PUBLISHERS: **DIRECTORATE OF DEGREE PROGRAMME OF FEDERAL COLLEGE OF ANIMAL HEALTH AND PRODUCTION TECHNOLOGY, VOM , PLATEAU STATE**, NIGERIA

STUDENTS' HANDBOOK FOR DEGREE PROGRAMME 2020/2021

WEBSITE: ***http://fcahptvom.edu.ng/***
PORTAL: ***portal.fcahptvom.edu.ng/degree***

GENERAL INFORMATION ABOUT THE COLLEGE

Name of the College

The name of the College is Federal College of Animal Health and Production Technology, Vom, Plateau State, Nigeria.

Location

The Federal College **of Animal Health and Production Technology is** located in Vom, Jos South Local Government Area, a quiet rocky village in Plateau State, and situated 1,285 metres above sea level. The nearest towns are Bukuru and Jos (40km). Largely because of its altitude and constant winds, Vom has a remarkably cool climate. In December and January, the nights may be extremely cold. The wet season extends from late April to middle October.

Vision Statement of the College

To be the foremost Institution to train and produce internationally recognized middle level manpower equipped with knowledge, skills and attitudes in Animal Health, Production and related disciplines.

To become a veritable Centre of Excellence in Science and Technology for rapid advancement of Nigeria.

Mission Statement of the College

i. To provide middle level technical manpower in the area of Animal Health and Production Technology and related disciplines who could effectively utilize the acquired knowledge to establish and manage livestock farms to maximum advantage.
ii. To produce extension staff who should be able to bring the result of Agro-Veterinary Research and innovation to the livestock farmers and feedback the farmers' problems to the appropriate authorities for solutions.
iii. To open new vistas of knowledge through the provision of sound conditions for teaching, learning and research leading to production of graduates who are worthy in character and sound judgment.
iv. Production of top-class man power for the advancement of science and technology.
v. To provide leadership in guiding society towards maintenance of values and integrity.

Brief History of the College

The College was established in 1941, as Veterinary School, Vom. It started with an enrolment of ten students. Some of these students registered for Veterinary Assistants (Junior and Senior Courses), and others as Veterinary Officers.

The School has the credit of being the first Higher Institution in West Africa to produce Graduate Veterinary Surgeons long before the first University was established in Nigeria, at Ibadan in 1948. The school also played a key role, especially between 1947 and 1962, in training middle level veterinary manpower for other African Countries, notably the Cameroons, Liberia, Ghana, Sierra Leone, Gambia, Ethiopia and Sudan.

On establishment of University College at Ibadan, it was recommended that the higher training to the Veterinary Officers' level be consigned to the University. Consequently, the Veterinary School, Vom, discontinued the Veterinary Officers' course in June, 1950, and thereafter concentrated entirely on running only one course, namely a 2 year Veterinary Assistants' Course. In March, 1980, the Veterinary School was formally accorded a college status and renamed College of Animal Health and Husbandry with a mandate to award Ordinary and Higher Diplomas.

History of the Directorate of Degree Programme

The Directorate of Degree was established in 2019 in affiliation with the Abubakar Tafawa Balewa University, Bauchi and approved by the National Universities Commission.

From the foregoing, the **Directorate** of Degree Programme comprised of the following academic Departments and supporting units:

i. Department of Agricultural Economics (DAE).
ii. Department of Animal Production (DAP).
iii. Department of Crop Production (DCP).

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2.0 DEPARTMENTS IN THE DEGREE PROGRAMME

1. Department of Agricultural Economics and Extension
2. Department of Animal Production
3. Department of Crop Production

2.1 General Admission Requirements

Course available	**B.Agric.Tech. (Agricultural Economics)**
Basic O'Level requirement	SSCE/GCE/ O' Level credit passes in five subjects including Mathematics and English, Chemistry, Agricultural Science/Biology, Geography/ Economics or Physics obtained at not more than two sittings.
Unified tertiary matriculation exam.(UTME).	Candidate seeking for admission through this mode should in addition to UTME, O' Level requirement score an acceptable pass marks at the UTME conducted by JAMB. These must include English Language, Mathematics and two relevant subjects.
Direct entry (DE)	Candidate seeking for admission through this mode should in addition to O' Level requirement possess two A' Level in Chemistry and Agricultural Science /Biology, ND (or equivalent)/HND lower credit.

Course Available	**B.Agric.Tech. (Animal Production)**
Basic O'Level Requirements	Candidates must possess five (5) credit passes in five subjects including English, Mathematics, Chemistry, Agricultural Science or Biology and Geography or Economics or Physics in a maximum of two attempts at the Senior Secondary School Certificate Examinations conducted by the West African Examination Council (WAEC) or National Business and Technical Examination Board (NABTEB), Teachers' College Grade II Certificate, WAEC Technical, City and Guilds, General Certificate Examination (GCE) at the ordinary level or its equivalent.
Unified Tertiary Matriculation Examination (UTME)	Candidates seeking admission through this mode should in addition to the O' Level requirements possess the following: *an acceptable pass mark at the UTME conducted by the Joint Admissions and Matriculation Board (JAMB). These must include English Language, Mathematics, and two relevant subjects.
Direct Entry (DE)	Candidates seeking admission through this mode should in addition to the UTME O' Level requirements possess either of the following: *Two GCE, A' level credit passes in Chemistry and Agricultural Sciences or Biology. *Holders of OND/HND/NCE (or equivalent) can gain entry into 200 Level provided they have a minimum of Lower Credit grade. *IJMB passes at Credit level in relevant subjects.

3.0 STRUCTURE OF COURSES

The College operates a course system in which subjects are broken down into one or more convenient sections called courses. These courses are taught and examined within a semester. A course is assigned a specific number of lecture and/or practical hours and the total number of hours assigned to it will determine its unit value.

A unit, or semester unit, is equivalent to one hour of lectures or three hours of practical per week throughout the semester where one semester is of 15 weeks of effective teaching. Industrial training courses are of one full academic session (9-12 months) taken during the penultimate year, i.e. 400 level. This is equivalent to 33 credit units and will be graded as satisfactory or not satisfactory as the case may be with respect to the performance of the student.

Each course in the College is numbered by a combination of alphabetical symbols and numerical figures. The alphabetical part stands for the abbreviated form of Agriculture and the name of the Department. Thus, DAE stands for Agriculture Economics. General courses in agriculture are denoted by AGR, which stands for Agriculture**.** The second part which is the numeric portion explains the level and sequence of the courses offered. For example, AEE 317 and AGR 200 indicate 300 level courses in Agricultural Economics, and 200 level General Agricultural course. The last two digits of each numerical component indicate the sequence of the course within the year characterizing the level of study of the student in the University

3.1 First and Second Semester

3.1.1: 100 Level, First Semester courses

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
GNS 101	Use of English Language I	-	2	0	0	2
CHM 111	General Chemistry I	-	2	1	0	3
ZOO 101	Cell Biology & Invertebrate Zoology	-	1	0	1	2
PHY 190		-	2	1	0	3
PHY 171	Physics for Life Sciences I	-	0	0	1	1
MTH 111	Basic Experimental Physics I	-	2	1	0	3
MTH112	Elementary Algebra I	-	2	1	0	3
BOT 101	Elementary Calculus I	-	1	0	1	2
CHM 113	Cell Biology & Lower Plants General Chemistry Laboratory 1	-	0	0	1	1
	Total		**12**	**4**	**4**	**20**

3.1.2: 100 Level, Second Semester courses

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
GNS 102	Use of English Language II	-	2	0	0	2

GNS 202	Nigerian Peoples & Culture in the context of African History	-	2	0	0	2
CHM 121	General Chemistry II	-	2	1	0	3
ZOO 102	Vertebrate Zoology	-	1	0	1	2
PHY 191	Physics for Life Sciences II	-	2	1	0	3
PHY 172	Basic Experimental Physics II	-	0	0	1	1
BOT 102	Higher Plants	-	1	1	0	2
CHM 124	General Chemistry Laboratory II	-	0	0	1	1
	Total		**10**	**3**	**3**	**16**

3.1.3: 200 Level, First Semester courses

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
AGR 200	General Agriculture	-	3	0	0	3
AGR 201	Climatology & Biogeography	-	2	0	1	3
AGR 202	Anatomy & Physiology of Farm Animal	-	1	0	1	2
AGR 203	Crop Anatomy, Taxonomy & Physiology	-	1	0	1	2
AGR 204	Principles of Soil Science	-	1	0	1	2
AGR 205	Principles of Horticulture	-	1	0	1	2
AGR 206	Introductory Agricultural Engineering	-	1	0	1	2
GNS 201	Information Science	-	2	0	0	2
GNS 301	Entrepreneurship and Innovation	-	1	0	1	2
	Total		**13**	**0**	**7**	**20**

3.1.4: 200 Level, Second Semester courses

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
AGR 207	Introductory Computer Science	-	1	1	1	3
AGR 208	Introductory Agricultural Bio-chemistry	-	1	0	1	2
AGR 209	Principles of Animal Production	-	1	0	1	2
AGR 210	Principles of Crop Prod.	-	1	0	1	2
AGR 211	Workshop Practice	-	1	0	1	2
AGR 212	Principles of Agricultural Economics.	-	2	0	0	2
AGR 213	Introduction to Fisheries & Wildlife	-	1	0	1	2
AGR 214	Principles of Food Science Technology	-	1	0	1	2
AGR 215	Introduction to Home Economics.	-	2	0	0	2
AGR 216	Principles of Forestry	-	1	0	1	2
GNS 222	Peace and Conflict	-	1	0	1	2
	Total		**13**	**1**	**9**	**23**

3.1.5: 300 Level, First Semester courses (DAE, DAP and DCP)

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	

AGR 300	Non- Ruminant Animal Production	AGR 209	1	0	1	2
AGR 301	Principles of Animal Health And Welfare	-	1	0	1	2
AGR 302	Principles of Genetics	MTH111 & 112	1	1	0	2
AGR 303	Introd. to Soil Pedology & Physics	-	1	0	1	2
AGR 304	Permanent Crop Production	-	1	0	1	2
AGR 305	Agricultural Mechanization	AGR 206	1	0	1	2
AGR 316	Introd. to Agric. Extension& Rural Sociology	-	2	0	0	2
AGR 307	Agricultural Biochemistry & Methods	AGR 208	1	0	1	2
AGR 308	Computer Programming	AGR 207	2	0	1	3
AGR 318	Farm Practice (Field & Vegetation Crops)	-	0	0	1	1
	Total		**11**	**1**	**8**	**20**

3.1.6: 300 Level, Second Semester courses (DAE, DAP and DCP)

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
AGR309	Crop & Animal Breeding	AGR 302	2	1	0	3
AGR 310	Ruminant Animal Production	AGR 209	1	0	1	2
AGR 311	Arable Crop Production	AGR 210	1	0	1	2
AGR 312	Soil & Water Conservation	AGR 204	1	0	1	2
AGR 313	Principles of Crop Production	-	1	0	1	2

AGR 314	Principles of Soil Chem. & Microbiology	-	1	0	1	2
AGR 315	Introduction to Farm Mgt. and Production Economics.	-	2	0	0	2
AGR 316	Extension Teaching, Learning Process & Methods.	-	1	0	1	2
AGR 317	Statistics and Data Processing.	MTH 111 & 112	1	0	1	2
AGR 319	Farm Practice (Animal Prod.)	-	0	0	1	1
GNS 302	Business Creation & Growth	-	1	0	1	2
	Total		**12**	**1**	**9**	**22**

3.1.7: 400 Level, First and Second Semester (DAE, DAP and DCP)

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
IT	Industrial Training	Carry over courses should not be more than twelve (12) credit units	-	-	8	8
	Total				**8**	**8**

3.1.8: 500 Level, First Semester Courses (DAE)

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
AGR500	Agri-business Mgt. & Finance	AGR315	2	0	0	2
AGR504	Marketing of Agric. Products	-	2	0	0	2
AEE500	Statistics and Research Methods	AGR317	2	0	1	3
AEE501	Production Economics, Farm Management and Accounting.	AGR315	2	0	1	3

AEE502	Econometrics.	AGR317	1	0	1	2
AEE503	Diffusion of Innovation.	-	2	0	1	3
AEE504	Admin. & Programme Planning in Extension	AGR316	1	0	1	2
AEE505	Ext. Org., Mgt. & Supervision	AGR316	1	0	1	2
AAP 500	Poultry, Swine and Rabbit Prod.	AGR 300	2	0	0	2
	Total		**15**	**0**	**6**	**21**

3.1.9: 500 Level, First Semester Courses (DAP)

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
AGR500	Agri-business Mgt. & Finance	AGR315	2	0	0	2
AGR501	Field and Animal Experimentation	AGR317	2	0	1	3
AGR504	Marketing of Agric. Products	-	2	0	0	2
AAP500	Poultry, Swine and Rabbit Prod.	AGR300	1	0	1	2
AAP501	Sheep and Goat Production	AGR310	1	0	1	2
AAP502	Beef and Dairy Cattle Prod.	AGR310	1	0	1	2
AAP504	Reproductive Physiology	AGR202	1	0	1	2
AAP505	Nigerian Feeds and Feeding Stuffs	-	1	0	1	2
AEE504	Admin. & Programme Planning in Extension	AGR316	2	0	0	2
	Total		**13**	**0**	**6**	**19**

3.1.10: 500 Level, First Semester Courses (DCP)

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week	Total Load/

						Week
			Lecture	Tutorial	Practical	
AGR500	Agri-business Mgt. & Finance	AGR315	2	0	0	2
CRS 510	Biometrics and Experimentation Design	AGR317	2	0	1	3
AGR504	Marketing of Agric. Products	-	2	0	0	2
CRS 511	Horticulture Crop Production	-	2	0	1	3
CRS 513	Crop Breeding and Biotechnology	AGR 309	2	0	1	3
SSC 513	Mineral Nutrition of Crops	-	1	0	1	2
SSC 514	Soil Fertility & Organic Matter Management	-	2	0	0	2
SSC 515	Soil, Water and Plant Analysis	-	1	0	1	2
CRS 514	Field Crops	AGR 311	1	0	1	2
	Total		**15**	**0**	**6**	**21**

3.1.11: 500 Level, Second Semester Courses (DAE)

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
AGR502	Special Project	-	0	0	4	4
AGR505	Seminar	-	0	0	1	1
AEE506	Agric. Marketing and Prices	-	3	0	0	3
AEE507	Agricultural Policy and Devt.	-	2	0	0	2
AEE508	Agric. Project Mgt. and Analysis	AGR315	1	0	1	2
AEE509	Rural Community Development	AGR316	1	0	1	2
AEE510	Advanced Rural Sociology	AGR316	2	0	0	2
AEE511	Tech. and Social Change in Agric.	-	2	0	0	2

AAP 509	Animal Products Handling	-	2	0	0	2
CRS 528	Plantation Crops	-	1	0	1	2
AGR 503	Fodders, Pastures & Range Mgt.	AGR 301	1	0	1	2
	Total		**15**	**0**	**9**	**24**

3.1.12: 500 Level, Second Semester Courses (DAP)

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
AGR502	Special Project	-	0	0	4	4
AGR 503	Fodders, Pastures & Range Mgt.	AGR 301	1	0	1	2
AGR505	Seminar	-	0	0	1	1
AAP503	Applied Animal Breeding	AGR309	1	1	0	2
AAP506	Role of Artificial Insemination in Livestock Production	AAP504	1	0	1	2
AAP507	Monogastric Nutrition	AAP500/ AGR301	1	0	1	2
AAP508	Ruminant Nutrition	AA501/ AAP502	1	0	1	2
AAP509	Animal Products Handling	-	1	0	1	2
AAP510	Animal Health and Diseases	AGR301	1	0	1	2
AAP511	Game Production and Utilization	-	1	0	1	2
AEE 512	Livestock Economics	AGR315	2	0	0	2
AEE513	Principles of Cooperative Practices	-	2	0	0	2
	Total		**12**	**1**	**12**	**25**

3.1.13: 500 Level, Second Semester Courses (DCP)

Course Code	Course/Subject Title	Pre-requisite	Contact Hours/Week			Total Load/ Week
			Lecture	Tutorial	Practical	
AGR502	Special Project	-	0	0	4	4
AGR 503	Fodders, Pastures & Range Mgt.	-	1	0	1	2
AGR505	Seminar	-	0	0	1	1
CRS 525	Seed Production Technology	-	2	0	0	2
CRS 526	Post-harvest Physiology and Product Storage	-	1	0	1	2
SSC 525	Principles of Irrigation	-	1	0	1	2
CRS 529	Agricultural Meteorology	AGR 211	2	0	0	2
CRS 520	Research Methodology	-	1	0	1	2
CRS 527	Weed Science	-	2	0	0	2
CRS 528	Plantation Crops	AGR 314	1	0	1	2
	Total		**11**	**0**	**10**	**21**

3.2 Course Contents

3.2.1 Course Contents For 100 Level

BOT101: Cell Biology and Lower Plants (2 Credits)
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.

ZOO101: Cell Biology and Invertebrate Zoology (2 Credits)
General structure of animal cell. Functions of animal cells and cellular organelles; animal cell types and division. Forms, functions and life history of invertebrate using selected examples from classes of invertebrates such as protozoa, coelenterates, arthropods, Platyhelminthes, Aschelminthes, Annelid and Mollusca.

CHM111: General Chemistry 1 (3 Credits)

Physical Quantities and Units
The physical quantities understood as consisting of numerical magnitude and unit. International system of units: Base units, mass, length, time current, amount of substance. Other units expressed as products or quotients of base units.

Relative Masses of Atoms and molecules
Evidence atomic, isotonic, molecular and formula masses. The mole concept and the Avogadro's content. Determination of relative masses. Calculation of empirical and molecular formulae. Chemical stoichiometry.

Atomic and Nuclear basis
Evidence for atomic constituents: electrons, Protons and Neutrons – their relative charges and masses. The nucleus atomic number, masses isotopes and mass spectra. The electronic structure of the atom. Radioactivity; X-ray radiation and detection. Nuclear transformation and binding energy. Nuclear reactions and stability. Application of radio-nuclicides, Electromagnetic radiation, wave-length and frequency. Radiation as energy, the plank relation. Regions of electromagnetic spectrum absorption and emission of radiation. Wave particles dualism and the de Broglie equation. The wave equation treated symbolically.
Heisenberg uncertainty principle. Energy levels is atomic hydrogen and their quantum numbers. Ionization energy. The size, shape and orientation of atomic orbitals, Radical and polar diagrams and the effect of nuclear charge. Electron and nuclear spin – the Sterm-Gerlach experiment. Many electron atoms, electron configuration and Pauli principle. Hunds rule.

Chemical Bonding
Dependance of properties of solids, liquid and gases on type of chemical bonding. Electrovalent bond between ions. Covalent bonds. The shape of simple molecules including CO2 (linear), CH4 (tetrahedral), NH3 (pyramidal), H2O (non-linear), SO3 (trigonal), SF6 (octahedral), Metallic bonds. Inter-molecular bonds. Hydrogen bonding and its influence or properties.

CHM 113: General Chemistry Laboratory I (1 Credit)
A three (3) hour /week laboratory course covering basic laboratory experiments of the first semester 100 level Chemistry syllabus.

PHY117: Basic Experimental Physics I (1 Credit)
A three (3) hour /week laboratory course covering basic experiments illustrative of the first semester 100 level Physics syllabus.

PHY116: Physics for Life Sciences I (3 Credits)
Forces on Objects
Units of force, equilibrium; equilibrium, units of length, Rotational and transnational equilibrium; Moment of a force; Centre of gravity; Forces at angles; addition of forces; components of forces; moments of forces not perpendicular to force arm; Bionics; forces in pairs; Newton's 3rd law; Stable and Unstable equilibrium and applications.

Motion
Quantities that motion, path length, displacement, speed, velocity, acceleration; Addition of velocities. Accelerated motion, linear acceleration, trajectory near the earth's surface, effects of acceleration on the human body. Radial acceleration.

Force and Acceleration (Dynamics)
Newton's 2nd law; Units in dynamics; weight of an object; Momentum; Impulse, conservation of momentum, reaction engines. Forces deduced from acceleration; inertial effects, rotating systems, effects of inertial forces on plant growth, rotation of earth, friction, sliding and static friction, resistive motion in fluids.

Angular motion and gravitation
Orbital motion: Kepler's law, possible satellites orbits around the earth, escape velocity, angular measure: the radian, angular velocity and angular acceleration. Motion in a circle, rolling centripetal acceleration. Torque, moment of inertia, angular momentum, the Coriolis effects; Circular orbits and the law of gravity; Newton's universal law and gravitation. Law of conservation of angular momentum.

Energy
The Joule, the Calorie, the Electron volt, power, mass and energy. Mechanical energy, potential energy, kinetic energy, rotational kinetic energy. Heat, energy and temperature: temperature scales. Specific heat capacity, Calorimetry. Latent heat. Heat transfer: Newton's law of cooling, convection, conduction and thermal conductivity, radiation including Stefan. Boltzmann's law. Energy sources: Solar energy, wind, waves, tides and geothermal energy; energy release from nuclear fusion and fission. Law of conservation of energy.

Gases and Energy
The gas laws: pressure, Kinetic theory of gases: kinetic temperature, Brownian motion, the mole and Avogadro's number, comparing masses of gas particles, speed and particle mass. Heat capacities of gases; universal gas constant, molar heat capacity, energy in expansion, specific heat at constant pressure and at constant volume. Isothermal and adiabatic processes. Order and disorder. Mention of laws of thermodynamics.

Force and Distortion
Stress, strain and Young's modulus. Modulus of rigidity. Twisting. Bulk modulus. Energy in distortion. Work done in stretching an elastic object. Collisions: perfectly inelastic collisions, elastic collisions, inelastic collisions, coefficient of restitution. Membrane tension: types of membranes: special membranes, liquid surfaces tension, liquid drops, cylindrical membranes.

Fluids
Volume and density. Pressure and its determination, the barometer, Buoyancy: flotation. Objects falling in a fluid, terminal velocity. Pressure and speed: speed and area of cube, Bermouli's equation. Viscosity. Laminar and turbulent flow. Molecular diffusion.

Vibrations and Waves
Simple harmonic motion (s.h.m); displacement, velocity and acceleration in s. h. m. natural period in s. h. m., the simple pendulum. Energy in vibrations. Qualitative discussion of damped and forced vibrations. Types of waves. Wave length, frequency and speed of waves. Longitudinal wave in a thin rod in an extended solid or a liquid. Transverse waves in solids.

Sound
Speed of sound in a gas. Wave propagation: Huygen's principles, diffraction of waves, waves in inhomogeneous media. Standing waves and their production. Power in a wave: sound intensity level, sound pressure level, loudness levels, intensity of a wave in medium, sound waves in different media. Reflection of waves. Acoustics of buildings.

MTH 111: Elementary Algebra 1 (3 Credits)
Trigonometric functions Radian measure
Law of sine and cosine, Sum, difference and product formulas. Trigonometric identities. Inverse trigonometric functions. Solution of trigonometric equations.

Exponential and Logarithmic functions
Definition of ax for any positive number a and why real number x. definition of logic. Law of exponents and logarithms. The number e. natural exponential and natural logarithms functions.

Algebraic functions
Polynomials; division algorithm synthetic division factor theorem, remainder theorem. Rational functions associated with partial fractions decomposition. Roots of rational functions: finding the domain function.

Complex numbers
Representation in the plane, sum, product, quotient. Modulus, argument. Complex conjugate and its properties. Polar representation unit circle, nth roots. De Moivre's theorem. Zeroes of polynomials, quadratic formula.

Force and distortion
Stress, strain and Young's modulus. Modulus of rigidity. Twisting. Bulk modulus. Energy in distortion. Work done in stretching an elastic object. Collisions: perfectly inelastic collisions, elastic collisions, inelastic collisions, coefficient of restitution. Membrane tension: types of membranes: special membranes, liquid surfaces tension, liquid drops, cylindrical membranes.

MTH 112: Elementary Calculus 1 (3 Credits)
Real Numbers
The number line, intervals, properties of absolute value. Solving inequalities, sign chart.
Functions from IR to IR
Domain, range, graph, monothonically increasing, decreasing, inverse functions. Composition of functions. Even and odd function, periodic functions.
Limits
Convergent sequences. Limit of a function, left and right hand limits. Continuity.

Differentiation
Differentiability at a point and on an interval. Sum, Product and quotient rule. Chain rule, rule for inverse functions, Implicit differentiation.
Integration
Fundamental theorem of calculus. Integration by parts, change of variable, integration of rational functions, trigonometric integrals, trigonometric substitutions. Trapezium rule, Simpson's rule.

GNS101: Use of English Language I (2 Credits)
Effective communication and Writing in English. Arts of public speaking and oral communication, Lexis and Structure, Comprehension (Reading), Sentence construction, Laboratory Repot Writing, Collection and Organization of Materials and Logical Presentation, Punctuation.

BOT102: Higher Plants (2 Credits)
Morphology, anatomy, histology and physiology of angiosperms and gymnosperms flowering plants, seed and fruit structures; dispersal and translocation, storage organs, flower structure and diversity.

ZOO102: Vertebrate Zoology (2 Credits)
Form and structure of vertebtates, protecchordates (Amphoxus) amphibian, fish reptiles, birds and mammal. The morphology and anatomy of various systems, skin, skeletal, muscular, alimentary, respiratory, circulatory, excretory, nervous, endoscrine and reproductive systems of vertebrates. Introduction of histology and embryology. Introductory animal psychology.

CHM121: General Chemistry II (3 Credits)
Gases, Liquids and Solids
Derivation of ideal gas equation leading to Boyle's Law and Avogadro's hypothesis. The Avagadro constant. A simplified and treatment (e.g. particle in box). The assumption of ideal behavior and their limitation for real gases at high pressure and low temperature. Boltzmann distribution and molecule speed, Boltzmann constant. Liquids: the kinetic concept of the liquid state and simple kinetic-molecular description of melting, vaporization and vapour pressure, Saturated and Unsaturated vapours.

Phase equilibria
Phase rule, equilibria involving one, two and three components.

Solids
Lattice structure and spacing. NaCI as ionic lattice. Cu as a cubic close- packed metal lattice. Graphite and Diamond – their properties as macro-molecular structures. Lattice energy and forces between the particles in atomic molecular and ionic lattice.

Electrolysis
The factors affecting the mass of substance liberated during electro.

Equilibria
Chemical equilibria: Reversible reactions and dynamic equilibrium. Factors affecting chemical equilibria. Le Chatelier's principle. Equilibrium constants: their definition and calculation in terms of concentrations. Strong and temperature on equilibrium constants. Ionic equilibria: Bronsted-Lowry theory of acids and bases. Strong and weak acids in terms of conductivity. Strong and weak electrolytes. Degree of dissociation. The ionic product of water Kw: pH and calculations, pH indicators, choice of indicators: Buffer solutions.

Chemical Kinetics
Simple rate equations: order of reaction: rate constants. Rate-K (A)" (B)", Treatment should be limited to simple cases of simple one step reactions. Simple calculation on half-life. Quantitative effects of temperature on rate constants, Catalysis.

Thermochemistry and Chemical Energetic
Standard enthalpy changes of reaction, formation, combustion and neutralization: Hoss law. Lattice energy for simple ionic crystals. A treatment of the Born-Haber cycle is not required.

CHM 124: General Chemistry Laboratory II (1 Credit)
A three (3) hour /week laboratory course covering basic experiments illustrative of the Second semester 100 level Chemistry syllabus.

PHY127: Basic Experimental Physics I (1 Credit)
A three (3) hour /week laboratory course covering basic experiments illustrative of the second semester 100 level Physics syllabus.

PHY126: Physics for Life Sciences II (3 Credits)
Light Waves
Wave length, speed and frequency: sensation of colour, optical path length. Interference waves: constructive and destructive interference. Thin film phenomena; coasted lenses, colours of thin films, interferometers. Diffraction of light: light through an aperture, double slits, the diffraction grating, the grating spectrometer. Polarization: double refraction, dichroism, polarization by reflection and by scattering: optical activity. Infrared, ultraviolet, visible and microwave regions of the electromagnetic spectrum.

Ray Optics
Laws of refraction: Snell's law, apparent depth. Refraction and speed of light: general form of Snell's law. Application of Snell's law: total reflection, prismatic binoculars, the light pipe, the prism, the rainbow, focusing by a curve surface. Lenses: focal length, principal rays, image-object position, magnification, virtual image and the simple microscope, defects of vision and their corrections. Magnifying power of a lens, the compound microscope and its magnifying power, the refraction telescope, focusing with mirrors. Resolving power of optical instruments.

Intensity, Absorption and Speed of Light
Intensity of light source; candela and lumen, surface illumination: the lux, photon flux density, oblique illumination from a point source, visual acuity. Absorption: absorbance and transmittance, absorption of gamma rays, the absorption coefficient. Microscope illumination. Speed of light and its measurement.

Electric Charges, Forces and Fields
Forces between charges: Electro meters. Electro fields: lines of force, field between parallel plates. Voltages: the volt, the electron volt. Accelerating charged particles; the x-ray tube, the electron gun. Calculation of particle speeds from voltage drop, relativistic speeds. Voltage and electric field relationship. The parallel plate capacitor with and without dielectric: Biological cells as capacitors for radiation measurement, radiation dose, the ion chamber.

Current Electricity
Electric current: conduction electrons. Ohm's law: Resistors in series and in parallel. Power in an electric circuit. Resistance and resistivity. The protectionmeter: Voltage at any point in a circuit, the rteostat, comparing voltages. Electric current and magnetic field: detecting a magnetic field, patterns of magnetic field, magnetic field around a current and around loop and coil, current carrying conductor in a magnetic field. Faraday's laws of electrolysis. Electric meters: Voltmeters, meter sensitivity, multi range current meters, electric motors. Generation of electricity: Lenz's law, transformers. Rectifiers and diodes, smoothing circuits. Amplification: transistors with AC and DC, coils with AC and DC.

Atoms and Nuclei
Properties of atoms: Atomic models. Atomic spectra: protrons, photoelectric effect, vacuum tube photo cells, photo multiplier and itsuse as detector of gamma rays. CRO: High energy practices: the Geiger-Mueller counter. The Lawrence cyclotron, the electron microscope. Compton Effect Bohr's model of the atom: electronic transitions and energy level diagrams. Atoms with more than one electron. The atomic nucleus: neutrons and protons in nuclei atomic units, the nuclear force, alpha particle. The chart of the nuclides: deuterium, tritium, isotopes. Radioactivity: transmutation due to beta decay, annihilation radiation, the neutrino, alpha particle emission from nuclei; Activity of a sample: the bocquerel Half-lives. Radioactive chains: uranium series; naturally occurring radioactive isotopes. Pair production, protons and anti-protons. Elementary particles and cosmic rays. Laser sources

Special Relativity
Relative motion. The speed of light in a moving system. The Michelson-Morley experiment. Lorentz contraction. Constancy of the speed light and simultaneity. Relativistic transformation.Length, time, speed, mass. Mass and energy.

GNS102: Use of English Language II (2 Credits)
Writing skills, Research Paper Writing, Technical Writing, Precise Writing, Report Writing, Functional Writing and Logical Presentation of papers (speech Writing).

GNS202: Nigerian Peoples and Culture in the Context of African History (2 Credits)
Study of Nigeria history, culture and arts in pre-colonial times. Nigeria's perception of his world. Culture areas of Nigeria and their characteristics. Evolution of Nigeria as a political unit. Indigene/settler phenomenon. Concepts of trade, Economic self-reliance, Social justice, Individual and national development, Norms and values, Negative attitudes and conducts (cultism and related vices). Re-orientation of Moral and national values. Moral obligations of citizens. Environmental problems. Nigeria under democracy (1999-date).

3.2.2 Course Contents For 200 Level

AGR 200: General Agriculture (3 Credits)
The definition of agriculture; World population and food supply; History, scope and importance of agriculture to man; Agriculture and natural environment; Career in agriculture; Characteristic features of tropical agriculture and how they affect production; Land use and tenure; Agricultural services and regulation; Trends in the production, distribution and utilization of agricultural products; Measures of improving Nigerian agriculture. Climatic adaptic and social factors in relation to crop production and distributions in Nigeria. Systems of crop farming. Types, distribution and significance of farm animals; basic principles of animal farming; place of forestry, fish farming and wildlife in Agriculture.

AGR 201 Climatology and Biogeography (3 Credits)
The principles, aims and scope of climatology and biogeography. The elements of climate and weather and their effect on crop plants. The earth's atmosphere. Solar 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 evapo-transpiration. Equipment and maintenance of standard meteorological stations the tropical climate; relation between agriculture and climate with references to crops, livestock, irrigation, pests and diseases.

AGR 202: Anatomy& Physiology of Farm Animals (2 Credits)
Parts of the beef and dairy cattle, sheep, goats, pigs, rabbits and poultry. Fundamentals of cell biology. Anatomy and physiology of animal tissues, nervous system, skeletal and other systems, muscle, bone, circulatory system, reproductive, digestive, special senses, homeostasis, nutrition and digestion, respiration. Temperature regulation, excretion and reproduction. Endocrinology. The blood and circulation. Lactation, milk let down and egg production. Water balance.

AGR 203: Crop Anatomy, Taxonomy and Physiology (2 Credits)
Introduction to plant taxonomy parts of the crop cell types. Characteristics, distribution, economic importance and local examples of Leguminosae, Gramineae, Compositae, Dioscoreae Luteae. Development of cells and tissues; use of plant keys. Cell biology, cell and cell types. Comparative anatomy of major plant organs. Enzymes, hotosynthesis and translocation; Pollination, respiration and energy utilization; seed dormancy and germination, development; mineral nutrition.

AGR 204: Principles of Soil Science (2 Credits)

Soils, their origin and formation. Physical properties of soils. Soil moisture, air and temperature, soil classification and survey. Soil colloids; soil reactions. Soil organic matter and soil organisms; soil and water conservation; Nutrient requirements and mineral nutrition of plants. Introduction to fertilizers.

AGR 205: Principles of Horticulture (2 Credits)
Distribution of fruits and vegetables with reference to climate and soils in Nigeria: Principles of horticultural practices: Horticultural structures, machinery and equipment: Methods of plant propagation.

AGR 206: Introduction to Agricultural Engineering (2 Credits)
Basic principles of Agriculture Engineering. Basic farm power and machinery. Basic electricity for farms or agriculture. Farm structures and environment. Element and principles or Agriculture survey. Farm structures (farm lay - out), housing, equipment, Feed mill, etc.

AGR 207: Introductory Computer Science (3 Credits)
History of computers, functional components of computer. Characteristics of a computer, Uses of computers. Types of computer/classification of computers, introduction to programming languages (BASIC, FORTRAN C ++) - uses, terms and symbols and coding format.

AGR 208: Introductory Agricultural Bio-Chemistry (2 Credits)
Chemistry of carbohydrates, lipids, proteins and nucleic acids. Vitamins and their coenzyme functions. Minerals. The nature, classification and function of enzymes and hormones.

AGR 209: Principles of Animal Production (2 Credits)
Animal production and its development. The livestock industry problems and prospects. Description of the breeds of cattle, sheep, goats, pigs, poultry and rabbits. Systems of livestock production. Feeding and grazing behaviour of farm animals. Domestic animal numbers, livestock subsector growth, farm animal challenges and future in perspective. Farm animal production and environmentalism. Animal laws and animal rights in respect of production, housing, transportation, health and slaughter. Principles of breeding and livestock judging. General principles of management of the different types of farm animals.

AGR 210: Principles of Crop Production (2 Credits)
Crop production and its development. The principles, problems and prospects of crop production. Importance of crop rotation cultural practices; water and soil conservation: irrigation and drainage. Pests affecting crops and their control. Weeds and their effects on crop production, pests, diseases and weed control. Basic Mendelian genetics and its application in Crop Protection. Principles of crop production, harvesting, processing and storage.

AGR 211: Workshop Practice (2 Credits)
Safety in the farm working, understanding the use of farm workshop tool and equipment, selecting. using and repairing tools, wood work and farm carpentry, welding, sheet metal work, lathe machine use, farm power and machinery, farm buildings and convenience, concrete work, farm home conveniences and sanitation, fencing and rural electrification.

AGR 212: Principles of Agricultural Economics(2 Credits)
Scope and nature of economics; Meaning of Agricultural Economics; Basic concept of agricultural Economics. Demand, Supply and Price Theory and their application to agricultural problems; Concepts of Elasticities of Demand and Supply; Price Theory; Price determination. Theory of Production; Meaning of Production. Theory of distribution; the components of agriculture in National income. Resource allocation on farms. Aggregate income, expenditure, investment, interest rate, saving, employment Inflation; international trade commodity agreements, and balance of payments. Money and banking.

AGR 213: Introduction to Fisheries and Wildlife (2 Credits)
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 life of Nigerians. The fish and wildlife industries in Nigeria. Fundamental principles of fish and wildlife management and production. Pond construction and management. Socio-economic factors influencing wildlife.

AGR 214: Principles of Food Science & Technology (2 Credits)
Definition and scope of food science and technology. Food distribution and marketing. Food and its functions. Food habits. Food poisoning and its 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 of traditional and ethnic influences of food preparation and consumption pattern.

AGR 215: Introduction to Home Economics (2 Credits)
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.

AGR 216: Principles of Forestry (2Credits)
Renewable natural resources, availability, distribution and potential. The important of 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 economies of test trees.

GNS201: Information Science (2 Credits)
Brief history of Libraries, Library and education, Libraries, Information and the Society. University Libraries and other types of Libraries. Study skills (reference services). Types of Library, using Library resources including e-learning, e-materials, etc. Understanding Library catalogues (card, OPAC, etc) and classification, Copyright and its implications. Database resources. Bibliography citations and referencing collection. Development, Preservation of Library materials-handling of Books.

GNS222: Peace and Conflict Resolution Studies (2 Credit)
Basic Concepts in Peace Studies and Conflict Resolution. Peace as a vehicle of unity and Development. Conflict Issues. Types of Conflicts e.g. Ethical/Religious/Political/Economic Conflicts. Root causes of conflicts and violence in Africa. Indigene/settler phenomenon. Peace building. Management of conflicts and security. Elements of Peace Studies and Conflict Resolution. Developing a culture of peace. Peace mediation and peace keeping. Alternative Dispute Resolution (ADR). Dialogue/Arbitration in Conflict Resolution. Role of Intentional Organization in Conflict Resolution e.g. African Union, United Nation, etc.

GNS301: Entrepreneurship and Innovation (2 Credit)
Development Entrepreneurship/Intrapreneurship: The concept Organization and Theories of Entrepreneurship. The Entrepreneurship Culture, Biographical Studies of Entrepreneurs. Barriers of Entrepreneurial practice. The Nigerian Entrepreneurial Environment: The business external environment (political, legal, socio-cultural, economic, natural, technological etc.). Identifying Business Opportunities and Threats. Strategies for exploiting opportunities in the environment. Approaches to addressing environmental barriers. Creativity and Intellectual Rights: Intellectual Property and its Dimensions. Copyright Laws in Nigeria. Strategies for Protection of Intellectual Property (original ideas, concepts, products etc). Technological Entrepreneurship: The Interface between Technology Development and Entrepreneurship. Technological Development and Entrepreneurial Technological Environment and Business. New Technology and Entrepreneurship Opportunities. Management of Innovation Content: The concept, nature and types of Innovation. Theories of Innovation, Financial Innovation and New Ventures, Change
Management, Technical Change and management of Innovation. Family Business and Succession Planning: The concept of Family Business Ownership, Transfer and Succession in Family Business. Women Entrepreneurship: The concept of Women Entrepreneurship, Role orientation and Women Entrepreneurial Aspirations. Contribution of Women to National Socio-economic and Human Development; Barriers to Women Entrepreneurial Practice; Social Entrepreneurship: The concept of Social Entrepreneurship, Social Entrepreneurship and Value Creation. The Role of Non-governmental organizations in Social Entrepreneurship; Social Entrepreneurship Enhancement Factors; Business Opportunity Evaluation: Sources of Business Opportunities in Nigeria. The difference between Ideas and Opportunities; Scanning Business Opportunities in Nigeria. Environment and New Ventures Idea generation.

3.2.3 Course Contents For 300 Level

AGR 300: Non-Ruminant Animal Production (2 Credits)
Definition of terminologies. Biological classification of poultry, swine and rabbits. External features and digestion, management of breeding stock, young and growing animals; housing, equipment and feeding of poultry, swine and rabbits. Feed formulation. Smallholder animal production. Livestock economics and health management with emphasis on sound vaccination. Processing and marketing of poultry, swine and rabbits, micro livestock production.

AGR 301: Principle of Animal Health and Welfare (2 Credits)
Definition of disease. Factors predisposing animals to diseases. Principles of diseases resistance, susceptibility and infection-types of immunity (immunology) vaccines. Principles of prevention and control. Diagnostic techniques for diseases. Principles of drug administration and

disinfection. Animal handling castration, dehorning, debeaking, identification-tattooing, branding, tagging. Concepts in animal welfare. Principles of herd health management. Introduction to Bio-security.

AGR 302: Principles of Genetics (2 Credits)
History of Genetics, Cell structure and components. Chromosomes, structure, number, variations (polyploidy and eneuploidy). Mendelism, linkage and cross-over, mitosis and meiosis. Introductory population genetics; gene and genotype frequencies. Hardy-Weinberg equilibrium. Different types of gene action. Genetic code. Theory of evolution.

AGR 303: Soil Introductory Pedology and Physics (2 Credits)
Soils, their origin and formation Soil morphological characteristics, Soil components, soil description, 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 separates; solid texture, surfaces area of particles; aggregation, soil structure and stability; porosity, soil water relation, soil and the hydrologic cycle; soil temperature and conduction, Soil erosion.

AGR 304: Permanent Crop Production (2 Credits)
Origin, description, soil and climatic requirements of some important permanent crops such as cocoa, oil palm, rubber, coffee, coconut, mango, sugar cane, bananas, plantains utilization, processing, storage and economic aspects of some selected permanent and perennial crops, economics of primary Crop Production.

AGR 305: Agricultural Mechanization (2 Credits)
Aims and objectives of agricultural mechanization, Basic mechanics, Workshop tools. Principles of internal combustion engines and electric motor study of farm machinery used for tillage; ploughs, harrows, cultivators, farm power transmission system. Harvesting and processing equipment (sprayers and duster). Equipment for livestock (automatic feed conveyors, automatic drinkers for poultry, feeding and watering equipment; milking and milk handling equipment, meat processing equipment). Water lifting and irrigation equipment. Surveying instruments used on the farm. Operating principles, selection and maintenance procedures of farm machinery. Farm machinery costing and records. Workshop and building materials used on the farm. Soil, water and energy resources conservation.

AGR 306: Introduction to Agricultural Extension and **Rural Sociology** (2 Credits)
The need for agricultural extension. Agricultural extension in the world and in Nigeria, basic philosophies behind agricultural extension work. The institutional setting of agricultural extension. Basic concepts and principles of rural sociology to an understanding of rural situation. Importance of rural communities and institutions, social stratification, social processes and social changes in rural areas. Leadership in rural communities; role and functions of rural leaders. Development of rural community leaders. The extension agent and rural community. Communication techniques and strategies of change. Various agricultural extension teaching methods, aids and their uses.

AGR 307: Agricultural Biochemistry and Methods (2 Credits)

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

AGR 308: Computer Programming(3 Credits**)**
Overview of computer uses, parts, characteristics and types. Computer programming languages (BASIC, FORTRAN, C+), problem solving, flowcharting, algorithm, statements and expressions, arrays and subscripts, control statements, management of files and diskettes, windows environment. Introduction to computer software applications – word processors, spreadsheets (statistical packages), graphics (desktop publishing), power point presentations; reference managers, introduction to internet browsing, computer viruses – meaning, types and treatment. Introduction to the use of electronic library and data bases; introduction to website design and management.

AGR309: Crop and Animal Breeding (3 Credits)
i. General Introduction
the origin, organization and transmission of biological variations. Fundamental principles of inheritance. Introduction to population and quantitative genetics (qualitative and quantitative characters). Estimation of population values and means. Repeatability, heritability and breeding values.
ii. Animal Breeding
animal variation and selection principles. Breeding and environmental effects. In-breeding, pure line breeding, cross-breeding, and other breeding methods.
ii. Cross Breeding
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-breeders and out-breeders. Mutation breeding. Breeding methods for crop improvement. Development; multiplication and distribution of improved varieties.

AGR 310: Ruminant Animal Production (2 Credits)
Management of breeding stock growing and young animal. Housing equipment and feeding principles of cattle, sheep and goats. Production and management practices. Health management of ruminant animals. Products.

AGR 311: Arable Crop Production (2 Credits)
Influence of climate on the distribution of arable crops in Nigeria.Origin, distribution, soil and climatic requirement of cereals. Legumes, root crops, fibre crops, vegetables and other important annual crops in Nigeria. Improved varieties; Production practices, harvesting, utilization, processing, storage and economic aspects of some selected arable crops

AGR 312: Soil and Water Management (2 Credits)
Principles underlying soil management (maintenance of soil fertility control of acidity and alkalinity, erosion and moisture loss). Conservation of soil resources (effects of burning and fallow on soil fertility maintenance) Maintenance of soil structure through controlled cultivation Land-use planning (drainage and irrigation systems and their application to land management) Principles and

AGR 313: Principles of Crop Protection (2 Credits)
The major pests, insect, fungi.Bacteria, viruses and nematodes, weeds and other diseases of tropical crops and stored products. Definition **of** pests. Study of insect pests of major local crops, their significance and principles of nematodes. Control of these diseases caused by virus, bacteria, fungi and nematodes. Control of these disease. 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

AGR 314: Principles of Soil Chemistry and Microbiology (2 Credits**)**
Chemical composition of soils, Soil fertility conversion units and calculations; soil fertility evaluation, silicate mineral chemistry; cation and anion exchange phenomena and base saturation Soil reaction (active and reserve acidity, alkalinity, buffering capacity). Soil acidity and liming Survey of micro-organism in soils and their role in soils. The dynamics of N a and S pools. Association between microbes and plants.

AGR 315: Introduction to Farm Management and Production Economics (2 Credits)
Theory of production Principles of agricultural production and resource use; 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.

AGR316: Extension Teaching, Learning Process and Methods(2 Credits)
Nature and elements of communication problems in extension. The meaning of the concepts of teaching, learning and motivation. Steps and principles of teaching and learning. Extension teaching methods. Preparation and use of teaching materials and aids.

AGR317: Statistics and Data Processing(2 Credits)
Basic concepts of statistics; Frequency distribution, measures of location. Measures of variation; Probability distribution, normal and binomial distribution. Histograms, means, mode and median. Sampling, data collection. Data processing techniques, statistical inference. Tests of significance, F - test, t - test, Chi - square, analysis of variance, analysis of covariance, correlation and regression analysis. Goodness of fit. Research objectives, research design. Field experimentation, collection and processing of data.
AGR 318: Farm Practice – Field ad Vegetable Crops (1 Credits)

AGR 319: Farm Practice -Animal Production (1 Credits)
The course covers areas such as routine management practices – restraints, handling, slaughter and processing, hand and machine milking, livestock identification methods, deworming, dehorning, debeaking, etc. At least a visit/excursion to places of interest such as game reserves, established/modern farms, etc will be made in order to broaden the students' knowledge.

3.2.4 Course Contents For 400 Level

Industrial Training (8 Credits): Each qualified 300 level student of the Faculty is expected to identify agriculture related place for a one year industrial training (IT). The students are expected

to write a report at the end of the training. The report shall be presented at a seminar in the students' Department and finally graded based on the grading components of the IT.

3.2.5 Course Contents For 500 Level

AGR500: Agric-Business Management and Finance (2 Credits)
The scope of agricultural business and management; Types of agri-business management and organization; Enterprise selection (calculation, selection technique and decision rules); Production planning and control; Public policies affecting agricultural business farm growth (Macro policies; Agricultural sector policies and Agricultural support services policies); Organization of large scale farms; Legal organization and tax strategies; Economics of agricultural processing and postharvest management; Marketing management (concepts, speculation and hedging); Principles of agricultural finance: Principles of farm credits; Capital needs of agricultural industries; Sources of loan funds and collateral securities for loans; Credit agencies and government credit policies and approaches to efficient credit management; Measuring expected returns and risk. Farm accounting: Inventory; Balance sheet (calculation involving measures of financial success); Cash book and cash book analysis.

AGR 501: Field and Animal Experimentation (3 Credits)
Principles of field experimentation in crops and soil sciences. Research methodology; experimental layout, filed survey; normal distribution and sampling; measurements and data results. Techniques and procedures in animal science research problems.

AGR 502: Special Project (4 Credits)
Each student in the final year is expected to carry out a research project under supervision. Students will conduct research work in the in the Field or Laboratory, glass house and field under the supervision of lecturer(s). The student is expected to collect data analyze and interpret the result. The student will at the end of the project write a thesis from the research and defend the research project both internally and externally.

AGR 503: Fodders, Pastures and Range Management (2 Credits)
Adaptation and botany of indigenous and introduced pastures and forage plants. Characteristics of grasses, legumes and shrubs. Establishment, production and seed production of pasture plants; the utilization and maintenance in permanent and temporary pastures. Range management. Grazing systems forage conservation, dry season feeds.

AGR504: Marketing of Agricultural Products (2 Credits)
The concepts of market and marketing. Marketing functions and institutions (organized). Market organization. Market structure, conduct and performance. Marketing margins and efficiency. Basic elements of market research. Importance and problems of Agricultural Marketing. Introduction to international trade in agricultural commodities.

AGR 505: Special Project (1 Credit)
Each student in the final year is expected to prepare and participate in all seminars and present Seminar in any topics in their field of study.

AEE500: Statistics and Research Methods (3 Credits)
Defining a research problem; Agricultural Research and its importance to national development. Research process and its steps. Formulation or definition of research problem. Definition of variables, types of variables and measurement; Constructing/developing hypothesis, functions of hypothesis; stating research objectives. Methods of data collection. Tools for data collection (research instruments). Construction of questionnaire. Processing and analyzing data using quantitative and qualitative methods. Construction of simple and complex tables and graphs. Regression and correlation techniques (using computers). Referencing techniques in research presentation.

AEE501: Production Economics, Farm Management and Accounting (3 Credits)
Theory and principles of Agricultural Production with respect to resource use, resource allocation, resource and product/enterprise combinations. Forms of production functions and their characteristics. Response analysis. Measurement of resource productivity. Isoquant analysis, convexity and input substitution and allocation. Problems of organizing and managing farms. Linear programming. Principles of Farm management and functions of Management. The decision making process. Depreciation techniques; assets valuation. Kinds and functions of farm records and accounts. Basic principles of accounting; nature of simple farm accounts. Farm planning and analysis. Farm budgeting, farm records and inventory; the balance sheet, journal and ledger. Profit and loss statement preparation, adjusting entries. Risk and Uncertainties and measures of minimizing them.

AEE502: Econometrics (2 Credits)
Basic concept of econometrics; Methodology of econometric research; Correlation theory; Simple regression. Basic assumptions in regression analysis, violation of the basic assumptions. Multiple regression; Statistical demand and supply analysis; Statistical production and cost analysis. Method and application of econometrics to agricultural problems and Computer application in econometric analysis.

AEE 503: Diffusion of Innovation (3 Credits)
Definition and elements of diffusion; process of adoption and diffusion of innovations; the innovation decision process; characteristics of innovation; adoption rates and adopter categories; opinion leadership; change agents; theoretical formulations on the diffusion of innovations. Sectors related to differential rates of adoption of new agricultural technology; implication of these processes and factors of effective agricultural extension in rural areas. Nigerian agricultural innovation system. Agricultural innovation and their diffusion in Nigeria.

AEE504: Administration and Programme Planning in Extension (2 Credits)
Concepts, theories, principles and guidelines of administration, organization, supervision as applied to extension. Administrative function and responsibility in agricultural extension; staff recruitment, selection, placement and supervision; budget development and fiscal control. Importance of programme planning in agricultural extension need, educative objective, learning experience, clientele participation, plan of work, and calendar of work. The role of good public relations, good leadership and co-operation for an extension worker. Association and co-operatives. Concept of evaluation applied to agricultural extension programmes.

AEE505: Extension Organization, Management and Supervision (2 Credits)
Concepts, theories, guidelines and principles of extension organization. The roles and responsibilities of various levels of extension and other relevant staff; staff recruitment and selection in agricultural extension services. Staff induction and placement in extension organization. Management and supervision in extension services; principles of morale and motivation; motivation in agricultural extension; motivational needs and factors influencing motivation; implications for extension staff development and promotion; creating conducive working environment; discipline and assessment of extension work accomplishments. Problems confronting agricultural extension services in Nigeria and in developing economies. Ways of improving extension services in Nigeria.

AEE 506: Agricultural Marketing and Prices (3Credits)
The market and marketing process; definition of market and marketing, marketing functions, marketing agencies (institutions). The marketing system. The theoretical concept of market structure, conduct and performance. Marketing channels. Commodity marketing problems. Grain marketing. Fruit and vegetable marketing. Cotton marketing, livestock marketing. Market for agricultural inputs. Approaches used in analyzing marketing problems; functional institutional, behavioural and economical. Price determination. A review of demand and supply concept, equilibrium price, price determination under different market models. Price variation over space and time. Price discovery. Introduction to empirical price analysis. International trade in agricultural commodities.

AEE507: Agricultural Policy and Development (2 Credits)
Definition of Policy and agricultural Policy. Objective of agricultural policy in Nigeria. The role of agriculture in the Nigeria's economy. Historical and performance of government agricultural policies and programmes in Nigeria.Theories and policies of agricultural development. Agricultural policies with respect to sub-sectors such as animal production, crop production, fisheries and other specific policies like credit policies, co-operative policies, etc. Interrelationship between agricultural and individual development. Agricultural planning and sustainable development. Problems of agricultural development planning in Nigeria.

AEE 508: Agricultural Project Management and Analysis (2 Credits)
Project Concepts. Introduction to project cycle, Project location, project design and appraisal. Economic and social appraisal; farm and other resource valuation. Project cash flow analysis. The arithmetic of project appraisal; Net Present Value, Benefit, Cost Ratio, and Rate of Return calculations. Time value of money. Undiscounted measures of project worth; Sensitivity analysis. Case studies and practical problems of project monitoring, control and evaluation in Nigeria and other developing countries.

AEE 509: Rural Community Development (2Credits)
Sociological, economic and related policy perspectives as they relate to rural development. The theories of community; community as a unit of social change; the micro and macro approaches to social change; dimensions of innovations; approaches to community development; sustainable community development; agrarian systems; social movement; community development and their relevance to Nigerian situation. Problems of institutions and infrastructural change. Case studies on development in Nigeria and other developing countries. The future of communities in Nigeria.

AEE510: Advanced Rural Sociology (2 Credits)
Concept and meaning of Rural Sociology. General sociological theories, analysis of social structure of rural agrarian system and society. Selected theories of social change and modern theories of social change, e.g. integrated theory, constructionalism theory, etc. Social and attitude change in rural societies; measurement of change in rural societies; resistant to change in rural societies; conducive forces to social change in rural societies. Economic aspects of social change; group dynamics and problems of Rural Societies; concept and stages of group development; leadership patterns and types of power. Characteristics of rural societies; and differences between rural and urban settlement. Rural poverty and general ways of overcoming problems of rural societies in Nigeria. Selected case studies. Conflict and development in Nigeria. Agrarian societies in the global social system.

AEE511: Technological and Social Change in Agriculture (2 Credits)
Understanding technological change; basic sociological concepts; technological change and societies; general principles in introducing technological change; methods of agricultural technology transfer; technological change in Nigerian agricultural development; farm labour and technology; agricultural extension; ethical consideration in introducing technological change; agricultural engineers and public extension system.

AEE 512: Livestock Economics (2 Credits)
The place of livestock in the Nigerian economy. Problems affecting livestock development in Nigeria and their economic/political solutions. Application of production functions to livestock problems. Types of records and account in livestock industry. Applied cost and return theories. Marketing of poultry, sheep, goat and cattle. Measures of financial success in livestock production. Consumer and consumption patterns of livestock products. Law of diminishing returns.

AEE 513: Principles of Co-operative Practices (2 Credits)
The differences and similarities between cooperatives and self-help organizations. Evaluation of cooperatives - especially farmer, marketing and consumer cooperatives. Cooperatives as a form of business; purpose and advantage of cooperatives to agriculture; comparison of other forms of business with cooperative business; principles and operating techniques essential for successful cooperation activity; management of cooperatives; limitations and possibilities for cooperatives in Nigeria.

AAP 500: Poultry, Swine and Rabbit Production (2 Credits)
Buildings and equipment for young and adult animals, incubation and hatchery management of poultry eggs with emphasis on domestic chicken, turkey, guinea fowl, duck, geese, quail and ostrich. The application of the principles of feeding, housing, healthcare, breeding and management as basis for successful small holder and commercial production. Carcass yield (Dressing percentage) and quality measures of poultry, swine and rabbits. Marketing of poultry, swine and rabbit. Feed formulation for the different classes and species of animals with emphasis on selection/sourcing of ingredients, feeds mixing via Pearson square and Algebraic methods.

AAP 501: Sheep and Goat Production (2 Credits)

Classification, description and characteristics of the various breeds of sheep and goats, emphasizing Nigeria and other tropical breeds. The application of the principles of feeding, care and management to efficient production of the various classes. Multiplication methods. Herd recording. Milking potential of sheep and goats; housing and disease problems and wool production. Animal judging, castration, dentition and age determination. Marketing. Sheep and goats transportation. An overview of small ruminant production system and their characteristics, small ruminant production and estimates of their productivity performance; constraints and opportunities to increase productivity in these systems, problems and prospects of sheep and goat production in Nigeria.

AAP 502: Beef and Dairy Cattle Production (2 Credits)
Classification, description and characteristics of the various breeds. Production principles and the establishment of beef/dairy herds. The cow-calf growing and finishing operations. Anatomy and physiology of mammary gland. Principle of milking. Management of calves, replacement heifers, cows and bulls. Herd recording, castration and dehorning. Principles of housing and feeding. Cattle judging, economics of production, related diseases. Cattle transportation. Problems and prospects of beef and dairy production in Nigeria.

AAP 503: Applied Animal Breeding (3 Credits)
Brief history of domestication, animal breeding in the beginnings, qualitative and quantitative characters, values and means, resemblance between relatives; statistical tools for studying inheritance; genetic variance and co-variance. Determination of genetic parameters; heritability and repeatability. Correlations between characters. Selection methods. Breeding systems. Selection and breeding of beef and dairy cattle, breeding for egg and meat in poultry; improvement of sheep and goats.

AAP 504: Reproductive Physiology (2 Credits)
The reproductive systems in male and female animals, physiology of sperm and ovum; endocrinology, reproduction, egg production; genetic physiology; pregnancy and foetal development; fertility and sterility of farm animals.

AAP 505: Nigerian Feeds and Feeding Stuffs (2 Credits)
Classification of feed, feeding stuffs and feed 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 feeding.

AAP 506: Role of Artificial Insemination in Livestock Production (2 Credits)
Historical development of Artificial Insemination (AI) and Embryo Transfer (ET). Role of AI & ET in livestock improvement. Management of male donors; semen collection, evaluation, preservation and storage; artificial insemination techniques. Semen collection, evaluation, preservation and storage techniques in farm animals, management of breeding records, uses of

computer in reproductive data management, synchronized breeding, management of AI and ET services.

AAP 507: Monogastric Nutrition (2 Credits)
Principles of monogastric nutrition. The gastro intestinal tracts of different species of monogastrics in relation to their feeding habits. Dietary allowance, feed surveys, food balance sheets, feeding standards in relation to the nutrient requirement of various classes of animals, feed additives and growth promoters. Water in relation to nutrition. Gross energy partitioning in farm animals. Feed quality control and evaluation. Feed formulation. Feed mixing and large scale feed manufacture. The feed mill industry.

AAP 508: Ruminant Nutrition (2 Credits)
Microbiology of rumen; physiology of rumen action. Metabolic processes and pathways. Non-protein nitrogen utilization. Determination of digestion coefficients, balance trials, systems for energy evaluation, scheme for protein values; water in relation to nutrition and water metabolism; requirements and their inter-relationship in nutrition. Feed additives, proximate analysis; ration formulation, nutritional disorders. Digestibility trials, in *vitro* gas techniques.

AAP 509: Animal Products and Handling (2 Credits)
Preparation for slaughtering, evisceration and dressing percentages; care of carcass and its cuts; processing and care of hides, skin and wool, processing and storage of meat; milk processing and microbiology; and poultry products. Milk hygiene. Effect of cooking on meat and milk flavor. Post-harvest physiology of animal products; egg quality and grading chemistry and nutritive value of meat and eggs. Poultry products; milk by-products – butter, cheese and whey, preparation and storage of beef products – bacon sausage and ham; food additives, flavor and aroma. Marketing and distribution of animal products. Fish processing methods.

AAP 510: Animal Health and Diseases (2 Credits)
The economic impact of diseases on livestock. Environmental factors in relation to animal major livestock diseases. Helminth and protozoan parasites of livestock and poultry. Bacterial, fungal and viral infections of domestic livestock; the classification, diagnosis, epidemiology, prevention, treatment and control of different livestock diseases. Notifiable disease. Principles of immunity and disease resistance and their practical application. Introduction to disease identification and differential diagnosis. Introduction to Biosecurity. Herd health management. Animal welfare and assessment.

AAP 511: Game Production and Utilization (2 Credits)
Game production, harvesting strategies and problems of game cropping; "bush meat" processing methods, traditional uses of game and game products; hunting techniques; game ranching and domestication; growth behavior and reproduction of animals (fish) in captivity; habit and food preferences. Design of paddocks, animal houses and cages. Husbandry techniques and healthcare in captivity.

CRS 510: Biometrics and Experimental design (3 Credits)
Population, sample, qualitative and quantitative, Analysis of central tendencies, arithmetic mean, median, mode, measurement of dispersion, range, variance, standard deviation, and coefficient of

variation. Frequency table, tests of significance, t-test, chi-square test, correlation and regression analysis. Completely randomized design, randomize complete block design, latin square design, analysis of variance, F-test.

CRS 511: Horticultural Crop Production (3 Credits)
History, definition, classification and importance of vegetable crops. Ecological distribution of vegetables and fruits in Nigeria. Varieties and adaptation of exotic vegetables and fruits to the Nigerian environment types and systems of vegetable and fruit production. Production practices, harvesting, handling, processing, storage, marketing and utilization of vegetables and tropical fruit crops.Methods of plant propagation. Nursery systems, diseases and pests of vegetables and fruit crops.Horticultural machines and equipment. Principles of producing, planting, maintaining ornamental trees, shrubs, perennials and fruits in the nursery, home and parks.

CRS513: Crop Breeding and Biotechnology (3 Credits)
Significance of reproductive system in cultivated plants. Apomixes and asexual reproduction. Self and cross pollinated crops in Nigeria. Modern breeding and selection methods. Techniques and principles of crop germplasm.

CRS 514: Field Crops (2 Credits)
Soil and climatic requirements of field crops, growth requirements, fertilizer use, weed control and water use, improved varieties, production practices, diseases and pests, harvesting, and processing of field crops. Plant population dynamics in field crops (competition for water, nutrient and light, effect of plant population on growth and yield of major field crops).

CRS 520: Research Methodology (2 Credits)
Basic concept of laboratory. Glass house and filed experimentation. Introduction and description of various experimental designs (completely randomized design. randomized complete block design, latin square design, split plot design, factorial experiment etc). Collection and analysis of data using different experimental designs. Interpretation of results. Introduction on how to write research results. Journal articles and conference papers.
Defining research problem, developing hypothesis and objectives, principles of experimental design. Questionnaire preparation and collection of data, types of data distribution, normal distribution, binormial and poison distribution. Introduction on how to write result (introd, lit rev, material and methods, results and discussion conclusion and references). Presentation of research finding (table, graphical forms).

CRS 525: Seed production and Technology (2 Credits)
How seed is formed, structure and nature of seed, functions of parts of seed viability, dormancy, and deterioration .methods of breaking seed dormancy, production, processing, drying, threshing, packing ,storage and distribution of improved seeds Variety release, and seed certification, procedures for field inspection, seed legislation(breeders and farmers rights,) and control,seed testing procedures. Seed programmes in Nigeria, seed marketing.

CRS 526: Post-harvest Physiology and Product Storage (2 Credits)
Storage life and harvested fruits, seeds, vegetable and flowers, tropical environment in relation to maturity, ripeness and senescence. Physical and chemical indices of quality in fruits, seeds, vegetables, flowers, and other crop products. Storage of crop materials. Traditional methods of

vegetable processing and storage. Fundamentals and principles of crop storage and transportation. Storage and shelf life problems; ideal atmosphere for storing fruits, seeds, vegetables, flowers and other crop production treatments. Controlled environment for transit and long term storage protective treatment, design and operation of equipment for storage and preservation.

CRS 527: Weed Science (3 Credits)

History, classification and biology of weeds. Economic importance of weeds. Chemistry, selectivity, formulations and application of herbicides. Mode of action of herbicides. Herbicides and environmental interaction of herbicides. Safety precaution in handling herbicides. Application equipment and techniques of calibration of sprayers. Environmental chemicals and weed control. Practical: Identification of weed species. Identification and management of herbicides equipment; sprayers and calibration in the field; Herbicides and Soils; Herbicide formulations and surfactants. Application, Training and Certification.

CRS 528: Plantation Crops (2 Credits)

Influence of climate on the distribution of fruit trees in Nigeria. Vegetative propagation and nursery techniques. Advanced treatment to soil and climatic requirements, growth requirement, fertilizer use, weed control and water use, improved varieties, production practices, diseases and pests, handling, processing, storage, marketing and utilization of plantation crops, e.g. cocoa, oil palm, rubber, coffee, tea, coconut, kola, cashew, sugar cane, etc. Management and field production of plantation crops.

CRS 529: Agricultural Meteorology (2 Credits)

Environment and its significance to agriculture. Influence of moisture, humidity, temperature, radiation and wind in crop growth and production. Wind breaks and shelter- belt, micro-climate changes within crop stand and their effect on crops, study of Agrorne- terological data. Field trips to meteorological stations.

CHAPTER FOUR
STUDENT WORKLOAD, REGISTRATION AND GRADUATION

4.1 Student Workload

The minimum number of course units for which a student can register in any semester shall be 15 units, while the maximum shall be 25 units. There is no option for fresh students in 100 and 200 level direct entry. Any student who wishes to register for more than the maximum shall seek

permission from:

- The Head of Department to register up to 26 units;
- The Dean of the Faculty to register up to 27 units;

Final year non-graduating-students shall be allowed to register for only the outstanding course units needed for graduation. Students in 300 level who are repeating shall be allowed to register some 500 level courses to make up for the maximum units required. In all cases trailing courses must be registered first.

4.2 Graduation Criteria

The duration of the degree under the discipline ranges between 4-5 years based on the mode of entry. The maximum length of time allowed to obtain a degree in the Department shall be fifteen semesters for the five year degree and twelve semesters for students admitted directly into 200 levels. For extension beyond the maximum period, a special permission of the Senate shall be required on the recommendation of the Faculty board.

In addition to general requirements for graduation at the university, every full-time student is required to register a minimum of 15 credits and maximum of 27 credits units every semester except for students on industrial training (IT) who are allowed to register 8 units. The students should attain up to 70% attendance for all the courses and should pass a total of 173 credit units and 137 credit units for UTME and DE students, respectively.

4.3 Graduation requirements

Level of Study	Credit Units	
	4 Years	5 Years
100	-	36
200	42	42
300	43	43
400 (IT)	8	8
500	44	44
Total	137	173

In consonance with the course work system, course examinations are conducted at the end of each semester in which courses are offered Continuous assessment forms 30 % of the final grade awarded. The grade Point Average (GPA) and the Cumulative Grade Point Average (CGPA) systems are the yardsticks for evaluating student's performance from semester to semester and from year to year.

To graduate, a student must have offered on the average 174 Credits (138 Credits for direct entry candidates) with a range of 171 - 177 Credit Units (135 - 141 Credit Units for direct entry candidates) depending on the Department as shown below. The student must have undergone four (4) or three (3) years of student as the case may be plus a practical (Industrial Training) year of 9 - 12 months at the 400 level. The Log Books and Industrial Training (IT)Report are both evaluated

and graded on account of eight (8) credit units. The students' IT evaluation is graded as follows: Logbooks (20%), IT Report (35%), IT Seminar (15%), Industrial based supervisor (30%), Total (100%).

4.4 Final Degree Classification

The final Degree Classification is based on Cumulative Grade Point Average (CGPA) Ranges as follows:

CGPA Range	4.50 – 5.00	3.50 – 4.49	2.40 – 3.49	1.50 – 2.39
Class of Degree	**1st**	**2nd Upper**	**2nd Lower**	**3rd Class**

4.5 Course Evaluation and Grading System

Staff members (Resource Persons) start to submit question papers for courses they handle from the middle of the semester. The questions are taken for moderation to an External Examiner who also comes to moderate the marked scripts and marking schemes. The External Examiner along with the Head of Department and Examination Officer also conducts oral examination on the final students' projects and their general knowledge in agriculture. Students are free to write for verification of their results and such applications are treated appropriately.

Fresh students who happen to get a CGPA of less than 0.25 in his/her first semester would be ask to withdraw. However, if the CGPA of such a first timer is between 0.25 - 0.99, he/she is not placed on probation, as opposed to returning students.
If at any point, a returning student gets a CGPA of below 1.00, he/she is placed on probation. After two consecutive probations, a third time CGPA of below 100 will place the student at disadvantage position of been asked to withdraw.

If a student absents himself/herself from an examination of a course he/she registered without formal and genuine reason (s), he/she scores 00F. If this happens to all (or at least eight out of ten) courses, the student will be placed on voluntary withdrawal.

If at any point a student gets a CGPA of 4.00 - 4.49, he/she is placed on the Dean's list. For a student to be placed on the VC's list, he/she must have a CGPA of 4.50 - 5.00.

4.6 Result Computations

(i) Course Code	**(ii) Credit Units**	**(iii)[a] Percentage Score**	**(iv) Letter Grades**	**(v) Grade Points (GP)**	**(vi) Grade Points Average (GPA)**	**(vii) Cumulative Grade Points Average (CGPA)**
	Vary according to contact hours assigned to course per week per	70-100 60-69 50-59 45-49 40-44[b]	A B C D F	5 4 3 2 0	∑(ii x v) Divide by ∑(ii) or Total of (v)	Previous SP + current semester SP, all divided by previous SUAT+ + current

	semester				divide by Total of (ii)	semester SUAT
Example				**(ii) x (v)**		
GNS101	2	69	B	8		Assume Prev.
CHM102	4	51	C	12		SP = 46
AGR200	3	74	A	15		Curr. SP = 41
AGR308	3	49	D	6		Total = 87
AGR502	4	43	0	0	87/18 = 4.83	Prev. SUAT = 18
.	.	.	.	.		Curr. SUAT = 18
.	.	.	.	.		
.	.	.	.			
AEE513	2	25	F	0		Total = 36
Total	18 (SUAT)			41 (SP)		CGPA= 87/36 = 2.42

[a] =Percentages in column (iii) include continuous assessment (CA) scores (maximum = 30%) and examination mark (maximum = 70%); [b]

4.7 Summary of Minimum Student Workload

Level	**Credit Units**		
	First Semester	**Second Semester**	**Total**
100	20	16	36
200	20	23	43
300	20	22	42
400	4	4	8
500:			
DAE	21	24	45
DAP	19	25	44
DCP	21	21	42

4.8 Registration Procedures

4.8.1 Verification of Credentials

All fresh students on admission to the University are expected to report to the Academic Office for the verification of their entry qualification (s) on which their admission was based. Having completed the verification formalities in the Academic Office, they are required to proceed to the Student Affairs Office for registration. Thereafter, they are expected to proceed to the Bursary to settle the prescribed fees in full. Those whose credentials are found to in order are given clearance certificate with which they proceed to their respective Faculty and Departments where finally, they will be verified and registered.

4.8.2 Registration of Courses

a) The online course registration takes place at the Department level where such courses are based. Students are advised to verify their results in their respective Department before

proceeding online to fill in the prescribed courses. This is necessary because students are required to register first for their trailing (carryover) courses then the regular courses, and not to exceed the maximum number of units (27) allowed per semester. This implies that, students are not allowed to register less than 15 units and not more than 25 units, except with a written approval to register up to a maximum of 27 units per semester. However, the 200 level and above students whose CGPA are less than 2.00 are not allowed registering more than 20 units in any semester.

b) All students are to register online via College Degree Programm portal: ***portal.fcahptvom.edu.ng/degree***. Students can do their online registration at the University Computer Centers designated within the University or at any Internet Café in or outside the College.

c) The prescribed set of courses for each semester and year and for each Department is always given to the Registration Officers at the beginning of each semester. Courses are considered registered when the online course registration forms are duly signed by the Lecturers (Officers) - in - charge and distributed as follows (a copy each to the) Department Office, Dean's Office, Academic Office and Student himself/herself.

4.8.3 Late Registration

a. The normal period within which to complete all registration formalities shall be two weeks from the date of the commencement of the registration exercise, unless otherwise extended officially.

b. Any registration formalities not completed within the specified period is regarded as **LATE** and shall attract a penalty fee to be decided by Management.

c. No registration shall be allowed after the fourth week of commencement.

4.8.4 Addition and Deletion of Courses

a) A student shall normally be allowed to add or drop (delete) course from the list of courses already registered, provided he/she is not violating the minimum and maximum workload regulations.

b) Such requests shall normally be made on the prescribed forms obtainable from the Academic Office.

c) Any student intending to delete or add courses shall normally be expected to seek the advice of his/her Head of Department or Academic (level) Adviser or University Guidance Counselor before proceeding to complete the form.

d) All requests to add or drop courses shall normally be made within the first four to six weeks of each semester in which such courses are offered.

4.8.5 Residency Period

a) To qualify for an honours degree, a student shall complete all his/her degree requirements within the minimum period of five (5) years (four for direct entry students).

b) Any student who spends more than one extra year or even a semester over and above the prescribed minimum duration without Senate approval (through applications for deferment) shall be withdrawn, unless otherwise. Students who cannot meet all their degree requirements within a maximum period of seven and half ($7^1/_2$) years (6 years for direct entry candidates) shall be required to withdraw from the University without the award of any degree.

4.9 Transfer of Students

4.9.1 Transfer of Students between Faculties or Departments

When a student is asked to transfer to a new degree Department, the highest level he/she can normally transfer to be the 300 Level or could be the 200 Level, depending on the similarities in the course combinations. Whichever level a student transfers to, it is assumed that he/she is starting a new degree Department afresh and all his/her past academic records (except those of the 100 level which are common to all degree Departments**)** will not count in the computations of his/her degree classification, though they will appear in the academic transcripts for complete records.

NOTE:
Students are allowed to transfer to a new Department following poor academic performance only once.

4.9.2 Transfer of Students from Other Universities

Students from other Universities who wish to transfer to the College Degree Programme must:

a) apply for the appropriate transfer form and pay the prescribed fees;
b) complete the forms and send them along with his/her academic transcripts and confidential reports from the Registrar of his/her University to the registrar of the College Degree Programme, within the stipulated time allowed before admission exercises begin;
c) be conditionally admitted into any of the levels, but certainly not higher than 300 level and may additionally have some lower level courses, prescribed as remedial courses for him/her which must be passed before graduation; and
d) bring from their Universities all other academic records not used for result computation.

4.10 Registration of Students for Industrial Training

Industrial training (IT) of all students is normally done at the 400 level. Three (300) level students who would proceed on IT must not be trailing a workload of more than **12 Credit Units** at the end of the second semester of their 300 level.

4.11 Other Formalities for Registration

Other registration formalities are completed in the Library, Hostel, University Medical Centre, Security and various student union bodies.

4.12 Student Welfare and Handling of Academic Grievances

In terms of the student welfare, the directorate administration has good hostel accommodation within the campus at Vom; good transportation to covey the students from wherever they are staying off-campus are also available at very affordable rate. Free medical care for the students are also available for all students.

Students have several avenues for airing their academic grievances. The grievances may be channeled to the Head of Department through the periodic students-staff consulting committee consisting of class representatives, lecturers and technicians directly to the Head of Department and then to the Dean, if need be.

4.13 Students' Academic Advising

Student from various levels will be divided to academic staff for purpose of counseling on course registration-courses to be offered, pre-requisite courses, maximum course load per semester. Such counseling is also provided by the College Academic Monitoring Officer as well as by the Head of Department. Additionally, all academic staffs are always ready to help and advise the students as and when necessary.

4.14 Supporting Units

4.14.1 College Farm

The College operates a livestock farm with different breeds of animals. The farm is run by farm staff and students with the primary aim of exposing students to animal production practices with a view to motivating the students to start their own livestock farm on graduation from the College.

The emphasis at the College farm is on practical production of economic domestic livestock, which, at the moment include, beef and dairy cattle, pigs, poultry, sheep, goats, Fish, Horse and rabbits.

Other animal production facilities include a feed mill, semen processing laboratory, teaching and Research farm, student and farm workshop, pasture improvement and crops cultivation, abattoir, grain silos, silage, hay-making facilities and Fish hatchery.

4.14.2 Veterinary Clinic

The primary role of the Veterinary Clinic is for the training of students in animal Health care delivery. In addition, it provides commercial veterinary clinical and consultancy services to the public and serves as a research source for staff and students.

Units within the Veterinary Clinic:

- Small Animal Clinic
- Large animal Clinic
- Canine quarantine Unit
- Large and small ruminant boarding units
- Vaccine sales and consultancy unit
- Veterinary Clinic Library
- Radiology unit
- Ambulatory Service Unit
- Rabbitry unit
- Clinic side laboratory

The unit is to support the College's internally generated revenue (IGR). The unit is headed by The Director, Veterinary Services. The Doctor is responsible for the day to day running of the clinic and maintenance of duty roaster. The mandate of the veterinary clinic includes the followings:

i. Diagnosis and treatment of research animals in the College and other units of the College;
ii. Diagnosis and treatment of University farm animals and livestock dairy research unit as well as other animals, poultry, fish, etc.;
iii. Commercial clinical and laboratory services;

iv. Extension services and public health enlightenment;
v. Veterinary pharmaceuticals, vaccines and biological services.

4.14.3 Dairy Research and Development Unit

The Dairy Research and Development Unit is a profit - making enterprise which intends to concentrate mainly in dairy cattle production. The dairy farm is to encompass both livestock and arable farming so that the products of the latter supplement the nutritional requirements of the former. The enterprise will involve systematic breeding and cross breeding programme of indigenous and exotic breeds of cattle. The dairy research and development unit also involves activities such as training programme and demonstrations on Artificial Insemination (AI), (oesterus synchronization, etc. The unit will also be a center for routine dairy research including health, nutrition and processing of dairy products.

4.14.4 College Library

The Library is located within the College Main Campus and stocked with up-to-date books, journals and magazines. The services rendered are reading space, Book loaning facilities and Photocopying. Journals and other materials are complemented by inter library services with the National Veterinary Research Institute library. The academic departmental libraries are also being set up to augment the College Library. Also provided for staff and students are an e-library and an additional reading space in Chaha Campus.

Readers' Library Guide

4.14.4.1 Registration

i. Users must register officially with the Library and be issued with library identification before being allowed the use of the Library.
ii. Borrowed Books, Periodicals and Projects must be returned when due.
iii. Borrowers are not allowed to take Library materials with them on annual leave, school vacation, while traveling abroad, or following resignation from service.
iv. Books, Projects or Periodicals borrowed by one reader must not be passed on or transferred to another reader.
v. The Library assistant must issue over-due notice to a borrower at the expiration of the loan period.
vi. Over – due materials shall attract a fine to be determined by the Academic Board
vii. Over – due materials can only be renewed if it is not required by another reader.
viii. The Library materials (books especially) can be borrowed for only two (2) days. But it can be renewed if it is not required by another reader.

4.14.4.2 Discipline

i. Absolute silence must be observed in the Library.
ii. Smoking, eating and drinking are not permitted in the Library
iii. The use of matches or any naked flames in any part of the Library is prohibited.
iv. No discussion or noise is allowed in the Library.
v. Use of Mobile Phones should be limited to vibration as a signal for outing.

vi. No reservation of seat is allowed.
vii. Eating or chewing of gums is prohibited in the Library.
viii. No student shall touch the electrical appliances in the Library. (Call the attention of the Library staff if need arises).
ix. Any student who fails to abide by these rules shall face disciplinary action which may include but not limited to payment of fines, suspension from the use of the library, rustication or expulsion from the College.

4.14.4.3 Damage and loss of library books/materials

i. Readers and borrowers of books, projects and journals will be held responsible for any damage on these materials, while in their charge, and will be required to pay full value of new copies of such items in case of damage.
ii. Borrowers must report at once any loss or damage of Library materials (books, projects or periodical) in their possession.
iii. Defacing of Library book, project or periodical, attracts replacement.
iv. Loss of Library materials shall attract replacement in addition to other sanctions.

4.15 Audio Visual Unit

The College has an Audio-visual unit which is accessible to all departments. The use of audio-visual teaching aids has proved very successful and quite rewarding. The College has developed an audio-visual unit equipped with over-head projector, flip charts, mobile boards and slide projectors, multi-media projector and Video Camera. Teaching staff are well trained and have unlimited access to these facilities.

4.16 Information and Communications Technology (ICT) Unit

The College has two Information Communication Technology (ICT) centers. One for Academic and the other for administrative purpose.

The College has a room that houses the internet server, which provides services both for staff and students of the College.

4.17 College Medical Centre

The College Medical Centre is located close to the female hostel within the College premises. It offers First Aid, Primary and Secondary medical services to both students and staff of the College. It also offers health services to the host community. It is well equipped with a consulting room, pharmacy, a nursing room, a reception and supporting laboratory. It is well staffed with a Medical Doctor, a Pharmacist, Laboratory Scientist, Nurses and several support staff. The Clinic operates for 24 hours.

4.18 Livestock Research Unit

The farm basically, is existing for the purpose of undergraduate research on small ruminant animals in the College. The activity of this unit includes:

i. raising animals for the purpose of students' research, as they utilize growing animals for their final year project;

ii. allowing students conduct practical with some departmental animals;
iii. In some cases, castrated bulls are also kept and raised on the farm for students' practical and research;
iv. at the end of each research, rumen liquor and blood samples are collected from the animals under study;
v. routine herd health management procedures are carried out on the animals;
vi. Finally, sometimes, animals are culled for students' practical on the digestive tract of ruminants.

CHAPTER FIVE
CONDUCT OF EXAMINATIONS AND CODE OF CONDUCT FOR STUDENTS

5.1 Regulations Governing the Conduct of Examinations

a) Examinations are conducted at the end of each semester in accordance with regulations approved from time to time by the University Senate.

b) To be eligible to seat for the examination, the candidate must be duly registered for the course and shall have a minimum attendance of 70 %.

c) End of course examination consists of a written essay examination of 70 % and a practical and continuous assessment of 30%.

d) The Instructor/Resource Person/Lecturer of the course sets the examination questions for the course.

e) The Head of Department and the Examination Officer collects the questions papers and forward same to an External Examiner for moderation.

f) Examination time table is normally prepared duly and in good time to allow both students and lecturers to observe/point areas of clashes, omissions, duplications, etc. Such mistakes are treated and a final copy of the table is use for examinations.

g) Before the commencement of the examinations, students are normally issued with examination cards which have the following regulations:

i. Candidates should be in the vicinity of the examination room 10 minutes before their examination is due to begins.

ii. Candidates are required to sign the attendance slip on their desk

iii. No Candidate will be permitted to:

- ✓ enter the examination room if he/she is more than 30 minutes late;
- ✓ leave the examination room before the end of 30 minutes after the commencement of the examination;
- ✓ leave the examination room during the last 15 minutes of the examination.

iv. Candidates are not permitted to introduce into the examination room papers of any kind.

v. Candidates must write their examination numbers only on each separate answer book and on each supplementary sheet used. Under no circumstances must they write their names.

vi. If they wish to attract the attention of the Invigilator (s), they should raise their hands. Absolute silence must be maintained.

h. These cards which also bear the candidate's registration, level and recent passport photograph is issued to the students every semester;

i. The passport photograph which must be firmly fixed to card must be stamped and signed by the Departmental Examination Officer;

j. Candidates must show both their identity and examination cards before they are allowed into the examination room;

k. Candidates may be searched by the Invigilator (s) before and during examinations;

l. Candidates must bring their own ink, pen, pencil, rulers, calculators and other required materials to the examination hall;

m. Candidates are not allowed to bring any books and papers into the examination hall;

n. Borrowing of materials is strictly prohibited during examinations;

o. Communication in whatever form between candidates during examination is strictly forbidden;

p. Smoking is not allowed in the examination hall;
q. Candidates requiring medical attention while the examination is on may contact the Invigilator (s) and would be accompanied to the medical centre;
r. Other instructions are contained in the question papers and in the answer booklets, which every candidate must ensure he/she reads and complies;
s. Candidates involved in any form of examination misconduct or malpractice would be disciplined accordingly.

5.2 Examination Misconduct

a) Cheating in examination
b) Copying from textbook or any extraneous materials during examination
c) impersonation
d) Any action which is inimical to or subversive of the integrity of the University examination process.

5.2.1 THE REVIEWED EXAMINATION MISCONDUCT (OFFENCES AND PENALTIES) REGULATIONS

After carefully examining the University Regulation and that of sister institutions and also taking cognizance the metamorphosis of the offences, the Committee split the offences into three categories. These are before the examination, during the examination and after the examination. The relevant modifications made to the University regulation are shown below:

A. BEFORE THE EXAMINATION

CURRENT REGULATION			**PROPOSED REGULATION**	
S/N	**OFFENCES**	**PENALTIES**	**OFFENCES**	**PENALTIES**
1.			Writing before the official commencement of the examination	a. **If it is relevant to the examination**: (i) The student should be delayed for 15 minutes. (ii)Warning letter to be issued for the first time. (iii) The affected answer booklet page should be removed by the invigilator. b. **If it is not relevant to the examination**: (i) The student should be delayed for 15 minutes.
2.			Forging any document (e.g Examination Card, Registration slip, Identity Card e.t.c)	Expulsion from the University.

3.			Student who refuse to be searched during entrance into the examination hall.	Should not be allowed to write that particular examination.
4.			Late coming into the examination.	Should not be allowed to enter the examination 45 minutes after the commencement of the examination.

B.DURING THE EXAMINATION

	CURRENT REGULATION		**PROPOSED REGULATION**	
	OFFENCES	**PENALTIES**	**OFFENCES**	**PENALTIES**
S/N				
1.	Causing Commotion, Rudeness, Disobedience of instructions from either an Examination officer or invigilator.	Letter of warning to the student and an apology from the student to the offended officer or rustication for a semester depending on the magnitude of the offence.	a) Causing Commotion, Rudeness, Disobedience of instructions by the student in the examination hall. b) Verbal or physical assault on the examination officer, invigilator or fellow student(s)	(i) Letter of warning issue to the student. ii) An apology letter from the student to the offended officer. iii) Allocation of zero marks to the affected course.
2.	Disturbance and talking during examination.	Rustication for one semester	Disturbance and talking during examination.	i) Warning letter for the first time (ii) Forfeit that particular examination
3.	Writing rough work on a question paper or any other material other than the examination answer script	Rustication for one semseter	Writing rough work on a question paper or any other material other than the examination answer script during the examination.	Cancellation of the paper
4.	Taking into and /or using foreign material in the examination hall	a. Expulsion from the University.	Taking into and /or using foreign material (writing on Skirt, Hijab, Veil, Trouser or	a. Expulsion from the University; if the document is relevant and the

			any part of the body) in the examination hall.	student caught using it. b. i) Rustication for two semesters; if the document is relevant and the student caught not using it. ii) Rustication for one semester; if the document is not relevant and the student caught.
5.	Helping each other during examination.	Rustication for one Academic Session	Helping each other during examination.	Cancellation of the paper and rustication for two semesters.
6.	Verbal or Physical assault on the examination officer , invigilator or fellow student(s)	Expulsion from the University depending on the magnitude of the offence	Verbal or Physical assault on the examination officer , invigilator or fellow student(s)	Expulsion from the University.
7.	Unauthorized use of programmable calculators and exchange of such calculators.	Expulsion from the University.	Unauthorized use of programmable calculators and exchange of such calculators.	Expulsion from the University.
8.	Leaving the examination hall with answer booklet.	Cancellation of the paper	Leaving the examination hall with answer booklet.	Cancellation of the paper
9.	Destruction of incriminating exhibits by candidates	Rustication for one semester	Refusal to surrender incriminating evidence, destruction or chewing incriminating exhibits.	Expulsion from the University
9.	Entrance into the examination hall with GSM handset.	Expulsion from the University	Entrance into the examination hall with GSM handset.	Rustication for one semester

10.	Use of GSM handset in the examination hall, involvement of both staff and students in the leakage of any examination material	Expulsion of the student(s) from the University and reporting the staff to the University administration for further action.	Use of GSM handset in the examination hall.	Expulsion from the University
11.	Stealing of examination material such as question paper, answer booklet, etc.	Expulsion from the University and handing over of student to the police for further disciplinary measures	Stealing of examination material such as question paper, answer booklet, etc.	Expulsion from the University and handing over of the affected student to the Security unit.
12.			Impersonation	(i) ATBU Student; Expulsion of impersonator and impersonated. ii) Non-ATBU Student; Expulsion of impersonated and handing over of the impersonator to the Security Unit.

C. AFTER THE EXAMINATION

	CURRENT REGULATION		**PROPOSED REGULATION**	
	OFFENCES	**PENALTIES**	**OFFENCES**	**PENALTIES**
1.			Going outside the examination hall with answer booklet.	a. If it is deliberate (i) Expulsion from the university. b. If it is not deliberate (i) Allocation of zero marks for the

				affected course.
2.			Refusal to give evidence before the examination misconduct Committee.	Expulsion from the University.
3.			Decline to appear before the examination misconduct Committee.	Expulsion from the University

5.3 Code of Conduct for Students

5.3.1 Student's Dressing Code

a) The Student's appearance in every respect should be neat, pure, clean and simple;
b) Ladies skirts must be long enough to cover the knees and without slits;
c) Long and short sleeve blouses or shirts should not be transparent nor tight;
d) Dresses with low necklines or dresses that do not fully cover the shoulders and armpits are not permitted;
e) Unnatural hair braided or attached should not exceed neck length and should match with the natural hair;
f) Wearing of female dresses by male students is strictly prohibited;
g) Two - piece native attire or complete native dress, two – piece, French suit or decent jeans, shirts and trousers or complete suit, kaftans or boubous, trouser suits are allowed to be used decently;
h) Body hugs, spaghetti tops, tubes, band less jeans, mono straps, face caps, flat caps (panama), bowler hats, transparent apparels and dresses that expose sensitive parts of the body are not permitted.

5.3.2 General Misconduct

a) Unruliness;
b) Indecent behaviour;
c) Vandalism;
d) Unauthorized transfer of bed space;
e) Unauthorized displacement of University property;
f) Pilfering;
g) Insubordination;
h) Direct sale or purchase of bed space;
i) Squatting in the hostel;
j) Membership of secret cults;
k) Hemp smoking or drug abuse or drunkenness;
l) Sexual assaults and abuse;
m) Constituting threats to lives of other students and staff members;
n) Participating in any illegal or secret meetings organized by societies/fraternities;
o) Participation in noisy religious worship in the hostels and outsideof designated areas

without permission;

p) Indecent exposure;

q) Dressing leading to false identity (to his/her advantage);

r) Failure to display Identity Card (I.D.) when demanded, etc.

CHAPTER SIX

6.1 LIST OF ACADEMIC STAFF

6.1.1 Departments

6.1.1.1 Agricultural Economics

S/No.	Name	Rank	Highest Qualification	Area of Specialization
1	Prof.M.H.Sani	Professor	PhD	Agricultural Economics
2	Dr T.A. Adisa	Chief Lecturer	PhD	Agric. Extension
3	Dr Irimiya J. Yerima	Senior Lecturer	PhD	Agric.Economics
4	Dr (Mrs) N.E.Amah	Senior Lecturer	PhD	Agric Extension
5	Mr T.I.Auta	Lecturer 1	MSc	Agric.Economics
6	Mrs. D.M. Wai	Lecturer 1	MSc	Agric Extension
7	Mrs. Shola Koja	Deputy Chief Instructor	MSc	Agric Extension
8	Mrs. E.E. Mokogwu	Assistant Chief Instructor	MSc	Agric Extension

6.1.1.2 Animal Production

S/No.	Name	Rank	Highest Qualification	Area of Specialization
1	Dr J.O.Okpara	Provost	PhD	Vet. Pharmacology
2	Prof. Y.P.Maancha	Professor	PhD	Animal breeding and Genetics
3	Prof. K.M. Bello	Professor	PhD	Monogastric Production
4	Dr J.A. Edache	Chief Lecturer	PhD	Monogastric Nutrition
5	Dr. A.G.Yisa	Chief Lecturer	PhD	Monogastric Nutrition
6	Dr Chukwu O. Chukwu	Chief Lecturer	PhD	Microbiology
7.	Dr (Mrs) L.N Daniel	Senior Lecturer	PhD	Parasitology
8.	Dr (Mrs) O.V. Adelowo	Senior Lecturer	PhD	Animal Science
9.	Dr O.D. Oshibanjo	Senior Lecturer	PhD	Animal Product
10.	Dr U. Okpanachi	Senior Lecturer	PhD	Ruminant Production
11.	Dr Akinsola Oludayo M.	S/L	PhD	Breeding and Genetics
12.	Dr. I.E. Udom	Lecturer 1	PhD	Mycotoxicology
13.	Mrs M.H Bot	Lecturer 1	Msc	Animal Science

14.	Mr K.N Anueiyagu	L1	MPH	Public Health
15.	Dr I.S Bata	L1	MVPH	Public Health
16.	Dr K.I Ogbu	L1	PhD	Small Animal Medicine
17.	Dr Habiba Abdulateef	L1	MSc	Preventive Medicine
18.	Mr O.D Olaiya	L1	MSc	Monogastric Production
19.	Mr A.D Udokainyang	L1	MSc	Reproductive Physiology
20.	Mrs H.H Raplong	L1	MSc	Microbiology
21.	Mr S.I Garba	L1	MSc	Animal Production
22.	Dr E.O Agwu	L1	MSc	Reproductive Physiology
23.	Mr Hakeem Aka-Tanimo	L1	MSc	Food Science and Tech
24.	Mr I.E Echeonwu	Deputy Chief Instructor	MSc	Animal Production
25.	Mr P.D Amallam	Chief Instructor	MSc	Animal Science
26.	Mr Y.S Danladi	Asst.Chief Instructor	MSc	Animal Product
27.	Miss Ihundu Christiana	Part Time	MSc	Fisheries and Wildlife Management

6.1.1.3 Crop Production

S/No.	Name	Rank	Highest Qualification	Area of Specialization
1.	Prof. A.S Fagam	Professor	PhD	Agronomy
2.	Dr. R.A Abdusallam		PhD	Agronomy
3.	Mr Y.T Dalyop	Lecturer 1	MSc	Agric Entomology
4.	Mr S.Y Shwarpshaka	Lecturer 1	M. Tech	Agronomy
5.	Mr A.B Sajo	Asst.Chief Instructor	M. Tech	Soil Fertility
6.	Mrs Mariam U. Iguisi	Assistant Lecturer	MSc	Agronomy
7.	Miss Damilola O. Olanrewaju	Assistant Lecturer	MSc	Botany