

**DEPARTMENT OF AGRICULTURAL EXTENSION AND RURAL SOCIOLOGY  
FACULTY OF AGRICULTURE, FORESTRY AND WILDLIFE RESOURCES  
MANAGEMENT,  
UNIVERSITY OF CALABAR  
CALABAR – NIGERIA**

**UNDERGRADUATE STUDENTS' HANDBOOK**

**OCTOBER, 2019.**

## 1.0 GENERAL CONTACT:

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**Postal Address:**

Department of Agricultural Extension and Rural Sociology  
Faculty of Agriculture, Forestry & Wildlife Resources Management  
University of Calabar  
P.M.B. 1115, Calabar  
Cross River State  
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**Websites:** University of Calabar: [www.unical.edu.ng](http://www.unical.edu.ng)

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

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

**Departmental Officers: 2019:**

**Professors:**

1. Prof. H. M. Ndifon
2. Prof. U. C. Undiandeye
3. Prof. A. O. Angba

**Head of Department/Chairman of Academic Board:**

**Dr. K. I. Ogbonna**

Phone: 07089062724 or 08062625778

e-mail: [ogbokalu@yahoo.com](mailto:ogbokalu@yahoo.com)

**Examinations Officer: Dr. G. F. ELEMI**

Phone: 07034986159

**Deputy Exams Officer: Dr. E. O. EREMI**

Phone: 08062587854

**Admin. Officer: Akpandem, EyoEtim**

Phone: 08064358424

**Seminar/Project Coordinator: Dr. E. O. EREMI**

Phone: 08062587854

**Practical Year Coordinator: Mr. J. B. Effiong**

Phone: 08037893942

**Academic Advisers: 2018/2019**

- Year 1: HOD
- Year 2: Prof. U.C. Undiandeye
- Year 3: Dr. G.F. ELEMI
- Year 4: Dr. J.B. Effiong

- Year 5: All students' project supervisors

**GENERAL INFORMATION ON DEPARTMENT OF AGRICULTURAL EXTENSION  
AND RURAL SOCIOLOGY**

<b>Course ID:</b>	<b>Yr/011145...</b>
<b>Awarding Institution:</b>	<b>University of Calabar</b>
<b>Study Mode:</b>	<b>Full Time</b>
<b>Course Duration:</b>	<b>Five (5) academic sessions (UTME). Fourth year is exclusively practical Fourth (4) academic sessions (Direct Entry) Third year is exclusively practical</b>
<b>Degree in view:</b>	<b>B. Agric. (Agricultural Extension &amp; Rural Sociology)</b>

### **1.1 INTRODUCTION**

The Department of Agricultural Extension and Rural Sociology is governed by the Departmental Board, which comprises the Head of Department (Chairman) and all the lecturers in the Department. It started during the 1981/82 academic year leading to the Bachelor of Science degree in Agriculture (Agricultural Economics and Extension). However, from 1986/87 academic session, the Department's programme was revised leading to the award of a Bachelor of Agriculture degree in Agricultural Economics and Extension. The degree programme lasts for Five years (four years for direct entry students), one of which is devoted to practical training. To participate in the practical year programme, a student must have passed 20 credit hours of courses, (or must not have more than 8 credit hours of courses outstanding at the end of the third year of study). However, to enable students with deficiency proceed to the practical year (or graduate in the final year), the Department runs a long vacation programme where students can register for a maximum of four failed courses, write examination and proceed to the next step, If successful. Successful students in the fourth year (Practical Programme) are assigned Seminar/Project Supervisors by the Head of Department:

The Department offers academic advice to students. Each class of students is assigned an academic adviser to advise students on the selection and registration of courses among other things. To contribute to the academic, cultural, recreational and social life of the University, the Department encourages all students to be members of the Nigerian Association of Agricultural Extension and Rural Sociology Students.

### **1.2 HISTORY OF THE DEPARTMENT:**

The Agricultural Economics and Extension programme took off as one of the Bachelor Science degree in Agriculture during the 1981-82 Session. The approved curriculum of the programme continued to be operative until the 1986-87 Session when it was replaced by a revised version. In the 2014/2015 academic year, the Department of Agricultural Extension and Rural Sociology came into existence when the former Department of Agricultural Economics and Extension was split into two new Departments namely: Agricultural Extension & Rural Sociology and Agricultural Economics. Since then, the Department of Agricultural Extension and Rural

Sociology has continued to carry out effective tripartite roles of teaching, research and community services.

Since its inception, the Department has been under the headship of different administrators as follows:

S/No.	Name of Head of Department	Date
1	Prof. U.C. Undiandeye	2014-2017
2	Dr. C. L. Aboh	2017-2019
3	Dr. K. I. Ogbonna	2019 to Date

### **1.3 PHILOSOPHY, MISSION, VISION, GOALS AND OBJECTIVES**

#### **1. PHILOSOPHY**

The philosophy of the Department is to retain and equip skilled manpower that can be self-employed and take up job opportunities in other private and public sectors of the economy. Emphasis is placed on practical training and research that will produce managers, who are knowledgeable and well trained to manage farms, small scale food processing industries in rural areas, reduce postharvest losses, make food available to consumers and train farmers on new agricultural innovations from research, bearing in mind the customs and tradition of the farmers

#### **2. MISSION**

The Department's mission is to provide students with improved knowledge of basic principles of extension and rural sociology; and to keep them abreast with recent improved technological innovations and sociological concepts. It is also the responsibility of the Department to conduct research on general improvement of agricultural production, storage, environmental management, processing, home management and utilization of improved technologies in line with the sociological concept of the farmers.

The mission of the Department is also to assist farmers within its environs to meet the challenges of animal and crop production, storage, soil management practices, environmental awareness among others through collaborative linkage with relevant national and international bodies.

#### **3. VISION**

The vision of the Department is in line with that of the Faculty of Agriculture, Forestry and Wildlife Resources Management which is to constitute a formidable base for improved extension delivery system for crop and animal production, extension education, communication, forestry and wildlife management/protection, soil management practices, home management, food processing and rural development through effective teaching, collaborative research and networking to prepare students with interest to take-up extension and rural sociology as a career.

#### **4. GOALS**

The broad goal of the Department is to carry out teaching and research on agricultural extension, rural sociology, and development with the aim of graduating students at undergraduate and graduate levels with adequate skills in agricultural extension education, extension

administration/management, extension communication/information technology, rural/community development, rural sociology and environmental extension management as well as research capabilities towards increased agricultural production.

## **5. OBJECTIVES**

1. To prepare them for professional academic careers through research work.
2. To train students on the principles of agricultural extension and equip them with analytical tools for finding solutions to problems of agriculture, agricultural extension and rural development.
3. To equip graduates for employment in the agricultural sector and schools, or gainful self-employment.
4. To train and equip graduates with skills on technology transfer that will help to educate peasant farmers on modern farming practices.
5. To train graduates to be able to conduct advanced research in agricultural extension and rural sociology.

## **2.0 AREAS OF SPECIALIZATION IN AGRICULTURAL AND EXTENSION RURAL SOCIOLOGY:**

- Agricultural Extension Education
- Agricultural Extension Administration
- Agricultural Communication and Information Technology
- Rural and Community Development
- Rural Sociology
- Environmental Extension Management

## **3.0 ADMISSION REQUIREMENTS**

Admission of students into the degree programme in Agricultural Extension and Rural Sociology is through the Joint Matriculation Examination, Direct Entry and the Pre-Degree Programme of the University of Calabar which is aimed at rectifying student deficiencies in the basic sciences before embarking on the full degree programme.

To qualify for admission into the degree course, a candidate must satisfy the general University requirements as outlined in the JAMB Brochure Guidelines for admission to First Degree Courses in Nigerian Universities (obtainable from the Joint Admissions Matriculation Board). The candidate must also fulfil the Faculty and Departmental requirements prescribed below:

### **3.1. Basic Departmental Requirement**

Candidates seeking admission to study for B. Agric. should have possessed passes in five (5) relevant credit levels in English Language, Mathematics, Chemistry and Biology or Agricultural Science at Senior Secondary Certificate Examination (or equivalent e.g. GCE, WASCE etc) and Economics or Geography with at least a pass in Physics at a maximum of two attempts.

Candidates should also pass in satisfactory total points, the University of Calabar Post-UME screening (Aptitude Test).

## **Further Requirements based on Options**

### **Option 1: UTME Candidates**

In addition to the basic departmental requirements, applicants are required to have an acceptable Unified Tertiary Matriculation Examination (UTME) score (usually above 180) in the current UTME and also have an acceptable score in the University of Calabar selection test for undergraduate admission.

### **Option 2: Direct Entry Candidates:**

In addition to the Basic Departmental Requirements, candidates are required to possess a National Diploma (Higher National Diploma or Ordinary National Diploma or NCE) at Distinction or Credit level in Agricultural Science or related science courses. Candidates with three passes at 'A' Level GCE in General Agriculture plus two basic science subjects including English Language may also be considered for admission.

Direct entry candidates are admitted to start from year two.

### **Option 3: Unical Pre-Degree Programme**

The University of Calabar, runs a one year pre-degree Programme to enable candidates make up for their deficiencies. Graduates of the pre-degree programme with acceptable scores may be admitted in to the Agricultural Extension and Rural Sociology Programme provided they have passed at credit level and meet the Basic Departmental Requirements

## **4.0 APPROVED REGISTRATION PROCEDURE FOR ALL STUDENTS**

- 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 charges without clearance from his/her HOD as no refunds will be made to persons who pay their school charges into banks without such 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 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 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 Agric. Extension and Rural Sociology, as such they should report to the HOD or Departmental Registration officer for all registration matters. The name of the Departmental Registration Officer is in the *Contacts*' page.
- 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 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 N2000.00 only per session, while the approved faculty dues is also N2000.00 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 and passed on to the respective Deans through the Heads of Department.
- xiii. The Department of Agric. Extension & Rural Sociology 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.
- 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.

## **5.0 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 s/he submits his/her completed Time-Table Cards to the Head of Department or DRO and Class-Admit Cards to the respective Lecturers within stipulated time. In addition to Class Admit Cards, ALL courses also have to be registered online.

### **b) Minimum and maximum Work Load (Credits 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 28 credit hours per semester ONLY with the approval of Senate on the recommendation of the Faculty.

### **c) Repeating Failed Courses**

A student is to repeat the failed course unit(s) at the next available opportunity. Senate directs that Students must first register for failed courses before registering new courses provided that the total number of credit hours carried during the semester does not exceed

24 Credit Hours. A student repeating any course should retain the grade carried and should count towards the computation of GPA and CGPA for that academic year.

**d) Repeating Courses in final year:**

A final year student who fails between one (1) and four (4) courses may be permitted to enter for the Long Vacation Programme in those courses. If he passes, he may graduate along with his colleagues. But if he fails to meet up with the standard of passes and if he fails more than four courses after the normal degree exams, he is required to repeat a year to clear the failed courses.

**e) 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 courses at the next available opportunity first before registering new courses

**f) Compulsory 'F'**

A student that has repeated a particular course thrice shall be awarded a mandatory F grade for that course except for GSS courses.

**g) Probation:** A student who fails up to 10 Credit units with CGPA less than 1.50 should be placed on probation. Secondly, a student who fails up to 15 Credit Units and CGPA is 1.50 or above should be placed on probation. Such a student is required to repeat that year and take only those courses failed.

**h) Withdrawals:** Student who fails up to 15 Credit Units BUT CGPA is less than 1.50 should **WITHDRAW OR CHANGE PROGRAMME**. A student who was placed on probation and could not have up to CGPA of 1.50 or greater is required to withdraw from the course of study or change programme to another. However, if the student is unable to transfer to another Department, he is to withdraw from the University. At the first attempt, a student who fails **MORE THAN 15 Credit Units** should **WITHDRAW**.

## **6.0 ACADEMIC ADVICE**

In the Department, each class of students is assigned one academic staff as an *Academic Adviser*. Duties of the Academic Adviser include:

- a) Advice students on the selection and registration of courses
- b) Ensure that students register for between 16 and 24 credit hours per semester.
- c) Endorse on all registration materials.
- d) Advice on other academic problems and related matters.

NB: It is proper for the students to approach the Academic Adviser first before registering for courses, and when facing any difficult situation. The names of Academic Advisers are provided on the '*Contacts*' page in this handbook.



## **7.0 EXAMINATION REGULATIONS**

### **7.1 Requirements for taking examination**

1. 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.

### **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 Examinations**

- (a) The duration of written examinations shall be conducted within two 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 Co-ordinator 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.

### **7.5.2 *Misconduct***

- i. No student shall communicate with any other student or with any other person, except with the invigilator when absolutely necessary. In addition, no student shall make any noise or cause any disturbance during an examination.
- ii. No book, paper, printed or written document or other aid may be taken into an examination room by any student, except as may be stated in the rubric of a question paper. Any candidate found in possession of such prohibited items shall be made to sign an examination irregularity form and a written report made to the Chief Examination Officer. The chief examiner shall in turn investigate and report to the Departmental Examination Board, which shall determine whether or not to accept the student's script or make any other recommendations to the Faculty Board of Examiners.

Students are required to deposit, at their own risk, any handbag, mobile phone, briefcase or similar articles at a desk/corner provided for the purpose before the examination starts.

- iii. Mobile phones shall not be taken into examination hall.
- iv. No students shall, directly or indirectly, give assistance to other students, or permit other students to copy from or otherwise use their papers. Similarly, students shall not directly or indirectly accept assistance from students or other persons.

- v. Except for the printed question paper, a student shall not remove from the examination room or mutilate any paper or other examination material supplied.
- v. At the end of the time allotted, the invigilator shall instruct all students to stop writing, and stand up.
- vi. At the discretion of the Chief invigilator a candidate may be required to leave the examination room if his/her conduct is adjudged to be disturbing or likely to disturb the examination. The Chief invigilator shall report any action taken to the Head of Department immediately;

### 7.5.3 *Expulsion*

A student may be expelled from the University for Gross Misconduct such as fighting, impersonation during examination or forgery of Certificate or other official documents including receipts, Class Admit Cards, Time-Table Cards and for insubordination. Senate shall decide the final penalties in cases of proven gross misconduct

## 8.0 GRADING SYSTEM AND REQUIREMENTS FOR GRADUATION

The Department in line with the University guidelines, beginning in 1989/90 session operated a five point grading system. Results are graded by letter grades: A, B, C, D, E, and F. The corresponding grade points, grade percentages and descriptions are presented as follows:

Percentage Mark	Letter Grade	Grade Point	Description
70 – 100	A	5.00	Excellent
60 – 69	B	4.00	Very Good
50 – 59	C	3.00	Good
45 – 49	D	2.00	Average
40 – 44	E	1.00	Pass
0 -39	F	0.00	Fail

### 8.1 Graduation requirements

The Department of Agric. Extension and Rural Sociology awards degree of Bachelor of Agriculture (B. Agric.) in Agric. Extension and Rural Sociology. The following classes of degree are awarded on the basis of corresponding cumulative grade point averages (CGPA).

Cumulative Grade Point Average (CGPA)	Class of Degree
---------------------------------------	-----------------

4.5 – 5.0	1 <sup>st</sup> Class Honours
3.50 – 4.49	2 <sup>nd</sup> Class Honours <b>(Upper Division)</b>
2.40 – 3.49	2 <sup>nd</sup> Class Honours <b>(Lower Division)</b>
1.50 - 2.39	Third Class Honours
1.00 - 1.49	Pass
0.0 - 0.99	Fail

## 8.2 Calculation of graduation requirements

I Credit Units	ii Percentage Score	iii Letter Grade	iv Grade point	V Grade Point Average	vi Cumulative Grade Point Average	vii Class of Degree
Unit credited to contact hours assigned to each course per week	70 – 100	A	5	Multiply units in columns I and iv and divide by credit units	4.50 – 5.00	First class
	60 – 69	B	4		3.50 – 4.49	2 <sup>nd</sup> Upper
	50 – 59	C	3		2.40 – 3.49	2 <sup>nd</sup> Lower
	45 - 49	D	2		1.50 – 2.39	Third Class
	40 – 44	E	1		1.00 – 1.49	Pass
	0 – 39	F	0		0.00 – 0.99	Fail

## 9.0 ACADEMIC STAFF LIST

S/N	NAME	RANK	AREA OF SPECIALIZATION
1	Prof. H.M. Ndifon,	Professor	Extension & Community Development
2	Prof. U.C. Undiandeye	Professor	Extension Administration
3	Prof. A.O. Angba	Professor	Community Development
7	Dr.C.L. Aboh	Ass. Professor	Community Development
8	Dr. K.I. Ogbonna	Senior Lecturer	Rural Sociology
9	Dr. F.O. Idiku	Lecturer 1	Extension & Rural Development
10	Dr. J. B. Effiong	Lecturer 1	Rural Development/Sociology
11	Dr. H.C. Eta	Lecturer II	Environmental Extension

12	Dr. E.O. Eremi	Lecturer II	Rural Sociology
13	Dr. G. F. Elemi	Lecturer II	Community & Rural Development
14	Mr. E.I. Agube	Assistant Lecturer	Environmental Extension
15	Mrs. C. F. Aya	Assistant Lecturer	Community Development
16	Mrs. D. A. Iyamah	Assistant Lecturer	Community Development
17	Mr. P. Ogar	Graduate Assistant	Information & Communication Technology

#### 10 NON TEACHING/ADMINISTRATIVE STAFF

S/N	NAME	DESIGNATION
1	Mrs Blessing A. Ubana	Chief Conf. Sec
2	Ekeng, UduakEkengEwa	Admin. Officer
3	Akpandem, EyoEtim	Admin. Officer
4	Eyo, Comfort Edet (Mrs)	Data Pro. Officer II
5	Igiri, Caroline Gowon	Agric. Ext. Officer II
6	Akpet, EnyangObaji	System Analyst
7	Ogar, Onyinyechi Doris	Agric. Ext. Officer II
8	Odey, Comfort Iyowo	Admin. Asst.
9	Odo, AkpanaOfie	Agric. Ext. Officer II
10	Aniah Laura Regina	Higher Executive Officer
11	Oklebe Janet O.	Higher Executive Officer
12	Akpandem Glory Ekpenyong	Head Messenger/Cleaner
13	Edet, WofaiOnen	Agric. Extension Officer 1
14	Takon, Elsie Kokoma	Agric. Extension Officer II

## 11.0 CURRICULUM ANALYSIS FOR AGRICULTURAL EXTENSION AND RURAL SOCIOLOGY

### 100 Level

#### First Semester

S/N	Course Code	Course Title	Credits
1	GSS 101	Use of English and Communication Skills I	2
2	GSS 121	Philosophy and Logic	2
3	GSS 141	Anti-Corruption Studies I	2
4	BIO 111	General Biology I(Botany/Zoology)	3
5	CHM 101	General Chemistry I(Physical Chemistry)	3
6	PHY 111	Introductory Physics I(General Physics)	3
7	MTH 111	Mathematics (Algebra and Trigonometry)	2
8	AGE 111	Introduction to MicroEconomics& Social Sciences	2
<b>Sub-Total</b>			<b>19 Credits</b>

#### Second Semester

09	GSS 102	Use of English and Communication Skills 11(Use of Library Skills and ICT)	2
10	GSS112	Citizenship Education (Nigerian People & Culture)	2
11	GSS 142	Anti-Corruption Studies II	2
12	AGE 112	Introductory to MacroEconomics& Social Sciences	2
13	PHY 112	Introductory Physics II	3
14	MTH132	Mathematic (Calculus & Analytic Geometry)	2
15	BIO 112	General Biology II	3
16	CHM 102	General Chemistry II (Organic Chemistry)	3
<b>Sub-Total</b>			<b>19 Credits</b>

**Total** **38 Credits**

### 200 Level

#### First Semester

S/N	Course Code	Course Title	Credits
1	AGR 241	General Agriculture & Biotechnology	2
2	AGR 211	Biogeography & Climatology	2
3	AGA 211	Anatomy and Physiology of Farm Animals	2
4	AGC 221	Crop Anatomy, Taxonomy and Physiology	2
5	AGS 211	Principles of Soil Science & Environment	2
6	AGE 202	Principles of Agricultural Economics	2
7	AGR 231	Introduction to Organic Agriculture	2
8	AGR 232	Introduction to Forestry Resource Management	2
9	AGR 251	Farm Practice	1
10	AFM 211	Principles of Fisheries and aquaculture	2
<b>Sub-Total</b>			<b>19 Credits</b>

#### Second Semester

10	AGA 222	Principles of Animal Production	2
11	AGC 212	Principles of Crop Production	2
12	AGR 242	Principles of Food Science and Technology	2
13	AGR 212	Introduction to Agricultural Biochemistry	2
14	GSS 212	Introduction to Computers	2
15	AFM 212	Principles of Fisheries (Anatomy and physiology of Fishes)	2
16	AGR 262	Introductory Statistics	2
17	GST 202	Entrepreneurial Theory (Entrepreneurial Studies 1)	2
18	AGR272	Introduction to Home Economics	2
20	AGC 202	Landscape horticulture	2
<b>Sub-Total</b>			<b>20Credits</b>
<b>Total</b>			<b>39Credits</b>
<b>300 Level</b>			
<b>First Semester</b>			
1	AGA 311	Non-Ruminant Animal Production	2
2	AGC 311	Field (Arable) Crop Production	2
3	AGS 321	Introduction to Pedology and Soil Physics	2
4	AGX 311	Principles of Agricultural Extension& Rural Sociology	2
5	AGR 311	Introduction to Farm Machinery & Mechanization	2
6	AGR 321	Application of Computers to Agricultural Production	3
7	AGC 321	Crop Genetics & Breeding	2
8	AGE 311	Introduction to Farm Management & Production Economics	2
9	AGS 331	Soil Resources & Mgt. in Organic Agriculture	2
<b>Sub-Total</b>			<b>19 Credits</b>
<b>Second Semester</b>			
10	AGA 322	Ruminant Animal Production	2
11	AGC 332	Tree (Permanent) Crop Production	2
12	AGC 322	Principles of Crop Protection	2
13	AGA 332	Introduction to Animal Breeding and Genetics	2
14	AGS 312	Soil Chemistry and Microbiology	2
15	AGX 322	Agricultural Extension Education & Communication (Teaching, Learning Process and Methods)	2
16	AGR 312	Agricultural Biochemistry and Methods	2
17	AGR 352	Agricultural Statistics and Experimental Design (Statistics & Data Processing)	2
18	GST 302	Entrepreneurship Trade Skill (Entrepreneur Studies II)	2
19	AGR 362	Farm Practice	1
<b>Sub-Total</b>			<b>19 Credits</b>
<b>Total</b>			<b>38 Credits</b>
<b>400 Level</b>			
<b>First Semester</b>			

1	AGC 401	Crop Production Techniques (Permanent, Arable and Horticultural Crop etc)	4
2	AGA 401	Animal Husbandry Techniques (Cattle, Sheep, Goats, Poultry, Pigs, Rabbits, Snails etc)	3
3	AGR 401	Agricultural Products Processing and Storage	2
4	AGC 411	Pests & Diseases of Horticultural & Vegetable Crops Management	2
5	AGA 411	Animal Health Management	2
6	AGS 421	Soil Fertility, Soil & Water Management (Laboratory Analysis Techniques)	2
7	AGR 421	Farm Design, Farm Survey and Land use Planning	2
8	AGE 401	Farm Management, Records and Accounting	2
9	AGX 411	Extension Practices (Participation in Agric. Extension)	2
10	AGR 401	Workshop Practices	2
11	AGR 411	Farm Mechanization Practices	2
12	AGS 411	Soil Sampling, Survey and Taxonomy	2
13	AGR 431	Agricultural Meteorology	2
14	AGR 412	VIVA/VOCE	2
15	AGR 432	Scientific Report Writing	3
<b>Total</b>			<b>34 Credits</b>
<b>Second Semester</b> <i>SIWES/IT (IN AN ESTABLISHED FARM)</i>			
<b>500 Level</b>			
<b>First Semester</b>			
1	AGX 501	Seminar	1
2	AGX 521	Programme Planning and Evaluation	2
3	AGX 531	Introduction to Rural Sociology	2
4	AGX 541	Research Methods	2
5	AGX 551	Theory and Practices of Extension Administration	2
6	AGX 561	Introduction to Agricultural Communication	2
7	AGX 571	Rural and Community Development	2
8	AGX 581	Educational Psychology and Extension Practices	2
9	AGX 591	Youth Extension Programmes	2
10	*AGA 551	Nigerian Feeds and Feeding Stuffs	2
11	*AGC 541	Horticultural Crop Production (Vegetable And Fruit Production)	2
<b>Sub-Total</b>			<b>21Credits</b>
<b>Second Semester</b>			
12	AGX 520	Research Project	2
13	AGX 522	Information Communication Technologies in Agriculture	2
14	AGX 532	Social and Technological Changes in Agriculture	2
15	AGX 542	Diffusion and Adoption of Agricultural Innovations	2
16	AGX 552	Gender Issues in Extension and Rural Development	2
17	AGX 562	Introduction to Environmental Extension	2
18	AGX 572	Community Organization and Leadership	2



19	AGX 582	Agricultural Journalism & Audio Visual Aids	2
20	AGX 592	Introduction to Group Dynamics	2
21	*AGA 542	Animal Products and Handling	2
22	*AGC 542	Processing and Storage of Agricultural Produce (Post Harvest Physiology and Product Storage)	2
		<b>Sub-Total</b>	<b>22 Credits</b>
		<b>Total</b>	<b>43 Credits</b>

\*Elective

N/B: Students are to take one elective course per semester.

## DIRECT ENTRY (DE) CANDIDATES

### Year 1 of 4

<b>First Semester</b>			
S/N	Course Code	Course Title	Credits
1	GSS 101	Use of English and Communication Skills I	2
2	GSS 121	Philosophy and Logic	2
3	GSS 141	Anti-Corruption Studies I	2
4	AGR 241	General Agriculture & Biotechnology	2
5	AGR 211	Biogeography & Climatology	2
6	AGA 211	Anatomy and Physiology of Farm Animals	2
7	AGC 221	Crop Anatomy, Taxonomy and Physiology	2
8	AGS 211	Principles of Soil Science & Environment	2
9	AGE 202	Principles of Agricultural Economics	2
10	AGR 231	Introduction to Organic Agriculture	2
11	AGR 232	Introduction to Forestry Resource Management	2
12	AGR 251	Farm Practice	1
13	AFM 211	Principles of Fisheries and aquaculture	2
		<b>Sub-Total</b>	<b>25 Credits</b>
<b>Second Semester</b>			
14	GSS 102	Use of English and Communication Skills 11(Use of Library Skills and ICT)	2
15	GSS112	Citizenship Education (Nigerian People & Culture)	2
16	GSS 142	Anti-Corruption Studies II	2
17	AGA 222	Principles of Animal Production	2
18	AGC 212	Principles of Crop Production	2
19	AGR 242	Principles of Food Science and Technology	2
20	AGR 212	Introduction to Agricultural Biochemistry	2
21	GSS 212	Introduction to Computers	3
22	AGR 252	Principles of Fisheries & Wildlife Res. Management	2
23	AGR262	Introductory Statistics	2
24	GST 202	Entrepreneurial Theory (Entrepreneurial Studies 1)	2
25	AGR272	Introduction to Home Economics	2
26	AGC 202	Landscape horticulture	2

			<b>Sub-Total</b>	
			<b>Total</b>	<b>50 Credits</b>
<b>Year 2 of 4</b>				
<b>First Semester</b>				
1	AGA 311	Non-Ruminant Animal Production		2
2	AGC 311	Field (Arable) Crop Production		2
3	AGS 321	Introduction to Pedology and Soil Physics		2
4	AGX 311	Principles of Agricultural Extension & Rural Sociology		2
5	AGR 311	Introduction to Farm Machinery & Mechanization		2
6	AGR 321	Application of Computers to Agricultural Production		3
7	AGC 321	Crop Genetics & Breeding		2
8	AGE 311	Introduction to Farm Management & Production Economics		2
9	AGS 331	Soil Resources & Mgt. in Organic Agriculture		2
			<b>Sub-Total</b>	<b>19 Credits</b>
<b>Second Semester</b>				
10	AGA 322	Ruminant Animal Production		2
11	AGC 332	Tree (Permanent) Crop Production		2
12	AGC 322	Principles of Crop Protection		2
13	AGA 332	Introduction to Animal Breeding and Genetics		2
14	AGS 312	Soil Chemistry and Microbiology		2
15	AGX 322	Agricultural Extension Education & Communication (Teaching, Learning Process and Methods)		2
16	AGR 312	Agricultural Biochemistry and Methods		2
17	AGR 352	Agricultural Statistics and Experimental Design (Statistics & Data Processing)		2
18	GST 302	Entrepreneurship Trade Skill (Entrepreneur Studies II)		2
19	AGR 362	Farm Practice		1
			<b>Sub-Total</b>	<b>19 Credits</b>
<b>Total</b>				<b>38 Credits</b>
<b>Year 3 of 4</b>				
<b>First Semester</b>				
1	AGC 401	Crop Production Techniques (Permanent, Arable and Horticultural Crop etc)		4
2	AGA 401	Animal Husbandry Techniques (Cattle, Sheep, Goats, Poultry, Pigs, Rabbits, Snails etc)		3
3	AGR 401	Agricultural Products Processing and Storage		2
4	AGC 411	Pests & Diseases of Horticultural & Vegetable Crops Management		2
5	AGA 411	Animal Health Management		2
6	AGS 421	Soil Fertility, Soil & Water Management (Laboratory Analysis Techniques)		2
7	AGR 421	Farm Design, Farm Survey and Land use Planning		2
8	AGE 401	Farm Management, Records and Accounting		2
9	AGX 411	Extension Practices (Participation in Agric. Extension)		2
10	AGR 401	Workshop Practices		2

11	AGR 411	Farm Mechanization Practices	2
12	AGS 411	Soil Sampling, Survey and Taxonomy	2
13	AGR 431	Agricultural Meteorology	2
14	AGR 412	VIVA/VOCE	2
15	AGR 432	Scientific Report Writing	3
<b>Total</b>			<b>34 Credits</b>
<b>Second Semester SIWES/IT (IN AN ESTABLISHED FARM)</b>			
<b>Year 4 or 4</b>			
<b>First Semester</b>			
1	AGX 501	Seminar	1
2	AGX 521	Programme Planning and Evaluation	2
3	AGX 531	Introduction to Rural Sociology	2
4	AGX 541	Research Methods	2
5	AGX 551	Theory and Practices of Extension Administration	2
6	AGX 561	Introduction to Agricultural Communication	2
7	AGX 571	Rural and Community Development	2
8	AGX 581	Educational Psychology and Extension Practices	2
9	AGX 591	Youth Extension Programmes	2
10	*AGA 551	Nigerian Feeds and Feeding Stuffs	2
11	*AGC 541	Horticultural Crop Production (Vegetable And Fruit Production)	2
<b>Sub-Total</b>			<b>21 Credits</b>
<b>Second Semester</b>			
12	AGX 520	Research Project	2
13	AGX 522	Information Communication Technologies in Agriculture	2
14	AGX 532	Social and Technological Changes in Agriculture	2
15	AGX 542	Diffusion and Adoption of Agricultural Innovations	2
16	AGX 552	Gender Issues in Extension and Rural Development	2
17	AGX 562	Introduction to Environmental Extension	2
18	AGX 572	Community Organization and Leadership	2
19	AGX 582	Agricultural Journalism & Audio Visual Aids	2
20	AGX 592	Introduction to Group Dynamics	2
21	*AGA 542	Animal Products and Handling	2
22	*AGC 542	Processing and Storage of Agricultural Produce (Post Harvest Physiology and Product Storage)	2
<b>Sub-Total</b>			<b>22 Credits</b>
<b>Total</b>			<b>43 Credits</b>

\*Elective

N/B: Students are to take one elective course per semester.

## COURSES DESCRIPTION

### UNIFIED TERTIARY METRICATION EXAMINATION (UTME) & DIRECT ENTRY STUDENTS YEAR ONE

#### First semester

#### **BIO 111      General Biology I (Cell Biology and Lower Plants)      3Credit Units**

Cellular basis of life; general structure and functions of plant cells and cellular organelles; plant cell division; heredity; diversity in plant cells and habitats; Morphology, general characteristics, life cycles and range of forms of bacteria, viruses, fungi, algae, bryophytes, Lichens and pteridophytes. General structures of animal cells. Functions of animal cells and cellular organelles; animal cell types and division. Forms, functions and life history of invertebrates using selected examples from classes of invertebrates such as Protozoa, Coelenterates, Arthropods, Platyhelminthes, Aschelminthes, Annelida and Mollusca. Laboratory experiments to illustrate; Cellular basis of life; general structure and functions of plant cells and cellular organelles; plant cell division; heredity; diversity in plant cells and habitats; Morphology, general characteristics, life cycles and range of forms of bacteria, viruses, fungi, algae, bryophytes, Lichens and pteridophytes. General structures of animal cells. Functions of animal cells and cellular organelles; animal cell types and division.

#### **CHM 101: General Chemistry I (Physical Chemistry)      3 Credit Units**

Atoms; Sub-atomic particles, Isotopes, Avogadro's number; The Mole Concept; Chemical Formulae; The laws of Chemical Combinations; Equations and Calculations; States of Matter; Gases, Liquids and Solids; Chemical Thermodynamics; Energetics and Thermochemistry; Buffers, Chemical Equilibrium and Equilibrium Constants; Solubility Products; Chemical kinetics; Electrochemistry; Nuclear Binding Energy, Fission and Fusion. Laboratory experiments to illustrate; Atoms; Sub-atomic particles, Isotopes, Avogadro's number; The Mole Concept; Chemical Formulae; The laws of Chemical Combinations; Equations and Calculations; States of Matter; Gases, Liquids and Solids; Chemical Thermodynamics; Energetics and Thermochemistry; Buffers, Chemical Equilibrium and Equilibrium Constants; Solubility Products; Chemical kinetics; Electrochemistry; Nuclear Binding Energy, Fission and Fusion.

#### **MTH 111: Mathematics (Algebra and Trigonometry)      2 Credit Units**

Algebra and trigonometry, Real number system; real sequences and series; sets and subsets; unit interaction, complements; empty and universal sets; Venn diagram; one way correspondence between sets, quadratic functions and equations; solution of linear equations, simple properties of determinants; indices and binomial theorem; transformations; e.g. log transformation; equations 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 functions of simple real variables; graphs of simple functions, the differentiation of simple algebraic: exponential and log functions; the differentiation of a sum; product; quotient, function of function rules; implicit differentiation: definite and indefinite integrations of functions; application of definite and indefinite integrals to areas and volumes.

**PHY 111: Introductory Physics I (General Physics) 3 Credit Units**

Relevance of physics to agriculture. Selected topics and application to agriculture in mechanics, properties of matter, waves and sound, vibrations, electromagnetism, heat, optics, light, thermal physics, atomic and nuclear physics. Laboratory experiments to illustrate; Use of measuring instruments; surface tension, inertia, viscosity refractive index, optical instruments, tension, energy, heat capacity, temperature, heat and work; obscure expansion, latent heat waves, current flow. Electricity and Electronics – Power and energy; simple meters, charge and capacitance.

**GSS 101: Use of English and Communication Skills I 2 Credit Units**

General instruction regarding English for Academic purposes. Effective communication and writing in English; Reading skills – speed and techniques, comprehension, evaluation, vocabulary development. Listening skills – for note taking, for vocabulary development and structural patterns. Speaking/Language skills – vowels, consonants, intonation, stress, making presentation, principles/techniques of public presentation, and speaking process. Writing Skills – for essay types and structure, letters, types, corrections and distinguishing features; Introduction to academic writing – collection and organization of materials and logical presentation. 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 and punctuation. Library skills.

**GSS 121: Philosophy and Logic 2 Credit Units**

What is philosophy? History of Philosophy; Branches of Philosophy – Ancient period; Medieval period; Modern period. Existentialism. African Philosophy. African Political Thought. What is Logic? History and development of logic. Laws of thought. What is an argument? Type of discourse, Components of argument. Types of argument, Techniques in evaluating argument. Fallacies; formal and informal, examples. Definitions. Categorical propositions. Elementary logical operators. Truth tables construction, test of validity and soundness. Formal proof. Rules of inference – distinction between inductive and deductive inferences (Illustrations taken from literatures, Novels, Law reports and Newspaper publications). Elementary introduction to quantification theory – the method of deduction using rules of inference and bi-conditionals qualification theory.

**GSS 141: Anti-Corruption Studies I 2 Credit Units**

Defining Corruption (Conceptual Considerations, Types of Corruption, Typology of Corruption); Corruption and Related Offences (Fraud, Obstruction of Justice, Violation of due process, Abuse of function & Discretion, Money laundering); Causes, Nature and Impact of Corruption (Causes of corruption: socio-cultural, economic, political and institutional explanations, Effects and impacts of corruption: Impacts on various sectors including justice, public administration, legislature, civil society, private sector, international development, etc); Corruption as a facilitator of other crimes: drugs & human trafficking, terrorism and other violent crime, illegal oil bunkering, copyright piracy, etc); Measuring the Levels of Corruptions: approaches and Challenges (Opening surveys, Review of secondary data: court records, media reports, official publications, Challenges in measuring corruption).

**AGE 111: Introduction to Micro-Economics & Social Sciences 2 Credit Units**

The nature of Economic Science; the Methodology of Economics: Elementary principles of microeconomics, demand, supply and price determination. Markets and Types of markets- Perfect Competition, Oligopoly, Monopoly etc, Elementary theories of production, cost of production and the theory of Distribution. Consumer Behaviour; Indifference curves- Budget constraint, Income and substitution effects, utility maximizing rule, Assumptions behind indifference and utility curves approach, Drawing the marginal and total utility curves, Factor influencing consumer behaviour. Classification of social systems; Interpersonal relationships, personality traits and leadership qualities; Role of media; Meaning, scope and indices of Development; Factors of Development (Historical, Ideological, Economic, Political, Social); Self-reliance and National Development.

**Second semester**

**GSS 102: Use of English and Communication Skills II (Use of Library Skills and ICT) 2 Credit Units**

The process of research writing. Selecting topics, 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, Art of public speaking and oral communication – students make oral presentation in class of what was read in their selected topics; students also make and present note slips. Logical presentation of papers, Phonetics, Instruction on Lexis, Figure of speech, Précis. Brief history of the libraries; Library and education; Universities Libraries and other types; Study skills (reference services); Types of Library materials, library resources, library catalogues and classifications; copyright and its implications; Data resources; Bibliographic citations and references; Development of modern ICT; Hardware technology; Input and Output devices; Communication and internet services; Word processing skills

**GSS 112: Citizenship Education (Nigerian People & Culture) 2 Credit Units**

Study of Nigerian history, culture and arts in pre-colonial times. Nigerian's perception of this world, Culture areas of Nigerians and their characteristics. The Nigerian Constitution, Ethics and discipline in national life. Rights and obligations. Nation-building in Nigeria – concept of trade, economics, self-reliance, social justice, individual and national development. Arms of Government, Citizenship. Ethnic-pluralism and national identity in Nigeria, Psychology and human behaviour. Women and development in Nigeria. Sustainable development. Federalism and revenue allocation. Nigeria and constitutional development. Norms and Values – Moral and National values, Moral obligation of citizens, Negative attitude and conducts (cultism and other vices). Environmental challenges in Nigeria

**GSS 142: Anti-Corruption Studies II 2 Credit Units**

Source and Nature of Anticorruption Laws and Policies [International treaties and conventions (UXCAC), National laws and Policies (ICPC, Act 20(30) EFCC Act 2004) US FCPA, UK CPA] etc; Tools for Combating and Preventing Corruption [Investigation and Prosecution, Public Enlightenment and Education, System Studies and Reviews, Public Sector Governance Reforms, Corporate Governance Reforms, Civil Society and Media Oversight, International Cooperation (Extradition, Mutual Legal Assistance, Assets tracking, Forfeiture and Recovery, Intelligence Gathering & Sharing); Administrative Measures for Controlling Corruption (Due diligence requirement, Professional codes of ethics and control mechanisms, Organization of warning

mechanism (whistle); Role of supervising/regulatory authorities, Prevention of conflict of interests, Declaration of assets; The Roles and Obligations of Stakeholders (Citizens, Government & ACAs, Civil Society and Organized private sectors, International Partners); Relationship between Anti-Corruption Work and Control of other Crimes (Drug trafficking, Trading in endangered species, Human trafficking, Illegal Oil bunkering, Piracy, etc.)

**BIO 112: General Biology II 2 Credit Units**

An introductory course in Biology covering basic concepts in zoology, starting from protozoa to chordates. Form and structure of Vertebrates, protochordates (Amphioxus), amphibians, reptiles, birds and mammals. Morphology and anatomy of various systems in the body – locomotory, respiratory, nervous, integument, digestive, circulatory, excretory, reproductive and endocrine systems of vertebrates; Introduction to histology, embryology and animal physiology

**CHM 102: General Chemistry II (Organic Chemistry) 2 Credit Units**

Definition, nomenclature; functional groups; homologous series; families of organic compounds – composition, structure, formulae, synthesis, isolation and purification; isomerism; electronic theory in organic chemistry; alkanes, alkenes and alkynes; Benzene ring and aromatic compounds.

**MTH 132: Mathematics (Coordinate Geometry and Calculus) 2 Credit Units**

Types of vectors and applications; Matrices; Simple linear regression; The idea of locus; Integration – integration of simple functions; integration by substitution, by parts and use of identities; Differentiation equation – simple functions of sums and products; Distance between two points; The straight lines; angle between lines; areas of triangle; curve sketching, translation and rotation of axes; Coordinate Geometry: Rectangular Cartesian coordinates; circle, parabolic ellipse and hyperboles. Parametric equations; tangents and normals.

**PHY 112: Introductory Physics II 2 Credit Units**

Use of measuring instruments; surface tension, inertia, viscosity refractive index, optical instruments, tension, energy, heat capacity, temperature, heat and work; obscure expansion, latent heat waves, current flow. Electricity and Electronics – Power and energy; simple meters, charge and capacitance.

**AGE 112: Introduction to Macro-Economics & Social Sciences 2 Credit Units**

Macroeconomic goals, National income accounting frame works (approaches GNP estimation problems); Circular flow of income; National income aggregates. Trade cycle, international monetary systems, and domestic economic stabilization, fiscal and monetary policies, the Keynesian systems, the paradox thrift, the classical and monetarists systems; Price control and Inflation. Growth and spatial distribution of population, Delivery of public goods through pulic enterprises and agencies; Peaceful co-existence among Nations

**YEAR TWO**

**First Semester**

**AGR 241 General Agriculture 3 Credit Units**

Definition of agriculture; World population and food supply. History, scope and importance of agriculture to man. Agriculture and natural environment; Characteristic features of tropical agriculture and how they affect production. Land use and tenure. Trends in the production, distribution and utilization of agricultural products. Measures of improvement in Nigerian

agriculture. Climatic, edaphic and social factors in relations to crop production and distribution in Nigeria. Systems of crop farming. Types, distribution and significance of animals; basic principles of animal farming. Place of forestry, fish farming and wildlife in Agriculture.

**AGR221: Biogeography and Climatology 2 Credit Units**

The principles, aims and scope of climatology and biogeography; The elements and controls of climate and weather and the dynamics of the earth's atmosphere. Radiation and heating of the atmospheric systems, atmospheric moisture, the dynamics of pressure and wind systems. Condensation and precipitation processes. Seasonal variations in temperature, day length, radiation, rainfall and evapotranspiration. Equipment and maintenance of standard meteorological stations. The tropical climate; Relation between agriculture and climate with reference to crops, livestock, irrigation, pests and diseases.

**AGA 211: Anatomy and Physiology of Farm Animals 2 Credit Units**

Parts of the beef and dairy cattle, sheep, goats, pigs, rabbits, grasscutters, snails and poultry. Fundamentals of cell biology. Anatomy and physiology of the cell, cell types. Anatomy and physiology of animals tissues, nervous system, skeletal system, muscle, bone, circulatory system, reproductive, digestive, special senses and other systems of farm animals. Physiological functions of animals – homeostatic, nutrition and digestion, respiration. Temperature regulation, excretion and reproduction. Endocrinology. The blood and circulation. Lactation, milk let down and egg production. Water balance.

**AGC 211: Crop Anatomy, Taxonomy and Physiology 2 Credit Units** Part of the crop cell types. Introduction of plant taxonomy. Characteristics, distribution, economic importance and local examples of leguminosae, gramineae, compositae, Dioscoreacea, Rutaceae, Development of cells and tissues; use of plant keys. Cell biology, cell and cell types. Comparative anatomy of major plant organs. Enzymes. Photosynthesis and translocation; Pollination, respiration and energy utilization; seed dormancy and germination, development; mineral nutrition, growth regulation. Physical and chemical phenomena in the living functions of plant. Introduction, definition and importance of crop physiology in agriculture. Transplantation – definition and its relationship to crop productivity. Growth and development – definition, types of growth, measurements of growth, growth analysis, growth characteristics. Photosynthesis - definition, mechanism of photosynthesis, variation in photosynthetic capacities and factors affecting them; significance of C<sub>3</sub>, C<sub>4</sub> and CAM pathways of photosynthetic efficiency. Yield maximization; storage and mobilization of reserves. Introductory aspects of plant nutrition.

**AGS211: Principles of Soil Science & Environment 2 Credit Units**

Soils, their origin and formation; Physical, chemical and biological properties and processes of soil. Soil moisture, air and temperature; Soil survey and classification; roles and use of time, fertilizers, organic matter and manure; Soil colloids; Soil reaction; Soil plant relationship with emphasis on functions of essential elements in plants; their availability, requirements and deficiency symptoms; Introduction to fertilizer (organic and inorganic fertilizers).

**AGE 211: Principles of Agricultural Economics 2 Credit Units**

The nature of economics and economic problems; scope and method, price theory and functions of the market with particular reference to agriculture. The concept of opportunity cost; Supply and demand and their application to agricultural problems. Production functions, cost analysis and functions. Concept of elasticities. Type of markets, perfect competition, monopoly, oligopoly etc. Price theory and some applications. Theory of distribution: the components of agriculture in National income. Recourse allocation on farms, Aggregate income, expenditure, investment,



interest rate, savings, employment. Inflation; international trade, commodity agreements and balance of payments. Money and banking.

**AGR 241: Introduction to Forestry Resource Management** **2 Credit Units**

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

**AGR 231: Introduction to organic Agriculture and Biotechnology** **2 Credit Units**

Definition of biotechnology; History and development of relevant technologies; Significance of biotechnology to Agriculture – animal, crop, soil and environment; Types of biotechnological innovations and techniques in agriculture; Financial implications of biotechnological systems; Recent advances in biotechnology; Ethical implications of biotechnology.

**AGR 251 Farm Practice** **1 Credit Unit**

Costing of farm inputs and outputs, operating a farm business shop. Students will manage an agribusiness shop operated by the Dept. of Agric. Econ.

Participation in extension activities, e.g. MTRM, FNTs, T & V extension and field days. Introduction of participatory Rural Appraisal (PPA) tools and methodology. Participatory Technology Development Strategies through: (a) Farmers Field School (FFS), (b) conduct and use of focus group interviews (c) Check List (d) Key information interviews (e) Socio-economic Study and Technical components of farm systems in Calabar. Practices in audio visual aid.

Engaging students in Livestock production and management; objective evaluation of the body conformation characteristics of some livestock species (cattle, sheep and goats, pigs, poultry, rabbits, grasscutter and snails); Visits to some established livestock farms. Practical demonstration of castration, spraying, restraining and handling of various livestock species. Feed formulation for different categories of livestock species. Engaging students in non-ruminant animals' production and management.

Crop Production Tools, Materials and Identification. How to conduct field survey, different types of crops and their distribution in Nigeria. Planting stock; types of seeds, types of platforms for planting (beds, ridges, mounds, heaps, etc) and their preparation. Farming systems in Nigeria. Identification of fertilizer types, rates of application for different crops, identification of different planting patterns (spatial and tripod); determination of seed rates and measurements and requirements, planting populations, seed viability and germination. Seed dormancy, etc. Sources of organic manure, rates and application methods. Identification of different storage structures and harvesting tools.

Identification of some soil particle sizes (sand, silt and clay); soil texture in the field sand, (sandy, clayey, loamy, silty, etc.); organic, arid and hydromorphic soil profile and horizonation descriptions (young and old/mature soils). Soil physical features (colour, structure, consistency, temperature and water contents). Soil morphology and micromorphology; topography and landforms (flat and undulating) laying of beds and ridges following topographic features.

**AFM 211: INTRODUCTORY FISHERIES & AQUACULTURE** **2 Credit Units**

The science of aquaculture and fisheries aims scope and prospects. Farming system strategies and mariculture, culture enclosures: ocean ranching, raceways, silos etc. Aquaculture and fisheries economics. Integrated farming socio-economics and rural farming system

## **Second Semester**

### **GSS 212: Introduction to Computers**

**2 Credit Units**

History of computers, Functional components of Computer, Characteristics of a Computer, Problem solving; flow charts, algorithms, computer programming statement; symbolic names; arrays, subscripts expressions and control statements. Introduction to Basic programming computer applications. Hands-on experience.

### **AGR 262 Introductory Statistics**

**2 Credit Units**

Basic concepts of statistics, Descriptive statistics, measures of central tendency, measures of dispersion, summary statistics

### **AGR 272 Introduction to Home Economics**

**2 Credit Units**

Philosophy, Scope, objectives and historical development of Home Economics. Examination of basic human needs with respect to food, clothing, shelter and health. Programme approaches in Home Economics which will help meet these needs. Preparation for careers in a variety of occupations.

### **GST 202: Entrepreneurship Theory (Entrepreneurship Studies 1)**

**2 Credit Units**

Introduction to entrepreneurial skills: Relevant concepts: Enterprise, Entrepreneur, Entrepreneurship, Innovation, Business, Creativity, Enterprising and entrepreneurial Attitude and Behaviour. History of Entrepreneurship in Nigeria. Rationale for development of entrepreneurship, the Nigerian entrepreneurial environment, creativity and innovation, business opportunity and evaluation (using SWOT) analysis, as well as the ability to draw a business action plan. Leadership and Entrepreneurial Skills for coping with challenge. Unit Operations and Time Management. Creativity and Innovation for Self Employment in Nigeria. Overcoming Job Creation Challenges. Opportunities for Entrepreneurship, Forms of Business, Staffing, Marketing and the New Enterprise. Feasibility Studies and Starting a New Business. Determining Capital Requirement and Raising Capital. Financial Planning and Management. Legal Issues, Insurance and Environmental Consideration.

### **AGA: 222 Principles of Animal Production**

**2 Credit Units**

Animal production and its development. The livestock industry – problems and prospects. Description of the breeds of cattle, sheep, goats, pigs, poultry, snails, grasscutters and rabbits. Systems of livestock production. Feeding habits of farm animals. Principles of breeding and livestock judging. General principles of management of the different types of farm animals.

### **AGR 212 Introductory Agricultural Biochemistry**

**2 Credit Units**

Definitions and aims of agricultural biochemistry; Basic pathways chemistry of carbohydrates, lipids, proteins and nucleic acids. Vitamins and their coenzyme functions. Minerals. The nature, classification and function of enzymes and hormones. Bioenergetics.

### **AGR 222: Introduction to Agricultural Engineering**

**2 Credit Units**

Definitions; areas of specialization and role of agricultural engineering in national economy. Prospects and job opportunities, work, power, energy, heat and basic electricity. Simple machines and principles of hydraulic theory. Machines efficiency. Weather, rainfall, soil and water conservation. Drying and storage, moisture content. Introduction to tools and workshop practice.

### **AGR 242: Principles of Food Science & Technology**

**2 Credit Units**

Definition and Scope of Food Science and Technology. Food distribution and marketing. Food and its functions. Food habits. Food poisoning and its prevention. Principles of food processing and preservation. Discussion of different Preservation methods. 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, colour, aroma and flavour of food. Cost; traditional and ethnic influences of food preparation and consumption pattern.

**AGR 252: Principles of Fisheries and Wildlife Resource Management 2 Credit Units**

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

**AGC 202; Landscape horticulture**

**2 credit units**

Elements of landscaping, colour, texture, etc. Principles of landscaping designs, selection criteria for plants. Review of soft and hard landscaping. Meaning history branches of horticulture, classification of horticulture plant

**YEAR THREE**

**First Semester**

**AGA 311: Non-Ruminant Animal Production**

**2 Credit Units**

Management of breeding stock, growing and young animals. Housing, equipment and feeding principles of poultry, rabbit, pigs and snails. Production and management practices; Livestock Economics; Health management of stock, processing and marketing of poultry, pigs, snails and rabbits.

**AGC 311: Field (Arable) Crop Production**

**2 Credit Units**

The origin, characteristics and production of major field crops (cereals, legumes, root crops, fibre crops, vegetables and other arable crops) in Nigeria; Improved varieties of arable crops in Nigeria; Climatic and soil requirements, fertilization, culture, rotation; Production practices; harvesting, utilization, processing, storage and economic aspects of some selected arable crop products.

**AGS 311: Introduction to Pedology and Soil Physics**

**2 Credit 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 of Nigerian soils; Classification of soil separate - soil texture, surface area of particles, aggregation, soil structure and stability, porosity, soil water relations, soil and water hydrological cycle; Soil temperature and conduction; Soil erosion.

**AGX 311: Principles of Agricultural Extension and Rural Sociology 2 Credit Units**

Definition; Objectives of Agricultural Extension; Basic philosophy of agricultural extension; Institutional settings of Agricultural Extension – global and national settings; Basic concepts and principles of rural sociology to the understanding of rural situations; Importance of rural communities and institutions, social stratification, social processes and social changes in rural areas. Leadership in rural communities – roles and functions of rural leaders; Development of rural leaders; The extension agent and the rural community; The rural revolution and social

transformation, changing rural-urban problems; Elimination of rural-urban distribution and the future of rural communities; Communication techniques and strategies of change; Various agricultural extension teaching methods, aids and their applications.

**AGR 321 : Application to Computers to Agricultural Production**      **3 Credit Units**

Introduction to problem solving with the computer; Data entry and editing with the computers. Data analysis using different statistical packages

**AGR 311: Introduction to Farm Machinery and Mechanization**      **2 Credit Units**

Goals and principles of agricultural mechanization. Basic mechanics: Force, distance, time, velocity, etc. Principles of internal combustion engines and electric motor. Farm power transmission system. Farm machinery used for tillage operations. Equipment for sowing and planting, crop protection, water lifting and irrigation, harvesting and processing. **Livestock Equipment:** automatic feed conveyor, watering, milking and milk and meat processing. Operating principles, selection and maintenance procedures of agricultural machinery, agricultural machinery costing and records. Surveying instrument/equipment used on the farm. Materials used for farm building. Workshop tools, machines/equipment.

**AGC 321: Crop Genetics and Breeding**      **2 Credit Units**

Cell structure and component, Chromosomes structure, number and variations, linkage and crossing over, mutation and genes in population. Multiple alleles, Mitosis and meiosis. Theory of evolution. Fundamental principles of inheritance. Mendelism. Introduction to population and quantitative genetics, objectives and general principles of crop breeding including their application to self-pollinated, cross pollinated and vegetative propagated crops. General and special methods of selection in inbreeders and out-breeders; compatibility, male sterility. Heterosis. Polyploidy in crop breeding, Mutation breeding

**AGE 311: Farm Management and Production Economics**      **2 Credit Units**

Introduction and definition of some economic terms. Theory of production. Principles of agricultural production and resource use; factor-factor, factor-product and product-product relationship. Consumption and resource allocation in agriculture. Farm costs and revenue theories. Elements of time, risk and uncertainty in agricultural production. Types of farm records and their uses. Farm budgeting, gross and net margin analysis and farm planning.

**AGS321: Soil Resources & Mgt. in Organic Agriculture**      **2 Credit Units**

Nature of the soil and evaluation of the soil. Soil processes and reaction. Soil fertility assessment and maintenance. Impact of soil organism and natural symbiosis in organic systems. Soil physical processes and conservation. Soil organic matter inputs, dynamics and management. Manuring and composting, intercropping and companion planting, tillage and cultivation, etc. green manures, animal manures, sludges and other sources of nutrients.

**Second Semester**

**AGA 312: Ruminant Animal Production**      **2 Credit Units**

Management of breeding stock, growing and young animals. Housing, equipment and feeding principles of cattle, sheep and goats. Production and management practices. Health management of ruminant animals.

**AGC 322: Tree Crop Production****2 Credit Units**

Analysis of origin, distribution, soil and climatic requirements of some tropical plantation crops, such as cocoa, oil palm, rubber, kola, coffee, coconut, mango, sugar cane, bananas, plantains, citrus and cashew; Production practices - improvement, harvesting, utilization, processing, storage and economic aspects of some selected tree crops. Economic pests of permanent perennial crops and their control. Pre-nursery, nursery and field operations of major permanent crops including oil palm, rubber, cocoa and citrus, post-harvest treatment of farm produce.

**AGC 312: Principles of Crop Protection II****2 Credit Units**

The major pests, insect, fungi, bacteria, viruses, nematodes, weeds, and other diseases of tropical crops and stored products. Definition of pest. Study of insect pests of major local crops, 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.

**AGA 322: Introduction to Animal Genetics and Breeding****2 Credit Units**

History of genetics; Chromosomes structure, number and variations. Gene and genotype Genetic code, Mendelism; Fundamental principles of inheritance; Quantitative and qualitative characters and their inheritance. Different types of gene actions, values and means; Repeatability and heritability etc. Animal variation and selection principles. Breeding and environmental effects; in-breeding, pure line breeding, cross breeding and other breeding methods.

**AGS 312: Soil Chemistry and Microbiology****2 Credit Units**

Chemical composition of soils; Micro-organisms occurring in soils, bio-chemical activities of microbial population; Soil fertility – conversion units, calculations and evaluation; Silicate mineral chemistry- cation and anion exchange, base saturation, properties of soil organic matter, microbial transformations of N, P, S, Fe and other minerals, isolation of organisms concerned, transformations of hydrocarbons and pesticides; Rhizosphere effect and mycorrhizal association; Plant nutrition, activities of cations and their absorption by plants, mechanism of absorption; Plant-soil interphase; Ecological interactions of degraded soils; Water pollution and soil degradation; Soil reaction (active and reserve acidity, alkalinity, buffering capacity); Soil acidity and liming. Survey of micro-organisms in soil and their role in soils. The dynamics of N, P and S pools. Association between microbes and plants.

**AGR 312 Agricultural Biochemistry and Methods****2 Credit Units**

Metabolism of carbohydrates, lipids, proteins and nucleic acids. Chemistry and mode of action of enzymes and hormones. Chemistry and analysis of selected agricultural products

**AGR322: Agricultural Statistics and Experimental Designs (Statistics and data processing)****2 Credit Units**

Data collection and processing techniques; Statistical inference; Test of significance; F- test, t- test, Chi-square; Experiments procedures - cause and control of experimental error; Analysis of variance - one way and multiple ways classification; Analysis of co-variance, Regression and correlation analysis; Determination of goodness of fit; Research objectives, Research designs – CRD, RCBD and factorial experiments (split-plot designs); Field experimentation; Analysis and processing of result; Mean separation techniques; Statistical interpretations of results.

**GST 302: Entrepreneurship Trade Skill****2 Credit Units**

GST 302 practical skills enable the students to acquire various skills such as Catering, Paint Production, Fashion and Design, Aquaculture Production, Photography and Video Coverage, Cosmetology, Driving, Masonry and Welding and Fabricating. The enlisted skills equip the students to be job creators at graduation instead of job seekers. It further enhances their research ability using best practice in business environment. The creative skills enable the students use the four entrepreneurial mix (4P's) – Process, Products, Person and Place for product/service development and management

**AGR 332 Farm Practice****1 Credit Unit**

Students will learn business and marketing ethics-branding/customer service activities, record keeping/stock taking. Visit to agribusiness firms in Calabar.

Design of participatory communication appraisal techniques in agricultural communication. Participatory Agro-Ecosystem Analysis of villages using phenomenological, historical and ethnographic research design. Small plot adoption techniques. Guided tour of farm settlements around University of Calabar. Participatory conduct of extension field survey.

General principles of pests/diseases prevention and control of livestock. Identification of some equipment and drugs used for the treatment of some livestock pests and diseases. Visits to some established abattoirs/livestock farm. Identification and measurement of reproductive systems of various classes of farm animals – cattle, sheep and goats, pigs, poultry, rabbits, grasscutter and snails. Heat detection in farm animals. Mating of farm animals. Engaging students in ruminant animals' production and management.

Plant health and management principles: Monitoring, scouting and identification of diseased plants and damage caused by insect pests on crops. Identification and characteristics of different types of pests and pathogens (both in the field and storage). Identification of tools for pests management. Insect collection, preservation and recognition; tools for insects collection and preservation.

Identification of fertile and infertile soils, productive and degraded soils; symptoms of degraded and polluted soils. Identification of soil organisms; macro and micro flora and fauna (ants, termites, earthworms, rodents, fungi, protozoa, bacteria, etc.) Mulches and mulching materials and methods. Tillage/ploughing and harrowing methods. Irrigation and drainage methods for small-scale and large-scale farms, field and plantation crops. Erosion control on farmlands.

**YEAR FOUR****First Semester****AGA 401: Animal Husbandry Techniques****3 Credit Units**

Animal husbandry practices of non-ruminants (swine, poultry, snails, grasscutters and rabbits) and ruminants (cattle, sheep and goats); Breed identification, sexes and mating techniques in farm animals; Practical management system of livestock. Identification, feeding of non-conventional feed and forages; Wing banding, debeaking in birds, ear notching and castration in pigs. Hatchery operations; Identification and management of dairy breeds. Milking Procedures; Restrain techniques and handling of different species of farm animals; Practical slaughtering techniques for all farm species shall be conducted; Carcass quality and cut parts shall be evaluated; Different processing (modern and traditional) techniques for monogastric and ruminant animals shall be

learnt; Preservation techniques and feed additives; Effects of different preservation methods on the organoleptic properties of meat; Different storage methods for farm animal products; Packaging and packing techniques; Value addition to farm animal products.

**AGA 411: Animal Health Management**

**2 Credit Unit**

Health care practices in monogastric and ruminant animals; Environmental and climatic factors affecting animal health, Effects of management, feeding and hygiene on animal welfare; Vaccination procedures in non-ruminants (poultry, pigs, etc) and ruminants (large and small); Diseases of farm animals – epidemiology, predisposing factors, symptoms, diagnosis, prevention, control and treatment; On-farm management practices for health maintenance.

**AGC 401: Crop Production Techniques (Permanent, Arable & Horticultural Crops etc)** **4 Credit Units**

Arable crop production practices for the major crops in the ecological zone, including establishment, cultural practices and harvesting of maize, cassava, yam, cocoyam, plantain, rice, cowpea and melon. Post-harvest treatments of the crops; Crop husbandry practices for local and exotic vegetables suited to the ecological zone.

**AGC 411: Pests & Diseases of Horticultural & Vegetable Crops Mgt.** **2 Credit Units**

The course will give a basic knowledge of the insects and the relationships existing between crops, animals as insects. Pest management, principles and methods of control of insects of agricultural, household and veterinary importance will be treated; identification and management of pests and pathogens and weeds associated with arable, horticulture and permanent crops. Estimation of pest and disease incidence and survey

**AGE 401: Farm Management, Records and Accounting**

**2 Credit Units**

This course involves one credit hour of in-class work and one credit out of class work for two semesters; Major emphasis in the in-class is in the area of record keeping, developing budgets (partial and total) feasibility studies and analyzing a variety of market information; The out of class work deals with actual data collection based on the students. Interest as well as reviewing the records, budgets and profitability of the faculty of agricultural farms (Crops and Animals), the students, as well as, during this phase is exposed or attached to farm, bank or relevant agricultural farm to have a working knowledge of its performance.

**AGX 411: Farm Survey and Extension Practices**

**2 Credit Units**

Sample villages in the neighborhood of Calabar are selected and students are to study the socio-economic and technical components of farming systems in the area; Designing of questionnaires and actual conduct of the survey. During the year, the students will go out in a group once a week with their clientele farmers to study the farming operations and field management on the pot; Survey will last for 24 weeks; Design of teaching aids and audio-visuals in Extension Education.

**AGS 411: Soil Sampling, Survey and Taxonomy**

**2 Credit Units**

Methods of taking soil samples for various purposes, soil profile, description, soil moisture measurements, types and importance of fertilizers, application rates and methods for various crops. Safety and environmental factors affecting their efficiency, deficiency symptoms.

**AGS 421: Soil Fertility test & Laboratory Analysis Techniques**

**2 Credit Units**

The course involves laboratory practical for 10 weeks: soil pH, soil organic carbon/organic matter, total soil nitrogen, total soil phosphorus, available soil phosphorus, cation exchange capacity, exchangeable bases, gram stain procedure for typing microbes, plate dilution method for

estimating microbial numbers, streaking and obtaining pure bacteria isolates, most probable number technique, microbial respiration and static incubator methods for assessing microbial activity.

**Soil genesis & morphology:** Identification of minerals and rocks; soil moisture content determination methods (gravimetric, volumetric, gypsum blocks, etc), water storage, particle and bulk density, particle size analysis, soil moisture characteristics determination, saturated and unsaturated hydraulic conductivity.

**Special topics – 3 weeks:** New methods of soil analysis, assessment of soil conductivity rating, special topics in soil and environmental science: term paper based on reviews of previous works, interpretation and discussion of analytical data.

**AGS 431: Organic Fertilizer test & Crop Production Techniques**      **2 Credit Units**

**AGX 411: Participation in Agric. Extension**      **2 Credit Units**

Agro-Ecosystem Analysis of villages using phenomenological, historical and ethnographic research designs. Use of participatory research in designing and evaluating Farmers Field Skills (FFS), Participatory Technology Development strategies; Contact and use of focus view interview, checklists, participant interviews and observation, Probe interviews, key informant interviews, Decision trees, Venn or institutional diagrams. Design of Participatory communication appraisal techniques in agricultural communication

**AGR401: Farm Design, Agric. Mechanization & Workshop Practices**      **2 Credits Units**

**Farm design:** principles and techniques, surveying and mapping, use of surveying instruments/equipment and the design procedures. **Agricultural Mechanization Practices:** operations and equipment used. Tillage operations, sowing and planting operations, herbicides/pesticides and fertilizer distribution operations. Harvesting, handling and transport operations, Agricultural products processing and storage operations. Visit to mechanize agricultural farms.

**AGR 411: Agricultural Products Processing**      **2 Credits Units**

Agricultural produce (post-harvest crops handling) and products (livestock products; meat, milk, eggs, hides and skin) processing and storage.

**AGR 412: VIVA/VOCE Oral Examination**      **2 Credit Units**

An oral examination shall be conducted to evaluate the lessons (agricultural practices) learnt by each student at the end of the practical programme.

**AGR432: Scientific Report Writing**      **2 Credits Units**

At the end of the 12- months practical programme, each student is expected to submit a report of activities conducted both on-farm and during field trips. The report shall be in scientific format.

**Second Semester**

**SIWES/IT (IN AN ESTABLISHED AND FUNCTIONAL FARM)**



## **YEAR 5**

### **First Semester**

#### **AGX 501: Seminar (2CH)**

Discussion and presentation of various topics in Agricultural extension and rural sociology, the student is also expected to prepare and participate in all seminars and present a seminar in the course.

#### **AGX 521: Programme Planning and Evaluation (2CH)**

Definition, principles, and processes of planning and evaluation; Staff recruitment, selection and placement and supervision, budget development and fiscal control, importance of programme planning in Agricultural Extension, need, educational objective, learning experience, clientele participation, plan of work and calendar of work. Professional improvement of Extension workers; The role of the Specialist in Extension programme analysis and procedures for systematic evaluation of rural development projects. Concepts of evaluation as applied to agricultural extension programmes; Evaluation case studies

#### **AGX 531: Introduction to Rural Sociology (2CH)**

Concept of rural sociology; Theoretical models in rural sociology; Historical development of rural sociology in Nigeria; Importance of rural communities; Factors contributing to the problems of rural underdevelopment; Importance of rural sociology to rural development; Basic sociological concepts – culture, norms and values statuses and roles, beliefs; Processes of acculturation in Nigerian rural societies; Rural institutions and resources in Nigeria; The nature of rural-urban differentials; The physical structure of rural societies

#### **AGX 541: Research Methods (2CH)**

The concept and principle of evaluation and research applied to problems in Agricultural Extension Education Methods, techniques and procedures for conducting investigation. Selecting a problem and developing plans for a study.

#### **AGX 551: Theory and Practices of Extension Administration (2CH)**

Definition, theory and principles of Administration and supervision; Organization and administration of Extension services in Nigeria; Relationship between extension and other Agencies; The roles and responsibilities of various Extension and relevant staff; Decision-making and problems of Extension Administration in Nigeria; Staff recruitment, selection, placement and supervision; Training and Development of Extension leaders; Case studies and structures of extension-oriented organizations (Ministry of Agriculture, ADPs, AERLs, River Basin Development Authorities, Farmers' Co-operative, Universities of Agriculture and Faculties of Agriculture Extension System, Private agricultural extension e.g. Shell, NTC, Religious bodies, Schools); Creating conducive working environment; Discipline of staff; Improving Nigerian Extension services.

#### **AGX 561: Introduction to Agricultural Communication (2CH)**

Definition of communication; Theories and Principles of communication; Models of communication; Effective communication; Elements of communication; The communication

process; Typology of communication strategies; Role of feedback in communication; Importance of audiovisual aids in communication; Types of audiovisual aids and accessories; Use and care of audiovisual aids.

**AGX 571: Rural and Community Development (2CH)**

Concept of rural development, agricultural and community development; Problems of rural areas; Approaches to rural development; Policies on rural development; Strategies for improving rural development policies and programmes; Role of change agents in rural community development; Concept of poverty and influence on social development of rural areas; Barriers to rural development; Philosophy, objectives and history of changes in community development; Training needs of agents for agricultural extension and rural community development programmes; Concept of Group Interaction

**AGX 581: Educational Psychology and Extension Practices (2CH)**

Concept of psychology; Personality development; Concept of Intelligence; Concept of measurement in psychology; Principles and application of educational psychology in extension teaching & learning and motivation; Concept of human development; Psychological traits – intelligence, emotion, motivation, etc; Psychology of learning and teaching-learning process.

**AGX 591: Youth Extension Programmes (2CH)**

History, objectives, organization and types of rural youth programmes in Nigeria, and other countries; Youth problems and role of government and Non-Governmental agencies; Self-employment opportunities; Constraints to youth participation in Development.

**\*AGA 551: Nigerian Feeds and Feeding Stuffs (2CH)**

Classification of foods, feeding stuffs and supplements; Chemistry and nutritive values of succulent feeding stuffs; Concentrate feeds, cereals, legumes and oil seeds. Chemistry and nutritive values of some Nigerian grasses and legume species. Storage and quality control of feeding stuffs and feeds.

**\*AGC 541: Horticultural Crop Production (Vegetable And Fruit Production)(2CH)**

**Second Semester**

**AGX 520: Research Project (4CH)**

It is expected that a student must undertake and complete a research project under a supervisor.

**AGX 522: Information Communication Technologies In Agriculture (2CH)**

Meaning of ICTs; Historical overview of ICTs and use in extension; Traditional and modern ICTs in extension and rural development; Development and selection of ICT based agricultural communication tools –video production, graphic design, desktop publishing and multimedia development; ICT for extension management; Management of extension resources; Computer integrated systems; Rural radio programmes, telephones, Phone shops, public call officers and other entrepreneurial telecenter etc and agricultural extension; Problems of ICT use in extension

**AGX 532: Social and Technological Changes in Agriculture (2CH)**

Concept of social change; Selected theories of social change; Dimensions of social change and potentials in the modernization of rural societies; Sources of social change in societies; Social conflict and social control; Social action process; Social change and attitude change; Understanding technological change; Technological change and societies; General Principles in introducing Technological change; Technological change in Nigerian Agricultural Development and Extension; Ethical Considerations in introducing Technological change

**AGX 542: Diffusion and Adoption of Agricultural Innovations (2CH)**

Concepts of Adoption, Diffusion and Innovation; Process of Adoption and Diffusion of Innovation; Elements of Diffusion; Types of Innovation; The Innovation decision process; Characteristics of Innovation; Adoption rates and adopter categories; Theories of Adoption and Diffusion; Factors affecting rates of Adoption and Diffusion (farmer specific and technology specific); Relation between extension teaching methods and adoption categories; Opinion leaders

**AGX 552: Gender Issues in Extension and Rural Development (2CH)**

Concept of Gender; Gender awareness; Gender mainstreaming in agriculture; Male and female roles in agriculture and other rural activities; Potentials and constraints to gender participation in development programmes (defined by sex and age) for increasing productivity; Extension services for women, youths and children; Vulnerability; Sustainability; Environment etc.

**AGX 562: Introduction to Environmental Extension (2CH)**

Definition and basic concepts of the Environment; Environmental problems in agriculture; Meaning of environmental extension; Principles and philosophies of environmental extension; Roles of extension in Environmental management; Environmental extension education in Nigeria; Practices and approaches to environmental extension education- Farmer Field Schools, Participatory Technology Development; Participation and Participatory theories in environmental extension; Sustainable development processes and sustainable livelihoods analysis in extension; Case Studies of Environmental Extension Practices in Nigeria.

**AGX 572: Community Organization and Leadership (2CH)**

Types of organizations in communities; Principles and procedure of community organization; Role of organizations in agricultural and rural development; Participation and volunteerism in community organizations; Internal and external group dynamics; Definition and dimensions of leadership; Leadership theory; Patterns, sources and structure of leadership in rural communities; Type of community leaders and their role in facilitating acceptance of improved agricultural practices; Identification, selection, training and evaluation of local leaders for agricultural and community development; Problem solving in rural communities

**AGX 582 Agricultural Journalism & Audio Visual Aids (2CH)**

Agricultural news writing; Scientific writing; Agricultural Knowledge and information systems: content analysis; readability; citation analysis; Advertisement/marketing/public relations; Entertainment education and ICT in rural development; Principles & practice of using audio-visual equipment such as projectors, digital and manual cameras; Developing and printing of films, slides, video cameras, tape recorders, public address system, cartoon and graphics; Information and communication technologies.

**AGX 592: Introduction to Group Dynamics**

**(2CH)**

Definition of a group; Theories of group formation and development; Types of groups; Group norms, structure and authority; Group cohesion and development; Social influence in groups; Participation in groups; Types of participation; Types of interactions in groups; Decision making, problem solving and conflict management in groups; Group leadership styles

**\*AGA 542: Animal Products and Handling**

**(2CH)**

Slaughtering procedures – evisceration, singeing and dressing percentage; Handling of carcass and its cuts; Processing of hides, skin and wool; Dairy operations – milk hygiene, processing and microbiology; Effect of cooking on meat and milk flavor; Post harvest physiology of animal products; Processing, preservation and storage of meat, eggs and dairy products; Egg quality and grading systems; Composition of livestock products (Poultry products, beef products – bacon, sausage and ham), their nutritive value, economy and evaluation; Relationship of nutrition, management and slaughter processes to carcass characteristics; Food additives; Organoleptic properties of animal products- flavor and aroma; Composition of livestock products, their nutritive value, economy and evaluation; Marketing and distribution of animal products.

\*AGC 542: Processing and Storage of Agricultural Produce (Post Harvest Physiology and Product) (2 CH)

**DR. K.I. OGBONNA**

OCTOBER, 2019

AG. HEAD OF DEPARTMENT