BACHELOR OF AGRICULTURE (B. Agriculture) PROGRAMME

FACULTY OF AGRICULTURE

UNIVERSITY OF ILORIN, ILORIN



STUDENT INFORMATION HANDBOOK, 2026

UNIVERSITY OF ILORIN
ILORIN, NIGERIA
FACULTY OF AGRICULTURE

BACHELOR OF AGRICULTURE
(B. Agriculture)
PROGRAMME

STUDENTS' INFORMATION HANDBOOK

2026

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FOREWORD

This 5th edition of the Bachelor of Agriculture Students' Handbook is designed to provide adequate and current information about the B. Agriculture Programme, as well as activities and functions of the Faculty of Agriculture. The History of the Faculty, its philosophy, objectives, structures and supporting facilities are outlined in this booklet. Information on admission requirements, registration procedure, regulations governing conduct of examinations, good standing and graduation requirements are also available in the handbook.

This edition is of special importance to all students and staff as it contains details of the revised B. Agriculture Programme housed by five Departments in the Faculty vis-a-vis Department of Agricultural Economics and Farm Management, Agricultural Extension and Rural Development, Agronomy, Crop Protection and Animal Production. Crucially, this edition is based on the new National Universities Commission (NUC) Core Curriculum Minimum Academic Standards (CCMAS) curriculum. Similar to how the CCMAS serves to guide institutions in the design of curricula by stipulating minimum requirements while allowing for necessary innovations to meet the challenges of a developing and increasingly globalized economy, this document ensures our students receive top-tier training.

I therefore urge students and staff to take full advantage of the information provided herein for a smooth academic work leading to the award of B. Agriculture Degree in the University of Ilorin.

Professor I. Ogunlade
Dean,
Faculty of Agriculture

UNIVERSITY OF ILORIN (UNILORIN) ANTHEM (ALMA MATER)

Music by:

Lavinia L. Odejimi

Words by:

Lavinia L. Odejimi and Abraham T.J. Adavi

In love, peace and harmony,
We shall build the tower,
Unilorin!
Hear the clarion
call, In unity we
grow,
Committed to the seat of
learning, Our hearts from vanity.
Standing firm in wisdom; in knowledge, and in
truth, We honour yourvirtues;
Unilorin, you stand in strength and
pride, Learning, winning, building,
praying, Showing the way for all who
yearn; Making a future for the ones
who follow, Rising high we must never
turn,
Ilorin, Unilorin, your torch has guided
us, Upwards and onwards,
Ilorin, Unilorin our Alma
Mater, We sing!

PRINCIPAL OFFICERS OF THE UNIVERSITY

VICE-CHANCELLOR

Professor Wahab Olasupo Egbewole, *SAN*
LL.B (Hons) (Ile-Ife); B.L. (Lagos); LL.M (Ile-Ife); Ph.D. (Ilorin); *FCArb, FSPSP, FCIML, FNIPR*

DEPUTY VICE-CHANCELLOR (ACADEMIC)

Prof. Moji Taibat Bakare-Odunola
B.Sc. (Maiduguri), M.Sc., Ph.D. (Zaria), *FSAN, FIPAN, FCIML*

DEPUTY VICE-CHANCELLOR (MANAGEMENT SERVICES)

Prof. Olalere Adeyemi
Grade 11, NCE, (Ekiti), B. A. (Ed.); M. Ed, Language Education; MPA; Ph. D. (Ilorin), Cert in Public Relations (Lagos), *MNAL.*

DEPUTY VICE-CHANCELLOR (RESEARCH, TECHNOLOGY AND INNOVATION)

Prof. Muhtar Adeiza Etudaiye
LL.B (Zaria), B.L (Lagos), LL.M (Ile-Ife), Ph.D. (Ilorin)

REGISTRAR

Mr. Mansur Adeleke Alfanla,
B.A Comb. Hons (Kano); LL.B (Ilorin); B.L (Abuja); LL.M. (Ilorin); *FCIML*

BURSAR

Mr. Abiodun Lawal
B.Sc., Cert. in Compt, MBA, *FCNA*

UNIVERSITY LIBRARIAN

Prof. Kamal Tunde Omopupa
B A (L.S.) (Kano); MILR (Ilorin); MLIS (Ibadan); Ph.D. (KwaZulu-Natal); Computer Appreciation (KwaraCAILS)

SECTION ONE

HISTORY, PHILOSOPHY & OBJECTIVES

1.1 BRIEF HISTORY OF THE PROGRAMME

The history of the B. Agriculture programme in the Faculty of Agriculture, University of Ilorin, began with the establishment of the Faculty in the 1982/1983 academic session, with its foundation Dean assuming office in the 1983/1984 session. At its inception, the programme admitted 67 students into the 100 Level. This number increased to 563 students in the 2025/2026 academic session, while the current student population in the B. Agriculture programme exceeds a thousand. Since its establishment, the programme has graduated over 5,000 students.

Initially, the programme operated with only seven academic staff members, but its staffing strength has increased considerably to 80 academic staff members currently serving the B. Agriculture programme. This growth reflects the commitment to expanding agricultural education and strengthening capacity for teaching, research, and student support. The programme remains committed to maintaining high academic standards through the promotion of diligence among students, the provision of a conducive learning environment, transparent and credible undergraduate admission processes, and the consistent enforcement of good academic standing regulations. These efforts are further supported by the enthusiasm, commitment, and dedication of academic, technical, and administrative staff, whose contributions are essential to the effective delivery of the B. Agriculture programme and the achievement of its educational objectives.

1.2 PHILOSOPHY OF THE PROGRAMME

The philosophy of the B. Agriculture programme is anchored on achieving the goals and objectives of the National Policy on Agriculture in Nigeria. This policy aims to restructure the agricultural sector to enhance its overall capacity, specifically in terms of producing sufficient food for a rapidly growing population, supplying raw materials to an expanding industrial sector, and increasing the Gross Domestic Product (GDP) to restore agriculture as the mainstay of the national economy as it was prior to the oil boom. Furthermore, the programme seeks to generate employment for the country's youth and establish a major, sustainable source of foreign exchange. These goals are realized through the rigorous training of skilled manpower equipped with broad-based knowledge across various agricultural fields, empowering graduates to contribute significantly to research, knowledge dissemination, and economic activities.

1.3 OBJECTIVES OF THE PROGRAMME

The objectives of the B. Agriculture programme are to:

i. produce skilled manpower adequately equipped with the comprehensive technology required in profitable agricultural production in an environment characterized by rural settings and adequate land endowment;
ii. assist the nation in its efforts to achieve self-sufficiency in the production of basic food and agricultural raw materials needed to support the growth of industries in the country;
iii. modernize agricultural production, processing, storage, preservation and distribution;
iv. enhance employment opportunities and attendant improvement in the quality of rural life;
v. adapt and adopt exogenous technology in order to solve local agricultural management problems;
vi. be able to exercise original thought, have good professional judgment and be able to take responsibility for farming as a profitable business; and
vii. produce adequate manpower that will engage in direct production and conduct research in all facets of agricultural production, extension and rural development along with judicious management of human resources, fund, natural resources and equipment;

COMPONENT DEPARTMENT OF THE B. AGRICULTURE PROGRAMME	POSSIBLE AREAS OF SPECIALIZATION / SUB-DISCIPLINES
Agricultural Economics and Farm Management	• Agricultural Production Economics • Behavioural Economics • Development Economics
Agricultural Extension and Rural Development	• General Agricultural Extension and Rural Development • Agricultural Extension Education • Agricultural Communication and Development Communication • Rural Sociology and Community Development • Agricultural Programme Planning, Monitoring and Evaluation • Extension Methods, Innovation Diffusion and Adoption Studies • Gender, Youth and Rural Livelihoods Development
Agronomy	• General Agronomy • Pedology • Soil Microbiology • Horticulture • Soil Survey and Land Evaluation • Weed Science • Soil Chemistry and Nutrition • Soil Physics • Crop Physiology • Plant Breeding and Genetics • Soil and Water Management
Animal Production	• Animal Physiology • Dairy Science • Monogastric Nutrition and Environmental Physiology • Animal Breeding and Genetics • Monogastric Nutrition and Toxicology • Animal Breeding and Genetics (Quantitative, Molecular and Functional Genomics) • Animal Products and Processing • Ruminant Nutrition
Crop Protection	• Plant Virology • Storage Entomology • Plant Nematology • Agricultural Entomology • Plant Mycology • Applied Insect Ecology • Insects for Feed & Bio-inputs

SECTION TWO

ACADEMIC AND NON-ACADEMIC STAFF

2.1 STAFF

2.1.1 FACULTY OFAGRICULTURE

S/N	Names	Qualifications	Status
1	Prof. I. Ogunlade	B. Agric., M.Sc. (Ife), Ph.D. (Ibadan)	Dean
2	Dr. Oluwasayope. I. Alli	B.Agric.,M.Sc.,Ph.D. (Ilorin)	Sub-Dean
3	Mr. V. I. Obalola Esq.	LL.B. (Hons.) LL.M; BL	Faculty Officer
4	Mr. S. O. Oyedepo Esq.	B.Sc., MBA, CCA, FCNA, L.LB, L.LM, BL, Cert.MedArb	Faculty Accountant
5	Mr. Mahmud Abdullahi	B.Ed., M.Ed. (Ilorin)	Faculty Counselor

2.1.2 HEADS OF DEPARTMENT

S/N	Department	Name
1	Agricultural Economics and Farm Management	Dr. Khadijat B. Amolegbe
2	Agricultural Extension and Rural Development	Prof. Sijuwade. A. Adebayo
3	Agronomy	Dr. I. Kareem
4	Animal Production	Prof. Foluke. E. Sola-Ojo
5	Crop Protection	Prof. A. K. Musa

2.1.3 DEPARTMENTAL ACADEMIC STAFF

Department of Agricultural Economics and Farm Management

S/N	Name	Qualification	Rank	Area of Specialization
1	Khadijat B. Amolegbe	B. Agric., M.Sc., Ph.D., (Ilorin)	Reader & Head of Department	Development Economics
2	O. A. Omotesho	B.Sc., M.Sc., Ph.D. (Ibadan)	Professor	Agricultural Production Economics; Resource Economics; Farm Management
3	M. O. Adewumi	B.Sc. Economics, M.Sc., Ph.D. (Ilorin)	Professor	Agricultural Production Economics; Farm Management

4	A. Muhammad-Lawal	B.Agric., M.Sc., Ph.D. (Ilorin)	Professor	Agricultural Production Economics; Farm Management
5	R. O. Babatunde	B.Agric., M.Sc., (Ilorin); Ph.D. (Hohenheim, Germany)	Professor	Development Economics; Welfare, Food and Nutrition Economics
6	Opeyemi E. Ayinde	B.Agric., M.Sc., Ph.D. (Ilorin)	Professor	Behavioural and Innovation Economics; Price Analysis
7	A. Falola	B.Agric., M.Sc., Ph.D. (Ilorin)	Professor	Farm Management; Welfare Economics; Impact Assessment
8	S. O. Akanbi	B.Agric., M.Sc., Ph.D. (Ilorin)	Reader	Agricultural Production Economics; Development Economics
9	Mercy F. Salami	B.Agric., M.Sc., Ph.D. (Ilorin)	Reader	Agricultural Production and Welfare Economics; Food Security; Impact Assessment
10	Grace O. Akinsola	B.Agric., M.Sc., Ph.D. (Ilorin)	Senior Lecturer	Development and Health Economics
11	H. K. Ibrahim	B.Agric., M.Sc., Ph.D. (Ilorin)B.Agric. (2011); Ph.D. (Pretoria, South Africa)	Senior Lecturer	Agricultural Production and Environmental Economics
12	Kafayat Y. Belewu	B.Agric., M.Sc. (Ilorin); Ph.D. (LAUTECH, Ogbomoso)	Senior Lecturer	Agricultural Production Economics; Welfare Economics; Food Security
13	Kehinde K. Osasona	B.Agric.(Ilorin), M.Sc. (Ibadan), Ph.D. (Ilorin)	Lecturer I	Production, Environmental and Resource Economics
14	Waliyat O. Oloyede	B.Agric. (Ilorin); M.Sc. (Birmingham, UK); M.Sc. (Ilorin); Ph.D. (Pretoria, South Africa)	Lecturer I	Agricultural Value Chains; Commercialisation; Agribusiness
15	Adeola O. Fayemi	B.Tech. (LAUTECH, Ogbomoso); M.Sc. (FUNAAB)	Assistant Lecturer	Consumer and Welfare Economics
16	Adeola O. Olarewaju	B.Agric., M.Sc., Ph.D. (Ilorin)	Lecturer II	Agricultural Economics
17	Khadijat Jaji	B.Tech. (LAUTECH, Ogbomoso); M.Sc. (Putra Malaysia)	Assistant Lecturer	Agribusiness; Agricultural Economics
18	O. A. Oluwadare	B.Agric.(Ilorin); MBA. (Ilorin), B.Agric. (KWASU); M.Sc. (Ilorin)	Assistant Lecturer	Agricultural Economics

Department of Agricultural Extension and Rural Development

S/N	Name	Qualification	Rank	Area of Specialization
1	Sijuwade. A. Adebayo	B. Agric., M.Sc., (Ilorin), Ph.D., (NWU, RSA)	Professor & Head of Department	Rural sociology and rural resources management

2	O. A. Adekunle	B.Sc. Hons., M.Sc., Ph.D. (Ibadan)	Professor	Agricultural Extension Evaluation
3	I. Ogunlade	B. Agric., M.Sc. (Ife), Ph.D. (Ibadan)	Professor	Agricultural Extension and Rural Development
4	G. B. Adesiji	B.Sc. Hons., M.Sc., Ph.D. (Ibadan)	Professor	Agricultural Extension and Rural Development
5	R. S. Adisa	B. Agric., M.Sc., Ph.D., (Ilorin)	Professor	Rural Development/sociology, Agricultural Extension, Natural Resource use Conflict
6	L. L. Adefalu	B. Agric., M.Sc., Ph.D., (Ilorin)	Professor	Agricultural Extension and Rural Development
7	Sidiqat A. Aderinoye – Abdulwahab	B. Agric. (Ilorin), M.Sc. (Sokoto) Ph.D., (Reading)	Professor	Rural livelihood
8	Kemi F. Omotesho	B. Agric., M.Sc., Ph.D., (Ilorin)	Professor	Agricultural Extension Reform and Rural Livelihoods
9	O. Bolarin	B.Sc., M.Sc. (Ife), Ph.D. (Ilorin)	Reader	Agricultural Extension and Rural Development
10	Ajoke O. Kayode	B.Sc. (Ed.) Agric., (Ado-Ekiti), M.Sc., (Ilorin), Ph.D., (Ogbomoso)	Reader	Gender studies and Sustainability
11	A. K. Daudu	B. Agric., M.Sc., Ph.D., (Ilorin)	Reader	Gender issues in Agricultural Extension
12	O. W. Kareem	B. Agric., M.Sc., (Ilorin), Ph.D., (MPKV, India)	Senior Lecturer	Agricultural Extension
13	Tawakalitu A. Dolapo	B. Agric., M.Sc., (Ilorin), Ph.D., (Ogbomoso)	Lecturer II	Rural Sociology
14	Mobolaji. O. Musa	B. Agric., M.Sc., Ph.D., (Ilorin)	Lecturer II	Agricultural Extension and Rural Development
15	O. P. Olabanji	B. Agric., M.Sc., Ph.D., (Ilorin)	Lecturer II	Agricultural Extension and Rural Development
16	K. K. Azeez	B. Agric., M.Sc., Ph.D., (Ilorin)	Lecturer II	Agricultural Extension and Rural Development
17	Halimah O. Egbewole	B. Agric. (Ilorin), M.Sc. (Ibadan)	Assistant Lecturer	Agricultural Extension and Rural Development
18	Asake A. Omotosho	B. Agric., M.Sc. (Ilorin)	Assistant Lecturer	Agricultural Extension and Rural Development

Department of Agronomy

S/N	Name	Qualification	Rank	Area of Specialization
1	I. Kareem	B. Agric., M.Sc., (Ibadan); Ph.D. (Malaysia)	Reader & Head of Department	Crop Physiology
2	B. A. Raji	B. Sc. (Ife); M.Sc., Ph.D. (ABU)	Professor	Pedology

3	Oluyemisi B. Fawole	B. Sc. (Ilorin); M.Sc., Ph.D. (Ibadan)	Professor	Soil Microbiology
4	Olabisi F. Adekola	B. Sc. (Ibadan); M.Sc., Ph.D. (Ilorin)	Professor	Horticulture
5	J. O. Olaniyan	B. Sc., M.Sc., Ph.D. (Ibadan)	Professor	Soil Survey and Land Evaluation
6	F.O Takim	B. Agric., (Calabar); M.Sc., Ph.D. (Ilorin)	Professor	Weed Science
7	E. K. Eifediyi	HND; PGD (RUST); M. Sc.; Ph.D. (AAU)	Professor	General Agronomy
8	Kehinde O. Affinnih	B. Agric., M.Sc., (Ilorin); Ph.D. (ABU)	Reader	Soil Chemistry and Nutrition
9	H. E. Ahamefule	B. Agric., (Calabar); M.Sc., Ph.D. (UNN)	Reader	Soil Physics
10	Folusho A. Bankole	B. Agric.; M.Sc.; Ph.D. (Ilorin)	Reader	Plant Breeding and Genetics
11	S. Y. Alasinrin	B. Agric Tech (ATBU), M. Sc. (ABU); Ph.D. (FUTA)	Senior Lecturer	Soil and Water Management
12	J. U. Yahaya	B. Agric., M.Sc. (Ilorin), Ph.D. (Ghana)	Lecturer II	Soil Microbiology

Department of Animal Production

S/N	Name	Qualification	Rank	Area of Specialization
1	Foluke. E. Sola-Ojo	B. Agric., M.Sc., Ph.D. [Ilorin]	Professor & Head of Department	Animal Breeding and Genetics (Quantitative,Molecular Evolution and Genomics Diversity)
2	A. A. Adeloye	B. Agric., M.Sc., Ph.D. [Ibadan]	Professor	Ruminant Nutrition
3	M. A. Belewu	B. Agric., M.Sc., Ph.D. [Ibadan]	Professor	Dairy Science
4	S. A. O. Bolu	B. Agric., M.Sc., Ph.D. [Ilorin]	Professor	Monogastic Nutrition and Environmental Physiology
5	T. A. Fayeye	B. Agric., M.Sc., Ph.D. [Ilorin]	Professor	Animal Breeding and Genetics
6	A. A. Toye	B. Agric. [Ilorin], M.Sc., Ph.D. [Sydney]	Professor	Animal Breeding and Genetics (Quantitative, Molecular and Functional Genomics)
7	A. O. Adeyina	B. Agric., M.Sc., Ph.D. [Ilorin]	Professor	Animal Physiology
8	A. A. Badmos	B. Agric., M.Sc., Ph.D. [Ilorin]	Professor	Animal Products and Processing

9	K. D. Adeyemi	B. Agric., M.Sc. [Ilorin], Ph.D. (Putra)	Professor	Animal Products and Processing
10	M. B. Yousuf	B. Sc., M.Sc., Ph.D. [Ilorin]	Reader	Ruminant Nutrition
11	K. M. Okukpe	B. Agric., M.Sc., Ph.D. [Ilorin]	Reader	Animal Physiology
12	Victoria.O. Chimezie	B. Agric., M.Sc., Ph.D. [Ilorin]	Reader	Animal Breeding and Genetics
13	Oluwasayope. I. Alli	B. Agric., M.Sc., Ph.D. [Ilorin]	Reader	Animal Physiology
14	A. T. Yusuff	B. Agric., M.Sc., Ph.D. [Ilorin]	Reader	Animal Breeding and Genetics
15	B. H. Ajao	B. Agric., M.Sc., Ph.D. [Ife]	Senior Lecturer	Animal Physiology
16	K. K. Safiyu	B. Agric., M. Agric., Ph.D (FUNAAB)	Senior Lecturer	Non-Ruminant Animal Production and Products Enhancement
17	Ganiyat O. Akewusola	B. Agric., M.Sc [Ibadan]., Ph.D. [Zaria]	Lecturer II	Ruminant Nutrition
18	E. T. Bajomo	B. Agric., M.Sc., Ph.D. [Ilorin]	Lecturer II	Monogastric Nutrition
19	I.O. Kolade	B. Agric., M.Sc., Ph.D. [Ilorin]	Lecturer II	Ruminant Nutrition
20	Ayinla, R.O.	B. Agric. [Maiduguri], M.Sc. [Ilorin]	Assistant Lecturer	Monogastric Nutrition

Department of Crop Protection

S/N	Name	Qualification	Rank	Area of Specialization
1	A. K. Musa	B. Agric., M.Sc. (Ilorin); Ph.D. (ABU)	Professor & Head of Department	Storage Entomology
2	O. S. Balogun	B. Agric., M.Sc. (Ilorin); Ph.D. (Tokyo)	Professor	Plant Virology
3	Nkechi B. Izuogu	B.Sc. (Okigwe); M.Sc., Ph.D. (Ilorin)	Professor	Plant Nematology
4	R. O. Uddin II	B. Agric. (Ilorin); M.Sc. (Ibadan); Ph.D. (Ilorin)	Professor	Agricultural Entomology
5	T. H. Aliyu	B. Agric., M.Sc., Ph.D. (Ilorin)	Professor	Plant Virology
6	O. Ahmed	B. Agric., M.Sc. Ph.D. (Ilorin)	Reader	Plant Mycology
7	Oluwatoyin A. Fabiyi	B. Agric., M.Sc., Ph.D. (Ilorin)	Reader	Plant Nematology

8	O. A. Ojumoola	B. Agric., M. Sc. (Ilorin), Ph. D. (Ibadan)	Reader	Agricultural Entomology; Pest Management; Insect for Feed & Bioinputs
9	Saadat Y. Yusuf	B.Tech. (Ogbomoso), M. Sc., Ph. D. (Ilorin)	Senior Lecturer	Storage Entomology
10	Halimat S. Baba	B. Agric., (Maiduguri), M. Sc., Ph. D. (Ilorin)	Senior Lecturer	Plant Nematology
11	Mujidat T. Lawal	B. Sc. (Kano), M. Sc., Ph.D. (Ilorin)	Lecturer I	Storage Entomology
12	Aishat A. Anifowose	B. Agric. (Ibadan); M.Sc. (Ilorin)	Assistant Lecturer	Plant Nematology
13	Omotayo M. Adeoti	B. Agric.; M.Sc. (Ilorin)	Assistant Lecturer	Storage Entomology

2.2 STUDENT LEVEL ADVISERS

S/N	Level Adviser	Department	Levels
1	Mrs. Halimah O. Egbewole	Agric Ext. & Rural Dev	100
2	Mr. O. A. Oluwadare	Agric. Econs. & Farm Mgt	100
3	Dr. H. E. Ahamefule	Agronomy	100
4	Mrs. Rahmat O. Ayinla	Animal Production	100
5	Ms. Omotayo M. Adeoti	Crop Protection	100
6	Dr. Mobolaji O. Musa	Agric Ext. & Rural Dev	200
7	Mrs. Adeola. O. Fayemi	Agric. Econs. & Farm Mgt	200
8	Dr. Foluso A. Bankole	Agronomy	200
9	Dr. I. Kolade	Animal Production	200
10	Dr. Oluwatoyin A. Fabiyi	Crop Protection	200
11	Dr. O. P. Olabanji	Agric Ext. & Rural Dev	300
12	Mrs. Khadijat Jaji	Agric. Econs. & Farm Mgt	300
13	Dr. Kehinde O. Affinnih	Agronomy	300
14	Dr. A.T. Yusuf	Animal Production	300
15	Dr. Halimat S. Baba	Crop Protection	300
16	Dr. K. K. Azeez	Agric Ext. & Rural Dev	400
17	Dr Adeola O. Olarewaju	Agric. Econs. & Farm Mgt	400
18	Dr. J.U. Yahaya	Agronomy	400

19	Dr. Eunice T. Bajomo	Animal Production	400
20	Dr. Sa'adat Y. Yusuf	Crop Protection	400
21	Dr. Tawakalitu O. Dolapo	Agric Ext. & Rural Dev	500
22	Dr. Kafayat Y. Belewu	Agric. Econs. & Farm Mgt	500
23	Dr. S.Y. Alasinrin	Agronomy	500
24	Dr. Mujidat T. Lawal	Crop Protection	500
25	Dr. K.K. Safiyu	Animal Production	500

2.3 ADMINISTRATIVE STAFF

S/N	Names	Rank/Designation	Qualifications
1	Mrs. Iyabo F. Adegboye	Principal Confidential Secretary I	ND Sec. Admin. (1991), HND Sec. Admin. (2004), Kwara State Polytechnic; B.Sc. (Ed.) Business Education (2020), University of Ilorin; Member, NIPS (2006)
2	Mrs. Faridah Mustapha	Principal Executive Officer I	Diploma in Computer Studies (2001), Megatech Computer Institution; Diploma in Public Administration (2003), Federal Polytechnic, Kaura Namoda; B.Ed. Educational Management (2016), University of Ilorin; Master in Public Administration (2025), University of Ilorin
3	Mr. A. T. Ahmed	Chief Secretariat Assistant	Conf. Secretary III (1994); B. Sc.Ed (Secretariat option) (2012)
4	Mrs. Agnes T. Thomas	Chief Clerical Officer	B.Sc. Ed. (Ado-Ekiti)
5	Mrs. Taibat. T. Ayoku	Chief Secretariat Assistant	Typewriting (1998; 2001), SSCE O'Levels (2002)
6	Mr. F. A. Adeniyi	Higher Executive Officer	Diploma in Public Admin (2002); B. Sc. Ed. (2010)
7	Mrs. Olabisi A. Kolawole	Higher Executive Officer	B. Sc. Ed. (2023)
8	Mr. Micheal O. Agboola	Executive Officer	NECO; NCE, Kwara State College of Education
9	Mrs. Tybat. A. Abdullahi	Executive Officer	WASC, NCE
10	Mrs. Sidikat Mahmud-Umar	Caretaker	First School Leaving Certificate
11	Mrs. Adama Suleiman	Caretaker	First School Leaving Certificate

2.4 TECHNICAL STAFF

S/N	Names	Rank/Designation	Qualifications
1	Mr. A. C. Chimezie	Principal Data Analyst II	ND Computer Science, HND Computer Science, Abia State Polytechnic, Aba; PGD Computer Science (2023), University of Ilorin
2	Mrs. Esther O. Aderogba	Chief Technologist	HND, PGD, M.Sc. (Ilorin)
3	Mr. L.R. Tiamiyu	Chief Technologist	HND, PGD, M.Sc. (Ilorin)
4	Dr. Abosede O. Solomon	Principal Agricultural Superintendent	B. Agric, M.Sc. Ph.D. (Ilorin)
5	Mr. S. D. Tijani	Principal Technologist	B. Tech (FutMinna); M.Sc. (Ilorin)
6	Mr. S. O. Enibukun	Assistant Chief Technology	HND (Moor Plantation, Ibadan) Crop Production Technology
7	Lawal, Rasheedat Ajoke	B. Agric (Ilorin)	Technologist 2
8	Durotola, Andrew Olabode	Laboratory Supervisor	WAEC, GCE, NABTEB Cert in Data and Words Processing, Cert in Poultry Production
9	Ganiyu, Ganiyat Omowumi	Laboratory Supervisor	WAEC, ND (Kwara State Polytechnic)
10	Mr. A. A. Adeboye	Assistant Chief Technologist	HND
11	Mr. B. Bukoye	Chief agricultural Superintendent	ND, Sokoto State Polytechnic; HND, Kwara State Polytechnic
12	Mrs. Hawawu A. Ishola	Senior technologist	B.Sc. (Maidurguri)
13	Mr. I. J. Olatubosun	Senior technologist	HND (NISLT aff. Unilorin)
14	Mr. Y. Abdulrasheed	Senior technologist	M.Sc. (Minna)
15	Mr. S. I. Majasan	Laboratory Superintendent	WASC, Certificate in Lab. Tech.
16	Mr. K. Adekunle	Senior Laboratory Assistant	NABTEB
17	Mr. S. Sanni	Chief Farm Supervisor	WASC, Certificate in Finance and Audit
18	Mr. Y. Aliyu	Chief Farm Supervisor	WASC
19	Mr. M. Adejoh	Senior Farm Assistant	First School Leaving Certificate
20	Mr. O. Richard	Senior Farm Assistant	First School Leaving Certificate
21	Mr. F. O. Osange	Assistant Farm Supervisor	WASC
22	Mr. S. Ibitoye	Assistant Farm Supervisor	WASC
23	Mr. A. G. Salman	Chief Apiary Suprintendent	NCE (Katsina); B.Sc. (Maiduguri); Certified Master Bee Keeping (Ibadan)
24	Mrs. Juliana E. Oyedun	Assistant Chief Apiary Officer	HND (Kwara State Polytechnic)

SECTION THREE

ADMISSION & GRADUATION REQUIREMENTS

3.1 ADMISSION REQUIREMENTS

3.1.1 MODES OF ENTRY

Admission into the programme shall be through UTME and Direct Entry. The interested candidates must have the following:

a. UTME Entry Mode

Candidates seeking admission through UTME shall:

i. Satisfy the prescribed UTME score and other admission conditions stipulated by the University and the Joint Admissions and Matriculation Board (JAMB).
ii. Possess five (5) credit passes in the Senior Secondary Certificate Examination (SSCE) or its equivalent in the following subjects: English Language, Mathematics, Biology or Agricultural Science, Chemistry, and Physics.
iii. Obtain the five required credit passes in not more than two sittings.

b. Direct Entry (DE)

Candidates seeking admission through Direct Entry shall possess:

i. At least two (2) credit passes at Advanced Level or its equivalent in Chemistry and Biology, in addition to the five SSCE credit passes prescribed for UTME candidates.
ii. Alternatively, candidates with relevant Diplomas shall possess a minimum of Lower Credit in the Diploma qualification, together with the five prescribed SSCE credit passes.

Eligible Direct Entry candidates may be considered for admission into 200 Level or 300 Level, as applicable, depending on their qualifications and the University's admission regulations.

3.2 DURATION OF THE PROGRAMME

The duration of the B. Agriculture programme shall depend on the candidate's mode and level of entry.

Mode of entry	Entry level	Minimum duration	Maximum duration
UTME	100 Level	5 academic sessions (10 semesters)	7 academic sessions (14 semesters)
Direct Entry	200 Level	4 academic sessions (8 semesters)	6 academic sessions (12 semesters)
Direct Entry	300 Level	3 academic sessions (6 semesters)	5 academic sessions (10 semesters)

3.3 GRADUATION REQUIREMENTS

A student shall qualify for the award of the Bachelor of Agriculture degree upon satisfying the following requirements:

i. Successful completion and passing of all prescribed courses, including all compulsory courses.
ii. Accumulation of the minimum required credit units for the applicable entry route.
iii. Attainment of a minimum Cumulative Grade Point Average (CGPA) of 1.00, or any higher minimum subsequently prescribed by the University.
iv. Successful completion of the compulsory practical training programme.
v. Submission and satisfactory assessment of the required practical training report.
vi. Successful completion and submission of an undergraduate research project based on supervised research.
vii. Fulfilment of all other academic and administrative requirements prescribed by the University.

The undergraduate research project is compulsory and shall expose students to research methodology, problem-solving, literature review, data interpretation and scientific report writing.

3.3.1 TOTAL CREDITS REQUIRED FOR GRADUATION

The total number of credits that UTME and Direct Entry Students must pass before graduation are listed in the Table below. Details of the courses are in subsequent section of this handbook.

Levels	Total Credits	
	UTME Students	Direct Entry (DE) Students
100	30	-
200	30	30
300	32	32
400	30	30
500	30	30
Total	**152**	**122**

3.4 CLASS OF DEGREES

The Bachelor of Agriculture degree shall be classified according to the student's final Cumulative Grade Point Average (CGPA).

GPA (Grade Point Average) or CGPA	Class of Degree
4.50 and above	First Class
3.50 - 4.49	Second Class (Upper Division)
2.40 - 3.49	Second Class (Lower Division)
1.50 - 2.39	Third Class
1.00 – 1.49	Pass

3.5 STUDENTS WORKLOAD

The B. Agriculture programme shall operate under the Course Unit System, in which courses are assigned credit units based on the prescribed student–teacher contact hours.

a. One credit unit shall be equivalent to:
   i. One hour of lecture per week for a 15-week semester.
   ii. One hour of tutorial per week for a 15-week semester.
   iii. Two hours of seminar per week for a 15-week semester.
   iv. Three hours of laboratory or fieldwork per week for a 15-week semester.
   v. Six hours of teaching practice per week.
   vi. Four weeks of industrial attachment, where applicable.

b. Credit units shall serve two purposes: measuring the academic weight of courses and indicating the workload expected of students.

c. Tutorials shall also be provided at a minimum of one hour for every four hours of lectures. For example, a three-unit course involving 45 lecture hours per semester should attract approximately 10 hours of tutorials.

d. The maximum number of units a student may normally register for in a semester is 24 units while the minimum number of units is 5 units per semester.

3.6 GRADING SYSTEM

The grading system used in the university is presented below:

Mark	Letter Grade	Grade Point
70-100	A	5
60-69	B	4
50-59	C	3
45-49	D	2
40-44	E	1
0-39	F	0

3.7 COMPUTATION OF RESULTS

The following terminologies and abbreviations are commonly-used in the computation of Grade Point Average (GPA)

3.7.1 Total Load Units (TLU)

This is the total number of course units carried by a student in a particular semester. It is the summation of the load units of all courses carried during the semester. For examples, a student offering 6 courses of 3 units each has a TLU of 18 for that semester.

3.7.2 Cumulative Load Units (CLU)

This is the summation of Total Load Units over all the semesters from the beginning to date.

3.7.3 Total Credit Points (TCP)

This is the sum of the products of course units and rating in each course for the entire semester. For example, a student who took 5 courses of 3 units each, suppose the grades he/she obtained in the 5 courses were A, B, C, D and E, the TCP of this is obtained as:

$$(3\times5.0)+(3\times4.0)+(3\times3.0)+(3\times2.0)+(3\times1.0) = 15.0 + 12.0 + 9.0 + 6.0 + 3.0 = 45.0$$

3.7.4 Cumulative Credit Points (CCP):

This is the summation of Total Credit Points over all semester from the beginning to date.

3.7.5 Grade Point Average (GPA)

This is the Total Credit Points (TCP) divided by the Total Load Unit (TLU). For example; consider the students' scores above. His/her TCP is 45.0 and his/her TLU is 15 (i.e. 5 courses at 3 units each for the semester). Then, his/her GPA is therefore 45/15 = 3.00. The highest possible GPA that may be earned is 5.0, and that is when a student has earned a grade of "A" in every course during the semester. The lowest GPA obtained is 0.00.

3.7.6. Cumulative Grade Point Average (CGPA):

This is not the summation of GPAs for the semester. Rather, it is the summation of TCP for all semester to date, divided by the summation of TLU for the said semester.

In effect, CGPA=CCP / CLU.

3.8 CARRY-OVER COURSES

All failed courses shall be carried-over to the corresponding semester of the following year, and must be taken and passed before taking higher course for which such are pre-requisites.

3.9 DURATION OF SEMESTER

Each semester shall normally consist of 15 weeks, or as determined by the Senate (exclusive of the Christmas and Easter vacations), which shall be reserved for teaching and three weeks for examinations.

3.10 STATUS OF COURSES

A course shall be classified either as Core, Required, or Elective

i. Compulsory Courses: are those courses, which are to be offered and passed by all students in the degree programme in order to graduate.

ii. Required Courses: these are courses, which must be registered-for under the advice of the Department, and must be passed by a student in order to graduate.

iii. Elective Courses: these are courses, which may be taken by a student to make up the minimum number of credits that must be passed in order to graduate.

SECTION FOUR

GLOBAL COURSE STRUCTURE

4.1 LIST OF COURSES

Courses and Credit Units for the B. Agriculture Programme Based on the Core Curriculum Minimum Academic Standards (CCMAS)

100 Level

S/N	Course Code	Course Title	Units	Status	LH	PH
1	GST 111	Communication in English	2	C	15	45
2	GST 112	Nigerian Peoples and Culture	2	C	30	-
3	AGG 102	Introduction to Agriculture I	2	C	30	-
4	AGG 112	Introduction to Agriculture II	1	C	15	-
5	BIO 101	General Biology I	2	C	30	-
6	BIO 107	General Biology Practical I	1	C	-	45
7	CHM 101	General Chemistry I	2	C	30	-
8	CHM 102	General Chemistry II	2	C	30	-
9	CHM 107	General Chemistry Practical I	1	C	-	45
10	CHM 108	General Chemistry Practical II	1	C	-	45
11	MTH 101	Elementary Mathematics I	2	C	30	-
12	MTH 102	Elementary Mathematics II	2	C	30	-
13	PHY 101	General Physics I	2	C	30	-
14	PHY 102	General Physics II	2	C	30	-
15	PHY 107	General Physics Practical I	1	C	-	45
16	PHY 108	General Physics Practical II	1	C	-	45
17	UIL-AGX 101	Introduction to Rural Development	2	C	30	45
18	UIL-CPS 152	Introduction to the Study of Microorganisms and Arthropods	2	C	15	-
	Total		**30**			

200 Level

S/N	Course Code	Course Title	Units	Status	LH	PH
1	GST 212	Philosophy, Logic and Human Existence	2	C	30	-
2	ENT 211	Entrepreneurship and Innovation	2	C	30	45
3	AGR 201	Principles of Agronomy	3	C	45	-
4	AGR 202	Introduction to Agricultural Economics, Extension and Rural Sociology	3	C	45	-
5	AGR 203	Introduction to Forest Resources and Wildlife Management	2	C	15	45
6	AGR 204	Introduction to Animal Production	2	C	30	-
7	AGR 205	Introduction to Fisheries and Aquaculture	3	C	45	-
8	AGR 206	Principles of Family and Consumer Sciences, Food Science and Technology	2	C	30	-
9	UIL-AGE 204	Basic Mathematics & Statistics for Students of Agriculture	2	C	30	-
10	UIL-AGX 201	Organization of Village communities	2	C	15	45
11	UIL-ANS 202	Principles of Feeds and Feeding	2	C	15	45
12	UIL-CPS 201	Climate and Agriculture in Nigeria	2	C	15	45
13	UIL-CPS 251	Crop Protection in Agrosystems 1	1	C	15	-
14	UIL-CPS 252	Pests and Pathogens of Crops	2	C	15	45
	Total		**30**			

300 Level

S/N	Course Code	Course Title	Units	Status	LH	PH
1	GST 312	Peace and Conflict Resolution	2	C	30	-
2	ENT 312	Venture Creation	2	C	15	45
3	AGE 305	Data Science and Statistical Computing	2	C	15	45
4	AGE 306	Application of Computer to Agriculture	2	C	15	45
5	AGE 307	Introduction to Farm Management and Accounting	2	C	30	-
6	AGX 311	Principles of Rural Sociology	2	C	30	-
7	ANS 302	Introduction to Animal Breeding and Genetics	2	C	30	-
8	ANS 304	Non-Ruminant Animal Production	2	C	30	-
9	ANS 305	Ruminant Animal Production	2	C	30	-
10	CPS 301	Arable Crops Production	2	C	30	45
11	CPS 302	Permanent Crops Production	2	C	30	-
12	CPS 304	Crop Genetics and Breeding	2	C	30	-
13	SOS 302	Introduction to Agric. Mechanization	2	C	15	45
14	SOS 303	Introductory Pedology and Soil Physics	2	C	15	45
15	AGE 301	Microeconomics Theory	2	C	30	-
16	AGE 302	Macroeconomics Theory	2	C	30	-
	Total		**32**			

400 Level

S/N	Course Code	Course Title	Units	Status	LH	PH
1	AGE 404	Farm Records and Accounting	2	C	-	90
2	AGX 410	Community Agricultural Extension	2	C	-	90
3	ANS 401	Bio-security and Animal Health Management	2	C	-	90
4	ANS 402	Livestock Recording, Identification and Traceability	2	C	-	90
5	CPS 401	Crop Production Techniques I	3	C	-	135
6	CPS 403	Crop Protection I	3	C	-	135
7	CPS 406	Farm Mechanization Practices	2	C	-	90
8	SOS 402	Soil Survey, Sampling, Classification and Taxonomy	2	C	-	90
9	AGR 499	SIWES Report	2	C	-	90
10	UIL-AGX 411	Application of Research Methods and Audio-Visual Materials in Village Extension Activities	2	C	-	90
11	UIL-ANS 404	Principles of Feeds and Feeding	2	C	15	45
12	UIL-SOS 411	Soil fertility and water conservation	2	C	-	90
13	UIL-CPS 451	Mushroom Production Technology	2	C	-	90
14	UIL-CPS 452	Pest and Disease Management in field and Stored Crops	1	C	-	45
15	UIL-CPS 453	Pests and Diseases in Controlled Environment Agriculture	1	C	-	45
	Total		**30**			

500L (Agricultural Economics Options)

S/N	Course Code	Course Title	Units	Status	LH	PH
1	AGE 501	Agricultural Production Economics	2	C	30	-
2	AGE 505	Research and Statistical Methods	2	C	30	-
3	AGE 599	Research Project	4	C	-	180
4	UIL-AGE 506	International Food and Agricultural Trade	2	C	30	-
5	UIL-AGE 507	Economics of Cooperatives	2	C	-	30
6	UIL-AGE 508	Agricultural Finance	2	C	30	-
7	UIL-AGE 509	Econometrics	3	C	30	45
8	UIL-AGE 510	Development Economics	2	C	30	-
9	UIL-AGE 511	Agricultural Project Planning and Implementation	3	C	45	-
10	UIL-AGE 512	Agribusiness Management	2	C	30	-
11	UIL-AGE 514	Agriculture and Food Policy	2	C	30	-
12	UIL-AGE 516	Environmental Economics	2	C	30	-
13	UIL-AGE 518	Agricultural Marketing	2	C	30	-
	Total		**30**			

500 Level (Agricultural Extension Option)

S/N	Course Code	Course Title	Units	Status	LH	PH
1	AGX 503	Agricultural Extension Administration and Supervision	2	C	30	-
2	AGX 504	Programme Planning and Evaluation	2	C	30	-
3	AGX 599	Research Project	4	C	-	180
4	UIL-AGX 501	Technical Writing and Communication Skills in Extension	2	C	15	45
5	UIL-AGX 504	Agricultural Journalism	2	C	30	-
6	UIL-AGX 505	Indigenous Technical Knowledge and Contemporary Issues in Agricultural Extension	2	C	30	-
7	UIL-AGX 508	Mobilisation Techniques for Community Development	2	C	30	-
8	UIL-AGX 509	Media Management	2	C	15	45
9	UIL-AGX 511	Rural Adult Education: Principles and Practices	3	C	45	-
10	UIL-AGX 512	Training Technology in Extension	3	C	30	45
11	UIL-AGX 514	Organisational Development	2	C	30	-
12	UIL-AGX 518	Virtual Community Extension	2	C	15	45
13	UIL-AGX 519	Agro-Industrial Extension	2	C	30	-
	Total		**30**			

500 Level (Animal Science Option)

S/N	Course Code	Course Title	Units	Status	LH	PH
1	ANS 501	Applied Animal Breeding and Genetics	2	C	30	-
2	ANS 502	Animal Experimentation and Research Techniques	2	C	30	-
3	ANS 505	Reproductive Physiology and Artificial Insemination	2	C	15	45
4	ANS 506	Pasture and Range Production and Management	2	C	15	45
5	ANS 599	Project	4	C	-	180
6	UIL-ANS 507	Poultry Production	2	C	15	45
7	UIL-ANS 508	Livestock Production Systems	2	C	15	45
8	UIL-ANS 509	Experimental Design and Project writing in Livestock Research	2	C	15	45
9	UIL-ANS 510	Principles of Feed Manufacturing	2	C	15	45
10	UIL-ANS 511	Dairy Science and Beef Production	2	C	15	45
11	UIL-ANS 512	Swine Production	2	C	15	45
12	UIL-ANS 513	Livestock Business Appropriation Techniques	2	C	15	45
13	UIL-ANS 514	Animal Behaviour and Handling Techniques	2	C	15	45
14	UIL-ANS 515	Rabbit and Micro-livestock production	2	C	15	45
	Total		**30**			

500 Level (Crop Science Option)

S/N	Course Code	Course Title	Units	Status	LH	PH
1	CPS 503	Plantation Crops and Orchard Management	2	C	30	45
2	CPS 505	Methods of Field Experimentation	2	C	15	45
3	SOS 502	Soil fertility Management and Plant Nutrition	2	C	15	45
4	HLM 502	Vegetable crops Production (Olericulture)	3	C	30	45
5	CPS 599	Final Year Project	4	C	-	180
6	UIL-CPS 507	Precision Agriculture	2	C	15	45
7	UIL-CPS 508	Seed Production Technology	2	C	15	45
8	UIL-CPS 509	Crop Products and Processing	2	C	15	45
9	UIL-CPS 510	Climate smart Agriculture	3	C	30	45
10	UIL-CPS 512	Plant and Microbial Biotechnology	2	C	15	45
11	UIL-CPS 514	Principles of Weed Control	2	C	15	45
12	UIL-CPS 516	Horticulture	2	C	15	45
13	UIL-CPS 518	Pasture and Forage Crops Management	2	C	15	45
	Total		**30**			

500 Level (Soil Science Option)

S/N	Course Code	Course Title	Units	Status	LH	PH
1	CPS 503	Plantation Crops and Orchard Management	2	C	30	-
2	CPS 505	Methods of Field Experimentation	2	C	15	45
3	SOS 502	Soil fertility Management and Plant Nutrition	2	C	15	45
4	HLM 502	Vegetable crops Production (Olericulture)	3	C	30	45
5	SOS 599	Final Year Project	4	C	-	180
6	UIL-SOS 503	Soil and plant analysis	3	C	30	45
7	UIL-SOS 504	Soil and Water Management	2	C	15	45
8	UIL-SOS 505	Global trends in Soil management and agricultural production	3	C	30	45
9	UIL-SOS 506	Soil Genesis and Classification	2	C	15	45
10	UIL-SOS 508	Soil Biology and Ecology	3	C	30	45
11	UIL-SOS 510	Soil pollution and waste management	2	C	15	45
12	UIL-SOS 512	Soil Chemistry and Microbiology	2	C	15	45
	Total		**30**			

500 Level (Crop Protection Option)

S/N	Course Code	Course Title	Units	Status	LH	PH
1	CPS 505	Methods of Field Experimentation	2	C	15	45
2	HLM 502	Vegetable crops Production (Olericulture)	3	C	30	45
3	CPS 599	Final Year Project	4	C	-	180
4	UIL-CPS 551	Insect Physiology, Morphology and Systematics	3	C	30	45
5	UIL-CPS 552	Tissue Culture Techniques in Plant Protection	2	C	15	45
6	UIL-CPS 553	Introduction to Plant Virology	2	C	15	45
7	UIL-CPS 554	Advanced Principles in Crop Protection	3	C	30	45
8	UIL-CPS 555	Introduction to Plant Nematology	2	C	15	45
9	UIL-CPS 556	Methods in Crop Protection Technology	3	C	30	45
10	UIL-CPS 557	Introduction to Plant Mycology	3	C	30	45
11	UIL-CPS 558	Principles of Integrated Pest Management	2	C	15	45
12	UIL-CPS 560	Molecular Diagnostics of Plant Diseases	2	C	15	45
	Total		**30**			

4.2 COURSE CONTENT

4.2.1 100 Level

GST 111 Communication in English (2 Units C: LH 15; PH 45)

Sound patterns in English Language (vowels and consonants, phonetics, and phonology). English word classes (lexical and grammatical words, definitions, forms, functions, usages, collocations). Sentence in English (types: structural and functional, simple, and complex). Grammar and usage (tense, mood, modality and concord, aspects of language use in everyday life). Logical and critical thinking and reasoning methods (logic and syllogism, inductive and deductive argument and reasoning methods, analogy, generalisation and explanations). Ethical considerations, copyright rules and infringements. Writing activities: (pre-writing, writing, post writing, editing and proofreading; brainstorming, outlining, paragraphing, types of writing, summary, essays, letter, curriculum vitae, report writing, note making, etc. Mechanics of writing). Comprehension strategies: (reading and types of reading, comprehension skills, 3RsQ). Information and communication technology in modern language learning. Language skills for effective communication. Major word formation processes. Writing and reading comprehension strategies. Logical and critical reasoning for meaningful presentations. Art of public speaking and listening. Report writing.

GST 112 Nigerian Peoples and Culture (2 Units C: LH 30)

Nigerian history, culture, and art up to 1800 (Yoruba, Hausa and Igbo peoples and culture; peoples and culture of the ethnic minority groups). Nigeria under colonial rule (advent of colonial rule in Nigeria; Colonial administration of Nigeria). Evolution of Nigeria as a political unit (amalgamation of Nigeria in 1914, formation of political parties in Nigeria, nationalist movement and struggle for independence). Nigeria and challenges of nation building (military intervention in Nigerian politics; Nigerian civil war). Concept of trade and economics of self-reliance (indigenous trade and market system, indigenous apprenticeship system among Nigeria people; trade, skill acquisition and self-reliance). Social justices and national development (law definition and classification. Judiciary and fundamental rights. Individual, norms and values (basic Nigeria norms and values, patterns of citizenship acquisition, citizenship and civic responsibilities; indigenous languages, usage, and development; negative attitudes and conducts. Cultism, kidnapping and other related social vices). Re-orientation, moral and national values (The 3R's – Reconstruction, Rehabilitation and Re-orientation.; Re-orientation Strategies: Operation Feed the Nation (OFN), Green revolution, austerity measures, War Against Indiscipline (WAI), War Against Indiscipline and Corruption (WAIC), Mass Mobilization for Self-Reliance, Social Justice and Economic Recovery (MAMSER), National Orientation Agency (NOA). Current socio- political and cultural developments in Nigeria.

AGG 102 Introduction to Agriculture I (2 Units C: LH 30)

Meaning and Scope of Agriculture. Importance of Agriculture to an expanded economy. Agricultural Ecology. Genetics, Agronomy. Rocks and Soil formation. Soil and Water Conservation. Soil Fertility. Land Preparation methods (soil tillage systems). Soil-water-plant relationship. Plant Forms and functions, Growth, Development and Reproduction. Plant Propagation Methods. Cropping Systems, Planting Patterns and Plant Densities. Crop Husbandry, Pasture and Forage Crops. Floriculture, Weeds, Crop Diseases, Crop Pests, Forest management (Silviculture), Crop Improvement, Animal Production, Forms and classification of major farm animals in West Africa, General terminology in

animal production, Anatomy and physiology of farm animals, Reproduction in farm animals, Animal Nutrition, Livestock Management, Animal Health, Fisheries and Wildlife, Bee-keeping (Apiculture), Animal Improvement

AGG 112 Introduction to Agriculture II (1 Unit C: LH 15)

History of Agricultural Development in West Africa, Roles of Government and NGOs in Agricultural Development, Factors of agricultural production, Basic Economic Principles, Characteristic Features of Agricultural Production, Labour Management, Farm Management, Marketing of Agricultural Produce, Agricultural Extension, Agricultural Technology, Farm surveying and farmstead planning, Simple Farm Tools, Farm machinery and implements, Mechanization and sources of farm power, Processing and storage, Introduction to biotechnology, Application of ICT in agriculture, Introduction to agricultural research and statistics.

BIO 102 General Biology II (2 Units C: LH 30)

Basic characteristics, identification and classification of viruses, bacteria and fungi. A generalized survey of the plant and animal kingdoms based mainly on the study of similarities and differences in the external features. Ecological adaptations. Briefs on physiology to include nutrition, respiration, circulatory systems, excretion, reproduction, growth and development.

BIO 101 General Biology I (2 Units C: LH 30)

Cell structure and organization. functions of cellular organelles. characteristics and classification of living things. chromosomes, genes their relationships and importance. General reproduction. Interrelationships of organisms (competitions, parasitism, predation, symbiosis, commensalisms, mutualism, saprophytism). Heredity and evolution (introduction to Darwinism and Lamarckism, Mendelian laws, explanation of key genetic terms). Elements of ecology and types of habitat.

BIO 107 General Biology Practical I (1 Unit C: PH 45)

Common laboratory hazards: prevention and first aid; measurements in biology. Uses and care of microscope: compound and dissecting microscope. Biological drawings and illustration, scaling, accuracy and proportion. Use of common laboratory apparatus and laboratory experiments designed to illustrate the topics covered in BIO 101.

CHM 101 General Chemistry I (2 Units C: LH 30)

Atoms, molecules, elements and compounds and chemical reactions. Modern electronic theory of atoms. Electronic configuration, periodicity and building up of the periodic table. Hybridization and shapes of simple molecules. Valence Forces. Structure of solids. Chemical equations and stoichiometry; Chemical bonding and intermolecular forces, kinetic theory of matter. Elementary thermochemistry. Rates of reaction, equilibrium and thermodynamics. Acids, bases and salts. Properties of gases. Redox reactions and introduction to electrochemistry. Radioactivity.

CHM 102 General Chemistry II (2 Units C: LH 30)

Historical survey of the development and importance of Organic Chemistry. Fullerenes as fourth allotrope of carbon, uses as nanotubules, nanostructures, nanochemistry. Electronic theory in organic chemistry. Isolation and purification of organic compounds. Determination of structures of organic compounds including qualitative and quantitative analysis in organic chemistry. Nomenclature and

functional group classes of organic compounds. Introductory reaction mechanism and kinetics. Stereochemistry. The chemistry of alkanes, alkenes, alkynes, alcohols, ethers, amines, alkyl halides, nitriles, aldehydes, ketones, carboxylic acids and derivatives. The Chemistry of selected metals and non-metals. Comparative chemistry of group IA, IIA and IVA elements. Introduction to transition metal chemistry.

CHM 107 General Chemistry Practical I (1 Unit C: PH 45)
Laboratory experiments designed to reflect topics presented in courses CHM 101 and CHM 102. These include acid-base titrations, qualitative analysis, redox reactions, gravimetric analysis, data analysis and presentation.

CHM 108 General Chemistry Practical II (1 Unit C: PH 45)
Continuation of CHM 107. Additional laboratory experiments to include functional group analysis, quantitative analysis using volumetric methods.

MTH 101 Elementary Mathematics 1 (2 Units C: LH 30)
Elementary set theory, subsets, union, intersection, complements, venn diagrams. Real numbers, integers, rational and irrational numbers. Mathematical induction, real sequences and series. Theory of quadratic equations. Binomial theorem. Complex numbers. Algebra of complex numbers. The Argand diagram. De-Moivre's theorem, nth roots of unity. Circular measure, trigonometric functions of angles of any magnitude, addition and factor formulae.

MTH 102 Elementary Mathematics II (2 Units C: LH 30)
Function of a real variable, graphs, limits and idea of continuity. The derivative, as limit of rate of change. Techniques of differentiation. Extreme curve sketching; Integration as an inverse of differentiation. Methods of integration, Definite integrals. Application to areas, volumes.

PHY 101 General Physics I (2 Units C: LH 30)
Physical quantities, units and dimensions. Scalars and vectors. Kinematics of motion in one and two dimensions. Newton's laws of motion and their applications. Work, energy and power. Conservation of energy and momentum. Impulse and collisions. Rotational motion, torque and angular momentum. Centre of mass and equilibrium of rigid bodies. Gravitation and Kepler's laws. Elasticity and properties of matter. Fluid mechanics: pressure, buoyancy, surface tension and viscosity. Simple harmonic motion, oscillations and waves. Sound waves and their properties. Temperature, heat and the kinetic theory of gases. Laws of thermodynamics, heat transfer and thermal expansion.

PHY 102 General Physics II (2 Units C: LH 30)
Forces in nature. Electrostatics; electric charge and its properties, methods of charging. Coulomb's law and superposition. electric field and potential. Gauss's law. Capacitance. Electric dipoles. Energy in electric fields. Conductors and insulators, current, voltage and resistance. Ohm's law and analysis of DC circuits. Magnetic fields. Lorentz force. Biot-Savart and Ampère's laws. magnetic dipoles. Dielectrics. Energy in magnetic fields. Electromotive force. Electromagnetic induction. Self and mutual inductances. Faraday and Lenz's laws. Step up and step-down transformers: Maxwell's equations. Electromagnetic oscillations and waves. AC voltages and currents applied to inductors, capacitors, resistance, and combinations.

PHY 107 General Physics Practical I (1 Unit C: PH 45)

This introductory course emphasizes quantitative measurements, the treatment of measurement errors and graphical analysis. A variety of experimental techniques should be employed. The experiments include studies of meters, the oscilloscope, mechanical systems, electrical and mechanical resonant systems, light, heat, viscosity etc., covered in PHY 101 and PHY 102. However, emphasis should be placed on the basic physical techniques for observation, measurements, data collection, analysis and deduction.

PHY 108 General Physics Practical II (2 Units C: LH 15; PH 45)

This practical course is a continuation of PHY 107 and is intended to be taught during the second semester of the 100 level to cover the practical aspect of the theoretical courses that have been covered with emphasis on quantitative measurements. The treatment of measurement errors, and graphical analysis. However, emphasis should be placed on the basic physical techniques for observation, measurements, data collection, analysis and deduction.

UIL-AGX 101 Introduction to Rural Development (2 Units C: LH 30)

Concepts, meaning, scope and objectives of rural development. Characteristics of rural communities and rural economies. Theories, approaches and strategies of rural development. Rural social structures, institutions and community organisation. Agriculture and its role in rural transformation. Rural poverty, unemployment, inequality and population dynamics. Rural infrastructure and social services, including roads, housing, education, healthcare, electricity, water supply and sanitation. Community participation, leadership and self-help initiatives in rural development. Roles of government, non-governmental organisations, cooperative societies and international development agencies. Agricultural extension, technology transfer and rural innovation. Gender, youth empowerment and social inclusion in rural communities. Rural development policies and programmes in Nigeria. Constraints to rural development and strategies for sustainable rural livelihoods, environmental management and improved quality of life.

UIL-CPS 152 Introduction to the Study of Microorganisms and Arthropods (2 Units C: LH 15; PH 45)

Introduction to microbiology and arthropod biology. Classification, structure, morphology and characteristics of major groups of microorganisms, including bacteria, fungi, viruses, protozoa and algae. Introduction to arthropods, their classification, external morphology, anatomy, physiology, development and life cycles. Basic principles of microbial growth, reproduction, nutrition and environmental requirements. Beneficial and harmful roles of microorganisms and arthropods in agriculture, human health and the environment. Microorganisms and arthropods as agents of plant and animal diseases, pests and vectors. Principles of microbial and arthropod sampling, collection, preservation and identification. Introduction to microscopy, laboratory safety, aseptic techniques and basic laboratory procedures. Ecological interactions among microorganisms, arthropods, plants and other organisms. Economic importance and applications of microorganisms and arthropods in agriculture, biotechnology and environmental management.

4.2.2 200 Level

GST 212 Philosophy, Logic and Human Existence (2 Units C: LH 30)
Meaning, nature, scope and branches of philosophy. Major philosophical problems and methods of philosophical inquiry. Introduction to logic, reasoning and argumentation. Concepts of deductive and inductive reasoning, validity, soundness and common logical fallacies. Propositions, syllogisms, inference and principles of critical thinking. The nature of human existence, knowledge, reality, truth and values. Major philosophical perspectives on human nature, freedom, responsibility, morality and the meaning of life. Introduction to ethics, social and political philosophy, and the relationship between the individual and society. Philosophical perspectives on science, religion, culture and human development. Application of philosophical reasoning and logical analysis to everyday life, academic inquiry and contemporary societal issues.

ENT 211 Entrepreneurship and Innovation 2 Units C: LH 15; PH 45)
Concept of entrepreneurship (Entrepreneurship, Intrapreneurship/Corporate entrepreneurship). Theories, rationale and relevance of entrepreneurship (Schumpeterian and other perspectives, risk-taking, necessity and opportunity-based entrepreneurship and creative destruction). Characteristics of entrepreneurs (opportunity seeker, risk taker, natural and nurtured, problem solver and change agent, innovator and creative thinker). Entrepreneurial thinking (critical thinking, reflective thinking, and creative thinking). Innovation (concept of innovation, dimensions of innovation, change and innovation, knowledge and innovation). Enterprise formation, partnership, and networking (basics of business plan, forms of business ownership, business registration and forming alliances and joint ventures). Contemporary entrepreneurship issues (knowledge, skills and technology, intellectual property, virtual office, networking). Entrepreneurship in Nigeria (biography of inspirational entrepreneurs, youth and women entrepreneurship, entrepreneurship support institutions, youth enterprise networks and environmental and cultural barriers to entrepreneurship). Basic principles of e-commerce.

AGR 201 Principles of Agronomy (3 Units C: LH 45)
Definitions of the terms, crops and plants (including weeds). Importance of crops and plants to mankind. Origin of different types of crops in tropical, sub-tropical and temperate climatic regions and introduction of crop types to other lands. Botany and basis for classification and/or grouping of crops. Descriptions of various types of crops (grains and legumes, cereal crops, root and tuber crops, tree crops, vegetables, ornamentals, etc.). Description (including diagrams) of crop growth cycle. Seeds and seed management and home gardening. Elements of crop husbandry and end- use technologies. Definitions of the terms, soil and land. Elements of soil science and soil management. Importance 73 of soils to mankind. Origin of soils. Jenny's factors and processes of soil formation. Descriptions 74 (including diagrams) of the soil profile. The composition(s) of a normal soil. Soil types and basis for classification/grouping of soils. The soil textural triangle. Soil as a medium for plant growth and concept of hydroponics. Soil fertility versus soil productivity. Soil conservation versus soil degradation. Interactive effects of soil characteristics on plants and animals. Soil water use and soil water balance.

AGR 202 Introduction to Agricultural Economics, Extension and Rural Sociology (3 Units C: LH 45)

The nature of economics and economic problems. Scope of agricultural economics and methods. The concept of opportunity cost; supply and demand and their application to agricultural problems. Production functions, cost analysis and functions. Concept of elasticities. Type of markets, perfect competition, monopoly, oligopoly etc. Price theory and some applications. The components of agriculture in national income. Aggregate income, expenditure, investment, interest rate, savings, employment. Inflation; international trade, commodity agreements, and balance of payments. Money and banking. The need for agricultural extension in Nigeria and in the world, basic philosophies behind agricultural extension work. The institutional setting of agricultural extension. Basic concepts and principles of rural sociology. Importance of rural communities and institutions, social stratification, social processes, and social changes in rural areas. Emergence and functions of leadership in rural communities. The extension agent and the rural community. Communication techniques and strategies of change. Agricultural extension teaching methods, aids, and their use.

AGR 203 Introduction to Forest Resources and Wildlife Management (2 Units C: 15 LH; 45 PH)

Renewable natural resources availability, distribution, and potentials. The important forest trees and wildlife. Organization of forest resources and non-timber resources. Classification, morphology, taxonomy and ecology of tropical forest trees and game reserves in Nigeria. Silviculture, afforestation characteristics of major timbers and their uses. Forest production activities. Forest protection. Regulation of harvests for sustained yield. Importance of forestry and wildlife to the national economy. Practical approach to apiculture, snailery, cane rat farming and other forest enterprises.

AGR 204 Introduction to Animal Production (2 Units C: LH 30)

The livestock industry – problems and prospects. Description of the breeds of cattle, sheep, goats, pigs, poultry, and rabbits. Systems of livestock production, feeding and feed management. Principles of breeding and livestock improvement. General principles of management of the different types of farm animals (cattle, sheep, goats, pigs, poultry, and rabbits). Introduction to game and companion animals; general principles of their management, feeding and feeding habits. Endangered livestock species, their management and conservation Anatomy and physiology of the cell, tissues, nervous system, skeletal system, muscle, bone, circulatory system, reproductive, digestive, special senses, and other systems of farm animals.

AGR 205 Introduction to Fisheries and Aquaculture (2 Units C: LH 30)

Concepts of fisheries and aquaculture in relation to natural resources. Water bodies and fisheries and aquaculture practices in Nigeria. Fish adaptation to aquatic life. The important fishes of West Africa with emphasis on Nigeria species. Classification, evolution, morphology, and basic structure of fishes. Life cycle of principal species of fishes. Significance of fishes in the life of Nigerians. The fish and aquaculture industries in Nigeria. Need for fisheries management and concept of overfishing. Fundamental principles of fish management (protection, conservation, and sustainable harvest) and production. Ecological, economic, and cultural importance of fisheries park, zoo, sport fishing, marine park, etc. Scope of fisheries and aquaculture.

AGR 206 Principles of Family and Consumer Sciences, Food Science and Technology (2 Units C: LH 30)

Philosophy, scope, objectives and historical development of family and consumer sciences.

Examination of basic human needs with respect to food, clothing, shelter, and health. Programme approaches in family and consumer sciences which will help meet these needs. Professional opportunities in family and consumer sciences. The role of a family and consumer sciences professional in today's society. Definition and scope of food science and technology. Food distribution and marketing. Food and its functions. Food habits. Food poisoning and its prevention. Principles of food processing and preservation. Discussion of different preservation methods. Deterioration and spoilage of foods, other post- harvest changes in food. Contamination of foods from natural sources. Composition and structures of Nigerian/West African food; factors contributing to texture, colour, aroma, and flavour of food. Cost, traditional and ethnic influence of food preparation and consumption pattern.

UIL-AGE 204 Basic Mathematics & Statistics for Students of Agriculture (2 Units C: LH 30)

The number system. Functions in elementary algebra. Sets and Inequalities. Elementary matrix Algebra. Sequence and series. Calculus. Frequency Distribution. Permutations and Combinations. Probability theory. Simple test of hypothesis. Correlation and Regression Analysis. Real Sequence and Series. Quadratic equations. Frequency Distribution. Graphical Presentation of Data. Measures of Central Tendency. Probability Theory. Combination

UIL-AGX 201 Organization of Village communities (2 Units C: PH 90)

Concepts and principles of community organization. Evolution of rural communities. Rural socio-economic infrastructure. Social process for community mobilization. Roles of rural organisations and Non-Governmental organisations in community development. Concept of community development. Definitions, Approaches and History of community development. Steps in community development. Differences and Similarities between rural and urban community development. The nature and prospects of community development in Nigeria. Concepts and Critique of Initiative. Felt needs. Self-Help. Citizen participation.

UIL-ANS 202 Principles of Feeds and Feeding (2 Units C: LH 15; PH 45)

Composition of the animal body. Water requirement. Nutrient requirement. Nutrient in relation to water intake. Water conservation in animals. Enzymes. Co-enzymes. Vitamins. Metabolism of carbohydrate. Metabolism of protein. Metabolism of lipid. Urea cycle. Mineral metabolism. Energy metabolism. Metabolites. Toxic effects of metabolites. Metabolites clearance.

UIL-CPS 201 Climate and Agriculture in Nigeria (2 Units C: LH 15; PH 45)

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

UIL-CPS 251 Crop Protection in Agrosystems 1 (1 Unit C; LH 15)

Definition of pests. Major pests of insects. Major pests of fungi. Major pests of bacteria. Major pests of viruses. Major pests of nematodes. Weeds of tropical crops. Diseases of tropical crops. Diseases in stored products. Study of insect pests of major local crops. Significance and principles of control. Study of the effects of diseases caused by viruses. Study of the effects of diseases caused by bacteria. Study of the effects of diseases caused by fungi. Study of the effects of diseases caused by nematodes. Control of nematode diseases. Control of bacterial diseases. Control of fungal diseases. Effect of weeds on crops and livestock and the principles and methods of control of weeds; brief outline, shortcomings and advantages of different pest assessment and pest control methods. Tactics and strategies of integrated pest control and pest management.

UIL-CPS 252 Pests and Pathogens of Crops (2 Units C; LH 15; PH 45)

Biology, ecology and control of major insect pests of crops in the field and in storage. Methods of controlling insect pests. Use of insecticides. Formulation of pesticides. Equipment for application of pesticides. Calculation of rates of pesticides application. Principles of plant pathology. Introduction to symptoms, spread and control of major local plant diseases caused by nematodes, fungi, bacteria and viruses. Fungal disease establishment. Factors affecting disease establishment. Plant diseases caused by parasitic higher plants. Plant diseases caused by parasitic green algae. Plant diseases caused by nematodes. Methods of controlling plant diseases. Vertebrate pests of crops. Types of vertebrate pests. Damages caused by vertebrate pests. Control of vertebrate tests. Measurement of plant disease and of yield loss.

4.2.3 300 Level

GST 312 Peace and Conflict Resolution (2 Units C: LH 30)

Concepts of peace, conflict and security in a multi-ethnic nation. Types and theories of conflicts: ethnic, religious, and economic. Geo-political conflicts; structural conflict theory, realist theory of conflict, frustration-aggression conflict theory. Root causes of conflict and violence in Africa: indigene and settlers' phenomenon. Boundaries/boarder disputes, political disputes, ethnic disputes and rivalries. Economic inequalities, social disputes, nationalist movements and agitations. Selected conflict case studies – Tiv-Junkun, Zango Kartaf, chieftaincy and land disputes, etc. Peace building, management of conflicts and security. Peace & human development. Approaches to peace & conflict management --- (religious, government, community leaders, etc.). Elements of peace studies and conflict resolution. Conflict dynamics assessment scales: constructive & destructive. Justice and legal framework: concepts of social justice; the Nigeria legal system, insurgency and terrorism. Peace mediation and peace keeping. Peace & Security Council (international, national and local levels). Agents of conflict resolution – conventions, treaties, community policing: evolution and imperatives. Alternative dispute resolution, ADR (a) Dialogue, (b) Arbitration, (c) Negotiation, and (d) Collaboration, etc. Roles of international organizations in conflict resolution: (a) The United Nations, UN, and its conflict resolution organs, (b) The African Union & Peace Security Council, (c) ECOWAS in peace keeping. Media and traditional institutions in peace building. Managing post-conflict situations/crisis: refugees. Internally displaced persons, IDPs. The role of NGOs in post-conflict situations/crisis.

ENT 312 Venture Creation (2 Units C: LH 15; PH 45)

Opportunity identification (sources of business opportunities in Nigeria, environmental scanning, demand and supply gap/unmet needs/market gaps/market research, unutilised resources, social and climate conditions, and technology adoption gap). New business development (business planning, market research). Entrepreneurial finance (venture capital, equity finance, micro finance, personal savings, small business investment organizations and business plan competition). Entrepreneurial marketing and e-commerce (principles of marketing, customer acquisition & retention, B2B, C2C and B2C models of e-commerce, first mover advantage, E- commerce business models and successful e-commerce companies,). Small business management/family business: leadership & management, basic bookkeeping, nature of family business and family business growth model. Negotiation and business communication (strategy and tactics of negotiation/bargaining, traditional and modern business communication methods). Opportunity discovery demonstrations (business idea generation presentations, business idea contest, brainstorming sessions, idea pitching). Technological solutions (the concept of market/customer solution, customer solution and emerging technologies, business applications of new technologies - Artificial Intelligence (AI), Virtual/Mixed Reality (VR), Internet of Things (IoTs), Blockchain, Cloud Computing, Renewable Energy etc. Digital business and e-commerce strategies).

AGE 301: Microeconomics Theory (2 Units C: LH 30)

Economic growth and economic development. The slow growth model. Analysis of aggregate economic activity in relation to level, stability and growth of national income. Consumption function, investment and savings. Theory of income determination. Interest rate theory. Commodity and money markets. Labour market and unemployment. Inflation. Balance of payment. Monetary policy and aggregate demand. Keynesian theories of money demand. Philips curve and aggregate supply. AD-AS model. Economic development from the perspective of monetary and fiscal policies. Measurement of inequalities.

AGE 302 Macroeconomics Theory (2 Units C: LH 30)

Economic growth and economic development. The slow growth model. Analysis of aggregate economic activity in relation to level, stability and growth of national income. Consumption function, investment and savings. Theory of income determination. Interest rate theory. Commodity and money markets. Labour market and unemployment. Inflation. Balance of payment. Monetary policy and aggregate demand. Keynesian theories of money demand. Philips curve and aggregate supply. AD-AS model. Economic development from the perspective of monetary and fiscal policies. Measurement of inequalities.

AGE 305 Data Science and Statistical Computing (2 Units C: LH 15; PH 45)

Basic concepts of statistics. Frequency distribution, measures of location, measures of dispersion. Probability distribution. Normal and binomial distribution. Sampling data collection, data processing techniques, statistical inference, tests of hypothesis – F-test, T-test, Chi-square. Analysis of variance, analysis of covariance. Correlation and regression analyses. Formulation of research objectives, field experimentation, collection and processing of data. Analysis of secondary data.

AGE 306 Application of Computer to Agriculture (2 Units C: LH 15; PH 45)

Information technology (IT) in information production, storage and retrieval. Information

technology in communication, output generation and delivery. It and automation in agriculture. IT applications in agricultural production and marketing, consumption and product utilization.

AGE 307 Introduction to Farm Management and Accounting (2 Units C: LH 30)
Meaning, scope and objectives of agricultural management. Functions and tools of farm management. Effects of socio-economic environment on farm management functions. Steps in farm management decisions. Organization of farm-firm; farm selection, farm layout, enterprise selection and the distribution of investment. The need for farm management information and the positive and normative approaches to farm management information collection. Farm records and accounting. Principles of farm asset valuation and depreciation. Farm budgeting, including complete, partial and breakeven budgeting. Linear programming as a tool for farm enterprise planning. Analysis of farm business performance- measures of efficiency, financial position and farm business size. Book keeping as an accounting tool. Assets and liabilities. Balance sheets and Profit and Loss Accounts. Trial balance. Finance and capital appraisal tools. Depreciation methods and analysis.

AGX 311Principles of Rural Sociology (2 Units C: LH 30)
Meaning, nature and scope of rural sociology. Organization of societies. Basic sociological concepts. Major social institutions. Analysis of the structure of rural agrarian systems and societies. Community characteristics of rural people. Social system. Components or characteristics of a social system. Social processes. Social stratification. Social mobility. Social change. Dimensions of social change and their potentials in the modernization of rural societies. Sources of social change in society. Socialization process. Social conflict and social control. Group dynamics. Internal group dynamics. External group dynamics. The social action processes. leadership patterns. Types of leadership. Implication of rural sociology for extension work.

ANS 302 Introduction to Animal Breeding and Genetics (2 Units C: LH 30)
History of genetics. Chromosomes structure, number and variations. Gene and genotype. Genetic code. Mendelism; fundamental principles of inheritance, quantitative and qualitative characters and their inheritance. Different types of gene actions, values and means, repeatability, heritability etc. Animal variation and selection principles. Breeding and environmental effects, in- breeding, pure line breeding, cross breeding and other breeding methods.

ANS 304 Non-Ruminant Animal Production (2 Units C: LH 30)
Poultry production: problems and prospects. Swine production: problems and prospects. Rabbit production enterprises: problems and prospects. Management systems of breeding stock; broilers, cockerels, ducks and turkeys. Hatchery enterprises and factors affecting hatchery operations. Housing, equipment and feeding principles of poultry, rabbits and pigs. Production and management practices. Livestock Economics. Health management of stock. Processing and marketing of poultry, pigs and rabbits.

ANS 305 Ruminant Animal Production (2 Units C: LH 30)
Cattle production: Problems and prospects in Nigeria. Indigenous and exotic breeds of beef and dairy cattle. Dairy and beef production systems. Dairy and beef production enterprises. Sheep and goat production – breeds, management systems. Management of breeding stock, growing and young animal, Housing, equipment and feeding principles of cattle, sheep and goats. Health management of

ruminant animals. Marketing of animals and their products.

CPS 301 Arable Crops Production (2 Units C: LH 30)
Origin, distribution, soil, and climatic requirements for classes of arable crops, specifically cereals, legumes, root crops, fibre crops, vegetables, and other important arable crops in Nigeria. Concept of improved crop varieties and the importance in crop productivity. Production practices, harvesting, utilization, processing, storage, and economic aspects of some selected major arable crops.

CPS 302 Permanent Crops Production (2 Units C: LH 30)
Origin, distribution, soil, and climatic requirements of important permanent crops such as cocoa, oil palm, rubber, coffee, coconut, mango, sugar cane, bananas, plantains, citrus, kola, cashew, etc. Production practices, improvement, harvesting, utilization, processing, storage, and economic aspects of some selected permanent perennial crops.

CPS 304 Crop Genetics and Breeding (2 Units C: LH 30)
Cell structure and components, chromosomes; structure, number and variations, linkage and crossing over, mutation and genes in population. Multiple alleles, mitosis and meiosis. Theory of evolution. Fundamental principles of inheritance. Mendelism. Introduction to population and quantitative genetics.

SOS 302 Introduction to Agric. Mechanization (2 Units C: LH 30, PH 45)
Goals and principles of agricultural mechanization. Basic mechanics: force, distance, time, velocity scalar and vector quantities, etc. Principles of two and four stroke engines; internal combustion engines, electric motors. Farm power transmission lines. Importance of mechanization of agricultural practices: from the field to the table. On-site experience of land preparation operations and equipment used. Land clearing (felling and stumping), and ploughing, tillage operations (ridging and harrowing); planting/sowing operations, herbicides/pesticides, and fertilizer distribution operations. Harvesting, handling and transport operations; agricultural produce processing and storage operations and preservation, including safety in use of preservatives. Livestock machines and equipment, automated food conveyors, milking watering and meat processing and canning. Harvesting, handling and transport operations; agricultural produce processing and storage operations and preservation, including safety in use of preservatives.

SOS 303 Introductory Pedology and Soil Physics (2 Units C: LH 30)
Introductory: Soil, land and landscape. Processes in the soil environment. Jenny's factors of soil formation: The parent material. Climate, organisms, relief, and time. Soils as the bedrock of agriculture. Soils as non-renewable natural resource. Soils as a disperse system. Peds and pores, levels of structural organization, Soil micro-morphology, the creation of soil structure, pore volume. Approaches to the concept and study of soils: pedological or edaphological? Weathering of rocks and minerals: types of weathering, types of parent materials. Soil profile development: processes and factors of profile development; nomenclature and identification of soil horizons: master and sub-horizons and layers, transitional and combination horizons, suffix symbols, soil catena concept. Reactions and processes of soil genesis: weathering and end-products of inorganic and organic fractions; Inorganic components of soils; rocks and minerals, primary minerals, secondary minerals, clay minerals (1:1 and 2:1). eluviation and illuviation of bases, silica, aluminum, iron, clay, and organic

matter; development of pans, nodules, and concretions; progressive soil development; soil orders and the genesis of their diagnostic horizons. Concepts and basic definitions of soil physics. Soil physics as a complementary branch of soil science. Physical & rheological properties of the soil. Mechanical composition of Soils: soil structure, soil texture, dynamic properties of soils. Soil air and aeration, soil thermal properties, soil water content I (tension etc), Soil water II (energy state forces acting on soil water), Soil water III (flow of water in soil, Darcy's law, Stoke's law, hydraulic conductivity, etc), Soil water IV (water infiltration into soils and soil water re-distribution, infiltration equations). Soil physics applications (Soil water for plants and management of soil physical conditions). Appreciation of soil physical fertility as just important as chemical and biological fertility.

4.2.4 400 Level (Practical Year)

AGE 404 Farm Records and Accounting (2 Units C: PH 90)
Principles and importance of farm records and accounting. Types of farm records, including farm diaries, inventory records, labour records, production records, sales and purchase records. Principles of bookkeeping and double-entry accounting. Preparation of cash books, profit and loss accounts, balance sheets and farm income statements. Calculation of farm costs, revenue, gross margin and net farm income. Depreciation and valuation of farm assets. Farm budgeting, financial analysis, and interpretation of farm financial statements. Use of farm records in planning, decision-making, monitoring and evaluation of farm enterprises.

AGX 410 Community Agricultural Extension (2 Units C: LH 30)
Concept of community. Groups in community. Social change and agents of change. Use of participatory tools in problem identification and solution. Survey methods. Data collection/questionnaire administration. Use of interventions in community development.

ANS 401 Bio-security and Animal Health Management (2 Units C: PH 90)
Disease causative organisms. Symptoms, diagnosis, treatment and control of common livestock diseases. Ecto- and endo-parasites and their control measures. Nutritional diseases of monogastric and ruminant animals. Basic health management operations (identification aids, dehorning, debeaking, hoof trimming, dipping, castration and drug administration). Care of sick animals – isolation, quarantine and culling. Public health, significance of animal diseases and common zoonotic diseases.

ANS 402 Livestock Recording, Identification and Traceability (2 Units C: PH 90)
Animal identifications. Methods of animal identifications: naming, ear-tagging, skin branding, tattooing, ear-notching, electronic/digital. Routine farm records: farm purchases, mating/breeding records, production records, vaccination/herd health records. Identification of sick animals for isolation and regular treatment.

ANS 404 Animal Products, Processing and Marketing (2 Units C: PH 90)
Types, composition and characteristics of animal products, including meat, milk, eggs, hides, skins and other livestock products. Principles and methods of handling, preservation, processing, packaging and storage of animal products. Slaughtering and dressing of livestock, carcass evaluation and meat hygiene. Milk collection, processing and preservation. Egg handling, grading and storage.

Quality control, food safety and prevention of contamination during processing. Marketing channels and distribution of animal products. Principles of pricing, market analysis, consumer preferences and product promotion. Value addition, marketing challenges and prospects for livestock products.

ANS 405 Animal Husbandry Techniques (Cattle, Sheep, Goats, Poultry, Pigs and Rabbits) (2 Units C: PH 90)

Principles and practices of livestock husbandry. Breeds, characteristics and production systems of cattle, sheep, goats, poultry, pigs and rabbits. Housing, equipment, feeding and nutritional management of livestock. Breeding methods, reproductive management and selection of breeding stock. Routine management practices, including identification, restraint, handling, castration, dehorning, debeaking, vaccination and record keeping, as applicable to each species. Health management, disease prevention, parasite control and biosecurity. Management of newborn animals, young stock and breeding animals. Production management for meat, milk, eggs and other livestock products. Animal welfare, waste management, farm sanitation and practical livestock enterprise management.

CPS 401 Crop Production Techniques I (3 Units C: PH 135)

Selection of seeds and other propagules for planting. Land clearing/preparation and tillage. Planting techniques and appropriate plant population management. Early crop management practices for good crop establishment.

CPS 403 Crop Protection I (3 Units C: PH 135)

Practical identification of pests and disease pathogens on crop field. Familiarization with and mode of use of pest and disease control equipment. Practical involvement in insect pest management, disease control on diverse crops, nematode management. Practical aspects of phytosanitary.

CPS 406 Farm Mechanization Practices (2 Units C: PH 90)

Familiarization with farm machines. Farm implements, their uses and coupling methods practically demonstrated. Tractor operation for basic field operations – ploughing, harrowing, and ridging. Involvement in equipment and tractor routine maintenance activities.

SOS 402 Soil Survey, Sampling, Classification and Taxonomy (2 Units C: PH 90)

The importance of soil surveys and the need to classify soils. Guides to soil surveys: soil survey scales and kinds of soil survey, soil mapping units, soil survey operations. Understanding what we see in terms of soil genesis: concept of benchmark soils, defining soil series. Soil survey reports: essence of soil classification, types of soil classification (natural and technical), basic characteristics of the USDA soil orders and their FAO (WRB) equivalents, basic problems associated with the soil orders, management of soil orders for agricultural and other purposes, profile characteristics of major soil orders in Nigeria. Soil classification in relation to land use suitability for rain-fed and irrigated agriculture, land capability, productivity indices. Presentation and interpretations of soil survey results and information. Selection of soil sampling spots; criteria for selecting sampling spots in the field, greenhouse potted soils, nursery sites, plantation sites, polluted sites etc. Sinking of soil profiles and soil profile description: morphological properties. Methods of taking soil samples from land surfaces and soil profile pits for physical, chemical, and biological properties for purposes of characterization, classification, fertility assessment, fertilization and engineering and mineralogical studies.

Appreciation and use of simple soil sampling tools and equipment in the field. Quality control and quality assurance measures in transportation of samples, storage of samples.

AGR 499 SIWES Report (2 Units C: PH 90)
Scientific writing and farm record practices. Submission of final report on practical year/Students Industrial Work Experience Scheme (SIWES).

UIL-AGX 411 Application of Research Methods and Audio-Visual Materials in Village Extension Activities (2 Units C: PH 90)
Village and farm visit including farm settlement. Visit/attendance of farmers group meetings. Visit to Agricultural Institutes and industries. Organization of farmers' forum. Marketing of farm produce and products. Research methods in extension. Design and administration of questionnaire. Date collection. Analysis and interpretation. Design and use of media materials for rural information dissemination. Production of video clips on agricultural projects. The design of posters, flash card, flip charts, and use of table rouged machine. Chalkboards, flannel graphs, overhead projectors, slide projectors, film projectors, dummy, real materials, camera, etc. for extension training. Use of radio cassette and telecast for training practices in radio broadcasting. Guided interviews and stage drama as extension training techniques. Use of colored markers in lettering; color combination. Number of words/letters on posters. Trainee centered, versus trainer- centered training technique. The use of eye- contact method in training.

UIL-ANS 404 Principles of Feeds and Feeding (2 Units C: LH 15; PH 45)
Classification of feeds. Proximate analysis of feedstuffs. Nutritive value of Nigerian feedstuffs. Agro-industrial by-products. Characteristics of agro-industrial by-product. Synthetic feed ingredient. Premixes. Characteristic of premixes. Importance of fibre. Fibre partitioning. Feed storage. Protein requirement for livestock. Animal protein ingredients. Plant protein feedstuff. Energy requirement for livestock. Feeding standards for monogastric animals. Feeding standard for ruminant animals. Balance trial for evaluating feed for livestock. Feed formulation.

SOS 411 Soil Fertility and Water Conservation (2 Units C: LH; PH 90)
Concepts and principles of soil fertility and soil productivity. Essential plant nutrients, their functions, sources, availability and deficiency symptoms. Soil nutrient cycling and factors affecting nutrient availability. Soil sampling, soil testing and interpretation of soil fertility results. Soil fertility evaluation and management. Organic and inorganic fertilizers, methods of application and fertilizer recommendations. Integrated soil fertility management, including crop rotation, cover cropping, green manuring and the use of organic amendments. Causes and effects of soil degradation, erosion and nutrient depletion. Principles and techniques of soil and water conservation. Water erosion and wind erosion control, mulching, contour farming, terracing, strip cropping, cover cropping and agroforestry. Rainwater harvesting, runoff management, irrigation water conservation and sustainable land management practices.

UIL-CPS 451 Mushroom Production Technology (2 Units C: PH=90)
Introduction to mushroom biology, taxonomy, classification and economic importance. Nutritional and medicinal value of edible mushrooms. Major cultivated mushroom species and their production requirements. Selection, preparation and sterilisation or pasteurisation of substrates for mushroom

cultivation. Mushroom spawn production, inoculation and incubation techniques. Environmental requirements for mycelial growth and fruiting, including temperature, humidity, ventilation and light. Mushroom cultivation systems, including bag, bed and other suitable production methods. Crop maintenance, pest and disease management, harvesting, handling, grading, packaging and storage of mushrooms. Postharvest processing and value addition. Production economics, marketing, waste recycling and the use of spent mushroom substrate in agriculture. Practical approaches to mushroom enterprise establishment and management.

UIL-CPS 452 Pest and Disease Management in field and Stored Crops ..(1 Unit C: PH 45)
Basic concept of pest management in major crops and stored produce. Safety in handling and application of insecticides in the control of pests and diseases. Economics of pest and disease management. Calibration of sprayers in field pest and disease management. Economics of pest control. Agricultural systems as ecosystems. Soil effects on pest populations. Weather influences on pest movement. Landscape structure and extra-field processes - impact on management of pests and beneficial. Direct and indirect effects of plants on performance of beneficial organisms. Mechanisms of plant resistance against arthropod pests. Plant resistance to pathogens. Approaches to plant breeding and genetic engineering. Acquisition and maintenance of resistant germplasm. General overview of plant pathogenic organisms. Cultural approaches to managing plant pathogens. Biological control of plant pathogens. Chemical approaches to managing plant pathogens. Arthropods as pests of plants - an overview. Cultural approaches to managing arthropod pests. Biological control of arthropod pests. Chemical approaches to managing arthropod pests. Genetic approaches to managing arthropod pests.

UIL-CPS 453 Pests and Diseases in Controlled Environment Agriculture (1 Unit C: PH 45)
Controlled environment agriculture (CEA). Definition and key concepts. Socioeconomic and environmental importance. Global trends. Types of CEA, Greenhouse, Glasshouse, Screen-house, Hydroponics, Aeroponics. Principles of controlled environment agriculture and environmental factors. Growing systems and the crops they support. Crop maintenance (e.g. crop layout, plant lighting, pollination. Insect pests and diseases and their management. Temperature management in the various methods. Solar radiation and lighting systems in controlled environments. Water and nutrient delivery, irrigation system control. Plant nutrient and the root zone environment. PH and EC measurements. Structure and components of different controlled environments. Air movement and air speed measurement in various environments. Humidity management, humidity measurement and sensor calibration. Air environment. Carbon dioxide measurement and control. Environmental control systems. Experimental designs. Production system maintenance.

4.2.5 500 Level – Agricultural Economics Option

AGE 501 Agricultural Production Economics (2 Units C: LH 30)
The nature of agricultural production problems, goals and objectives of agricultural production. Principles of resources use with particular reference to the optimum level of resources use. Principles of optimum product combination. Empirical production functions. Supply and cost elasticity. Production and production planning in agriculture using the methods of linear programming and simulation; production decision making under risk and uncertainty; types of production risks and

uncertainties in agriculture. Production diversification and risk minimization. Uncertainty management with the use of subjective probability and the game against – nature approaches.

AGE 505 Research and Statistical Methods (2 Units C: LH 30)

Estimate and interpret correlation and regression analyses using data collected from field surveys. Methodology and problems of farm and market surveys for data collection. Sampling techniques, including simple random, stratified random, cluster and systematic sampling techniques. Tabulation and presentation of statistical data with emphasis on histograms, graphs and frequency distributions. Measures of central tendency: mean (arithmetic and geometric), mode, median, quartiles and deciles. Measures of dispersion: variance, standard deviation, skewness and kurtosis. Probability distributions binomial, normal, poisson, e.t.c. Statistical inference point and interval estimation. Test of hypothesis. Correlation analysis, simple linear, multiple and partial correlation. Simple linear and multiple linear regression analyses.

AGE 510 Research Project (4 Units C: PH 180)

Selection and definition of a research problem. Review of relevant literature. Formulation of research objectives, questions and hypotheses. Research design and methodology. Data collection, processing, analysis and interpretation. Presentation and discussion of research findings. Drawing of conclusions and recommendations. Preparation and submission of a research report in an approved format, including proper citation and referencing. Research ethics, plagiarism avoidance, oral presentation and defence of the research project

UIL-AGE 506 International Food and Agricultural Trade (2 Units C: LH 30)

Need for international trade. Trade theories. World markets for agricultural commodities. Concepts of comparative and absolute advantages. Industrialization of freshness. International trade agreements. Offshoring. Export subsidies. Trade policies analysis. Trade liberalization and poverty. GATT, WTO and Agriculture. The new Trade Agenda. Regional Integration. Food Safety Regulations. GMO crops. Multinationals. Globalization and Development. Trade and Industrialization Strategies

UIL-AGE 507 Economics of Cooperatives (2 Units C: LH 30)

Cooperatives as a form of business. Purpose and advantages of cooperatives to Agriculture. Comparison of other businesses with cooperative business. Cooperative theory. Historical evolution of cooperatives. Structure and organization of cooperatives in Agriculture. Management of cooperatives. Nature of Co-operation. Differences and similarities between Co-operatives and other self–help organizations. Definition and analysis of Co-operative Co-operatives and other forms of business Classification of Co-operatives. Types and functions of Co-operatives Societies Reasons for Establishing or joining Co-operatives. Co-operatives Spirit. Nexus and Effect Conditions necessary for establishing Co-operatives. Factors that enhance the success of Co-operatives. Share capital. and source of Co-operative funds. Reserve funds as sources of Co-operatives funds. Borrowed capital as a source of Co-operatives funds. Management of Co-operatives. Historical development of Co-operatives in Nigeria. Minimum Academic Standards

UIL-AGE 508 Agricultural Finance (2 Units C: LH 45)

Principles of agricultural finance. Introduction to agricultural financial management. Financial

statements. Relationships between financial statements. balance sheet. income statement. Cash flow statement. statement of owners' equity. Financial analysis summary. Cash flow budget. planning. Agricultural credit management. Financial and business risk. Time value of money and investment analysis. Investment and lease analysis. Financial management of land machinery. Current issues in agricultural finance. Agricultural finance in Nigeria. Problems of financing Agriculture and Agricultural development. Specialized institutions for the extension of Agricultural credit in Nigeria. Cooperative loans and thrift societies.

UIL-AGE 509 Econometrics (3 Units C: LH 30; PH 45)

Definition and scope of econometrics. Econometric theory in production. Correlation theory. Time series analysis. Simple regression. violation of basic assumption. estimation with bad or deficient data. multiple regression. statistical demand analysis. statistical production and cost analysis. Methods and application of econometrics to agricultural problems. Concepts of econometric inference in the linear model. Simultaneous equation models. Least square estimations. Multicollinearity. linear restrictions. and dummy variables. Place of research design in econometrics.

UIL-AGE 510 Development Economics (2 Units C: LH 45)

Meaning of development economics. Concepts of values and norms in development. Classical and contemporary theories of development. Comparative study of agricultural development administration. An overview of agricultural legislations. Agricultural legislations and implications for agricultural development. Review of land tenure and land laws. Introduction and concept of development and rolling plans. Plans and plan implementation in Nigeria. Problems of development plans. Agricultural development projects and programmes. Roles of Federal, States, Local Governments. Private sector and communities in development. Roles of development partners. Review of millennium development goals. Global sustainable development goals and targets.

UIL-AGE 511 Agricultural Project Planning and Implementation ..(3 Units C: LH 45)

Introduction to Agricultural Project Planning and evaluation. Some basic concepts in Agricultural Project Planning. The importance of Agricultural Project Planning in Nigeria. Agricultural Project cycles. Identification of agricultural Project costs and benefits. The importance of social costs and benefits in agricultural projects. The role of timeliness in agricultural projects. The concept of present and future value of money – compounding and discounting. Tools of agricultural project analysis. The arithmetic of agricultural project appraisal. The importance of ranking in agricultural projects. Writing a feasibility study. Case studies. The importance of SWOT analysis in Agricultural Projects. The roles of Governments in Agricultural Projects.

UIL-AGE 512 Agribusiness Management (2 Units C: LH 30)

Meaning and scope of Agribusiness. Functions and qualities of agribusiness managers. Financial. legal and other requirements for establishing agribusinesses. Economics of agribusiness management. Sole proprietorship. Partnership. Secondary agricultural production and/or agricultural processing in an agribusiness framework with respect to location. Principles and procedures for efficient use of resources. Application of managerial and behavioural models to agribusiness operation. Problems of Agricultural Marketing and solution to the problem. Farm records and accounting. Meaning, characteristic and classification of Agricultural finance. Sources of and criteria for Agricultural Credit. Strategies for growth of agribusiness. Key factors in the performance of agribusinesses in Nigeria.

Case studies and field trips.

UIL-AGE 514 Agriculture and Food Policy (2 Units C: LH 30)
Examination of the role of agriculture in developed economies and how agriculture is affected by policy decisions in the public sector. National Agricultural policy objectives. Conflict in Agricultural policy objectives. Types of Agricultural policy instruments. Emphasis will be placed on the economic impacts of policies on the producers and consumers of agricultural products. Price supports. Food stamps. Tariffs. Quotas. Commodity Price Boom, Food Security, and Global Poverty. Agri-Food Trade Policies. Trade Agreements & Trade Disputes. Historical perspectives of agricultural policies and programmes in Nigeria. Guiding principles of agricultural and food policy formulation. The Economics of Major Commodity Programs in Nigeria. Government Intervention in Agriculture. Economic Tools used in Policy Analysis. Challenges of the effectiveness of past agricultural policies. Essentials of Agricultural development.

UIL-AGE 516 Environmental Economics (2 Units C: LH 30)
Concepts and principles of environmental economics. The relationship between the environment and economic development. Environmental resources and their economic value. Market failure, externalities and public goods in environmental management. Economic causes and consequences of environmental degradation and pollution. Valuation of environmental goods and services. Cost-benefit analysis of environmental projects. Economic instruments for environmental management, including taxes, subsidies, pollution charges and tradable permits. Natural resource management and sustainable development. Economics of climate change, biodiversity conservation, deforestation, soil degradation and water pollution. Environmental policies, regulations and institutional frameworks. Environmental impact assessment and the economics of waste management. Green economy, circular economy and strategies for sustainable resource use.

UIL-AGE 518 Agricultural Marketing (2 Units C: LH 30)
Introduction to Agricultural Project Planning and evaluation. Some basic concepts in Agricultural Project Planning. The importance of Agricultural Project Planning in Nigeria. Agricultural Project cycles. Identification of agricultural Project costs and benefits. The importance of social costs and benefits in agricultural projects. The role of timeliness in agricultural projects. The concept of present and future value of money – compounding and discounting. Tools of agricultural project analysis. The arithmetic of agricultural project appraisal. The importance of ranking in agricultural projects. Writing a feasibility study. Case studies. The importance of SWOT analysis in Agricultural Projects. The roles of Governments in Agricultural Projects.

4.2.6 500 Level – Agricultural Extension Option

AGX 503 Agricultural Extension Administration and Supervision (2 Units C: LH 30)
Concept, theories, principle and guidelines of administration. Organization and supervision of agricultural extension services in Nigeria. Current status of extension administration in Nigeria. Staff recruitment, selection, placement and supervision. Budget development and fiscal control. Public relations in extension. Concept of leadership and leadership dynamics. Monitoring of programmes. Evaluation of programmes. Assessment of extension work accomplishment.

AGX 504 Programme Planning and Evaluation (2 Units C: LH 30)

Planning process. Principle and concept of programme planning. Steps in planning. Concept of monitoring and evaluation. Importance of program planning in agricultural extension. Clientele participation. Plan of work and calendar of work. Evaluation approaches. Logic models for programme evaluation. Corruption and its implication in agriculture and the economy.

AGX 599 Research Project (4 Units C: PH 180)

Selection and definition of a research problem. Review of relevant literature. Formulation of research objectives, questions and hypotheses. Research design and methodology. Data collection, processing, analysis and interpretation. Presentation and discussion of research findings. Drawing of conclusions and recommendations. Preparation and submission of a research report in an approved format, including proper citation and referencing. Research ethics, plagiarism avoidance, oral presentation and defence of the research project

UIL-AGX 501 Technical Writing and Communication Skills in Extension (2 Units C: LH 15; PH 45)

Various forms of scientific writings; theses. Technical papers. Reviews. Manuals, etc. Theses and research communications (title page, authorship, contents page, preface, introduction, review of literature, methodology, results and discussion). Writing of abstracts, summary, citations. Commonly used abbreviations in the theses and research communications. Illustrations, photographs and drawings with suitable captions. Pagination, numbering of tables and table of contents. Writing of numbers and dates in scientific write-ups. Editing and proof-reading. Writing of a review article. Grammar (Tenses, parts of speech, clauses, punctuation marks). Error analysis (common errors). Concord. Collocation. Phonetic symbols and transcription. Accentual pattern. Weak forms in connected speech. Participation in group discussion. Facing an interview. Presentation of scientific papers.

UIL-AGX 504 Agricultural Journalism (2 Units C: LH 30)

Agricultural journalism- Meaning. Developments in agricultural journalism in Nigeria. Different problems with agricultural journalism. Principles of effective agricultural journalism. Agricultural news writing. Types of news. Editing and reporting in news writing. Role of the press in disseminating agricultural information and related policies in Nigeria. Agricultural script writing. Writing extension articles. Lead. Need of Lead. Types of lead. Importance of Lead. Ethics and professional rules. Search for writing materials. Caution against defamatory writings. Right of privacy. Caution against identification. Illegal reproduction. Editing. Proof-reading. Readability. Advertisement. Electronic media. Start writing. Script writing. Presentation of radio talk. Traditional media. Video production technology- Potentials. Utilization. Typology of farm video production. Types of video production. Equipment used in video production. Procedure or technique of video production. Communication technology- Management of agricultural information system.

UIL-AGX 505 Indigenous Technical Knowledge and Contemporary Issues in Agricultural Extension (2 Units C: LH 30)

Definitions of ITK. Contemporary issues and their applications for community development. Strategies for rural communication. Networking (sociogram) with donor agencies and development partners. Agricultural knowledge information systems (AKISs). Importance and relevance of

indigenous knowledge system. Identification and documentation of ITK. Integration of ITK system in research formulation. Concept of Agricultural knowledge and information system. Agricultural Extension and contemporary issues: Extension and issues related to rural poverty.

UIL-AGX 508 Mobilisation Techniques for Community Development (2 Units C: LH 30)
Definitions. Mobilization. Collective action. Social action. Social movement. Community development. Community organization. Concept of Community Mobilization. Rationale for Community Mobilization. Steps involved in Community Mobilization. Community Participation. Rationale for Community Participation. Formation and Organization of Development Committees. Basic theory on collective action and social movement. Approaches in community development. Participation in community development. Arnstein's Ladder of participation. Process of social action. Mobilization strategies. Stages in development of social movements. Integrating public opinion in social movement. Constraints to participation in social action and movements for community development. Theories of development. Case studies on community development programmes and identification of factors for success and failure. The future of Nigerian communities.

UIL-AGX 509 Media Management (2 Units C: LH 30; PH 45)
Definition of media management. Principles and significance of media management. Media ownership patterns in Nigeria- Proprietorship. Partnership. Private limited. Public companies. Trusts. Cooperatives. Religious institutions (societies) and franchisees (chains). Marketing functions- Product. Price. Placement. Promotions. Print media- History. The role of the press. News. Types of News. Elements of news. Sources of news. Making of newspapers and magazines. Press codes and ethics. Media Laws. Techniques in book publishing. Editing- Principles. Tools and techniques and art of proof –reading. Measuring readability of writing. Electronic media- Role and importance of Radio. History of Radio. Radio role in transfer of technology. Writing and presentation techniques. Television- History. Role of TV in transfer of technology. Fundamentals of television production. Techniques of script writing for TV. Visual thinking. Language and style. Farm telecast programmes. Ethics of telecasting, policy and code. Use of modern communication medium- electronic video. Teletext. Tele conference. Comuter assisted instruction. Video conferencing- Features. Advantages. Limitations and risk factors involved in new media. Designing and developing of communication and media strategy for developmental programmes. Online journalism scope and importance. Traditional media- Role of folk media in transfer of technology and integration with electronic media.

UIL-AGX 511 Rural Adult Education: Principles and Practices (3 Units C: PH 45)
Description of the foundation of continuing. non-formal and adult education and their functions in modern societies, adult learning process, how people learn, the brain and learning, passive and active learning, learning styles, factors influencing leaning, importance of motivation in learning and behavioural change, meaning of teaching: qualities of a good teacher, elements of good teaching and leadership style of teachers and its implication on the teaching-learning situations, learning transfer: the process and significance; examination of philosophies and practices of adult teaching-learning; designing trainings, approaches for facilitating learning/training, evaluating learning activities, trainings and programmes. Minimum academic standards Conducive lecture room that guarantees quality teaching for optimized learning experience.

UIL-AGX 512 Training Technology in Extension (3 Units C: LH 30; PH 45)

Paradigm shift in training – learning scenario. Training approaches: Experiential learning- laboratory-organization development (system) approaches. Training design. Designing an effective training programme. Harmonising training needs. Course objectives. Contents and Methods. Designing an effective training session and the semantics involved. Designing experiential training sessions. Simulation exercises and openness in training transaction. Managing dilemma, ambivalence and conflicts and confusion (for both trainers and trainees). Recent training techniques for understanding and facilitating team building. Group dynamics. Motivation and empowerment. Laboratory methods: micro-lab process work and sensitivity training. Psychological instruments as training tools. Participatory training techniques: Lecture. Brainstorming. Group discussion. Workshop. Seminar. Symposium and training games. Role play. Psycho-drama. Coaching. Counselling. Trainer's roles and dilemmas. Factors affecting training effectiveness and training evaluation.

UIL-AGX 514 Organisational Development (2 Units C: LH 30)

Introduction to organisations: Concept and characteristics of organisations. Organisational behaviour- context and concept. Levels of organisations. Formal and informal organisations. Theories of organisations. Nature of organizational theory. Classical theories. Features of bureaucracy. Administrative theory and scientific management. Neo-classical theories. The human relations movement. Modern theory. Systems approach to study organization needs and motives. Attitude, values and ethical behaviour. Alienation and work-work motivation. Communication and interpersonal behaviour- organizational communication. Obstacles in organizational communication. Leadership behaviour. Decision making and problem-solving techniques. Organisational climate-Change proneness and resistance to change. Organisational change. Organisational structure- process in organizing. Dimension of motivational climate. Individual behaviour in organization. Fundamentals of human relations and organizational behaviour. Groups and teams- organizational culture and performance. Dynamics of organizational behaviour- leadership conflict situations and inter group behaviour. Organisational development. Factors affecting organization effectiveness. Creativity, leadership, motivation and organization development. Departmentation- span of management. Delegation of authority. Centralisation and decentralization. Line and staff organization. Functional organization. Divisionalisation. Project organization. Matrix organization. Free form organization. Top management structure.

UIL-AGX 518 Virtual Community Extension (2 Units C: LH 15; PH 45)

Definition. Types and characteristics of virtual communities. History of development of virtual communities. Features of virtual community forms. Importance/potentials of Virtual Community (VC). ICT integration to extension learning situation. Utilization of e-resources for agricultural Extension services. Concept of Cyber-Extension. Application of e-learning in Agricultural extension. Adaptation of Virtual Community learning fora Extension Education. Principles for utilization of Virtual Community Extension Approach (VCEA). Stakeholders in virtual community extension. Extension Tools/Methods applicable to virtual community extension. Basic features and principles. Guidelines for VC Extension. Teaching-Learning process. Challenges of VCEA. Application of digital technologies.

UIL-AGX 519 Agro-Industrial Extension (2 Units C: LH 30)

Meaning. Characteristics. Constraints of agro industry in Nigeria. Information generation. Packaging and utilization by agro industry. The relevance of various research institutes and their research

breakthroughs relevant to specific agro industry. Review of aims and objectives, operation and organization and products of Agro-Industrial related institutions for design and production of simple farm tools and equipment, such as National Centre for Agricultural Mechanization (NCAM), Universities and faculties of Agriculture and Local Artisans. Industrial equipment and processing. Federal Institute for Industrial Research (FIIRO). National Institute for Horticultural Research (NIHORT). Storage: National Storage Product Research Institute (NSPRI). Processing: National Institute for Horticultural Research (NIHORT). Cocoa Research Institute of Nigeria (CRIN). International Institute for Tropical Agriculture (IITA) and National Institute for Oil-Palm Research (NIFOR). Linkages of Agro-industrial related Institutions with other organizations and publics. Industrial Information generation and packaging.

4.2.7 500 Level – Animal Science Option

ANS 501Applied Animal Breeding and Genetics (2 Units C: LH 30)
Characters of economic importance in farm animals. Statistical tools for studying inheritance. Partitioning phenotypic variance and covariance. Estimation of genetic parameters (heritability, repeatability, genetic correlations). Selection principles and methods. Breeding (mating) systems. Breeding plans for different farm animal species. Foundation stock development. Genotype by environment interaction.

ANS 502 Animal Experimentation and Research Techniques (2 Units C: LH 30)
Planning of experiments. Research techniques in animal Science; Dairy Science research, physiological research, applied genetics, animal nutrition research i.e. germ-free animals, Annulations, Colostomy. Research techniques in pasture. Basic statistical designs in animal science research: Completely randomized design (CRD), Randomized complete block design (RCBD), Hierarchical design, repeat design, Animal model, etc. Analysis, interpretation and presentation of results.

ANS 505 Reproductive Physiology and Artificial Insemination (2 Units C: LH 15; PH 45)
The reproductive systems in male and female animals; Physiology of sperm and ovum. Endocrinology; reproduction, Egg production, pregnancy and foetal development. Fertility and sterility of farm animals. Role of AI in livestock production. Cloning, embryo transfer. Management of male donors; semen collection, evaluation, preservation and storage. Artificial insemination techniques.

ANS 506 Pasture and Range Production and Management (2 Units C: LH 15; PH 45)
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. Forage legumes and their roles in tropical farming system. Fodder bank technology; shrubs and trees legumes. Agronomic management for seed production. Seed harvesting, processing and storage. Germplasm collection, preservation and storage. Range Management; Grazing Systems; Forage conservation, dry season feeds.

ANS 599 Project (4 Units C: PH 180)
Selection and definition of a research problem. Review of relevant literature. Formulation of research objectives, questions and hypotheses. Research design and methodology. Data collection, processing, analysis and interpretation. Presentation and discussion of research findings. Drawing of conclusions and recommendations. Preparation and submission of a research report in an approved format, including proper citation and referencing. Research ethics, plagiarism avoidance, oral presentation and defence of the research project

UIL-ANS 507 Poultry Production (2 Units C: LH 15; PH 45)
Global distribution and density of poultry. Classification of poultry breeds. Identification of poultry breeds. Description of different indigenous breeds of poultry. Identification of different exotic breeds of poultry. Management systems for commercial poultry production. Housing for poultry required for meat purpose. Housing for poultry required for egg purpose. Feeding and nutrient requirement for meat breed of poultry. Feeding and nutrient requirement for egg breed of poultry. Health and diseases of poultry. Incubation of egg. Candling of eggs. Hatchability of eggs. Brooding and rearing. Performance indices. Culling in poultry.

UIL-ANS 508 Livestock Production Systems (2 Units C: LH 15; PH 45)
Basic definitions. General classification of non-species production system. Characteristics of grazing system. Types of grazing system. Environmental effects of grazing system. Mitigations. Mixed system. Types of mixed system. Climatic impact of mixed system. Industrial livestock production. Types of industrial animal production. Environmental degradation and pollution. Forestation programme. Ecological food production. Genetically modified foods. Feedings of the future. Meat culture.

UIL-ANS 509 Experimental Design and Project writing in Livestock Research (2 Units C: LH 15; PH 45)
The ethics of animal experimentation. Examples of poor experimental design. Types of experiment. The experimental unit. Characteristics of a good experiment. Attributes of internal and external validity. Avoiding statistical bias. Power and sample size. Controlling variability. Experimental designs. CRD. RCBD. Latin square. Split plot and repeated measures. Correlation. Regression. Survival. Statistical analysis. IMRAD techniques of scientific writing.

UIL-ANS 510 Principles of Feed Manufacturing (2 Units C: LH 15; PH 45)
Raw materials for compound feeds. Cereal grain and cereal grain by-products. Oil seeds and their by-product. Products of animal origin. Nutrients able of raw materials for commercial feed. Other raw materials. Influence of feed processing. Acceptability of feeds. Structure of the feed industry. Regulations governing feed manufacturing. Feed distributions. Feed safety and control. Advanced feed formulation, Customized feed production. Demo-finished feed. Feed storage. Quality control of feed. Feed formulation.

UIL-ANS 511 Dairy Science and Beef Production (2 Units C: LH 15; PH 45)
The Dairy cattle. Dairy breeds of cattle, sheep and goat. Milk production efficiency of different dairy animals. Pastoral systems and herbage value. Feed conservation methods. Different feed combinations and value. Feed peculiarities and effect on milk. Physiology of dairy animals. Housing, feeding and Management requirements of dairy animals. Milk Yield and quality. The lactation

processes. Milking of animal (manual and mechanical). Milk hygiene and microbiology. Dairy records and animal rating. Chemistry and Nutrition of milk. Milk Processing. Global dairy history and economy. Global distribution and density of sheep and goat. Classification of sheep and goat breeds. Identification and description of different indigenous breeds of sheep and goats. Identification of different exotic breeds of sheep and goats. Management systems for commercial sheep and goat production. Housing for sheep and goat required for meat and dairy purposes. Feeding and nutrient requirement for different classes of sheep and goat. Grazing systems in sheep and goat farming. Hay making process. Forage ensiling process. Metabolic disease in sheep and goat. Mating methods in sheep and goat. Lactation process in sheep and goat. Milking methods in dairy sheep and goat. Performance indices. Culling in sheep and goat.

UIL-ANS 512 Swine Production (2 Units C: LH 15; PH 45)

Global distribution and density of pig. Classification of pig breeds. Identification and description of different indigenous breeds of pigs. Identification of different exotic breeds of pigs. Management systems for commercial pig production. Housing for breeder pig. Housing for pig required for pork. Feeding and nutrient requirement for different classes of pig. Management systems in pig production. Health of different classes of swine. Metabolic disease in pig. Mating methods in pig production. Pregnancy detection in sow. Carcass cuts in swine. Marketing of pork. Performance indices. Culling in pig production.

UIL-ANS 513 Livestock Business Appropriation Techniques (2 Units C: LH 15; PH 45)

171 Starting point for livestock business. Classification of livestock businesses. Sources of fund and capital. Raw materials for production. Sources of raw materials. Calculation of raw materials per year. Equipment required. Sources of equipment. Flow diagram and time schedule. Technical drawing and floor plan. Energy consumption. Organization aspect. Labour required, Salaries and job description. Production schedule. Cost of ingredient. Financial starting point. Calculation of breakeven production.

UIL-ANS 514 Animal Behaviour and Handling Techniques (2 Units C: LH 15; PH 45)

History of Ethology. Reflex and Complex. Orientation and Taxes. Fixed Action Pattern. Motivation and Drives. Display. Displacement Behaviour. Conflict Behaviour. Learning, communication and social behavior. Social Behavior of Primates. Hierarchical Organization. Physiology of behavior. Habitat Selection. Homing and Navigation. Courtship and Parenthood. Biological Clocks. Safe handling and restraint of animals.

UIL-ANS 515 Rabbit and Micro-livestock production (2 Units C: LH 15; PH 45)

Historical background, World production. Distribution and importance of rabbit. Characteristics of rabbits as important meat producing small livestock. Limitations to rabbit production. Rabbit breeds and breeding. Breeding characteristics and selection. Reproduction, Anatomy and Physiology of reproduction. Three basic reproduction rates (extensive, semi-intensive and intensive rates). Nutrition and feeding of rabbit. Feeding behaviour, nutritional needs. Types of feed. Housing and equipment. Biological consideration, rabbit behaviour and environment. Building, caging watering, feed troughs and racks nest box. Pathology and health care. Diseases-intestinal, respiratory, nutritional. Disease prevention and control. Other micro-livestock for consideration: guinea pigs, snails and laboratory animals. Marketing and sales. New business development, achieving profitability in micro-livestock.

Basic record-keeping in micro-livestock operations.

4.2.8 500 Level – Crop Science Option

CPS 503 Plantation Crops and Orchard Management (2 Units C: LH 30)
Soil and climatic requirements; growth requirement, weed control and water use. Improved varieties; production practices, diseases and pests, harvesting, handling, processing, storage, marketing, and utilization of field and plantation crops. Growth requirements of cereals, root, tubers, sugar crops, cocoa, citrus, oil palm, etc. Management and production of field crops. Fertilisation; water use and weed control.

CPS 505 Methods of Field Experimentation (2 Units C: LH 15; PH 45)
Principles of field experimentation in crop science. Research methodology; experimental plot layout 176 and experimental designs, field survey; normal distribution and sampling; measurements and data analysis. Sources of variation in field experiments. Single factor and factorial experiments. Analysis of variance, data transformation and means separation. Data collation and interpretation. Concept of mean, standard deviation, standard error, least significant difference, Duncan's multiple range test. Result presentation in tables and figures.

SOS 502 Soil fertility Management and Plant Nutrition (2 Units C: LH 15; PH 45)
Concepts in soil fertility. Soil fertility versus soil productivity. Soil productivity and fertilizer use. Fertility of tropical soils and its management. Origin of soil organic matter. The soil organisms. Changes in plant and animal remains due to activities of soil organisms. Properties of soil organic matter. Factors affecting the rate of organic matter decomposition. Organic matter of mineral soils and organic manures. The carbon cycle. The C/N ratio; compost and composting and other forms of organic source. Nutrients for plant growth, The pathways of nitrogen, phosphorus and sulphur, potassium, calcium and magnesium. Trace elements. Wetland soil fertility and its management. Lime, liming materials and soil fertility management. Practical management of soil nitrogen, sulphur and soil fertility maintenance. Supply and availability of phosphorus and potassium. Micronutrient elements, Micronutrient needs and fertility management. Crop growth response to soil nutrients. Fate of nutrient elements in the soil (crop removal, leaching, erosion, volatilization, denitrification and fixation). Sustaining soil fertility. Principles of mineral nutrition of plants. Plant growth and root development in soils (photosynthesis and nutrient uptake by roots, water use and efficiency). Chlorophyll formation and chlorosis. Range of inorganic mineral elements in plants. Essential and non-essential elements (major, secondary and trace elements) in crop nutrition. Importance of select-nutrients in plants. Root development and mode of action of the mineral nutrients (nutrient absorption, nutrient balance, maintenance, and loss of nutrients in soil fertility. Soil factors influencing nutrient availability. Plant nutrient status and diagnostic techniques for plant nutrition (visual symptoms of deficiencies, chemical analysis of plant parts or saps, plant tissue tests, measured plant response to added nutrients). Mineral nutrients deficiencies versus toxicities.

HLM 502 Vegetable crops Production (Olericulture) ….(3 Units C: LH 30; PH 45)
Concept of vegetable crops production. Economic importance of vegetable crops. Major types of vegetable crops - indigenous, exotic, and wild vegetables. Principles and practice of vegetable crops production. Factors (climatic and soil requirements) influencing site selection, establishment, production, and management. Ecological distribution of vegetables and fruits in Nigeria. Methods of

propagation. Nursery system and factors affecting it. Varieties and adaptation of exotic vegetables and fruits to the Nigerian environment. Production practices, diseases and pests, harvesting, handling, processing, storage, and marketing opportunities.

CPS 599 Final Year Project (4 Units C: PH 180)
Selection and definition of a research problem. Review of relevant literature. Formulation of research objectives, questions and hypotheses. Research design and methodology. Data collection, processing, analysis and interpretation. Presentation and discussion of research findings. Drawing of conclusions and recommendations. Preparation and submission of a research report in an approved format, including proper citation and referencing. Research ethics, plagiarism avoidance, oral presentation and defence of the research project

UIL-CPS 507 Precision Agriculture (2 Units C: LH 15; PH 45)
Importance of Precision Agriculture and mapping in farming for decision making. Definition of "Precision Agriculture (PA)". Decision making process. Value of maps in making decision. Benefits of precision agriculture- Economic, Environmental. Farm management improvement. Record keeping improvement. Geographical concepts of PA. Coordinate systems-scales, projection, resolution. Geographical position system. GPS Basics (Space Segment, Receiver Segment, Control Segment). Error and correction. Function and usage of GPS. Introduction to GIS and remote sensing. Basics of GIS. Function of GIS. Use of GIS for decisions. Aerial and satellite imagery. Above ground (non-contact) sensors. Yield monitor using VR Application (fertilizers, seed, chemicals). Data collection and analysis. Methods of data collection (traditional and new). Data Collection by Grid Sampling. Collecting Data by Yield Monitor. Remote Sensing. Using of sensors for data collection. Concepts of data analysis via Resolution and Surface analysis, Interpretative products (maps, charts). Goals based on end results of PA; Record keeping (Spatial Analysis, Variable Rate Application, Reducing of negative environmental impact, Crop/technology cost optimization).

UIL-CPS 508 Seed Production Technology (2 Units C: LH 15; PH 45)
Elements of Seed improvement. Seed terminologies. Types of seeds. Reproductive behavior in plants. Methods of pollination control in plants. Seed production practices for cereal crops. Seed production and processing for legumes. Seed production and processing for oil crops. Dormancy. Types of dormancy. Methods of overcoming dormancy. Laboratory Testing for Seed Quality. Seed certification. Seed marketing, Seed distribution. Seed programme in Nigeria. Problems of the seed industry development in Nigeria. Components of effective seed industry. Minimum Academic Standard

UIL-CPS 509 Crop Products and Processing (2 Units C: LH 15; PH 45)
Harvesting methods of different tropical fruits. Harvesting methods for maize. Harvesting methods for sorghum and millet. Harvesting methods for rice. Maturity indices of harvested crops. Principles of crop storage. Storage and shelf-life problems. Methods of reducing crop deterioration. Principles of Crop processing. Processing methods for cereals. Processing methods for roots and tubers-yam, 185 sweet potato, cocoyam. Products from roots and tubers. Processing methods for oil seed crops. Processing of fruits-mango, pineapple. Traditional food processing technology in West Africa. Modern methods of food processing. Challenges of food processing.

UIL-CPS 510 Climate smart Agriculture (3 Units C: LH 30; PH 45)

Climate change and global warming. Impact of climate change on agriculture and food security. Causes of climate change. Climate, drought and desertification. Rainfall patterns in arid and semi-arid regions. Hazards of food production and causes of famine. Causes and aggravating factors of drought and ways of mitigating it. Vulnerability of crops to variations in weather conditions. Vulnerability of Animals to variations in weather conditions. Causes of flooding and ways of mitigating it, crops and animals that can be raised in flood prone areas, Air pollution, water pollution, soil pollution, definition, causes and mitigation. Basis of adoption and utilization of climate smart in different agricultural sectors. Climate smart soil and land management. Climate smart crop production. Climate smart livestock production. Sustainable water management. Role of science and technology in the utilization of smart agriculture. Water management for climate smart agriculture.

UIL-CPS 512 Plant and Microbial Biotechnology (2 Units C: LH 15; PH 45)

: Tissue culture and transformation, Recombinant DNA technology and Molecular Biology, Landmark discoveries in the application of molecular biology, Gene cloning and transfer, Plant Genomics and Bioinformatics, Molecular Genetics Methods, Protein membranes and filaments, DNA structure and function, Gene expression, Mobile DNA technology, Experimental strategies, Techniques of Microbial cultures, Genes and Genetic Engineering, Microbial products, Microbial inoculant, Development of bio-fertilizers and bio-pesticides from microorganisms, Single cell protein, Enzyme biotechnology.

UIL-CPS 514 Principles of Weed Control (2 Units C: LH 15; PH 45)

The Concept and anthropomorphic nature of weeds. Weed seed production and vegetative propagation. Ecological succession of weeds. Weed seed bank estimation. Fate of weed seeds in agricultural land. Weed dispersal. Weed-crop competition. Weed amensalism and allelopathy. Weed survival. Weed control methods. Development of chemical weed control. Herbicide nomenclature and classification. Selectivity of herbicides. Formulation and application of herbicides. Mode of action of herbicides. Herbicides and environmental interaction. Sprayers and sprayer calibration. Safety use of herbicides. Practical methods of controlling weeds in selected crops in Nigeria.

UIL-CPS 516 Horticulture (2 Units C: LH 15; PH 45)

Importance of Horticulture to national economic development. Ecological distribution of fruit and vegetables in Nigeria. Principles underlying basic horticultural practices. Cultivation, management and storage of vegetables and tropical fruits. Major types of plant propagation. Definition and importance of the nursery. Basic features of nursery and types of nursery. Nursery management techniques and implication for horticultural crops. Factors influencing nursery establishment. Fruit tree propagation, selection and preparation of nursery site. Propagation structures and techniques-seed, tissue culture, stem cutting, laying, grafting, budding etc. Micro and macro propagation basis in tissue culture. Environmental control in tissue culture. Influence of pathogens on cultures propagates. Collection, storage and preparation of planting materials. Types of nursery beds and soil conservation methods. Horticultural machines and equipment.

UIL-CPS 518 Pasture and Forage Crops Management (2 Units C: LH 15; PH 45)

Pasture and Forage Management. Role of Pasture and Forage crops in Livestock Management. Pasture Establishment and Management. Establishment of the sward. Grass-legumes mixtures. Some

grass and legume species of tropical regions. Forage crop improvement. Grazing systems- advantages and disadvantages. Voluntary feed intake. Factors affecting the nutritive value of pasture and forage crop. Forage preservation. Reasons for preservation of forage. Factors affecting voluntary feed intake.

4.2.9 500 Level – Soil Science Option

CPS 503 Plantation Crops and Orchard Management (2 Units C: LH 30)
Soil and climatic requirements; growth requirement, weed control and water use. Improved varieties; production practices, diseases and pests, harvesting, handling, processing, storage, marketing, and utilization of field and plantation crops. Growth requirements of cereals, root, tubers, sugar crops, cocoa, citrus, oil palm, etc. Management and production of field crops. Fertilisation; water use and weed control.

CPS 505 Methods of Field Experimentation (2 Units C: LH 15; PH 45)
Principles of field experimentation in crop science. Research methodology; experimental plot layout 176 and experimental designs, field survey; normal distribution and sampling; measurements and data analysis. Sources of variation in field experiments. Single factor and factorial experiments. Analysis of variance, data transformation and means separation. Data collation and interpretation. Concept of mean, standard deviation, standard error, least significant difference, Duncan's multiple range test. Result presentation in tables and figures.

SOS 502 Soil fertility Management and Plant Nutrition (2 Units C: LH 15; PH 45)
Concepts in soil fertility. Soil fertility versus soil productivity. Soil productivity and fertilizer use. Fertility of tropical soils and its management. Origin of soil organic matter. The soil organisms. Changes in plant and animal remains due to activities of soil organisms. Properties of soil organic matter. Factors affecting the rate of organic matter decomposition. Organic matter of mineral soils and organic manures. The carbon cycle. The C/N ratio; compost and composting and other forms of organic source. Nutrients for plant growth, The pathways of nitrogen, phosphorus and sulphur, potassium, calcium and magnesium. Trace elements. Wetland soil fertility and its management. Lime, liming materials and soil fertility management. Practical management of soil nitrogen, sulphur and soil fertility maintenance. Supply and availability of phosphorus and potassium. Micronutrient elements, Micronutrient needs and fertility management. Crop growth response to soil nutrients. Fate of nutrient elements in the soil (crop removal, leaching, erosion, volatilization, denitrification and fixation). Sustaining soil fertility. Principles of mineral nutrition of plants. Plant growth and root development in soils (photosynthesis and nutrient uptake by roots, water use and efficiency). Chlorophyll formation and chlorosis. Range of inorganic mineral elements in plants. Essential and non-essential elements (major, secondary and trace elements) in crop nutrition. Importance of select-nutrients in plants. Root development and mode of action of the mineral nutrients (nutrient absorption, nutrient balance, maintenance, and loss of nutrients in soil fertility. Soil factors influencing nutrient availability. Plant nutrient status and diagnostic techniques for plant nutrition (visual symptoms of deficiencies, chemical analysis of plant parts or saps, plant tissue tests, measured plant response to added nutrients). Mineral nutrients deficiencies versus toxicities.

HLM 502 Vegetable crops Production (Olericulture) (3 Units C: LH 30; PH 45)
Concept of vegetable crops production. Economic importance of vegetable crops. Major types of vegetable crops - indigenous, exotic, and wild vegetables. Principles and practice of vegetable crops

production. Factors (climatic and soil requirements) influencing site selection, establishment, production, and management. Ecological distribution of vegetables and fruits in Nigeria. Methods of propagation. Nursery system and factors affecting it. Varieties and adaptation of exotic vegetables and fruits to the Nigerian environment. Production practices, diseases and pests, harvesting, handling, processing, storage, and marketing opportunities.

SOS 599 Final Year Project (4 Units C: PH 180)
Selection and definition of a research problem. Review of relevant literature. Formulation of research objectives, questions and hypotheses. Research design and methodology. Data collection, processing, analysis and interpretation. Presentation and discussion of research findings. Drawing of conclusions and recommendations. Preparation and submission of a research report in an approved format, including proper citation and referencing. Research ethics, plagiarism avoidance, oral presentation and defence of the research project

UIL-SOS 503 Soil and plant analysis (3 Units C: LH 30; PH 45)
Soil and plant sampling and sample preparation. Methods of preparing soil solution. Analytical data treatment: errors in the laboratory. Precision, bias, accurate and operational variation in analytical techniques. Instruments and their operational principles. Soil physical analyses- particle size distribution. Soil density and porosity. Determination of soil pH. Estimation of soluble and exchangeable ions. Determination of exchangeable acidity. Estimation of organic carbon (organic matter) in soils. Trace elements analysis. Plant analysis for N, P, Ca, K, Mg. Soil water analyses: soil water content, soil water potential, saturated hydraulic conductivity. Soil Organic matter analyses: soil microbial biomass, C, N, P and S. Carbohydrates. Soil humus fractions.

UIL-SOS 504 Soil and Water Management (2 Units C: LH 15; PH 45)
Soil functions and services. Soil conservation: a national and global assessment of magnitude and importance. Soil quality. Soil degradation and resilience. Soil conservation methods. Reclamation of mine spoils. Management of saline-sodic soils. Irrigation and drainage methods. Reduction of soil pollution. Erosion hazards and methods of control. Precipitation, evapotranspiration and infiltration. Rainfall run-off over agricultural land. Universal soil loss equation. Management and restoration of desert soils. Wetlands and their use. Watershed management. Soil and aquifer protection.

UIL-SOS 505 Global trends in Soil management and agricultural production (3 Units C: LH 30; PH 45)
World population and food supply. Trends in agricultural production, distribution and utilization of agricultural products. Prospects of global agriculture. Problems of global agriculture. Nigeria policies in crop production. Measures of Improving Nigerian Agriculture. Agriculture and natural environment. Land-Use and Land cover. Land Tenure System in Nigeria. Concept of a farming system. Soil fertility improvement. Soil productivity. Labor productivity. Crop productivity. Food security. Climate change in Agriculture. Guide to Greenhouse effect.

UIL-SOS 506 Soil Genesis and Classification (2 Units C: LH 15; PH 45)
Historical development and basic concepts, definitions of soil genesis. Soil morphology and concept of micro-morphology. Soil composition and characterization. Basic factors and processes of weathering and soil development. Soil forming factors; parent material, climate, organisms, relief and

time. Internal soil processes. Soil classification, historical perspectives and development of soil classification. Basic principles and purposes of soil classification, concept of soil and the major systems of soil classifications; what is soil, peon, polypedon, mapping units, taxonomic units. Soil orders and the genesis of their diagnostic horizons, soil moisture and temperature regimes. USDA Soil Taxonomy and FAO/UNESCO soil map of the world legend; category levels, order, suborder, great group, subgroup, family and series. Concept and principles of numerical taxonomy of soils. Field description and classification of a soil profile.

UIL-SOS 508 Soil Biology and Ecology (3 Units C: LH 30; PH 45)
Agricultural systems and micro-organisms. Soil micro flora and micro fauna. Micro-organisms and soil enzymes. Ecological interrelationships: micro-organisms and plants. Root nodule bacteria. Mycorrhizal relationships. Plant regulators and phytotoxins. Rhizosphere. Plant residue quality. 202 0rganic farming. Composting. Food webs. Biofertilizer and bio-pesticide technology. Ecological effects of genetically modified plants and microbes. Practicals: Culturing micro-organisms. Preparation of root samples for mycorrhizal studies. Examination of root nodules of legumes. Extraction of micro- arthropods in soil and litter. Population counts and classification of extracted micro arthropods.

UIL-SOS 510 Soil pollution and waste management (2 Units C: LH 15; PH 45)
Major components of the environment; atmosphere, pedosphere, hydrosphere and biosphere. Soil as an integral part of the environment. Soil quality and functions of soils. Impact of soil quality on ecosystem sustainability. Soil and pollution: chemical, physical and biological soil degradation. Mechanisms of pollutant transport through soils. Types and sources of soil chemical pollutants. Inorganic, organic and radionuclide contaminants. Major consequences of chemically degraded soils. Greenhouse gas emissions and mitigation. Environmental effects organic and inorganic amendments, including agrochemicals. Waste disposal. Evaluation and management of contaminated sites. Soil remediation. Physical, chemical and biological remediation including phytoremediation. Practical: analyses of soils from industrial, agricultural and forest sites. Water analyses. Solute movement in soils. Analyses of soil gaseous phase.

UIL-SOS 512 Soil Chemistry and Microbiology (2 Units C: LH 15; PH 45)
Composition and characteristics of soil colloids. Ion exchange equilibrium in soils. Precision, bias, accurate and operational variation in analytical techniques. Instruments and their operational principles. Soil testing. Macro and micronutrients in crop production. Analysis of micro and macronutrients. Chemical composition and properties of primary and secondary minerals. Importance of primary and secondary materials. Micro-organisms in soils. Isolation of soil micro-organisms. Soil enzymes. Microbial transformations of nitrogen, phosphorus, sulphur, iron and other minerals. Properties of soil organic matter. Soil carbon and organic matter. Transformations of hydrocarbons and pesticides. Ecological interrelationships in soil.

4.2.10 500 Level – Crop Protection Option

CPS 505 Methods of Field Experimentation (2 Units C: LH 15; PH 45)
Principles of field experimentation in crop science. Research methodology; experimental plot layout and experimental designs, field survey; normal distribution and sampling; measurements and data

analysis. Sources of variation in field experiments. Single factor and factorial experiments. Analysis of variance, data transformation and means separation. Data collation and interpretation. Concept of mean, standard deviation, standard error, least significant difference, Duncan's multiple range test. Result presentation in tables and figures.

HLM 502 Vegetable crops Production (Olericulture) (3 Units C: LH 30; PH 45)

Concept of vegetable crops production. Economic importance of vegetable crops. Major types of vegetable crops - indigenous, exotic, and wild vegetables. Principles and practice of vegetable crops production. Factors (climatic and soil requirements) influencing site selection, establishment, production, and management. Ecological distribution of vegetables and fruits in Nigeria. Methods of propagation. Nursery system and factors affecting it. Varieties and adaptation of exotic vegetables and fruits to the Nigerian environment. Production practices, diseases and pests, harvesting, handling, processing, storage, and marketing opportunities.

CPS 599 Final Year Project (4 Units C: PH 180)

Selection and definition of a research problem. Review of relevant literature. Formulation of research objectives, questions and hypotheses. Research design and methodology. Data collection, processing, analysis and interpretation. Presentation and discussion of research findings. Drawing of conclusions and recommendations. Preparation and submission of a research report in an approved format, including proper citation and referencing. Research ethics, plagiarism avoidance, oral presentation and defence of the research project

UIL-CPS 551 Insect Physiology, Morphology and Systematics (3 Units C: LH 30; PH 45)

External and internal morphology of insects, including the head, thorax, abdomen, appendages and major organ systems. Integument structure, moulting and metamorphosis. Insect physiology, including digestion, respiration, circulation, excretion, reproduction, sensory perception, nervous coordination and endocrine regulation. Insect growth, development and environmental adaptation. Principles of insect taxonomy, classification, nomenclature and phylogenetic relationships. Diagnostic morphological characters of major insect orders and families of agricultural importance. Insect collection, preservation, identification and preparation of taxonomic keys. Practical applications of insect morphology, physiology and systematics in crop protection and biodiversity conservation.

UIL-CPS 552 Tissue Culture Techniques in Plant Protection (2 Units C: LH 15; PH 45)

Principles and applications of plant tissue culture in crop protection. Plant cell and tissue totipotency, aseptic techniques and laboratory organisation. Preparation of culture media, sterilisation of explants and equipment, and establishment of in vitro cultures. Plant regeneration through organogenesis and somatic embryogenesis. Micropropagation and production of disease-free planting materials. Meristem culture, embryo culture and other techniques for eliminating plant pathogens. In vitro screening of plants for resistance to pests and diseases. Somaclonal variation, genetic transformation and their applications in crop protection. Plant pathogen culture and maintenance, and the use of tissue culture in plant disease research. Acclimatisation of regenerated plantlets, contamination

control and quality assurance.

UIL-CPS 553 Introduction to Plant Virology (2 Units C: LH 15; PH 45)

History, scope and economic importance of plant virology. Structure, composition, classification and nomenclature of plant viruses and viroids. Viral genomes, replication, transmission and movement within host plants. Symptoms and symptom development in virus-infected plants. Major vectors of plant viruses, including insects, mites and nematodes, and non-vector transmission mechanisms. Host-virus interactions, host range and disease epidemiology. Principles of diagnosis, detection and identification of plant viruses using biological, serological and molecular techniques. Sampling, preservation and handling of virus-infected plant materials. Important viral diseases of agricultural crops and their economic significance. Principles of prevention and management of plant viral diseases through cultural practices, resistant varieties, vector control, sanitation and quarantine.

UIL-CPS 554 Advanced Principles in Crop Protection (3 Units C: LH 30; PH 45)

Advanced concepts and theories of crop protection against insect pests, plant pathogens, nematodes, weeds and other harmful organisms. Biology, ecology and population dynamics of crop pests and pathogens. Plant-pest and host-pathogen interactions, disease cycles and epidemiological principles. Economic injury levels, economic thresholds and pest risk assessment. Principles and applications of chemical, biological, cultural, physical, mechanical and genetic control methods. Pesticide classification, formulations, application technology, resistance development and management. Biological control agents and their mechanisms of action. Plant resistance to pests and diseases. Principles of integrated crop protection, pesticide safety, environmental risk assessment and sustainable management of crop health problems.

UIL-CPS 555 Introduction to Plant Nematology (2 Units C: LH 15; PH 45)

Introduction to nematology, classification and economic importance of plant-parasitic nematodes. General morphology, anatomy, physiology, reproduction and life cycles of nematodes. Identification and distinguishing characteristics of major plant-parasitic nematode groups. Nematode-host relationships, parasitic adaptations, feeding mechanisms and symptom development in affected plants. Biology, ecology, distribution and population dynamics of plant-parasitic nematodes. Nematode interactions with fungi, bacteria, viruses and other soil organisms. Sampling of soil and plant materials, extraction, counting, preservation and identification of nematodes. Major nematode pests of agricultural crops and their economic effects. Principles of nematode management, including cultural, biological, physical, chemical and host resistance approaches.

UIL-CPS 556 Methods in Crop Protection Technology (3 Units C: LH 30; PH 45)

Principles and methods used in the investigation, diagnosis and management of crop pests and diseases. Experimental design, treatment allocation, replication, sampling procedures and data collection in crop protection research. Techniques for collecting, rearing, preserving and identifying insect pests and beneficial arthropods. Methods for isolation, culturing and identification of plant pathogens. Procedures for soil and plant sampling, nematode extraction and identification, and disease assessment. Pest population monitoring, disease incidence and severity assessment, and estimation of crop losses. Pesticide preparation, calibration and application techniques. Laboratory and field bioassays for evaluating pesticides, biological control agents and resistant crop varieties. Use of microscopy, diagnostic tools, field equipment and relevant statistical methods in crop protection. Laboratory safety, record keeping, data analysis and interpretation of experimental results.

UIL-CPS 557 Introduction to Plant Mycology (3 Units C: LH 30; PH 45)
Introduction to mycology, classification, morphology, structure and reproduction of fungi. General characteristics of fungal groups associated with agricultural systems. Fungal nutrition, growth, development and environmental requirements. Fungal taxonomy, identification, isolation, culturing and preservation techniques. Characteristics and life cycles of important plant-pathogenic fungi. Host-pathogen interactions, mechanisms of infection, disease development and symptom expression. Major fungal diseases of field crops, vegetables, fruits and stored agricultural products. Epidemiology and factors influencing fungal disease development and spread. Beneficial roles of fungi in agriculture, including decomposition, biological control and symbiotic associations. Principles of diagnosis, prevention and management of fungal plant diseases using cultural, biological, chemical and host resistance approaches.

UIL-CPS 558 Principles of Integrated Pest Management (2 Units C: LH 15; PH 45)
Concepts, objectives, history and principles of integrated pest management (IPM). Identification, biology, ecology and population dynamics of agricultural pests. Pest surveillance, sampling, monitoring and forecasting techniques. Economic injury levels, economic thresholds and decision-making in pest management. Cultural, mechanical, physical, biological, chemical and genetic control methods. Host plant resistance, conservation and augmentation of natural enemies, and classical biological control. Pesticide selection, application, resistance management and effects on non-target organisms. Integration of pest management methods for insects, mites, nematodes, weeds and plant pathogens. Ecological and economic considerations in IPM implementation. Farmer participation, extension approaches, adoption constraints and evaluation of IPM programmes. Development of sustainable, environmentally sound and economically viable pest management strategies.

UIL-CPS 560 Molecular Diagnostics of Plant Diseases (2 Units C: LH 15; PH 45)
Principles of molecular biology and their application to plant disease diagnosis. Structure and function of DNA and RNA, gene expression and nucleic acid-based detection of plant pathogens. Sample collection, preparation, nucleic acid extraction, purification and quality assessment. Polymerase chain reaction (PCR), reverse-transcription PCR, quantitative PCR and other relevant molecular diagnostic techniques. Use of pathogen-specific primers, molecular probes and DNA sequencing in pathogen detection and identification. Applications of molecular diagnostics to plant viruses, bacteria, fungi and other plant pathogens. Molecular identification, genetic diversity analysis and pathogen characterisation. Interpretation and validation of diagnostic results, including sensitivity, specificity, positive and negative controls, and contamination prevention. Molecular detection of latent infections, mixed infections and emerging plant pathogens. Laboratory quality assurance, biosafety and application of molecular diagnostic techniques in disease surveillance, quarantine and crop protection.

SECTION FIVE

STUDENTSHIP, ASSESSMENTS & ACADEMIC STANDING

5.1 MATRICULATION AND MATRICULATION NUMBER

i. Only candidates, who have satisfied the minimum educational requirements of the University of Ilorin are offered final admission and then matriculated as students of the university. On the matriculation day, each fresh student swears to the matriculation oath, which shall be provided by the university. Violation of the matriculation oath is a very serious offence, which could lead to the expulsion of a student.

ii. Each student is assigned a matriculation number upon registration. No official student paper or document is regarded as complete or valid unless it carries the correct matriculation number.

5.2 PROCEDURE FOR REGISTRATION

5.2.1. NEW STUDENTS

To register for courses, new students are required to confirm the cleared status of the candidate online, using the following details: Name; Jamb No.; UTME details, and O'level results

i. Level Advisers are expected to use the e-copy forwarded to them to reconfirm the clearance done by the Admissions Office. If any candidate is found to be unregistrable, kindly refer to the admissions office. If registrable, kindly continue with the registration process as detailed in the attached and also on the portal.

ii. Candidates are expected to being along (2) sets of copies of their credentials (i.e. WAEC etc. State of Origin, where applicable, UTME results, admission clearance). They have been so informed on the portal.

iii. Candidates should thereafter be issued with the first courses to be registered-for by their Level Advisers.

5.3 USE OF IDENTITY CARD

Each matriculated student of the university is issued an official student identity card, valid for the period indicated on the card and which should be renewed appropriately. The identity card must be worn on the neck on campus, always. Students may be required, at any time, to identify themselves upon request by authorized university officials, acting in the performance of their duties. Some university facilities are open only to students, who are able to show valid identity cards. Students are required, therefore, to always wear their identity card on their neck at all times. For instance, no student will be admitted to the library, lecture rooms, examination venues, laboratories, hall of residence etc. without the identity card. The cost of each identity card is determined by the

university, from time to time.

5.3.1. LOSS OF IDENTITY CARD

A student, who loses his/her identity card must report the loss to Deputy Registrar (Academic) through his/her Faculty Officer, as soon as possible. New card will be issued on payment of a sum which will be determined by the university, from time to time

5.3.2. SUBMISSION OF IDENTITY CARD

Student leaving the university upon completion or before completion of his/her course must return the identity card to Deputy Registrar (Academic) through his/her Faculty Officer or any other authorized person(s), as the case may be.

5.3.3. MISUSE OF IDENTITY CARD

It is an offence for students to misuse their own identity cards, or their student's identity card, either by way of transfer or impersonating. Such misuse of identity card shall constitute misconduct liable to disciplinary action.

5.4 CONTINUOUS ASSESSMENT AND EXAMINATION

5.3.1 CONTINUOUS ASSESSMENT

The continuous assessment shall be by test, at least two tests shall be given on each course in a semester. Continuous assessment shall constitute not more 40% of the marks assigned to a course. The continuous assessment shall carry a minimum of 30% and a maximum of 40%.

5.3.2 EXAMINATIONS

Final examination for a course shall not exceed three (3) hours duration. The final examination for each course shall normally be at the end of the semester in which the course is offered. The course grade will be made-up of the students score in the continuous assessment as well as the score in the end of course examination.

a) Each course shall normally be examined at the end of the semester in which it is completed. Not more than one course shall be examined in one paper.

b) Examinations shall last a minimum of one hour and maximum of three hours.

c) A pass grade in any course shall be one of the letters as A, B, C, D and E.

d) A student can only repeat a course if he/she failed it on an earlier occasion.

e) Where a course has been repeated, the grade points earned at all attempts shall count towards the cumulative grade point average (CGPA).

f) Transcripts of examination shall be issued to students on request and payment of prescribed fees. All grades must be submitted through the Dean's Office to the Academic Office not later than four weeks after the examinations.

g) Results of courses that involved external examiners shall be released only after they

have been approved by the external examiners.

5.3.3 EXAMINATION CODE OF CONDUCT, OFFENCES AND PENALTY

Candidates shall:

i. Not use or consult, during an examination any books, paper, instruments, or other materials or aids except as are specifically permitted or provided by the university;

ii. Not introduce or attempt to introduce into examination venue hand bags, books, notes, mobile phones, instruments or other materials or aids that are not permitted;

iii. Not enter any examination venue with any inscriptions on any part of the body e.g. palm, arm, thigh etc. and/or any material if such inscriptions bear nay relevance to the examination;

iv. Not pass or attempt to pass any information from one person to another during an examination;

v. Neither act in collusion with any other candidate(s) or person(s), nor copy or attempt to coy from other candidate(s), nor engage in similar activity;

vi. Not disturb or distract any other candidate(s) during the examination;

vii. Not be allowed to leave an examination venue until after 75% of the time allocated for that particular paper has expired;

viii. Not use or allow other people to sit for any university examination on their behalf

ix. Not smoke in the examination hall;

x. Not be in possession of incriminating material(s) either used or not used at the examination, or involve in any other serious examination misconduct including impersonation before, during or after an examination; and

xi. In the case of computer-based test (CBT) examinations, candidates must be orderly and abide by the rules or guidelines at the centre. Any student found guilty of any of these offences, shall be liable to expulsion from the university.

5.5 GOOD ACADEMIC STANDING

For a student to remain in good academic standing (i.e. not to be advised to withdraw from the degree programme in the department and faculty), the following under-listed conditions must be satisfied.

For 100 Level Students

a. Students must maintain a cumulative grade point average (CGPA) of at least 1.50 at the end of first year in the University, otherwise, he/she will be considered as not in good academic standing.

For 200, 300 and 400 Levels (Probation)

a. A student, whose CGPA is below 1.00 at the end of a particular session shall be on probation for one academic year except those admitted into their respective levels, as fresh students, during that particular session, who shall be required to withdraw from their degree programme.

b. A student on probation shall be so informed in writing indicating the number of extra grade points the student needs to remove the deficiency in his/her academic records in order to be in good academic standing at the end of the "Probationary Period"

c. A student, whose CGPA is found to be at least 1.00 at the end of a probationary period shall be restored to normal student status and be informed in writing.

5.6 ABSENCE FROM UNIVERSITY EXAMINATIONS

a. A grade of incomplete (I) shall be awarded in a course to a student, who completed the course except that he/she was absent from final examination in that course. However, upon a written application, a student, who has been absent from an examination with reasonable excuse (supported by a certificate issued by the director of health services, if it is on the grounds of ill-health) may obtain permission of the faculty board to write a make-up examination.

b. Any student, who obtains permission of the faculty board to write a make-up examination must take the examination before the end of the third week of the following semester, where after a change of grade from (I) would be made to reflect his/her new grade.

c. A grade of incomplete (I) shall revert to a failure (F) by the end of the third week of the following semester. If the student has not applied for, or has failed to obtain the permission of the faculty board for a make-up examination.

5.7 REGULATIONS GOVERNING STUDENTS' CONTINUOUS ABSENCE FROM THE UNIVERSITY

i. A student, who absents him/herself from the University for upwards of six weeks without written official permission, should normally be deemed to have withdrawn from the University.

ii. Students' actual attendances at lectures, tutorials, practical, etc. are to be recorded. Any student, who fails to attend up to 75% of any of the above shall not normally be allowed to sit for the examination in that course.

iii. Absence from an examination shall normally result in failure of the course. However, upon a written application, a student, who has been absent from an examination with reasonable excuse (supported by a certificate issued by the Director of Health Service, if it is on the grounds of ill-health) may obtain permission of Senate on the recommendation of the Faculty Board to write the subsequent examination.

SECTION SIX

UNIVERSITY REGULATIONS GOVERNING THE CONDUCT OF EXAMINATIONS

6.1 PREAMBLE

The University of Ilorin Act CAP 455, Law of the Federation of Nigeria, 1990, provides that it shall, in particular, be the function of the senate to make provision for the organization and control of courses of a study at the university, and the examinations held in conjunction with these courses, including the appointment of examiners, both internal and external

6.2 DEFINITION OF TERMS

i. University examinations: university examinations include semester, professional and other examination involving the participation of both the department or faculty and the examinations office.

ii. Continuous assessment/progressive assessment: the term continuous assessment means course tests, tutorial and other grade assignments done within the department/faculty, where the course is being taught.

iii. Semester: a semester is one-half of an academic year, as determined by senate.

iv. Session: a session consists of two semesters, otherwise referred to as an academic year, as determined by senate.

v. Course Credit: one credit represents fifteen hours of lecture/tutorial or 45 hours of practical work per semester.

6.3 THE USE OF CALCULATORS

Students intending to use calculators in any university examination should observe the following regulations:

i. Candidates shall be permitted the use of electronic calculators except programmable ones.

ii. The calculators must be small (hand-held) and battery/solar operated.

iii. A candidate shall not borrow another candidate's calculator during the examination; this practice shall be construed as giving or receiving irregular assistance during the examination.

iv. Responsibility for correct operation of the machines rests with the candidate alone and no account will be taken of machine failure.

v. Instrument manuals are prohibited (as these often contain useful mathematical formulae and method)

vi. The calculators should be switched off on entry into the examination room.

vii. Only one calculator per student is allowed.
viii. Candidates shall make available for inspection by invigilators, their calculators on entry into the examination hall and any time during the examination.
ix. Any contravention of any these regulations will be treated in the same way as cheating in an examination.

6.4 EXAMINATION OFFENCES AND PENALTIES

Candidates shall:

i. Use or consult, during an examination only such books, papers, instruments or other materials or aids as are specifically permitted or provided by the department in which the examination is being held
ii. Not introduce, not attempt to introduce into examination venue hand bags, books, notes, instruments or other materials or aids that are not permitted.
iii. Not enter any examination venue with any inscription on any part of the body e.g. palm, arm, thigh, etc. if such inscription bears any relevance to the examination.
iv. Not pass or attempt to pass any information from one person to another during an examination.
v. Neither act in collusion with any candidate(s) or person(s) nor copy, or attempt to copy from another candidate, nor engage in any similar activity.
vi. Not disturb or distract any other candidate(s) during the examination
vii. Candidates shall not be allowed to leave an examination venue until after 75% of the time allocated for that particular paper has expired.
viii. Candidates shall not use other people to sit any university examination on their behalf.
ix. Failure to observe any of the rules (a) to (h) above, shall constitute examination misconduct.

6.5 PROCEDURE FOR INVESTIGATING ALLEGED EXAMINATION MISCONDUCT

a. At the discretion of the chief invigilator, a candidate may be required to leave the examination venue when his/her conduct is judged to be disturbing or likely to disturb the examination. The chief invigilator shall report immediately any such action taken to the Dean through the Faculty Examination Coordinator after the completion of the examination by the other candidates.

b. Any candidate suspected of any examination irregularity shall be required to sign and submit to the chief invigilator a written statement in the examination hall. Failure to make a written statement shall be regarded as an admission of the charge against such a candidate.

c. The dean shall within 48 hours of receipt of a report set up a panel of not less than three academic staff to investigate and submit report which shall be made available within two weeks through the deputy registrar (academic) to the registrar who shall on the basis of the

recommendations, determine whether or not the matter should receive the attention of the students disciplinary committee.

d. The Students Disciplinary Committee shall, within two weeks of receiving such a report, investigate and recommend the penalty in cases of proven misconduct to the Vice-Chancellor in accordance with section 17 of the University Act.

6.6 PENALTIES

a. Any candidate found cheating or aiding and abetting cheating in any examination shall be rusticated for two sessions. In addition, the result of such an examination shall be nullified for such candidate. A student so rusticated shall be barred from examination(s) which fall during the period of rustication.

b. At the end of the period for which he has been rusticated, a candidate penalized under (a) above may thereafter resume his studies at the appropriate point in the following Academic Year.

c. A candidate penalized under iii (a) above who is subsequently found guilty cheating a second time shall be expelled from the university.

d. A candidate, who is found guilty of bringing pieces of paper or other unauthorized materials into the examination venue contrary to the regulations, shall be deemed to have been involved in examination misconduct and shall therefore be rusticated for two sessions.

e. A candidate penalized under iii (d) above, who is subsequently found guilty of committing an examination misconduct a second time shall be expelled from the university

f. In a situation where an individual, not registered for a particular course writes an examination on behalf of a candidate, he/she shall be handed over to law enforcement agents. If he/she is from the university while the candidate so helped shall be expelled from the university.

6.7 EXAMINATION LEAKAGE

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

6.8 ABSENCE FROM EXAMINATIONS

i. Candidates shall present themselves at such university examinations for which they have registered under these regulations. Candidates who fail to do so for reason other than proven ill-health, accident or any emergencies shall be deemed to have failed that examination. Mis-reading of the Timetable and such other excuses shall not be accepted as a satisfactory explanation for absence.

ii. A student who falls ill during an examination should report in writing to Dean of his Faculty through his/her Head of Department.

iii. A student who is absent from an examination on account of ill-health confirmed by Medical evidence from the Director University Health Services may be given a make-up examination in the course(s) missed otherwise, he shall take the regular examination of the following occasion repeating the course concerned if he/she so desired.

iv. Approval for make- up examination shall be by Faculty Board

   a. The ill-health must have been reported to the Dean through the Head of Department

   b. The Candidate has obtained a written report from the Director of Health Services or his designate, which either is dated prior to the end of the examination, or provides evidence that the student was hospitalized during the examination

6.9 DETERMINATION OF RESULTS

6.9.1 GENERAL

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

6.9.2 PASS MARK:

The pass mark shall be 40% in all Faculties except in the Faculty of Health Sciences, where it shall be 50%. For postgraduate courses also, the pass mark shall be 50%.

6.9.3 MAKE-UP EXAMINATIONS

A make-up examination is an examination specially arranged for a student or group of students, who could not sit for the normal examinations due to ill- health, or any other unavoidable circumstances. Each case will, however, be treated on its merit.

6.9.3 EXAMINATION MALPRACTICE

Investigation of and penalties for Examination Malpractice

a) Any student established to be in possession of incriminating materials at an examination, or

involved in any other serious examination malpractice before, during or after examination, including impersonation, shall be expelled from the University.

b) The procedure for investigation shall be reviewed to ensure prompt treatment of all cases of examination malpractice to avoid delay in disposing reported cases. In this connection, each faculty shall properly set up a standing committee to investigate reported cases of examination malpractice immediately after each semester examination such that all reports are received by the Registrar four weeks after the examination.

c) The students' disciplinary committee shall treat prima facie cases within a month of receipt of reports from faculties.

d) All students suspected to be involved in any examination malpractice during any Semester Examination shall be required, in writing, to remain on Campus after the Semester Examination to facilitate the process of investigation.

6.9.4 HANDLING OF ANSWER BOOKLET

i. Every faculty must ensure that all answer sheets for examinations carry the faculty stamp and date of the examination. Any extra sheets given out must be stamped as well:

ii. Answer booklets shall be treated as security materials and shall be numbered serially, while it shall be an office for anyone whether staff or students to put it to other use than it is meant for.

iii. Invigilators must ensure that students write their matriculation numbers clearly on the answer booklets immediately before the commencement of the examinations to prevent swapping of booklets during and after examination.

6.9.5 EXAMINATION INVIGILATION

i. Course Lecturers shall not normally be made to invigilate the examinations of their course to ensure proper monitoring of students:

ii. Invigilators must properly check-in students to the examination hall and be satisfied that no student smuggles notes into the examination hall;

iii. Chief Invigilators must report through the Heads of Departments, all cases of examination malpractice to the Dean within forty-eight (48) hours;

iv. Erring invigilators shall be administratively dealt with.

6.9.6 OTHER PRECAUTIONS

i. After all students have been seated in the examination hall and question papers distributed, no student shall be allowed to leave the examination hall without being

accompanied by a staff member.

ii. No student shall be allowed to leave the examination hall within the first thirty minutes of the examination or thirty minutes of the end of the examination.

iii. Every student shall be required to place on the table, their Faculty and University Identity Cards for invigilators inspection at any time during the examination;

iv. Sitting arrangement in the examination hall shall either be according to the matriculation numbers of the students or at the discretion of the invigilators who shall engage means of breaking up organized sitting arrangement.

v. The Services of University Security personnel shall be enlisted during the period of examinations to prevent unauthorized visitors from roaming about the examination halls/venues.

6.9.7 DEGREE CERTIFICATE

The Vice-Chancellor and the Registrar shall sign the degree certificate.

SECTION SEVEN

STUDENT ASSOCIATIONS AND CLUBS

Student associations and clubs provide opportunities for B. Agriculture students to develop leadership skills, build professional networks, pursue shared interests, and participate in academic, social, cultural, and extracurricular activities. Beyond classroom learning, these organisations promote teamwork, personal development, professional engagement, and a sense of belonging within the University community. Students are encouraged to join associations and clubs that align with their academic interests, career aspirations, and personal development goals. This chapter highlights the various associations and clubs available to B. Agriculture students and provides an overview of their activities and opportunities for student participation.

7.1 NIGERIAN ASSOCIATION OF AGRICULTURAL STUDENTS (NAAS), UNIVERSITY OF ILORIN BRANCH

The Nigerian Association of Agricultural Students (NAAS) came into existence in 1986 and was officially inaugurated with 150 students. The Association provides a platform for agricultural students to promote their academic, professional and social interests while fostering a positive image of agriculture in Nigeria.

7.1.1 AIMS AND OBJECTIVES

The aims and objectives of the Association include:

i. Promoting the educational and societal advancement of members of the Association.
ii. Encouraging all members to actively participate in the activities of the Association.
iii. Promoting the recognition of agriculture as a desirable profession in Nigeria and encouraging members to create a respectable image of the profession in the country.
iv. Promoting cordial relationships between members of the Association and staff of the Faculty.
v. Establishing cordial relationships between the Association and other associations within the Faculty of Agriculture and other faculties and universities.

7.1.2 CRITERIA FOR MEMBERSHIP

i. Membership is automatic for all students in the Faculty of Agriculture.
ii. All financial members are entitled to the privileges and benefits of the Association.
iii. Members are expected to fulfil their obligations to the Association.

7.1.3 ACTIVITIES OF NAAS

The activities of the Association include:

i. Organising orientation programmes for fresh students.
ii. Organising quiz competitions and symposia.

iii. Facilitating interactive sessions between the Executive Council (EXCOS) and members.
iv. Coordinating the Dean's Cup competition.

7.1.4 BENEFITS OF MEMBERSHIP

The benefits of being a member of the Association include:

i. The privilege to use facilities provided by the Association, except where otherwise stated in its constitution.
ii. Access to useful information and details about the Association.
iii. The right to present suggestions and grievances for consideration and appropriate action.
iv. The opportunity for newly admitted members to participate in orientation programmes organised by the Association.
v. The right to obtain a copy of the Association's constitution upon duly registering as a member.
vi. The right of all financial members to vote and be voted for in the Association's elections.

7.2 THE GREENERS CLUB

The Greeners Club was established in May 2002. The Club provides a platform for students to develop their interests, knowledge and talents in various aspects of agriculture, with the aim of making beneficial contributions to society.

7.2.1 AIMS AND OBJECTIVES

The aims and objectives of the Club include:

i. Developing the minds and talents of students in various aspects of agriculture to enhance their knowledge and prepare them for future agricultural practices.
ii. Embarking on developmental projects that can contribute to solving problems facing the agricultural sector.
iii. Promoting agriculture as a viable business and encouraging participation in agricultural enterprises.

7.2.2 MEMBERSHIP

Membership is open to students of the Faculty of Agriculture and interested persons from other faculties of the University.

7.2.3 ACTIVITIES OF THE CLUB

The activities of the Greeners Club include:

i. Undertaking practical projects that enable students to apply the knowledge and skills acquired during their academic training.
ii. Inviting resource persons to deliver career talks and discuss contemporary issues in agriculture.
iii. Organising educational excursions to enhance members' professional knowledge and practical experience.

7.2.4 BENEFITS OF MEMBERSHIP

Members have the privilege of participating in the Club's programmes and activities, which provide opportunities to acquire additional knowledge, develop practical skills and enhance their understanding of various aspects of agriculture.

7.3 AGBELERE PRACTICAL ORIENTED CLUB (APOC)

The Agbelere Practical Oriented Club (APOC) is a student organisation established to promote practical agricultural knowledge and create awareness among young people about the numerous opportunities available in agriculture and its related industries.

7.3.1 CRITERIA FOR MEMBERSHIP

Membership of the Club is open to all students within the University of Ilorin, particularly those with an interest and passion for agriculture.

7.3.2 AIMS AND OBJECTIVES

The aims and objectives of the Club include:

i. Creating awareness among Nigerian youths, particularly students of the University of Ilorin, about the numerous opportunities available in agricultural practices.
ii. Serving as a medium for transmitting information on recent discoveries and innovations from research institutes and researchers to farmers to improve agricultural practices.
iii. Promoting employment opportunities for youths in agro-allied industries through cordial relationships between the Club and relevant industries.
iv. Contributing to poverty reduction within the society through the initiation and implementation of self-help projects.

7.3.3 BENEFITS OF MEMBERSHIP

The benefits of being a member of the Club include:

i. Exposure to practical agricultural activities and hands-on experiences.
ii. Access to potential employment opportunities in agro-allied industries through relationships established between the Club and relevant industries.
iii. Exposure to challenges and opportunities associated with poverty reduction through agricultural and self-help initiatives.
iv. The opportunity to participate in an open forum that brings together students from different faculties of the University, particularly those with an interest and passion for agriculture.

7.4 QUIZ AND DEBATE CLUB

The Quiz and Debate Club was established in 2002 as part of the University's academic activities. The Club became more structured in 2008 with the introduction of the regular annual Inter-Faculty Quiz Competition. It provides a platform for students to develop their intellectual abilities, broaden their knowledge and cultivate effective communication and critical-thinking skills.

7.4.1 AIMS AND OBJECTIVES

The aims and objectives of the Club include:

i. Developing the intellectual abilities and talents of students across different fields of human endeavour to enable them to make beneficial contributions to society.
ii. Promoting the development of knowledgeable and well-rounded graduates with broad intellectual interests beyond their respective fields of study.

7.4.2 CRITERIA FOR MEMBERSHIP

All interested students in the Faculty of Agriculture are eligible to become members of the Club.

7.4.3 BENEFITS OF MEMBERSHIP

The benefits of being a member of the Club include:

i. Improved knowledge and understanding beyond members' respective fields of study, as well as opportunities to develop their intellectual abilities and talents.
ii. Access to information and knowledge on various issues relating to the wider society, including politics, history, sports, government, geography and entertainment.
iii. Opportunities to represent the Faculty of Agriculture and the University in relevant quiz, debate and other intellectual competitions.

7.5 ENVIRONMENTAL CLUB

The Environmental Club is a student organisation established to promote environmental cleanliness, sustainability and climate-conscious practices within the Faculty of Agriculture. The Club was inaugurated by the immediate past Dean of the Faculty of Agriculture, Prof. Oluyemisi B. Fawole, in 2024 as part of efforts to encourage students to take active responsibility for maintaining a clean, green and aesthetically appealing Faculty environment.

7.5.1 AIMS AND OBJECTIVES

The aims and objectives of the Environmental Club include:

i. Promoting environmental cleanliness, proper sanitation and effective waste management within the Faculty of Agriculture.
ii. Maintaining a clean, green and aesthetically appealing Faculty environment through regular environmental improvement activities.
iii. Promoting climate-smart practices and raising awareness of climate change, its impacts and possible mitigation and adaptation strategies.
iv. Encouraging tree planting, landscaping and other greening initiatives to enhance environmental quality and contribute to carbon sequestration.
v. Promoting environmental conservation, biodiversity protection and the sustainable use of natural resources.
vi. Educating and mobilising students to participate in activities that mitigate the effects of climate change and strengthen environmental resilience.

7.5.2 ACTIVITIES OF THE CLUB

The activities of the Environmental Club include:

i. Organising regular environmental sanitation and clean-up exercises within the Faculty.
ii. Establishing and maintaining tree-planting, gardening and landscaping initiatives around the Faculty.
iii. Organising environmental awareness campaigns, seminars and educational programmes on climate change and sustainability.
iv. Promoting proper waste segregation, recycling and responsible waste disposal practices.
v. Encouraging the adoption of climate-smart and environmentally sustainable practices among students and members of the Faculty community.
vi. Participating in environmental conservation and other initiatives that promote climate change mitigation and adaptation.

7.5.3 BENEFITS OF MEMBERSHIP

Membership provides students with opportunities to develop environmental awareness, leadership and practical sustainability skills. It also encourages active participation in environmental conservation, climate action and community development while fostering a sense of responsibility for maintaining a clean, healthy and sustainable learning environment.

SECTION EIGHT

THE UNIVERSITY LIBRARY

The University Library has continued to grow, over 100,000 volumes of books and about 2,000 seating capacity for users. Other library equipment available include internet (Virtual Library), Computers for Online Public Access Catalogue, the library currently houses more than, 3,000 reels of journal publications in microfilms and large number of slides on cassette recordings of textual materials. Currently FAO, WHO and UN publications are available. The Staff also have access to over 100 journals from FAO and other donors through AGORA (Access to Global Online Research in Agriculture). Membership of the library is available, free and open to all students, academic, senior administrative and technical staff of the University.

8.1 UNIVERSITY OF ILORIN LIBRARY GUIDE TO ELECTRONIC RESOURCES

The University of Ilorin Library is committed to promoting research and learning through the provision of qualitative research contents accessible electronically to users. Some of these contents include: electronic journals, electronic books, scholarly database and online repository administration.

a. **ProQuest Database:** This database provides access to resources across all major subject areas, including business, health and medical, social sciences, arts, humanities, religion, education, science, and technology. The URL to this database is: https://www.proquest.com/?accountid=202880 Username: Unilorin; Password: E.Res0urces

b. **Ebooks:** Academic Complete (EBooks): Ebook Central site identifier (Site ID) is: unilorinng

c. **Ebook Central Patron Access:** University of Ilorin Access to Ebook Central titles is: https://ebookcentral.proquest.com/lib/unilorin.ng

d. **Emerald Insight:** This database provides journals and books relevant to a range of subject areas, including accounting and finance, management, marketing, education, information studies and engineering. Subscribed journals and books are listed on StarPlus. To access Emeraldinsight within the University network; visit www.emerald.com/insight. (No need for username and password). To access EmeraldInsight for remote users outside the University of Ilorin network, do the following: Go to https://www.emerald.com/insight/register; Enter your name, e-mail address and OAN. (OAN: 745200394829863); Tick "Agree to the Terms & Conditions and Privacy Policy, "then click "Register"; You will then receive an e-mail, asking you to activate

your account.; You must click the "Login" link. You will then be directed to a welcome page where you will need to create and confirm your password.; After assigning a password, click "Continue"; You can begin searching from the search bar. Results can be streamlined to 'Only content I have access to' on the results page itself. Note: See the "Emerald Search Guides" for more details.

e. **LawScope:** LawScope is a repository with a wealth of scholarly material and resources in the law discipline. It also contains laws, theses and dissertations from across Nigerian Universities, to encourage cross-referencing and deter doctoring of research work. To access its resources, visit: www.lawscopelibrary.com The login parameters are: Username: unilorin2020; Password: library_2020

f. **University of Ilorin E-Resources Portal:** The Portal contains over 5000 e-Books and e-Journals across various disciplines that have been downloaded and tailored towards research and teaching objectives of various departments and faculties of the University of Ilorin. To fully utilize resources on this platform, users are required to register via the link: http://eresources.unilorin.edu.ng/register . Resources on the platform can be accessed via: http://eresources.unilorin.edu.ng

g. **University of Ilorin Online Institutional Repository:** The University of Ilorin Institutional Repository contains the intellectual property of the University's researchers which preserves and enables easy and open access to all types of digital contents including texts, images, moving images, mpegs and data sets. To register to submit an article, users must first register via the link http://uilspace.unilorin.edu.ng The site address is: http://uilspace.unilorin.edu.ng

h. **HeinOnline:** This database brings together a diverse offering of publications covering civil rights in the United States as their legal protections and definitions are expanded to cover more and more Americans. Its contents include hearings and committee prints, legislative histories. To access its resources, visit: https://heinonline.org/HOL/Welcome Username: unilorin; Password: sj2020.

i. **JSTOR:** This provides access to more than 12 million academic journal articles, books, and primary sources in 75 disciplines. To access its resources, visit: http://www.jstor.org User ID: Ilorin Password: researcher

j. **University of Ilorin Online Public Access Catalogue**: It enables users to search through the University of Ilorin Online Library Catalogue electronically by saving user's time. Staff and students can access this resource by using their staff number or matriculation number, respectively. The password is their surname. Access via : http://www.opac.unilorin.edu.ng/ User ID: Matric no. /Staff no. Password: surname

STUDENTS' INFORMATION HANDBOOK

