- x. **Students should note that only bonafide students who have properly registered for a course will be allowed to write an examination in that course.**
- xi. The approved Departmental registration dues is N400.00 only per session, while the approved Faculty dues is also N400.00 per session. All students who use laboratories/studios pay their lab/studio dues of N500.00 per session to their respective Heads of Department. Students taking lab/studio courses outside their Departments are to pay N100.00 only per session to the Head of those Departments.

- xii. Faculty dues are now to be collected by Departmental Registration officers (DRO) and passed on to the respective Deans through the heads of Department.
- xiii. The Department of Forestry and Wildlife Resources students. It is the responsibility of the Bursary Department to collect such charges from students and issue appropriate receipts to them. The affected students present such receipts to the DRO for clearance.
- xiv. All students are to adhere strictly to the registration procedure outlined above. Any departure from the procedure will attract appropriate sanctions on the defaulter.

6.0 ACADEMIC REGULATIONS

a. Course Registration

Students are required to register at the beginning of each semester for all the courses listed in that semester. A student is duly registered if he/she submits his/her completed time-table cards to the Head of Department or DRO and class-admit cards to the respective lecturers within a stipulated time. In addition to class admit cards, all courses also have to be registered online.

- b. **Minimum and maximum work load (Credit Hours):** Students should register for a minimum of 36 Credit Hours per session (16 credit hours per semester) and maximum of 48 credit hours per session 24 (CH per semester). On the advice of the Academic Adviser, third year and final year students may be allowed to register up to maximum of 27 credit hours per semester ONLY with the approval of Senate on the recommendation of the faculty.

c. Repeating Courses in Final year.

A final year student who fails one or two examination courses may be permitted to enter for the Long Vacation in those courses. This is also applicable to third year students, if he/she passes, he/she may graduate along with his/her colleague. But if he/she fails to meet up with the standard of passes and if he/she fails more than two courses after the normal degree exams, he/she is required to repeat a year to clear the failed courses.

d. Carry-over Courses

A carry-over course is one that a student ought to have registered for in a particular year of study but could not do so to avoid excess credit units over the above maximum 24 CH. Students may register the carryover at the next available opportunity first before registering new course.

e. Compulsory 'F'

A student that has repeated a particular course three times shall be awarded a mandatory F grade for that course.

f. **Probation:**

A student who fails 10 to 15 Credit Units per semester/session, has GPA/CGPA of 1.00 to 1.49 is placed on probation. Secondly, a student who fails up to 15 credit Units and CGPA of 1.50 or above is also placed on probation. Such a student must repeat that level/year and take only those failed courses.

g. **Withdrawals:**

If a student fails **above** 15 credit units or has a GPA/CGPA of less than 1.00, the student is on withdrawal.

7.0 EXAMINATION REGULATIONS

7.1 Requirements for taking examination

In order to be admitted to the university examination the candidate must:

- a. Have duly registered for the course;
- b. Follow the approved course of study for a prescribed period
- c. Pay all fees prescribed by Senate as and when required
- d. Satisfy 75 per cent attendance at lectures;
- e. Comply with any additional requirements approved by Senate.
- f. Have valid bona fide exam clearance from the HOD

7.2 Scheduling of Examinations

- a. Normally, course examinations shall be scheduled at the end of the semester in which the teaching of the course is completed and on dates and venues approved by Senate.
- b. If the University for Unavoidable Reasons is obliged to postpone an examination, the Registrar, in consultation with Deans of affected Faculties and the Director of Academic Planning shall re-schedule such examinations.

7.3 Duration of examination

- a. The duration of written examinations shall be conducted within three hours.
- b. For practical examinations, a minimum of three hours shall apply.

7.4 Continuous assessment

The sessional evaluation of the student is based on continuous assessment. This programme assigns 30% of the final grade in any course to continuous assessment (assignments) tests, etc. the remaining 70% is based on the final examination in the course.

7.5 Administration of examinations

7.5.1 Conduct

- i. Students shall be at the examination room at least 30 minutes before the advertised time for the examination.
- ii. Students must produce their registration and identity cards on entry to every examination and leave them conspicuously displayed on the desk for the inspection of the invigilators throughout the examination. It shall be the duty of the invigilators to ensure that students write their names, registration numbers and signatures in the attendance register.
- iii. Students shall write their registration numbers, **not their names**, clearly at the appropriate place on the cover of every answer booklet and separate sheet(s) attached to the answer booklet.
- iv. No student shall be allowed to leave the examination room during the first hour of the examination, except in cases of emergency. In such emergency cases the invigilator must complete the appropriate forms and refer the candidate to the medical centre. The script must be retrieved from the candidate before leaving the examination room.
- v. The invigilator shall put the answer scripts in labelled envelopes and submit to the Chief Examiner or course Coordinator within 30 minutes after the completion of the examination. It shall be the responsibility of the Chief Examiner in each Department to collect it and confirm the number of scripts and sign for the examination scripts.

8.0 Examination Malpractice Types

A. Types of Malpractice by Students:

- (i) Copying with co-operation
- (ii) Copying without co-operation (“Giraffing”)
- (iii) Preparation and use of extraneous materials
- (iv) Impersonation
- (v) Courier (smuggling of question papers out of examination halls)
- (vi) Reading of notes/textbooks in toilet during the relevant examination
- (vii) Writing on lap, dresses or other materials
- (viii) Plagiarism-act of using somebody else’s thesis or works without acknowledgement
- (ix) Evidence of pre-knowledge of examination questions
- (x) Smuggling out answer scripts after examinations

B. Types of Malpractice by Lecturer/Staff

- i. Leakage of questions to students
- ii. Helping students to answer questions during examination
- iii. Allowing students to substitute freshly written answer scripts for the used during examination

- iv. Inflation or change of marks by course lecturer in order to pass a particular candidate/candidates
- v. Requesting senate to correct already approved grades based on false claims
- vi. Conscious alteration of grades/raw scores by compilers of result or typist lecturer/Head of Department etc.
- vii. Non-submission or destruction of answer scripts in order to enable student qualify for a special resit or supplementary examination if a fail grade is certain in the examination.
- viii. Writing of theses/projects for students by lecturers
- ix. Supervisors/Lecturers and abetting plagiarism

C. **General:** Any other acts considered by the Senate and Vice-Chancellor to be classified as Examination Malpractice.

EXAMINATION MISCONDUCT/OFFENCES AND PRESCRIBED PUNISHMENTS

| | Offences | Punishment |
|----|---|--|
| 1. | Communicating with another student in the examination room | Cancellation of the papers of both students |
| 2. | Possession of an extraneous material in the examination room | Suspension for two academic sessions |
| 3. | (a) Copying from an extraneous material (b) Copying from a material received from another student in the examination room | Suspension for two academic sessions for the student or students involved |
| 4. | Writing an examination, term paper or project for another student | Expulsion of the students involved. Where the other party is non-students, he should be reported to the Police Expulsion from the University. |
| 5. | Breaking in or unauthorized into any office of the University of Calabar and/or removing, changing or tampering with examination materials or results and illegal removal of same | |
| 6. | (i). Plagiarizing the entire: (a). Undergraduate/Diploma/Certificate term paper or project (b) Graduate term paper or project (c) Graduate Thesis/Dissertation Plagiarizing only part/or sections of any of the above | Cancellation of the term paper and suspension for two academic sessions Cancellation of the term paper. Cancellation of the Thesis/Dissertation and Expulsion |

| | | |
|-----|--|---|
| | | Cancellation of the particular chapter/chapters and suspension |
| 7. | Presentation of fake result(s) by a Student or for a Student to the University | (a) Cancellation of the result if there is no evidence that the student is involved in organizing the fake result (b) If it is discovered that the student had a hand in the presentation of the fake results, suspension for two academic sessions. |
| 8. | Grabbing/Snatching of examination material(s) before or after an exam by a student(s) | Expulsion of all involved |
| 9. | (a) Possession of cell phone in an examination hall (b) Usage of the phone | (a) Seizure of the phone and cancellation of paper (b) Suspension for one academic session |
| 10. | Possession of another student(s) Fee clearance card or receipt in the Examination Hall with intention of writing for herself/himself | Suspension for the one academic session |
| 11. | In all cases, students suspension on grounds of examination misconducted shall forfeit all the grades in respect of all courses for the academic year. | |

9.0 EXAMINATION/GRADES AND GRADING SYSTEM

The Faculty in line with the University guidelines, beginning with the 1989/190, operates a five point grading system. Results are to be graded by letter grades A, B,

C, D, E and F. the corresponding percentages, grade points, and description are presented as follows.

| Percentage Mark | Letter Grade | Grade Point | Description |
|-----------------|--------------|-------------|-------------|
| 70-100 | A | 5 | Excellent |
| 60-69 | B | 4 | V. Good |
| 50-59 | C | 3 | Good |
| 54-49 | D | 2 | Average |
| 40-44 | E | 1 | Pass |
| 0-39 | F | 0 | Fail |

10.0 REPEATS

- a. **Repeat Course:** A student who has failed any course in the first or second semester shall repeat the course at the next opportunity when the course is being offered. No student is entitled to a resit examination. Where the student fails at the end of the semester, he has an opportunity to repeat the course twice. Students are given three chances to try their ability in any course and where the student fails to pass after these chances, he may be allowed to carry a failed grade in the course.

- b. **Continuous Assessment:** The sessional evaluation of the student is based on continuous assessment. This programme assigns 30% of the final grade in any course to class assignment, tests. The remaining 70% is based on the final examination in the course.

- c. **Graduation Requirement:** The Faculty award two degrees of Bachelor of Agriculture (B. Agric) and Bachelor of Forestry and Wildlife Resources Management (B. Forestry and Wildlife). The following classes of degree are awarded on the basis of corresponding cumulative grade point average (CGPA).

| i Credit Unit | ii percentage Score | iii Letter Point | iv Grade Point | v Grade Point Average | vi Cumulative Grade Point Average | Vi Class of Degree |
|------------------|---------------------------|------------------------|----------------------|-----------------------------|--|--------------------------|
|------------------|---------------------------|------------------------|----------------------|-----------------------------|--|--------------------------|

| | | | | | | |
|--|--------|---|---|---|-----------|-----------------------|
| These vary according to contact hours assigned to each course per week | 70-100 | A | 5 | Multiply Columns i And iv and Divide by Credit units | 5.5-5.0 | First Class |
| | 60-69 | B | 4 | | 3.50-4.49 | 2 nd Upper |
| | 50-59 | C | 3 | | 2.40-49 | 2 nd Lower |
| | 45-49 | D | 2 | | 1.50-2.39 | 3 rd Class |
| | 40-44 | E | 1 | | 1.00-1.49 | Pass |
| | 0-39 | F | 0 | | 0.00-0.99 | Fail |

11.0 OUTLINE OF COURSES FOR THE FIVE YEARS' PROGRAMME OF STUDIES

The courses are not distributed at random over the ten semesters of the five years' academic programme. There are good reasons behind the arrangement:

- i. The incoming students in year one are fresh men. They are neither familiar with the business of academics at the University level nor are they aware of the methods the lecturers will use in dispensing knowledge to the courses participants. They may be perplexed as a result of the new academic environment. They may be perplexed as a result of the new academic environment. They need therefore some time to adjust and cope with the demands of the university environment. The first year academic workload should be slightly lighter than the load in subsequent academic years. The Department of Forestry and Wildlife Resources Management has noted this and has proposed a maximum of 42 credit hours workload for its first year students. The workload is light since 75% of the courses serve as revision for secondary school subjects.
- ii. By the third year, a student pursuing Forest Resources Management is expected to have acquired the skill of writing standard technical reports to ease his academic work. Therefore, the student, in addition to the use of English, which he has taken at the 100 level, should take a course in writing standard technical report help him communicate his ideas very well to others. The department has noted this and had proposed that its students should take a course in writing Technical Reports in year one or two. This noted and the use of English in the second semester of the year, i.e. GSS 1102, designed to fortify students with the desire of writing skills.
- iii. Forest Resources Management subjects are 75% of the time, better taught in the field as practical rather than theories in the classrooms. This has been noted and the fourth year of the programme has been set aside as the practical year when courses, which demand intensive practical work shall be practically accomplished in the field.

- iv. Some courses serve as fundamental in understanding others, for example mathematics for statistics, geometry for ground forest survey, silvics for silviculture, the Use of English for Technical Report Writing and so on. The inter-relationship between subjects has been noted and the academic courses have been arranged from year to year to ease the student understanding.

By the fifth year of the programme, the student's should have acquired enough skills in carrying out independent field studies, through supervised and monitored by the student's academic advisers. They should, therefore, be given the opportunity to test the potential they have in Forest and Wildlife Resources Management. This has been noted and favourably considered in the programme of the academic studies.

12.0 COURSE NUMBERING

The Department of Forestry and Wildlife Management will be dealing with three groups of courses:

- (a) Course in year one, which students must take and pass to partially fulfill the university requirements for the award of Bachelor Degree, and supporting courses which are needed by the Department to strengthen the technical and professional skills of its students.
- (b) Agricultural Science course at the 200 level, specified to meet NUC approved minimum academic standards in the field of agriculture and allied subjects in all Nigeria Universities; and
- (c) The core courses proposed for the Department of Forestry and Wildlife Resources Management. Since courses in group 6.2.1 (a) and 6.2.1 (b) are already being offered, the Department shall adopt the approved prefix and code numbers for such courses. To codify courses in-group 6.2.1 (c) a four digit system that is already in use in the Faculty of Agriculture shall be adopted. The prefix for all the core course shall be AGF for both Forestry and Wildlife Resources Management. The first digit of the course number of the program year, the second and third digits represents the serial number of the course in a semester and the fourth represents the semester under which the course is offered. Thus, AGF Resources Inventory and Mensuration is a year course in the Department of Forestry and Wildlife Resources Management which is offered in the First Semester.

13.0 Outline of courses learning to a five year B. Forestry and Wildlife Resources Management

WITH EFFECT FROM 2012/2013 ACADEMIC SESSION

In line with the NUC and Senate directives for Universities to adopt a 3-digit course code, the following are new course codes and credit hours for Forestry and Wildlife courses offered by students in the University of Calabar. Please note that this takes effect from the 2012/2013 Academic Session. Where there is no old course code, it implies the course is new. Some special courses have more than 2 credit hours where it is foundational and requires additional time in field or laboratory work.

YEAR ONE (1) COURSES

| Year | Semester | Course No. | Course Title | Semester Hours | Cr. |
|------|----------|------------|---------------------------------|-------------------|-----|
| 1 | 1 | CHM 101 | General Chemistry I | | |
| | | BIO 111 | General Biology I | 2 | |
| | | MTH 111 | Algebra Trigonometry | 2 | |
| | | PHY 101 | Introductory Physics | 2 | |
| | | GSS 101 | Use of English I | 2 | |
| | | GSS 111 | Philosophy & Logic | 2 | |
| | | AGR 111 | Intro to Agriculture I | 2 | |
| | | AGE 111 | Intro to Micro Economics | 2 | |
| | | | Total (Semester) | 16 Credits | |
| 1 | 2 | CHM 102 | Organic Chemistry | 2 | |
| | | BIO 102 | General Biology II | 2 | |
| | | MTH 132 | Calculus & Geometry | 2 | |
| | | PHY 102 | Introductory Physics II | 2 | |
| | | GSS 102 | Use of English II | 2 | |
| | | GSS 112 | Citizenship Education | 2 | |
| | | AGR 102 | Introduction to Agriculture II | 3 | |
| | | AGE 112 | Introduction to Macro Economics | 2 | |
| | | | Total (semester) | 20 Credits | |
| | | | Total Credits | 36 Credits | |

YEAR TWO (2) COURSES

| Year | Semester | Course No. | Course Title | Semester Hours | Cr. |
|------|----------|------------|---------------------------------|----------------|-----|
| 2 | 1 | AGA 211 | Principles of Animal Production | 2 | |
| | | AGC 211 | Principles of Crop Production | 2 | |
| | | AGC 221 | Botany & Crop Physiology | 2 | |

| | | | | |
|---|---|---------|--|-------------------|
| | | AGX 211 | Principles of Agric Ext. & Rural Sociology | 2 |
| | | AGR 221 | Introduction to Agric Biochemistry | 2 |
| | | AGS 211 | Principles of Soils Science & Environment | 2 |
| | | AGR 231 | Intro to Organic Agriculture | 2 |
| | | AGR 211 | Biogeography and Climatology | 2 |
| | | | Total (Semester) | 16 Credits |
| 2 | 2 | AGA 202 | Anatomy & Physiology of Farm Animals | 2 |
| | | AGA 232 | Genetics and Cytology | 2 |
| | | AGE 202 | Introduction to Agric Economics | 2 |
| | | AGF 222 | Principles of Forestry & Wildlife | 2 |
| | | AGR 232 | Introduction to Agric. Engineering | 2 |
| | | AGR 242 | Principles of Food Science & Technology | 2 |
| | | AGS 222 | Introductory Pedology & Soil Physics | 2 |
| | | | Total (Semester) | 18 Credits |
| | | | Total Credits | 34 Credits |

YEAR THREE (3) COURSES

| Year | Semester | Course No. | Course Title | Semester Hours | Cr. |
|------|----------|------------|---|-------------------|-----|
| 3 | 1 | AGF 301 | Principles of Silviculture | 2 | |
| | | AGF 311 | Resource Inventory and Mensuration | 2 | |
| | | AGF 321 | Natural Eco-systems | 2 | |
| | | AGF 331 | Intro to Forest Land Wildlife Mgt | 2 | |
| | | AGF 341 | Intro to Forestry Wildlife Extension | 2 | |
| | | AGF 341 | Wood Anatomy, Wood Formation and Properties | 2 | |
| | | AGF 361 | Principles of Plant Protection | 2 | |
| | | AGF 371 | Forest Soils and Land use Survey | 2 | |
| | | AGF 391 | Forest Engineering | 2 | |
| | | GSS 211 | Intro to Computer | 2 | |
| | | | Total (Semester) | 20 Credits | |
| | | AGF 302 | Forest Economics | 2 | |
| | | AGF 312 | Forest Aerial and Ground Survey | 2 | |
| | | AGF 322 | Forest Engineering (Forest Operations) | 2 | |
| | | AGF 332 | Wildlife Population Analysis | 2 | |
| | | AGF 342 | Forest Biometrics | | |
| | | AGF 352 | Wildlife Ecology and Management | 2 | |

| | | | | |
|--|--|---------|---|-------------------|
| | | AGF 362 | Forest and Wildlife Pests and Diseases | 2 |
| | | AGR 342 | Principles of Fisheries and Wildlife Resources Management | 2 |
| | | GSS 302 | Entrepreneurial Studies II | 2 |
| | | GSS 212 | Computer Application | 2 |
| | | | Total (Semester) | 20 Credits |
| | | | Total Credits | 40 Credits |

YEAR FOUR (4) COURSES

| Year | Semester | Course No. | Course Title | Semester Hours | Cr. |
|--------------|----------|------------|---|----------------|-----|
| 4 | 1 | AGF 401 | Forest Inventory and Management | 3 | |
| | | AGF 411 | Silviculture Techniques | 2 | |
| | | AGF 421 | Remote Sensing and Mapping | 2 | |
| | | AGF 431 | Harvesting, Processing and Wood Utilization | 2 | |
| | | AGF 441 | Forest Operations | 2 | |
| | | AGF 451 | Agro forestry & Plantation | 2 | |
| Technology 3 | | AGF 461 | Zoo and Parks Management Techniques | 2 | |
| | | AGF 471 | Training in Firearms and Ballistics | 2 | |
| 4 | 2 | AGF 402 | Museum and Harbarium Techniques | 2 | |
| | | AGF 412 | Wildlife Ecological Survey | 2 | |
| | | AGF 422 | Aerial and Ground Survey | 2 | |
| | | AGF 432 | Report Writing | 2 | |
| | | AGF 442 | Saw Milling | 2 | |
| | | AGF 452 | Wood Seasoning Preservation | 2 | |
| | | | Total | 30 Credits | |

YEAR FIVE (5) COURSES

| Year | Semester | Course No. | Course Title | Semester Hours | Cr. |
|------|----------|------------|--|----------------|-----|
| | | AGE 510 | Seminar | 2 | |
| 5 | 1 | AGF 501 | Multiple Land Use | 2 | |
| | | AGF 511 | Forest Management and Economics | 2 | |
| | | AGF 521 | Forest and Wildlife Policy, Law & Admin., | 2 | |
| | | AGF 531 | Silviculture | 2 | |
| | | AGF 541 | Forest soils | 2 | |
| | | AGF 551 | Forest Genetics and Tree Breeding | 2 | |
| | | AGF 561 | Forest Pests, Diseases and Forest Protection | 2 | |
| | | AGF 571 | Seminar | 1 | |

| | | | | |
|---|---|---------|--|------------|
| | | AGF 581 | Wood-based Panel Products | 2 |
| | | AGE 510 | Project | 2 |
| | | | Total (Semester) | 19 Credits |
| 5 | 2 | AGF 502 | Management of Game Birds (Ornithology) (ELECTIVE) | 2 |
| | | AGF 512 | Forest Mensuration | 2 |
| | | AGF 522 | Forest and Wildlife Biometrics | 2 |
| | | AGF 532 | Wildlife Nutrition | 2 |
| | | AGF 542 | Forest Industries and Timber Quality Control | 2 |
| | | AGF 552 | Wildlife Management and Utilization | 2 |
| | | AGF 562 | Wood Processing and Pulping Process | 2 |
| | | AGF 572 | Forest and Wildlife Extension Education (Elective) | 2 |
| | | AGF 582 | Pulp and Paper Technology | 2 |
| | | AGF 500 | Project | 2 |
| | | | Total (Semester) | 20 Credits |
| | | | Total Credits | 35 |
| | | | Total Credit (with electives) | 39 |

11 DESCRIPTION OF GENERAL STUDIES, SERVICE AND FACULTY COURSES

YEAR ONE: FIRST SEMESTER

BIO 101: Introductory Biology I (3 Units)

Cellular basis of life; General structure and functions of plant cells and cellular organelles; plant cell division; heredity; diversity in plant cells habitats. Morphology, general characteristics, life cycles and range of forms of bacteria, viruses, fungi, bryophytes, lichens, and pteridophytes. General structures animal cell types and division. Forms, functions and life history of invertebrates and such as Protozoa, Coelentrates, Arthropods, Plantyhelminthes, Ashelminthes, Annelid and Mollusca.

CHM 101: Introduction Chemistry I (3 Units)

Atom, sub-atom particles, isotopes, and Avogadro's number. The mole concept: chemical formulae, the laws of chemical combinations, equations and calculations. State of matter, gases, liquids and solids. Chemical thermodynamics: energetic and thermochemistry; products, chemical kinetics, electrochemistry, nclear binding energy, fission and fusion.

MTH 111: Algebra and Trigonometry (3 Units)

Algebra and trigonometry: real number system, real sequence and series. Sets and subsets, unit intersection, components, empty and universal sets. Venn diagram, one way correspondence between sets, quadratic functions and equations, solution of linear equations. Simple properties of determinants and binomial theorem. Transformation equation of the straight line and application to simple regression equations: permutations and combinations, circular measure, trigonometric functions of angles, addition and factor formulae, complex numbers, moments and couples, relative velocity. Calculus: elementary function of simple real variables, graphs of simple functions; the differentiation of simple algebraic, exponential and log function; differentiation of a sum product of a quotient, function of function rules, implicit differentiation, definite and indefinite integral to areas and volumes.

PHY 101: Introductory Physics

(3 Units)

Mechanics, units, dimensions, the S. L., Kinetics. Motion with constant acceleration, force, work, energy, momentum, centre of mass, elastic and inelastic collisions, impulsive force, equilibrium. Heat; atoms and molecules, temperature and thermal capacity, properties of gases, kinetic theory, specific heats, first law of thermodynamics. Waves: the electromagnetic spectrum, velocity and characteristics of light, sound elementary acoustics. The BelHaygen's principle, reflection, refraction, mirrors, prism, lenses, the eye polarization.

AGR 111: Introduction to Agriculture I

(3 Units)

Scope of Agriculture: Definition of Agriculture; importance of Africulture; branches and career opportunities in Agriculture. Historical Development of Agriculture in the world: Domestication of Crops and Livestock; the Origin and Spread of Agriculture; Evolution of Modern Agriculture. Historical Development of Modern Agriculture in Nigeria: Historical Background; Plantations; Farm Settlements: Irrigation. Projects and River Basin Developments; Other Agricultural Development Programmes and Commercial Agriculture Projects. Food and Nutrition Security: meaning, importance and ways of achieving food security in sub Saharan Africa. Internationalization of Agriculture: the roles of Food and Agriculture organizations of the United Nations (FAO) and other NGOs, CGIAR, National and International Agricultural Institutes.

GSS 101: Use of English I

(2 Units)

General instruction regarding English for Academic purposes. Reading: speed and techniques; comprehension; evaluation; vocabulary development. Listening for note-taking; for vocabulary development and structural patterns. Speaking vowels,

consonants, intonations, stress. Making presentation: principles & techniques of public presentation, and speaking process. Writing: essay types and structure; letters, types, corrections and distinguishing features; introduction to academic writing. Study skills: note-taking, note-making, study reading, study time and methods. Grammar and communication – phrases and content, clauses and content. Sentence elements, types and structure. Spelling punctuations. Library skills.

GSS 111: Philosophy and Logic (2 Units)

Meaning of Philosophy. History of philosophy: ancient period; medieval period; modern period. Existentialism. African Philosophy. African Political thoughts. Definition of Logic. History and development of logic. History and development of logic. Law of thought. What is an argument? Component of argument; type of argument; evaluation of argument. Fallacies; formal and informal example. Definition. Categorical propositions. Elementary logical operators. Truth table construction, test of validity. Formal proof. Rule of inference. Elementary introduction to quantification theory.

YEAR ONE: SECOND SEMESTER

BIO 102: Introductory Biology II (3Units)

An introductory course in Biology covering basic concepts in Zoology, starting from protozoa to chordates.

CHM 102: Organic Chemistry (3Units)

Historical survey of the development and importance of organic chemistry; nomenclature and classes of organic compounds; homologous series; functional groups; isolation and purification of organic compounds. Quantitative and qualitative organic chemistry; stereo-chemistry; determination of structures of organic compounds; Electronic theory in organic chemistry; saturated and unsaturated hydro-carbons. Periodic table and periodic properties; valency forces; structure of solids. The chemistry of metals and non-metals. Qualitative analysis; chemical equations and stoichiometry.

MTH 132: Coordinate Geometry and Calculus (3 Units)

Coordinate geometry: rectangular Cartesian coordinates; distance between two points; the straight lines; angle between lines; areas of triangle; curve sketching; translation and rotation of axes. The idea of locus; the circle, parabolic ellipse and hyperbols. Parametric equations; tangents and normal. Calculus: the real numbers and intervals, functions, domain and range, polynomial, rational algebraic, exponential logarithmic and trigonometric functions of sums and products. Chain

rules: application to maximum and minimum, targets and normal. Integration of simple functions; integration by substitution by parts and use of identities. Application to areas and volumes.

PHY 102: Introductory Physics II

(3 Units)

Electricity and electronics. Power and energy; simple meters, charge and capacitance; Column's law; alternating current circuits; magnetism and magnetic properties of matter; elements of circuit electronics. Modern Physics: the structure of the atom; static properties; structure of the nucleus; binding energy; stability of the nucleus; radioactive transformations; nuclear fusion; nuclear reactions; radiation detectors; cathode rays.

AGR 112: Introduction to Agriculture II

Animal Production: (a) The distribution of farm animals and their major production areas in Nigeria. (b) The problem of poor quality feeds, parasites, diseases and poor management. Crop Production: (a) The distribution of arable crops and their major productions areas in Nigeria. (b) Farming systems in Nigeria. (c) Obsolescence of shifting cultivation and its replacement. (d) Introduction to Agroforestry. Land/soil Resources of Nigeria: (a) Definitions of land, soil and the environment (b) Land and soil resources; classification and properties (c) major soils of Nigeria and their problems; use of soil maps and databases. Agricultural Economics and Extension: (a) Problems militating against agricultural development in Nigeria (b) Factors for improving agriculture (c) Major agricultural policies in Nigeria. Farm Mechanization: (a) definition of mechanization (b) land clearing and tillage (c) Major agricultural policies in Nigeria. Farm Mechanization (a) definition of mechanization (b) Land clearing and tillage. (c) Maintenance of farm implements. Forestry and Wildlife: (a) Meaning of Agrisilviculture, forestry and forest products (b) Apiary, Snailery and Mushroom cultivation (c) Desertification, Deforestation and Afforestation and their control (d) National Parks and their roles in agrobiodiversity.

GSS 102: Use of English

(2 Units)

The process of research writing 1: selecting topic, thesis statements, compiling bibliography. Advanced reading discuss registers, selecting appropriate materials for reading, Advanced reading for research information, scanning, skimming, for required information. Reading for note-taking for research techniques and types. Mini research writing, stage 11 – students make oral presentation in class of what was read in their selected topics; students also make and present note slips.

GSS 112: Citizenship Education**(2 Unit)**

The Nigerian constitution. Ethics and discipline in national life. Right and obligations. Nation-building in Nigeria. Arms of government. Citizenship. Ethnic pluralism and national identity in Nigeria. Psychology and human behaviour. Culture and peoples of Nigeria. Women and development in Nigeria. Sustainable development. Federalism and revenue allocation. Nigeria and constitutional development.

YEAR TWO: FIRST SEMESTER**AGR 201: introduction to Agriculture****(2 UNITS)**

Definition of Agriculture: The origin, Scope and importance of Agriculture to man, food supply situation in the world, trend distribution, Characteristic features of Tropical Agriculture and how production is affected. Farming system practices; Land tenure, Land use, Types Forestry, Fish farming and wildlife agriculture.

AGR 211: Introduction to Agric Biochemistry**(2 Units)**

Structure, properties and Biological pigments, Vitamins, Amino acids, Peptides, Proteins enzyme, Coenzymes, Hormones, Plant growth factors; Purines. Pyrimidines, Nucleotides and Nucleic acid and Porphyrins, Enzyme, Nature, Classification, inhibition, activation; control of activity, specificity, active sites and mechanisms of action control of metabolism, biological, oxidations and bioenergetics.

AGR 211: Principles of Animal Production**(3 Units)**

History of animal Agriculture, Classification and distribution to important world breeds of cattle, sheep, goat, pigs, poultry and rabbits. Climate and other factors affecting the Livestock industry in Nigeria. Management practices and systems and effects on behaviour and handling of animals.

AGC 211: The Principles of Crop Production:**(3 Units)**

Development of crop production: Cultural practices from major crops, importance of crop rotation, water and soil conservation. Irrigation, on crop production. Basic Mendelian genetics. Harvesting, processing and storage of Agricultural Products.

AGS 211: Principles of Soil Science:**(3 Units)**

Physical, chemical and biological properties and processes of soils, Soil moisture, air and temperature, Soil classification and survey, Role and use of lime, fertilizer, organic matter and manure. Soil-plant relationship with emphasis of functions of essential elements in plants their availability, requirement and deficiency symptoms.

AGE 211: Introduction to Agric Extension and Rural Sociology (3 Units)

Definition, objective and philosophy of Agricultural Extension. The institution setting of Agricultural Extension. Basic concepts and principles of rural sociology to the understanding of rural situation. Importance of rural communities and institutions, social, stratification, social processes and social changes in rural areas. The rural revolution and social transformation, changing rural areas. The rural-urban problems. Elimination of rural-urban distribution and the future of rural communities.

AGC 221: Botany and Crop Physiology (2 Units)

Botanical and other methods of classification of cultivated crops with particular reference to tropical crops. External and internal structure of plants. Reproduction in plants; pollination, fertilizer and fruit plants formation. Physical and chemical phenomena in the living functions of plants. Environmental influences on crop growth. Variation in photosynthetic capacities, and factors affecting them; yield maximization. Storage and mobilization of reserves.

YEAR TWO: SECOND SEMESTER

AGA 202: Anatomy and Physiology of Farm Animals

Anatomy and physiology of domestic animals such as cattle, sheep, goats, pigs, rabbit and poultry. Anatomy and physiology of the cell, cell types, animal tissues, nervous system, skeletal system, muscle tissue, circulatory system, reproductive, digestive, special senses and other systems of farm animals. Elements of environmental physiology and animal behaviour, growth and bio-energetic.

AGE 202: Introduction to Agric Economics (3 Units)

The nature of economics and economic problems; scope and method, price theory and functions of the market with particular reference to Agriculture. Concepts of demand, supply, price determination and elasticity's. Structure and changes in the Nigerian Agriculture as well as agricultural problems, the National Income and Income Employment Theories. Types of market structure, investment, interest rate, inflation, international trade, commodity agreements and balance of payments, money and banking.

AGR 232: Introduction to Agric Engineering: (3 Units)

Definition, areas of specialization and roles of Agricultural Engineering in national economy, prospects and job opportunities. Work, power, energy, heat and basic

electricity. Machines of efficiency. Weather, rainfall, soil and water conservation. Drying and storage moisture content introduction to tools and workshop practice.

AGS 222: Intro to Pedology and Soil Physics: (3 Units)

The soil, its origin and formation, soil morphological characteristics, soil components, soil forming rocks and minerals, weathering of rocks and minerals. Profile description, soil survey, soil mapping. Soil classification, properties and management to Nigerian soils. Classification of soil separates; soil texture, surface area of particles; aggregation soil structure, and stability; porosity, soil water relations, soil and the hydrologic cycle. Soil temperature and conduction of soil erosion.

AGR 222: Introduction to Forestry (2 Units)

Renewable natural resources availability distribution and potential. The important forest trees and wildlife (emphasis on Nigerian species). Classification, morphology and distribution of important forest trees. Forest and game reserves in Nigeria silviculture, a forestation characteristics of major timber and their uses. Felling and log transportation.

AGR 242: Principles of Food Science and Tech (2 Units)

Scope and definition of food science and technology. Food distribution and marketing. Food and its functions; Food habits food poisoning and its prevention. Principle of food processing and preservation, deterioration and spoilage of foods; other post-harvest, changes in food contamination of foods from natural sources. Composition and structures of Nigerian/West African food; factors contributing to texture, color, aroma and flavor of food; traditional and ethnic influences of food preparation and consumption pattern.

YEAR THREE: FIRST SEMESTER

AGF 301: Principles of Silviculture (2 Units)

Analysis and study of problems of raising tree crops. Natural and artificial regeneration nursery techniques. Application of principles for establishment and maintenance of forest for various purposes. Taungya and other silvicultural practices. (1 hour of lectures and 3 hours of practicals per week).

AGF 311: Resource Inventory and Mensuration (3 Units)

Forest resources sampling and enumeration techniques – including timber and wildlife. Measurement and estimation of timber in logs and forest stands. Inventory instruments and their use. 2 hours of lectures and 3 hours of practicals per week.

AGF 321: Natural Ecosystems (3 Units)

Distribution, structure and dynamics of land and fresh water ecosystems. The flow of energy and materials through natural ecosystems. The importance of conservation. Tree identification. (2 hours of lectures and 3 hours of practicals per week).

AGF 331: Introduction to Forest Wildlife Management (2 Units)

Organization of forest resources. Morphology, taxonomy and ecology of tropical trees. Forest production activities, forest protection and the regulation of harvest for sustained yield. Preparation of working plans. Solving managerial problems. Introduction to operations research in forestry. (1 hour lectures and 3 hours of practical per week).

AGF 341: Introduction to Forestry/Wildlife Extension (2 Units)

The need for forestry extension. Forestry extension in the world and in Nigeria, basic philosophies behind agricultural extension work. The institutional setting of forestry extension. Basic concepts and principles of rural sociology to understanding of rural situation and conflict management. Importance of rural communities and institutions, social stratification, social processes and social changes in rural areas. Leadership in rural communities, role and functions of rural leaders. Development of rural community leaders. The extension agent and the rural community. Communication techniques and strategies of change. Various agricultural extension teaching methods, aids and their use.

AGF 351: Wood Anatomy, Wood Formation and Properties (2 Units)

Structure, properties, identification and characteristics of wood. Anatomical features of wood formation. (1 hour of lectures and 3 hours practicals per week).

AGF 361: Principles of Plant Protection (2 Units)

The major pests, insect, fungi: bacteria, viruses and nematodes, weeds and other diseases of tropical crops and stored products. Definition of pests. Study of insects pest of major local crop, their significance and principles of control. Study of the effects of diseases caused by virus, bacteria, fungi and nematodes. Control of these diseases. Effect of weeds on crops and livestock and the principles and methods of control of weeds. Brief outline, shortcomings and advantages of different pest assessment and pest control methods. Strategies of integrated pest control and pest management.

YEAR 3: SECOND SEMESTER

AGF 302: Forest Economics (2 Units)

Definition of forest goods and services; application of economic principles to forest resources; decision making in single and multiple resource use; cost-benefit analysis. (1 hour of lectures and 3 hours of practicals per week).

AGF 312: Forest Aerial and Ground Survey (2 Units)

Ground survey instruments. Boundary and topographic survey of selected project areas. Scribing, type preparation and mapping. Preparation of maps from aerial photographs. Interpretation of aerial photographs and satellite imagery. (1 hour lectures 3 hour practicals per week).

AGF 322: Forest Engineering (Forest Operation) (3 Units)

Design, constructing, drainage and maintenance of forest roads, bridges, dams and buildings; logging and transportation. Planning, analysis and supervision of operations. (2 hours of lectures and 3 hours of practicals per week).

AGF 332: Wildlife and Population Dynamics (2 Units)

Characteristics of a population, population growth, assumption on carrying capacity, identification of key species or elements which both plants and animals use. Determination of the proportion of the diet that the key species making up for the animals and plants.

AGF 342: Forest Biometrics (2 Units)

Application of basic biometric techniques to problems in forest resources management, Distribution, sampling and tests of hypotheses. (1 hour of lectures and 3 hours of practicals per week).

AGF 352: Wildlife Ecology and Management (2 Units)

Organization of wildlife resources. Wildlife in relation to their environment. Factors affecting the distribution and abundance of wildlife. Interrelationship between climate, soil, vegetation, geologic history and wildlife population characteristics as related to reproduction and mortality factors. Movement, behaviours, lifecycles, reproduction, food and food habits of wildlife. Nature and efficient usage of rangeland in West Africa. Methods of range assessment and management. (1 hour of lectures and 3 practical per week).

AGF 362: Forest and Wildlife Pests and Diseases (3 Units)

The major pests and diseases of forest trees and wildlife, taxonomy, biology and method of control of these major pests and diseases of forest trees and wildlife. (2 hours of lectures and 3 hours of practicals per week).

AGF 342: Principles of Fisheries and Wildlife Unit Mgt. Res. (2 Units)

The important fishes and wildlife of West Africa with emphasis on Nigeria species, classification, evolution, morphology and basic structure of fishes. The adaptation of fish to aquatic life, cycle of principal species of fish and wildlife, signification of fishes and wildlife in the life of Nigerians. The fish and wildlife industries in Nigeria: Fundamental principles of fish wildlife management and production.

GSS 302: Entrepreneurial Development Studies II (2 Units)

Revised Course contents to be obtained from GSS Centre (beside Graduate School).

YEAR FOUR (PRACTICAL YEAR): FIRST SEMESTER

AGF 411: Forest Taxonomy & Species Preservation & Wildlife Classification (3 Units)

Identification of Nigerian tree species using botanical classification and the use of herbarium techniques in the preservation of Nigeria flora; classification and indigenous wildlife. Visit to National Parks.

AGF 421: Plant Propagation & Nursery Techniques (3 Units)

Principles and techniques of plant propagation structure such as media, fertilizers, soil mixture and containers; vegetative propagation. Anatomic and physiological basis of propagation; grafting and build. Selection of nursery sites; development of nursery area permanent and temporary nurseries; irrigated nurseries.

AGF 431: Silviculture & Management of Natural & Artificial Forest (3 Units)

Tropical Forest formations: distribution and major silvicultural features; affrication or re-forestation methods; natural & artificial establishment of new genetic pools; silvicultural systems; high forest and coppice forest methods; intermediate cutting involving thinning, release and improvement cutting; pruning and salvaging of forest stands.

AGF441: Forest Inventory & Mensuration Practices (3 Units)

Closed traverse survey: Theoretical basis for using specific instruments in measuring tree heights sunto clinometer, hypsometers and relascope; time cruising: strip and plot sampling methods; mangnitude of inventory 5% volume computation and projection; the significance of form class.

AGF 451: Ground Forest Surveying Techniques (3 Units)

Close traverse survey involving forest fields, villages and towns, insertion of control points and description thereof; insert of rare topographic features; the use of ground positioning survey to establish control points; plotting and mapping and computations of angular closure error.

AGF 461: Forest Civil and Logging Operations (3 Units)

Logging planning and cost control; felling and bucking; logging gradient to minimize erosion, skidding, hauling and transport facilities; marking and peeling of logs; peeling devices and maintenance of logging equipment and tools. Construction of logging roads and bridges.

AGF 471: Agroforestry Practices (3 Units)

Natural agroforestry in natural forest stand; studies to reveal the natural interaction biotic factors; the most favoured biological entity; integration of various agricultural crops with forest trees in carefully determined combinations; yield and their relationship with the combined crops.

YEAR FOUR (PRACTICAL YEAR): SECOND SEMESTER

AGF 412: Wood Technology and Utilization (3 Units)

Wood identification using structural features, wood conversion in wood workshop, wood colour, heart and sap wood, density; physical properties of wood-bending strength, compression strength, resistance to impact, wood borers and fungi attacks; and wood shrinkage and movement, working properties blunting, sawing, machining, nailing and gluing. Wood flexibility in design and construction, practical project in wood construction.

AGF 422: Wildlife Capture and Domestication (3 Units)

Techniques of capturing wildlife especially the dangerous ones; training in the use of fire arms, storage and handling, bullet loading and trigger release; fire arms lock, control and carrying. Wildlife maintenance, feeding, succulent fruits, protein grass, animals feed, etc.

AGF 432: Forest & Wildlife Biometrics (Practical Application of Experimental Design) (3 Units)

Application of simple biometric techniques to Forestry and Wildlife Management Problems, sampling analysis and predictions.

AGF 440: Forest/Wildlife Ecological Survey (3 Units)

Wildlife population assessment; carrying capacities in reserved areas and regulatory dynamics to provide a base for income generation, sustainability strategies for the rare fauna species; selected terrestrial and aquatic project areas.

AGF 452: Park and Zoon Management (2 Units)

National Parks, Principles, Purposes and objective, public participation in park design and management; resource information base for planning, landscape architecture, zoo planning, design and development.

AGF 462: Aerial Photo-Interpretation of Vegetation Wildlife Composition and Mapping (2 Units)

Orientation and study of aerial photographs; stereoscopic parallax; mapping from aerial photographs; and remote sensing techniques; delineation of land forms and physiographic features from aerial photos.

YEAR FIVE: FIRST SEMESTER

AGF 501: Multiple Land Use (2 Units)

Nigeria's land resources; attitude and conflicts; strategies for resolution of conflicts, integrated use of land forestry, wildlife, fisheries and agricultural purposes. Formulation of management policies for land areas. Decision making in the allocation of land for forestry, wildlife and agriculture; legislating relating to land and environmental planning.

AGF 511: Forest Management and Economics (2 Units)

Principles of sustained yield; yield control and management for optimization of set objectives; systems approach to forest management, use of analytical procedures in forest management and utilization decision; forest goods and services. Market trends and factors affecting their demand and supply; Application of economics principles to decision making in forestry; project evaluation. Forestry economic development.

AGF 521: Forest and Wildlife Policy, Law and Administration (2 Units)

Forest wildlife and related natural resource policies; planning effective use of forest resources; structure of wildlife administration; problems of conserving forest and endangered species. Nigerian law in natural resources management. Administration and wildlife conservation for economic and recreational uses, problems of wildlife conservation in Nigeria.

AGF 531: Silviculture (2 Units)

Major forest types of the tropics and silvicultural systems employed in their management, plantation and nursery practices; seed technology with special reference to trees.

AGF 541: Forest Soils (2 Units)

Understanding of soil dynamics and influence upon forest composition, stand regeneration, tree vigour and tree growth rate; forest soil physics, chemistry and microbiology, soil moisture movement; forest nursery soil management; forest soil fertility determination, maintenance and improvement with special reference to tropical conditions.

AGF 551: Forest Genetics and Tree Breeding (2 Units)

Inventory, selection and conservation of basic genetic material for mass production of improved strains for silviculture. Theory, practice, methods of consequences of breeding tree crops; principles underlying choice of species; quantitative genetics in forest tree improvement. Economics of tree breeding; tree breeding programmes; principles, establishment and management of seed orchards.

AGF 561: Forest Pests, Diseases and Forest Protection (2 Units)

Taxonomy and biology of major pests and diseases of forest tree. Principles underlying disease and pest control. Genetic and environmental control; five use and control; protection against encroachment; diseases and illegal felling.

AGF 571: Seminar (1 Unit)

Each student is expected to prepare and deliver a seminar in the final year.

AGF 581: Wood-based Panel Products (2 Units)

Principles of panel production. Wood chips, flakes and fibre conversion process. Properties of wood adhesives and additive. Manufacturing techniques and mechanical characteristics of particle board, fibre and wood-cement boards. Dimensional stability of panel products. Quality control and marketing of panel products.

YEAR FIVE: SECOND SEMESTER

AGF 502: Management of Game Birds (Ornithology) (2 Units)

Classification, structure, ecology and economic importance of birds and avifauna of Africa; distribution and identification of game birds; management techniques.

AGF 512: Forest Mensuration (2 Units)

Advanced sampling method in inventory; volume estimation and volume table construction; growth increment determination; construction of management tables.

AGF 522: Forest and Wildlife Biometrics (2 Units)

Practical concepts in the design and analysis of experiments on tree crops and wildlife. Survey techniques as they relate to forestry problems. Processing of resource inventory and mensuration data for management purposes. Application of multivariate analysis to forestry and wildlife. Basic techniques in survey sampling and design.

AGF 532: Wildlife Nutrition (2 Units)

Principles of nutrition of wildlife; Nutrient composition of wildlife foods; nutrient requirements of wildlife for various physiological processes; feed formulation, ration preparation and general methods of feeding.

AGF 542: Forest Industries and Timber Quality Control (2 Units)

Forest based industries including furniture, sawmills, plymill, fibre board, chipboard, and particleboard mills, determination of timber quality and its control; inspection, sampling and grading; wood protection; minor forest based industries e.g. charcoal production, cellulose derivatives, industry; marketing of forest resources; citing of forest industries.

AGF 552: Wildlife Management and Utilization (2 Units)

Wildlife production; harvesting strategies and problems of game cropping; “bushmeat” processing methods; traditional uses of domestication; growth behaviour and reproduction of animals in captivity; food habit and food preferences. Design of paddocks, animal houses and captivity; food habit and food preferences. Design of padlocks, animal houses and cages. Husbandry techniques and health care in captivity. Beekeeping.

AGF 562: Wood Processing and Pulping Process (2 Units)

Evaluation of quality of standing trees. Felling and logging techniques; wood conversion and processing; wood seasoning and preservation; machining, gluing, preservation and finishing; charcoal production, chemical processing of pulp and paper.

AGF 572: Forest and Wildlife Extension and Education (2 Units)

Management interpretation to include methods and techniques for communicating values of forestry, parks, game reserves and other wildlands. The role of the extension agent's in providing organizational administrative support in Forestry. Training programmes for extension workers in forestry and wildlife.

AGF 582: Pulp and Paper Technology (2 Units)

Raw materials for pulp and paper production. Wood pulping technique mechanical, chemical, semi-chemical and thermo-chemical pulping. Pulp bleaching and bleaching agents. Waste paper recycling. Paper production-mat formation, sizing, dye application pressing and drying. Physical and mechanical properties of paper, paper products-writing paper.

AGF 500: Project (4 Units)

Each student in the forestry and wildlife option is required to choose and execute a special research project under supervision. Duration of the project is two semesters.

6.0 ACADEMIC COURSES:

5.1 As a follow up to paragraphs 2 and 3, and in keeping with the Guidelines of the National Universities Commission (NUC), the Department of Forestry and Wildlife Resources Management shall concern itself with three groups of courses:

- i. Supporting courses which are meant to meet the general requirements for first degree at the University of Calabar, cross Faculty courses and cross departmental courses of which graduates of the Department of Forestry and Wildlife Resources Management are likely to encounter in their day to day professional practices.
- ii. General agriculture courses which are prescribed by the National Universities Commission (NUC) for students studying Agriculture subjects in Nigerian Universities.
- iii. The core departmental courses needed to strengthen the background of students who are taking Forestry or Wildlife Management as a profession.

5.2 SUPPORTING COURSES

There are fifty-four credit hours that will be taken across faculty level. In addition to the general courses stipulated by NUC, the Department of Forestry and Wildlife Resources Management has added, as required departmental courses, Computer Science, Forest Biometrics, Field experimental and Macro-economics.

6.0 REGISTRATION PROCEDURE

- i. All fresh students whose names appear on the admission lists published in the media should confirm their admission status with Head of Department (HOD).
- ii. After confirming their names on the admission list available in the HOD's office, students should obtain from the HOD written clearance with which they should proceed to pay their school charges at the bank designated for the Faculty.
- iii. No student should proceed to pay his/her school charges without clearance from their HOD as no refunds will be made to persons who remit their school charges into banks without clearance.
- iv. Students duly cleared to pay their school charges should, after payment, log in their scratch cards with Socket works <http://www.myunical.net> to obtain their online receipt.
- v. All students, both new and returning, should present their online receipts to their HOD or Departmental Registration Officers (DRO) for the collection of their Class Admit Cards (CACs) and Time-Table Cards (TTCs).
- vi. All students must use the CACs and TTCs to register for all courses otherwise the courses will not be credited to them.
- vii. The Class Admit Card for each course and the Time-Table Cards should be handed over to the Lecturer teaching that course for necessary administrative action(s)
- viii. All students should know that all registration activities are to be carried out within the Department of Forestry and Wildlife Resources Management, as such they should report to the HOD or Departmental Registration officer (DRO) for all registration matters. The name of the Departmental Registration Officer is on page 1.
- ix. Any student caught with fake receipts, scratch cards, class admit cards or time table/personal data cards will automatically be expelled from the University
- x. Students should note that only bona fide students who have properly registered for a course will be allowed to write an examination in that course.
- xi. The approved Departmental registration dues is N400.000 only per session, while the approved faculty dues is also N400.00 per session. All students who use laboratories/studios pay their lab/studio dues of N500.00 per session to their respective Head of Department. Students taking lab/studio courses outside their Departments are to pay N100.00 only per session to the Head of those Departments.
- xii. Faculty dues are now to be collected by Departmental Registration Officers (DRO) and passed on to the respective Deans through the Heads of Department.
- xiii. The Department of Forestry and Wildlife Resources Management will not collect late Registration charges from students. It is the responsibility of the

Bursary Department to collect such charges from students and issue appropriate receipts to them. The affected students present such receipts to the DRO for clearance.