

UNIVERSITY OF PORT HARCOURT

FACULTY OF AGRICULTURE

HAND BOOK

2022/2023

INTRODUCTION

The University of Port Harcourt is located in Rivers State within the Niger Delta ecological zone of Nigeria. The State is characterized by a rich fertile soil, a favourable climate, adequate rainfall, abundant swamp and forest resources, a network of creeks, coastal and other natural bodies of water. The area is, greatly endowed with vast agricultural potentials and resources yet, to be fully exploited. The peculiar terrain, for instance, presents a suitable ecosystem ideal for intensive and sustainable production of fish, livestock as well as food and tree crops. However, full exploitation of these potentials has been hampered by a gross lack of, adequately, trained manpower and technological know-how. To resolve this problem, the Faculty of Agriculture in the University of Port Harcourt was established in August 2005.

Furthermore, Port Harcourt is a fast growing industrial and commercial centre in Nigeria, thereby attracting aggregation of increasing population. Again, as the nerve centre of the gigantic petrochemical industry, Rivers State and its environs experience an over-bearing pressure on available food resources as well as on the environment. Hence the food security situation and environmental management within the region, especially as regards sustainable food production, hang on a fragile balance. There is no doubt that, the Faculty of Agriculture will help train competent and skilled personnel to close existing gaps in this vital sector.

The ultimate impact of the Faculty of Agriculture will be the boosting of agricultural production in the area both in terms of scale of operation as well as output and quality. The emergence of a new generation of enterprising farmers, equipped with relevant high level knowledge, skills and technological know-how will, naturally, engineer the desired socioeconomic change. Through such intervention, the local farming community shall benefit from a spontaneous diffusion of knowledge from the Faculty for improvement of their productive entrepreneurship.

PROGRAMME PHILOSOPHY

The Faculty of Agriculture in the University of Port Harcourt is established for the broad-based training of undergraduates in various areas of Agriculture, Fisheries, Forestry and Wildlife, Food, Nutrition and Home Science. The programme is to equip her products with a wide

range of skills and the capacity to utilize scientific knowledge in developing practical solutions to the problems of agricultural production and related activities in the area. The orientation of graduates of the programme will focus on the development of appropriate technology as a direct response to local needs and environmental concerns. In the final analysis, the tremendous opportunities for profitability in agriculture within the region will be exposed.

OBJECTIVES

- a) to produce the appropriate manpower equipped with necessary skills to establish and profitably operate their own farming enterprises;
- b) to improve the genetic stock and introduce scientific fisheries and livestock management, and cropping and farming systems in the Delta Creek ecosystem
- c) to promote agricultural production and productivity of local small scale farmers, thereby providing solutions to the country's agricultural and rural development problems and
- d) to exploit water resources and development of suitable soil water management practices and cropping techniques to enhance agricultural production in the Delta region.

DEPARTMENTS

- a) Agricultural Economics and Agribusiness Management
- b) Agricultural Extension and Development Studies
- c) Animal Science
- d) Crop and Soil Science
- e) Fisheries
- f) Forestry and Wildlife Management
- g) Food, Nutrition and Home Science

The Faculty is designed to run a five-year post SSCE/GCE O' Level undergraduate programme leading to the award of the following degrees:

- a) Bachelor of Agriculture (B. Agric) – (i) Agricultural Economics and Extension, (ii) Animal Science; (iii) Crop Science; (iv) Soil Science
- b) Bachelor of Fisheries (B. Fisheries)
- c) Bachelor of Forestry and Wildlife (B. Forestry & Wildlife)
- d) Bachelor of Food Science and Nutrition, and

e) Bachelor of Home Science

The programme shall last for a minimum of five years and a maximum of seven years on full-time basis.

ADMISSION REQUIREMENTS:

A candidate must have credit passes in English Language, Mathematics, Chemistry, Biology or Agricultural Science and any one of Physics, Economics or Geography at the SSCE/GCE O' levels, or its equivalent in not more than two sittings.

GRADUATION REQUIREMENTS FOR A BACHELOR'S DEGREE

To obtain a Bachelor of Agriculture (B. Agric.) degree or any of the other degrees in the Faculty of Agriculture, a student must complete an approved programme of study consisting of:

- a) **University Required Courses:** Four General Studies Courses namely (GES 100.1, GES 101.2, GES 102.1, and GES 103.2) prescribed for all students in the university; and one community Service Course selected from those approved for the faculty. A grade of not below "E" must be achieved in each of the above courses. The purpose of general studies courses is to improve basic intellectual and communication skills of the students and to promote a continuous awareness and understanding of contemporary society as well as the historical and cultural origins of people. On the other hand, Community service is a field project directed towards service to the community or the University and is an integral part of the degree programme. The objective of the project is to involve both staff and students in a practical way with some of the problems of society as well as with efforts to provide solutions to them, and to inculcate and develop in both staff and students a consciousness of their responsibilities to society and the satisfaction of rendering service to others. The projects which are practical in nature require the application of some of the skills being acquired in the degree programme to serve the community and generally involve manual work. It is credit-earning and is an essential requirement in the degree programme.

- b) **Faculty-wide Courses:** These are the courses prescribed by the Faculty for all its students across the faculty. A grade of not less than “E” must be obtained. The objective is to emphasize the integral nature of our programme.
- c) **Courses in the students’ major fields of interest:** These shall begin as a limited number of major courses in the first two years and occupy most of the students’ time in subsequent years. At least, a grade of “E” must be achieved in each of these courses.
- d) **Elective Courses:** Elective courses offer some opportunities to students to broaden their interest, either within or outside their major discipline. Subject to the advice of their Academic Adviser, students are encouraged to follow their personal interests in electives. Students must pass all elective courses they have chosen with at least an “E” grade.

In order to graduate, an undergraduate student must have at least one hundred and fifty (150) credit units from year one to year five including credits from relevant courses under the general studies programme.

The Bachelor’s degree in Agriculture is classified as follows:

Cumulative Grade Points Average	Class of Degree
4.50 – 5.00	First class
3.50 – 4.49	Second class upper
2.40 – 3.49	Second class lower
1.50 – 2.39	Third class
<1.50	Fail

FACULTY OF AGRICULTURE KEY STAFF

Key staff that have managed the affairs of the Faculty of Agriculture since inception

Name	Date
Deans	
Prof N.E.S. Lale	2005 – 2011
Dr Amiye Francis	2011 (Ag. Dean)
Prof Love A. Akonye	2011 – 2014

Prof Ekanem C. Wokoma	2014 – 2016
Prof E.S. Erundu	2016 – 2018
Prof M.I. Godwin-Egein	2018 – 2020
Prof I. Etela	2020 – 2024
Associate Deans	
Dr M.I. Godwin-Egein	2005 - 2011
Dr Amiye Francis	2011 – 2014
Dr O.M. Adesope	2014 – 2016
Dr B.A. Oyebade	2016 – 2018
Prof H. Ijeomah	2018 – 2021
Dr Zelda A. Omasanuwa	2021– Date
Heads of Department	
Agricultural Economics and Agribusiness Management	
Dr A.C. Agumagu	2005 – 2010
Dr O.M. Adesope	2010 – 2012
Dr S.O. Olatunji	2012 – 2014
Dr O.N. Nwaogwugwu	2014 – 2016
Dr A.O. Onoja	2016– 2018
Dr P.A. Ekunwe	2018 – 2020
Dr Mercy E. Ndubueze- Ogaraku	2020 – 2022
Dr Adanna Henri-Ukoha	2022 - Date

Agricultural Extension and Development Studies	
Dr Angela I. Emodi	2022 - 2024
Animal Science	
Dr E.S. Erondu	2005– 2010 (As Animal Science & Fisheries)
Dr I. Etela	2010 – 2012 (As Animal Science & Fisheries)
Dr Monica I. Ironkwe	2012 – 2013
Dr Folasade O. Ajayi	2013 – 2015
Dr Letorn A.F. Akinola	2015 – 2017
Prof Monica O. Ironkwe	2017– 2019
Dr O.A. Ekine	2019 – 2021
Dr B.O. Agaviezor	2021–2023
Prof. Anthonia I. Ukanwoko	2023 - Date
Crop and Soil Science	
Dr M.I. Godwin-Egein	2005 – 2010
Dr B.O. Nuga	2010 – 2012
Prof Ekanem C. Wokoma	2012 – 2014
Dr A. Asimiea	2014 – 2016
Dr U.E. Udensi	2016 – 2018
Dr Olutayo M. Adedokun	2018 – 2020
Dr U. Zakka	2020 – 2022
Prof. Elsie I. Hamadina	2022 - 2024

Prof A.A. Tanimola	2024 - Date
Fisheries	
Dr Amiye Francis	2014 – 2016
Dr O. Olopade	2016 – 2018
Prof N. Zabbey	2018– 2020
Dr Nene A. Jamabo	2020 – 2022
Prof Adaba Ibim	2022 - 2024
Dr S.A Nwafili	2024 -Date
Forestry and Wildlife Management	
Dr A.A. Aiyeloja	2005 – 2010 (As Coordinator)
Dr A.A. Aiyeloja	2010 – 2012
Dr G.E. Omokhua	2012 – 2014
Dr H. Ijeomah	2014 – 2016
Dr S.L. Larinde	2016 – 2018
Dr B.A. Oyebade	2018– 2020
Dr A.T. Oladele	2020 – 2022
Dr U.D. Chima	2022 - 2024
Dr Funmilayo S. Eguakun	2024 - Date
Department of Food, Nutrition and Home Science	
Prof Ebiokpo R. Amakoromo	2018 – 2022
Prof Mercy O. Ifeanacho	2022 - Date

Institute of Agricultural Research and Development (IARD)	
Dr Braide	1982 – 1988
Dr Z. Russom	1988 – 1993
Prof Moro	1993
Prof N.I. Igwilo	1993 – 2000
Prof A.C. Agumagu	2000 – 2005
Prof E.S. Erondu	2010 – 2012
Dr I. Etela	2012 – 2014
Dr B.O. Nuga	2014 – 2015
Prof G.E.Omokhua	2015 – 2020
Dr J.A. Orluchukwu	2020 – 2022
Prof O.A. Onoja	2022 - Date

**STAFF PROFILE
DEAN'S OFFICE**

S/N	Name	Qualification	Designation
1	Prof Udensi Ekea Udensi	BSc. (UPH), MSc., PhD (Ibadan), PGD (Wye, London) MISDS, FIIA	Dean
2	Dr Zelda A. Omasanuwa	B.Agric. Fisheries (UNIBEN); MSc Agric Econ. (Imperial College, London); PhD Agric Econ. (Tamil Nadu Univ. India)	Associate Dean
ADMINISTRATIVE STAFF			

3	Mr Goodluck C. Okezie	B.Sc. Pub. Admin (UPH) FCAI	Deputy Registrar/Faculty Officer
4	Mr Peter O. Jorbedom,	B.Sc. Pub Admin (UPH)	Principal Assistant Registrar
5	Mr Luciano Igho Egwarewan	B.SC. Pol. Sc. PGD (UPH)	Principal Executive Officer II
6	Mrs Gloria Osaro	MSc. (UST)	Chief Executive Officer (Secretarial)
7	Mr Roland I. Naabiae	COREN, NAEC, TTI,II,III, WAEC, NECO, FSLC	Assistant Chief Works Superintendent
8	Mr Hope C. Anele	Dip Computer, ANBC (NABTEB)	Secretarial Assistant
9	Mr Yeolom Orolobo Bille	B.Sc. Pol. Sc. (UPH)	Administrative Assistant
10	Mr Victor Baribefe Dere	SSCE	Senior Superintendent driver
11	Ms Chinyere C. Cheta-Chukwu	B.Sc., PGD (UPH)	Higher Executive Officer
12	Esther Foby	B.Sc. Anatomy (UPH)	Higher Executive Officer
13	Chika Theresa Omah	B.Sc. Mgt. (UPH)	Higher Executive Officer

14	Beatrice Nwadibia	HND, Bank. & Fin. (KSWP Bori)	Higher Executive Officer
15	Mrs Comfort N. Onwuli	SSCE	Chief Clerical Officer
16	Ihuoma Glory Amadi	SSCE	Chief Clerical Officer
17	Mrs Beatrice Wahuele Azu	FSLC	Caretaker
18	Nenda Wogwu	SSCE	Farm Assistant

FACULTY FARM

S/N	Name	Qualifications	Designation
1	Mr L.T. Sikibo	BAgric Crop Prod (UNN); PGD (RSU)	Deputy Farm Manager
2	Mr B.D.Aadum	BTech Agric Engr (RUST)	Chief Farm Manager
3	Mr P. Anyanwu	GMP III II I	Chief Work Superintendent
4	Mr L.B. Nnyam	BSc Forestry	Assistant Deputy Forest Manager
5	Mr E. B-A. Daniel-Adu	B.Agric Animal Science	Senior Livestock Officer
6	Mr T. F. Ujoh	HND Agric Engr	Higher Agric. Supt.

7	Mr T.Y. Hamber	HND Agric Extension Management	Higher Agric. Supt.
8	Mrs Precious N. Oloboh	HND Agric Extension Management	Higher Agric. Supt.
9	Mr C. Nlebem	ND Agric Extension	Senior Agric. Supt.
10	Mr I. Gote	Transport III II I	Chief Supt. Tractor Driver
11	Mr G. Chigbu	HND Agric Econs& Extension	Principal Agric. Supt. I
12	Mr Chinwedu P. Offor		Principal Agric. Supt. I
13	Mr K.M. Mbee		Fisheries Officer
14	Mr O. Osimiri	FSLC, WASC, NECO	Supt. Driver
15	Mr D. Idongesit	FSLC	Senior Farm Supervisor
16	Ms Endurance Nwobueze	FSLC	Farm Assistant
17	Mr S. E. David	FSLC	Farm Assistant
18	Mr O.E. Nwangborogwu	FSLC	Farm Assistant
19	Ms Mercy Ekuhule	FSLC	Farm Assistant
20	Ms Josephine Ekeh	FSLC	Farm Assistant

21	Ms Comfort Inalee	FSLC	Farm Assistant
22	Mr N. Ehuruchi	FSLC	Farm Assistant
23	Ms Catherine Paul	FSLC	Farm Assistant
24	Mrs F. Tennyson	FSLC	Farm Assistant

**DEPARTMENT OF AGRICULTURAL ECONOMICS &
AGRIBUSINESS MANAGEMENT
ACADEMIC STAFF**

S/N	Name	Qualifications	Specialization	Designation/ Rank
1	Prof Adanna Henri-Ukoha	B. Agric Economics Extension (Calabar) MSc. Agric Economics (Port Harcourt) Ph.D Agric Economics (Owerri) PGD Agribusiness (UK)	Resource & Environmental Economics: Agribusiness Mgt	Professor/HoD
2	Prof P.A. Ekunwe	B. Agric (Benin) MSc. Agric Economics (Benin) Ph.D Agric Economics (Benin)	Farm Management and Production Economics	Professor (Ag. HoD 2018 – 2020)
3	Prof A. O. Onoja	B.Sc. (Agric. Education), UNN M. Sc (Agric. Econs. Finance), UNN M. Sc, PhD (Agric. Econs ; Resource & Environmental	Agric Finance & Project Analysis; Resource & Environmental Economics	Professor (Ag. HoD 2016- 2018)

		Economics, UNN		
4	Prof Mercy Ebere Ndubueze-Ogaraku	NCE Agric. Sc. Edu. RSCOE; B.Sc Agric. Econs. & Ext, M.Sc Agric. Economics (RSUST); PhD, Agric. Economics (RSUST)	Agric. Marketing; Farm Mgt & Production Economics	Professor (Ag. HoD 2020 – 2022)
5	Dr M.G. Nyienakuna	BSc, MSc (Tashkent); PhD (Uyo)	Farm Management	Reader
6	Dr Zelda A. Omasanuwa	BAgric Fisheries (UNIBEN); MSc Agric Econs (Imperial College, London); PhD Agric Econs (Tamil Nadu Agric Univ. India)	Agric Finance & Production Economics	Reader & Assoc. Dean
7	Dr H.C. Unaeze	BAgric, MSc Agric Econs (UNN)	Resource & Environmental Economics	Senior Lecturer
8	Dr Vivian C. Ugwuja	BAgric (UNN); MSc Agric Econs (UST); PhD Agric Econs (UNN)	Agric. Finance	Senior Lecturer

9	Dr. U. Chima	BSc, Agric. Econs & Extension, MSc Agric Economics (RSUST) PhD, Agric Economics UNN	Farm Management Production & Economics	Senior Lecturer
10	Mr S.U. Nwokugha,	B Agric Agric Econs (UPH); MSc (Ibadan)	Agricultural Policy & Administration	Assistant Lecturer
11	Mrs Oyoburuoma N. Ihunwo	B Agric Agric Econs (UPH); MSc	Farm Management & Production Economics	Assistant Lecturer

TECHNICAL STAFF

S/N	Name of staff	Qualifications	Designation/Rank
1	Mr Nwanaju U. Ikechukwu	SSCE O' Level	Virtual Lab Attendant

ADMINISTRATIVE/SECRETARIAL STAFF

S/N	Name of staff	Qualifications	Designation/Rank
1	Ms Miebaka Asechemie	BSc. Mathematics	Senior Assistant Registrar
2	Mrs Peninnah K. Adasijah	WASC	Chief Clerical Officer

3	Miss Mercy Abbey	WASC	Computer Operator 1
4	Mrs Gloria Woke	FSLC	Cleaner/messenger

**DEPARTMENT OF AGRICULTURAL EXTENSION &
DEVELOPMENT STUDIES**

ACADEMIC STAFF

S/N	Name	Qualifications	Specialization	Designation/ Rank
1	Dr Clara C. Ifeanyi-Obi	BSc Agric Econs & Extension(FUTO); MSc Agric Ext & Rural Sociology (UST); PhD Agric Extension (FUTO)	Rural Community Development	Senior Lecturer/Ag. HoD
2	Prof O.M. Adesope	BSc Agric Extension (Ibadan), TTC Agric Science Edu(FCETOM); MSc, PhD Agric Extension (FUTO); Certificate, Project Design, Monitoring & Evaluation (Proj. Mgt. Dev Instit, USA)	Agric. Ext. (Rural Development)	Professor (Assoc. Dean 2014 – 2016, Ag. HoD 2010 -2012)
3	Prof S.O. Olatunji	NCE Agric Edu; BSc Agric Edu, MSc Agric Ext. & Services (Ibadan);MEd Measurement & Eval; PhD Agric	Agric. Ext, Rural Sociology & Development	Professor (Ag. HoD 2012 – 2014)

		Extension (MOUAU)		
4	Prof B.I. Isife	B Agric (UNN); MSc. PhD Agric Extension (UNN)	Agric Extension & Administration	Professor (Adjunct)
5	Prof O.N. Nwaogwugwu	NCE (Alvan); BSc Agric Edu. (UST); MSc (Agric Extension (UST); PhD Agric Extension (FUTO)	Agric Extension & Rural Sociology	Professor (Ag. HoD 2014 – 2016)
6	Dr Angela I. Emodi	BSc Home Econs Edu (UNN); MSc Agric Ext. (UST), PhD Agric Ext. Admin (UNN)	Home Economics Education	Reader (Ag. HoD 2022 - 2024)
7	Dr Uzoamaka N. Akwiwu,	BSc Agric Econs & Extension (IMSU); MSc, PhD (Ibadan)	Rural Sociology	Lecturer I
8	Mr C.C. Wigwe	B Agric Agric Extension, (UPH); MPhil Agric Extension (UCC, Ghana)	Agricultural Extension	Lecturer II
9	Dr. Ugochi G. Okorie	HND (Agric Mgt & Ext), PGD (Agric & Applied Economics/Extension), MSc	Community and Rural Development	Lecturer II

		(Agric Ext & Rural Soc. (RSUST), PhD (Community & Rural Devt.)		
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TECHNICAL STAFF

S/N	Name of staff	Qualifications	Designation/Rank
1	Mr L. F. Nwidag	BAgric	Senior Farm Officer
2	Mrs Fumilayo R. Adesope	BSc Ed Agric Sci; PGD Agric Ext Mgt	Senior Agric Supt
3	Mr P. Owuama	B.A. Theatre Arts (UPH); Cert. Cinematography (Screen Resources)	Producer I

ADMINISTRATIVE/SECRETARIAL STAFF

S/N	Name of staff	Qualifications	Rank/Designation
1.	Mr Brown, Evans Daju	FSLC, WASC, B.Sc	Principal Executive Officer II
2.	Mr. Ajuru, Harmony Cotton	WASC	Chief Clerical Officer

DEPARTMENT OF ANIMAL SCIENCE
ACADEMIC STAFF

S/N	Name	Qualifications	Specialization	Designation/ Rank
1	Prof Anthonia I. Ukanwoko	BAgric, MSc, PhD Animal Science (MOUAU)	Dairy Science	Professor & HoD 2023- Date
2	Prof Monica O. Ironkwe	BSc Agric Edu(RSUST); MSc, PhD Animal Science (RSUST)	Monogastric Nutrition & Production	Professor (Ag. HoD 2012-2013)
3	Prof I. Etela	BSc Animal Science, MSc Animal Science (RSUST); PhD Animal Science (UNIBEN)	Ruminant Nutrition & Production	Professor (Dean 2020 – 2024)
4	Prof Folasade O. Ajayi	BAgric, MSc Animal Production (UNILORIN) PhD Animal Breeding & Genetics (RSUST)	Animal Breeding & Genetics	Professor (Ag. HoD 2013 – 2015)
5	Prof Letorn A.F. Akinola	BSc, MSc, PhD, Animal Science (RSUST)	Monogastric Nutrition & Production	Professor (Ag HoD 2015 – 2017)

6	Prof B.O. Agaviezor	BTech, Animal Production & Health (FUTA); MAgric, PhD Animal Breeding & Genetics (Abeokuta)	Animal Breeding & Genetics & Animal Molecular Biology	Professor (Ag. HoD 2021 -2023)
7	Prof O.A. Ekine	HND Animal Health & Production (Vom); PGD; MSc, Animal Science, PhD Animal Science (RSUST)	Animal Production & Nutritional Physiology	Professor (Ag HoD 2019 – 2021)
8	Dr O.S. George	BSc, MSc, PhD Animal Science (RSUST)	Micro-Livestock Nutrition & Production	Reader
9	Dr J.N. Ingweye	BAgric Animal Science (UNICAL); MSc Animal Nutrition & Biochemistry (UNICAL); PhD Animal Prod.& Nutrition (UNICAL)	Micro-Livestock Nutrition and Livestock value chains	Reader
10	Dr S.I. Oruene	DVM (ABU)	Theriogenology	Lecturer I

11	Mr N.H. Benneth	BAgric Animal Science(UPH)	Animal Breeding & Genetics	Lecturer II
12	Mr B.V. Iriso	BAgric, MSc	Ruminant Nutrition & Production	Assistant Lecturer
13	Mrs Ihuoma C. Adje	BAgric, MSc.	Forage Production & Utilisation	Assistant Lecturer
14	Mrs Abigail A. Ere- Richard	BAgric, M Agric	Animal Reproductive Physiology	Assistant Lecturer

TECHNICAL/LABORATORY STAFF

S/N	Name	Qualifications	Responsibility	Designation/ Rank
1	Mr Rapheal Ikpokini	WASC	Assisting the Technologist in Lab. Work	Lab. Supervisor
2	Mr Second Wali	B.ED, ND (Chemistry Education/ Science Laboratory Technology	Assisting the Technologist in Lab. Work	Sen. Lab. Assistant

ADMINISTRATIVE STAFF

S/N	Name	Qualifications	Responsibility	Designation/ Rank
1	Ms Tina N. Enyindah	BSc, Public Administration	Administrative work	Assistant Registrar
2	Mrs Anty N Anokari	Diploma in Computer Operation	Typing & secretarial assistance work	Computer Operator I

3	Mrs Mercy Nsanee	FSLC	Office cleaning	Caretaker/messenger
4	Mrs Love Obindah	WAEC	Office cleaning work/Messenger	Messenger/Cleaner

FARM STAFF (for the various units)

S/N	Name	Qualifications
1	Mrs Brown Bassey-Anwan	BAgric, Animal Science (UNIBEN)
2.	Mr K. Okoro	BAgric, Animal Science (UPH)

**DEPARTMENT OF CROP AND SOIL SCIENCE
ACADEMIC STAFF**

Academic Staff- Crop Science

S/No	Name	Qualifications	Specialization	Designation
1.	Prof. A. A. Tanimola	PhD 2014 Nematology UI, Nigeria, MSc. 2003 Crop Protection, UI, Nigeria, BSc. 2000 Agriculture (Crop Protection and Environmental Biology) UI, Nigeria	Agro Nematology	Professor/ HoD
2.	Prof. N.E. S. Lale	PhD 1987 Newcastle UponTyne, UK (Agricultural Entomology), B.Sc 1981 (Hons) Agriculture (Crop Science), Unimaid, Nigeria	Agricultural Entomology	Professor
3	Prof. Eka C. Wokoma	PhD 1986 Plant Pathology, Ohio State Uni. M.Sc 1982 Plant Pathology, Wash State Uni., B.Sc Edu. Biology 1976 ABU Zaria, Nigeria	Plant Pathology	Professor
4	Prof. M.I. Godwin-Egein	PhD 1999 Plant Science and Biotechnology (Plant Pathology and Mycology)	Plant Pathology	Professor

		Uniport, MSc. 1991 Plant pathology and Mycology Uniport, B. Ed 1988 Biology (Educational Mgt and Planning) Uniport, NCE 1979 RIVCO, Port Harcourt, Nigeria		
5.	Prof. D.A. Okpara [Adjunct]	PhD UNN, MSc 1985 UNN, B. Sc 1982 Uniport	Crop Science/ Crop Physiology	Professor
6.	Prof. D. F. Uwah [Adjunct]	PhD Agronomy ABU, Zaria Nigeria, MSc Crop Science UI, Nigeria, B. Agric Calabar, Nigeria	Crop Science	Professor
7.	Prof. U.E. Udensi	PhD. 2006 Weed- Crop Ecology & Mgt, UI. Ibadan, PGD. 1994, (Agric. Dev.) Wye College, London, MSc. 1994 Agronomy (Crop Science) UI, Ibadan, BSc. 1985 (Botany) UPH, Nig.	Weed Science (Weed-Crop Ecology & Mgt.)	Professor
8.	Prof. A. O. Asimiea	PhD 2009, Environmental Management, RSUST, NG. M.Sc Applied Nematology UGent, Belgium, MSc. 1988 Hydrobiology and	Agro-Nematology	Professor

		Fisheries, UPH, BSc. 1981, Zoology Uniport, Nigeria		
9	Prof. Elsie I. Hamadina	PhD. 2004 University of Reading, Reading, UK. (Crop Physiology), MSc. 1998 Environmental Biology (Physiology) UI, Ibadan Nig., BSc. 1995, Crop Science. RSUST, Nigeria	Crop Physiology/Environmental Biology	Professor (HoD 2022 – 2024)
10.	Prof. Olutayo M. Adedokun	PhD. 2009 Plant Science and Biotechnology (Plant Pathology and Mycology) Uniport, Nigeria, MSc. 1997 Agronomy (Horticulture) UI, Nigeria, BSc. 1994, Botany UNILAG	Horticulture/ Myco Science	Professor
11.	Prof. U. Zakka	PhD. 2012 Entomology, UPH, Nigeria, MPhil 2005 Entomology, Legon, Ghana, BSc Agric. 2002, Unimaid, Nigeria, NCE Agric. 1994 KICOE, Maiduguri	Agricultural Entomology	Professor

12.	Prof. J. A Orluchukwu	PhD 2010 Plant Breeding, RSUST, Nigeria, MSc. 2005, Crop Science, RSUST, Nigeria BSc. 1987, Crop Science RSUST, Nigeria	Plant Breeding/Agronomy	Professor
13	Dr. A. Efisue	PhD. 2007 Plant Breeding UKZN, South Africa, MSc. 1994 Plant Breeding, UI Ibadan, BSc. 1987, Crop Science. UI, Nigeria	Crop Breeding & Genetics	Reader
14.	Dr. V. C. Okereke	PhD 2015 University of Reading, UK. (Plant Pathology), MSc. 2004, Plant Pathology MOUAU, Nigeria, B.Agric 2000 (Crop Protection) MOUAU, Nigeria	Plant Pathology	Reader
15.	Dr. O.M. Azeez	PhD 2012 Agricultural Entomology, FUNAAB, MSc 2006 (Crop Science) Uniben, PGDE 2005 UDUS, Nigeria MBA 2005, ADEK, Akungba B.Agric 1992 Unilorin	Agricultural Entomology	Senior Lecturer

16.	Dr. L.C. Nwosu	PhD 2015, Storage Entomology FUTA, Nigeria, MSc. 2007 Entomology, MOUAU, Nigeria, B.Sc. 2002, Zoology, MOUAU, Nigeria	Agricultural Entomology	Senior Lecturer
17.	Dr. S. R. Atijegbe	PhD 2019 Lincoln University New Zealand, M. Phil. 2004, (Entomology) Legon, Ghana, BSc. Agriculture 1998 (Crop Science)	Agricultural Entomology	Lecturer I
18.	Mr. T. B. Solomon	MSc 2016 Crop Science, Uniben. Nigeria. B.Agric. 2010, (Crop Production) Uniport	Crop Physiology	Lecturer II
19.	Mrs. Dorcas O. Olaoye	MSc. 2020 (Crop Genetics & Plant Breeding), Uniport, B. Agric. 2014 ABU Nigeria	Crop Breeding and Genetics	Assistant Lecturer

Academic Staff- Soil Science

Administrative Staff

S/No	Name	Qualifications	Specialization	Designation
1	Prof. C.C. Wokocha	PhD 2015 Soil Survey and land use planning & GIS/Remote Sensing FUTO, Nigeria, MSc 2004 Soil Survey and Land Use MOUAU, Nigeria. B. Tech. (Geography/ Remote Sensing Techniques) FUT Mina, Nigeria.	Soil Survey & land use planning	Professor
2.	Dr. B .E. Udom	PhD 2008, Soil Physics/Conservation UNN, Nigeria, MSc. 2000, Soil Physics/Conservation, UNN. PGD, 1998 (Land/Water Res. Mgt.) UNN, HND. 1992, (soil Fertility) Fed Soil Cons, Kuru Jos	Soil Physics and Conservation	Reader
3.	Dr. O. J. Kamalu	PhD 2015 Pedo-Environmental Mgt. RSUST, Nigeria, M.Phil 1989, Soil Science (Pedology) RSUST, Nigeria, HND. 1983, Agronomy (RSUST) Nigeria	Soil Pedology	Reader
4.	Dr. J. A. Chukwumati	PhD 2014 Soil Chemistry and Environment RSUST,	Soil Chemistry/	Senior Lecturer

		Nigeria MSc. 1990, Soil Conservation and Fertility, Wye (Imperial College) University of London, BSc. 1986, Soil Science. RSUST	Fertility and Environment	
5.	Dr. P. O. Abam	PhD 2019 Soil Chemistry and Mineralogy RSU, Nigeria MSc. 2008, Soil Fertility and Fertilizer Technology. MOUAU, Nigeria, B. Agric. 2000, Soil Science. Unical.	Soil Chemistry & Mineralogy/Fertility	Senior Lecturer
6.	Dr. Anita O. Benwari-Nengi	PhD 2020, Soil Microbiology RSUST MSc. 2008, Soil Science RSUST. BSc. 1994 Soil Science Calabar.	Soil Microbiology	Senior Lecturer
7.	Dr. H. I. Anozie	PhD (2023), Calabar, MSc 2007, (Soil Science), B.Agric Tech. (2004) FUTO	Soil Microbiology	Lecturer I
8.	Mrs. Kurotamunoye A. S. Amadi Raphael	MSc 2016 (Soil Survey & Land use planning) UI, Nigeria, B.Agric. 2010, (Soil Science), Uniport,	Soil Survey & Land Use Planning	Lecturer I
9.	Mr. M. E. Ikiriko	B.Agric. 2011, (Soil Science) Uniben, MSc 2016 (Soil Chemistry) UI, Nigeria	Soil Chemistry	Lecturer II
S/N	Name	Qualifications	Duties	Designation

10.	Engr. (Dr) B. F. Sasanya	Ph.D. 2022, (Water Resources and Environmental Engineering), UI, Nigeria, MSc 2015 (Agricultural and Environmental Engineering, UI, Nigeria, B.Tech. 2011 (Hons) (Agricultural and Engineering) LAUTECH, Nigeria,	Agricultural, Water Resources and Environmental Engineering	Lecturer II
11.	Mr. A. J. Gogo	MSc. 2018, Soil Physics and Conservation (Uni Uyo), B.Agric. 2011, Soil Science (Uniport)	Soil Physics	Assistant Lecturer
1.	Mrs B. Okogbaa	<i>M.Sc., B.Sc., WAEC, FSLC</i>	General Administration and any other assigned duties	Administrative Assistant
2.	Mr. B. G Abalubu	<i>B.Sc., WAEC, FLSC</i>	Registration of students, Receipt of Examination script packages for appropriate storage and any other assigned duties.	Higher Executive Officer
3.	Ms. B. N. Ben-Wali	<i>HND, NECO, FSLC</i>	Secretarial duties and any other assigned duties	Confidential Secretary 1
4.	Mr. David Onwuli	<i>WAEC, FLSC</i>	Library Officer in the Department and any other assigned duties	Chief Clerical Officer

5.	Mr S. Obulor	<i>FSLC</i>	Received and dispatch mails and other duties assigned	Caretaker
6.	Mrs. B. Wosu	<i>WAEC, FSLC</i>	Assist in receiving and dispatching mails and other duties assigned	Caretaker/ Cleaner
7.	Mrs F. Amadi	<i>FSLC</i>	Assist in receiving and dispatching mails and other duties assigned	Messenger/C leaner

LABORATORY STAFF				
S/N	Name	Qualification	Responsibility	Designation
1.	Mr. P. Sanna	HND in Microbiology/ Virology	Supervise, organize and conduct all Practical exercises	Chief Technologist
2.	Mr. U. Anusiowu	HND. (Federal Polytechnic, Nekede), Association of Medical Laboratory Sc. (UPTH)	Organize and conduct all practical exercises, Care and maintenance of laboratory equipment. Assist student in research projects.	Principal Technologist
3.	Mrs H. C. Simon	SSCE, FLSC	Engaged with arrangement of the laboratory and assisting students with needed	Laboratory Supervisor

			laboratory equipment.	
TECHNICAL STAFF				
1.	Mr. Lebari Nwidag	B. Agric. Agricultural Economics and Extension (UNICAL)	Supervision of farm activities, sales of farm produce, assist Lecturers & students in field Projects	Assistant Deputy Farm Manager
2.	Evbota C. Angela	MSc Soil Physics, B. Eng.- Agricultural Engineering, HND- Soil and Water Engineering;	Supervision of farm activities, sales of farm produce, assist Lecturers & students in field Projects	Principal Agric. Supt. I
3.	Mr. P. O. Emobonavie.	NCE. Agric. Education (College of Ed. Ekiadolor)	Supervision of farm activities, sales of farm produce, assist Lecturers & students in field Projects	Principal Agric. Supt. I
4	Mr. B. Ledum	FSLC	Engage in Pre and Post-Harvest activities	Senior Farm Supervisor
5.	Mr. Nkoo. G. Bariyima	FSLC	Engage in Pre and Post-Harvest activities	Farm assistant
6.	Mr. D. Sunday	FSLC	Engage in Pre and Post-	Farm assistant

			Harvest activities	
7.	Ms. Woke Josephine	FSLC	Engage in Pre and Post-Harvest activities	Farm assistant
8	Ms. M. Jeremiah	FSLC	Engage in Pre and Post-Harvest activities	Farm assistant
9	Mr. C. Letam	FSLC	Engage in Pre and Post-Harvest activities	Farm assistant
10	Ms. N. Wogwu	FSLC	Engage in Pre and Post-Harvest activities	Farm assistant
11	Ms. H. Amadi	FSLC	Engage in Pre and Post-Harvest activities	Farm assistant
12	Mr. David E. Sylvanus	FSLC	Engage in Pre and Post-Harvest activities	Farm assistant
13	Ms. F. Wakwu Amadi	FSLC	Engage in Pre and Post-Harvest activities	Farm assistant

**DEPARTMENT OF FISHERIES
ACADEMIC STAFF**

S/N	Name	Qualifications	Specialization	Designation/ Rank
1	Dr S.A. Nwafili	B Agric Animal Science(UNN) MTech Fisheries (Minna); PhD Fisheries (China)	Population Genetics	Reader/Ag. HoD
2	Prof E.S. Erondu	BSc Zoology (UNN);MTech (RSUST); PhD Fisheries (UNN)	Aquaculture	Professor (Dean 2016 – 2018)
3	Prof N. Zabbey	BSc Zoology (UPH), MSc, PhD Hydrobiology & Fisheries (UPH)	Benthic Ecology and Biomonitoring	Professor (Ag. HoD 2018 – 2020)
4	Prof O.A. Olopade	BSc, MSc, PhD Fisheries Mgt (Ibadan)	Aquaculture & Fisheries Management	Senior Lecturer (Ag. HoD 2016 – 2018)
5	Prof Nene A. Jamabo	BSc Fisheries (RSUST); MPhil. Fisheries (RSUST); PhD Aquaculture & Aquatic Ecology (RSUST)	Aquaculture & Aquatic Ecology	Senior Lecturer (Ag. HoD 2020 – 2022)
6	Prof Adaba T. Ibim	BSc Zoology (UPH); MTech, Fisheries (FUT Minna); PhD Aquaculture (UPH)	Aquaculture, Fish Reproduction and Health	Professor / HoD (2022 – 2024)

7	Prof Amiye Francis	BSc Zoology (ABU); PGDE, MSc. Parasitology (UPH); PhD Fisheries (UPH)	Fisheries Management	Reader (Ag. Dean 2011, Assoc. Dean 2011 – 2014, Ag. HoD 2014 – 2016)
8	Dr J.A. Akankali	BSc, MSc Fisheries (UNIBEN); PhD Environmental Management (RSUST)	Fisheries Management	Senior Lecturer
9	Dr H.E. Dienye	OND Food Technology (ILARO); BSc Aquaculture & Fisheries (Abeokuta); MSc Hydrobiology & Fisheries(UPH)	Aquaculture & Fishing Gear	Senior Lecturer
10	Dr B. Akpoilih	BSc Fisheries (FUTA); MSc Fisheries (Ibadan)	Environmental Toxicology	Lecturer I
11	Dr. I.C. Davies	B Fisheries (UPH); MSc Hydrobiology & Fisheries (UPH)	Aquaculture & Fisheries Biology	Lecturer I
12	Dr Joy O. Aiyeloja	B.Agric Fisheries (UNIBEN); MBA Financial Management (LAUTECH); MSc, Ph.D Aquaculture (RSU)	Aquaculture & Fish Postharvest Technology	Lecturer II
13	Mr G.N. Nwipie	BFisheries (UPH)	Aquaculture	Assistant Lecturer

14	Mr Effiong I. Idongesit	BFisheries (UPH); MSc Environmental Technology & Mgt (UPH)	Fisheries Statistics & Mgt.	Assistant Lecturer
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TECHNICAL STAFF

S/N	Name	Qualifications	Responsibility	Designation/ Rank
1	Mr A.J. Gbolubo	Diploma/MSc Aquaculture	Management of fish Farm	Chief Agric. Supt. (Contract)
2	Mr O.G. Okwuosa	Cert in Personal Safety & Social Responsibility; BTech, Maritime Management Technology	Fish Breeding & Management, Data Capturing & Collation for Analysis	Deputy Chief Transport Officer (Maritime)
3	Mr C.E. Okwe	BTech (RSUST)	Marine Engineering	Principal Technologist
4	Mrs Juliet Ojimba	OND Fisheries	Fish breeding & Mgt	Agric. Supt.
5	Mrs Francis K. Nwigonee	WASC	Laboratory Supervisor	Laboratory Supervisor
6	Mr E. J. Chima	WASC	Lab. Supervisor	Laboratory Supervisor
7	Mr U.R. Ezinwo	WASC	Laboratory Assistant	Senior Lab. Assistant
8	Mrs Juliet Ogboji	WASC	Snr Lab. Assist	Snr. Lab. Assist
9	Mrs Mercy Vilawa	FSLC	Snr Lab. Assist	Snr. Lab. Assist

10	Mrs Confidence Ogbuse	WASC	Laboratory Assistant	Head Lab attendant
11	Mr T.I. Deekor	BSc	Gen. cleaning of the farm	Senior Farm Supervisor
12	Mrs Rachael Kamalu	WASC	Gen. cleaning of the farm	Head farm attendance
13	Mr I. Okparike	WASC. NABTEB	General cleaning of the farm	Head Farm Attendant

ADMINISTRATIVE STAFF

S/N	Name	Qualifications	Responsibility	Designation/ Rank
1	Mrs Ramatu Okoro	BSc Public Administration (Madonna Uni)	Administrative functions	Asst. Registrar
2	Mr F. Ogbuji	NABTEB, WAEC, PITMAN	Secretarial duties	Chief Sec. Assist.
3	Mr W.F. Amaefule	WAEC, NABTEB, PITMAN	Receiving mails/filling	Chief Clerical Officer

**DEPARTMENT OF FORESTRY AND WILDLIFE
MANAGEMENT**

ACADEMIC STAFF

S/N	Name	Qualifications	Specialization	Designation/Rank
1	Dr Funmilayo. S. Eguakun	BAgric For & Wildlife (UNIBEN); MSc, PhD (Ibadan)	Forest Biometrics and Measurement	Senior Lecturer & Ag. HoD
2	Prof A.A. Aiyeloja	NCE Biology & Chemistry, BAgric For& Wildlife (UNIBEN); MSc, PhD (Ibadan)	Forest Economics and Management. Forest Enterprises Development	Professor (Coordinator 2005 – 2010, Ag. HoD 2010 – 2012)
3	Prof G.E. Omokhua	BSc (RUST); MSc (Ibadan); PhD (RUST)	Silviculture and Tree Improvement	Professor (Ag.HoD 2012 – 2014)
4	Prof H.M. Ijeomah	DPA, Agric.(For& Wildlife) (UNIUYO), MSc, PhD (Ibadan)	Biodiversity Utilization, Wildlife Management and Ecotourism	Professor (Assoc. Dean 2018 – 2021, Ag. HOD 2014 – 2016)
5	Prof S.L. Larinde	OND, BSc, MSc, PhD (Ibadan)	Forest Economics and Management, Forest Industry development	Professor (Ag. HoD 2016 – 2018)
6	Prof B.A Oyebade	BAgric Tech (Forestry & Wood Tech) (FUTA), MSc, PhD (Ibadan)	Forest Biometrics and Measurement	Professor (Ag HoD 2018 – 2020)
7	Prof A.T. Oladele	BSc, MSc, PhD (Ibadan)	Forest Economics and Management (Forest Taxonomy and	Professor & Ag HoD 2020-2022)

			NTFPs utilization)	
8	Dr U.D. Chima	BFor (Makurdi); MF, PhD (Abeokuta)	Forest Ecology and Conservation	Reader (Ag HoD 2022 – 2024)
9	Dr S.S. Odunlami	BSc, MSc, PhD (Ibadan)	Wildlife Management, Biodiversity Conservation and Tourism	Senior Lecturer
10	Dr G.A. Adedeji	NCE Agric D/M, B. For & Wildlife (Abeokuta); MSc, PhD (Ibadan)	Wood and Fibre Science, Wood Utilization	Lecturer I
11	Ms Ebele A.U. Ofodile	BSc (UNN), MSc (Ibadan)	Agroforestry and Forest Biology	Research Fellow I
12	Mrs Charity Fredrick	BFor & Wild (UPH), MSc (Kenya)	Research Methodology, Silviculture and Forest Biology	Lecturer II
13	Mr A. Amininim	BFor & Wild (UPH), MSc (Ibadan)	Silviculture and Forest Biology	Lecturer II
14	Mr O.D Efenakpo	BFor & Wild (UPH), MSc (Ibadan)	Wildlife Management and Herpetology	Lecturer II
15	Miss Queen Aguma	BFor & Wild (UPH); MSc (Ibadan)	Wood and Fibre Science	Asst. Lecturer

TECHNICAL STAFF

S/N	Name	Qualifications	Specialization	Designation/Rank
1	Mr A.S. Ogunbode	BTech. Forestry & Wood Tech. (Akure)	Forestry and Wood Technology	Assistant Deputy Forest Manager
2	Mr A. Adedotun	BTech. For. & Wildlife (Yola)	Forestry and Wildlife Mgt.	Wildlife Officer I
3	Miss Ihuoma Amadi	BFor& Wild. M.Sc (UPH)	Forestry and Wildlife Mgt.	Wildlife Officer II
4	Mr J.N. Nke-ee	OND Forestry	Forestry	Forest Superintendent
5	Mr R.G. Million	WASC	Senior Forest Assistant	Forest Supt.
6	Mr N. Nwinee	WASC	Senior Forest Assistant	Forest Supt.
7	Mr D. Abah	WASC	Senior Forest Assistant	Senior Forest Assistant
8	Mr B. Nyor	WASC	Senior Forest Assistant	Senior Forest Assistant
9	Mrs Joy Dornu	WASC	Senior Forest Assistant	Senior Forest Assistant
10	Mr K. Igonika	WASC	Senior Forest Assistant	Senior Forest Assistant
11	Mr D. Anum	WASC	Crocodile unit	Forest Assistant
12	Mr P. Dike	WASC	Forest Assistant	Forest Assistant
13	Mr D. Ikhagu	WASC	Forest Assistant	Forest Assistant
14	Miss Akubunwa Amadi	WASC	Forest Attendant	Head Forest Attendant
15	Mrs Uwikor M Obumeke	WASC	Forest Attendant	Head Forest Attendant
16	Miss Precious Ogbegbe	WASC	Forest Attendant	Head Forest Attendant

17	Mrs C.E. Omokhua	WASC	Forest Attendant	Head Forest Attendant
18	Miss Stella Etsegbe	WASC	Forest Attendant	Forest Attendant
19	Mr M.V. Onyema	WASC	Forest Attendant	Forest Attendant

ADMINISTRATIVE STAFF

S/N	Name	Qualifications	Responsibility	Designation/ Rank
1	Mr Tochukwu C. Ekeocha	BSc Mgt(IMSU)	Administration	Asst. Registrar
2	Mrs Blessing O. Mac-Aminigo	BSc (Ed.)	General Administration	Asst. Chief Executive Officer
3	Mr C.R. Nnwo	OND	Clerical work	Chief Clerical Officer
4	Mr C. Mokwenye	WASC	Clerical work	Chief Clerical Officer
5	Miss Chika P. Amadi	WASC	Computer operator	Computer Operator II
6	Mrs Blessing Chukwu	FSLC	Clerical work/Messenger	Care taker
7	Mrs Juliet Amadi	FSLC	Office Keeping	Care taker

DEPARTMENT OF FOOD, NUTRITION AND HOME SCIENCE

S/N	Name	Qualifications	Specialization	Designation/ Rank
1	Prof Mercy O. Ifenacho	BSc Human Nutrition & Dietetics (UNN); MSc Human Nutrition (Ibadan); PhD Nutrition & Toxicology (UPH)	Human Nutrition	Professor/ HoD
2	Prof Ebiokpo R. Amakoromo	BSc Microbiology (UPH), PGD, MSc, PhD Food Technology (Ibadan)	Food Technology	Professor/HoD
3	Dr Helen N. Henry-Unaeze	BSc, MSc, PhD Nutrition & Dietetics (UNN)	Human Nutrition and Dietetics	Senior Lecturer
4	Dr V.C. Wabali	BSc, MSc Food Science Technology (RSU); MBA	Food Science & Technology	Senior Lecturer
5	Mr B.B. Dumpe	BSc Microbiology, (UPH); MSc Food Microbiology (UPH)	Microbiology	Lecturer I

6	Miss Ododobari Jike-Wai	BEd Home Econs Edu (RSCOE); MSc Human Nutrition (UNN)	Human Nutrition	Lecturer I
7	Dr Onoriode O. Salomi	NCE, BEd, MSc Home Management (IAUE)	Home Economics & Management	Lecturer II
8	Dr T.W. Orunaboka	BScAgric Engineering (OAU); MSc Food Engineering (RSU)	Food Engineering	Lecturer II
9	Dr. Chidiebere I. Nwakanma	BSc (Home Econs), MSc (Home Mgt)	Home Economics & Management	Lecturer II

ADMINISTRATIVE

S/N	NAME	QUALIFICATIONS	RANK
1	Mr G.A. Chukwu	WAEC & Final Dip. SLT, PGD (UPH), M.Ed. Sci. (RSU)	Chief Technologist
2	Mrs Carolyn K. Uzorka	WASC, B.Sc. Ed.	Assistant Registrar
3	Mrs Abigail A. Jeremiah	SSCE/Pitman Advance	Chief Secretarial Assistant
4	Mr O.M. Aaron	SSCE, ND &HND (TGPA)	Higher Data Processing Officer
5	Mr M. Odedemuze	WASC, TT 1, 2 & 3	Laboratory Supervisor

6	Miss Baride G. Ogbugbu	SSCE	Clerical Officer
7	Mrs Abigail Enyidah	FSLC	Caretaker
8	Mrs Moroliner Itu	FSLC	Cleaner

COMMON COURSES (B. AGRIC PROGRAMME)
100 LEVEL (YEAR 1) COURSES
-FACULTY WIDE-

FIRST SEMESTER			SECOND SEMESTER		
Course Codes	Course Titles	Units	Course Codes	Course Titles	Units
GES 100.1	Communication Skills in English	3	GES 103.2	Nigerian People and Culture	2
FSB 101.1	General Biology I	3	FSB 102.2	General Biology II	3
CHM 130.1	General Chemistry I	3	CHM 131.2	General Chemistry II	3
PHY 101.1	Mechanics and Properties of Matter	3	CHM 132.2	Introduction to Principles of Organic Chemistry	3
MTH 120.1	Calculus	3	PHY 115.2	Heat, Light and Sound	2
GES 102.1	Introduction to Logic and Philosophy	2	GES 101.2	Computer Appreciation and Application	2
MTH 110.1	Elementary Algebra and Sets	2	AGR 101.2	Introductory Statistics for Agriculture	2
PHY 102.1	Physics Practical	1			
TOTAL		20			17

Total units = 37

200 LEVEL (YEAR 2) COURSES

-FACULTY WIDE-

FIRST SEMESTER		SECOND SEMESTER			
Course Codes	Course Titles	Units	Course Codes	Course Titles	Units
AGR 201.1	General Agriculture	2	AGR 205.2	Agro- Climatology and Meteorology	2
CPS 201.1	Crop Anatomy, Taxonomy and Physiology	2	CPS 202.2	Principles of Crop Production	2
AGE 201.1	Principles of Agricultural Economics	2	ANS 201.2	Anatomy and Physiology of Farm Animals	2
FWL 201.1	Introduction to Forestry and Wildlife Management	2	ANS 202.2	Principles of Animal Production	2
AGR 2CS.1	Community Service	1	FSH 201.2	Introduction to Fisheries	2
AGX 201.1	Introduction to Agricultural Extension and Rural Sociology	2	AGR 206.2	Principles of Food Science and Technology	2
AGR 202.1	Introduction to Farm Power and Machinery	2	AGF 201.2	Farm Practice	2
SOS 201.1	Introduction to Soil Science	2	AGR 207.2	Introduction to Home Economics	2

AGR 203.1	Introduction to Agric. Microbiology	2			
AGR 204.1	Computer Application to Agriculture	2			
TOTAL		19			16

Total units = 35

**300 LEVEL (YEAR 3) COURSES
-FACULTY WIDE-**

FIRST SEMESTER			SECOND SEMESTER		
Course Codes	Course Titles	Units	Course Codes	Course Titles	Units
ANS 301.1	Animal Health and Diseases	2	ANS 303.2	Ruminant Animal Production	2
ANS 302.1	Non-Ruminant Animal Production	2	ANS 304.2	Animal Genetics and Breeding	2
CPS 301.1	Arable Crop Production	2	SOS 302.2	Soil Chemistry I	2
SOS 301.1	Pedology and Soil Physics	2	AGX 301.2	Extension Teaching, Learning Methods and Processes	2
CPP 302.1	Introduction to Entomology	2	CPS 303.2	Permanent Crops	2

AGE 301.1	Introduction to Farm Management	2	AGR 303.2	Agricultural Biochemistry	2
AGE 302.1	Introduction to Mathematical Economics for Agriculture	2	GES 300.2	Fundamentals of Entrepreneurship	2
AGR 301.1	Introduction to Remote Sensing	2	CPS 304.2	Crop Genetics and Breeding	2
AGE 303.1	Economic Analysis	2	CPP 305.2	Introduction to Phytopathogens and Weed science	2
AGR 302.1	Agricultural Research and Report Writing	2	AGF 301.2	Field Course	1
TOTAL		20			19

Total units = 39

400 LEVEL (YEAR 4) SIWES

Course codes	Course Title	Units
ANS 401	Non-Ruminant Animal Production	3
ANS 402	ANS 402: Ruminant Animal Production	3
ANS 403	Micro-Livestock Production	2
AGE 402	Farm Management and Accounting	3
AGX 420	Extension Practices	3
CPS 401	Crop Production Techniques	3
CPS 402	Principles and Practices of Crop Protection	2
CPS 403	Mushroom Production Techniques	1
SOS 401	Farm Design, Farm Survey and Land Use Planning	2
SOS 402	Soil Fertility, Plant Nutrition and Laboratory Analysis	2
AGR 401	Agricultural Mechanisation and Workshop Practices	2
AGR 400	Report Writing and Presentation	4
GES 400	Entrepreneurship project	2
TOTAL		32units

Total units = 32

DEPARTMENT OF AGRICULTURAL ECONOMICS AND AGRIBUSINESS MANAGEMENT

Philosophy

The philosophy of the programme is to produce graduates with in-depth knowledge and skilled manpower with competency in Agricultural Economics.

AGRICULTURAL ECONOMICS OPTION

Specific objectives

The specific objectives of this sub-programme are to:

- 1 teach the students the basic principles of agricultural and resource economics and related disciplines of economics, agricultural production, consumer behaviour, resource use efficiency and rural development, agricultural business management and marketing, cooperative management, effective farm management principles, agricultural finance and policy analysis among other sub-fields which can help them in optimizing resources under constraints.
- 2 expose students specializing in Agricultural Economics to courses in Farm Management and Accounting, Production Economics, Agricultural Development and Planning; International Trade; Calculus and Mathematical Economics, Economic Research Methods and Statistics as well as Field Experimentation to gain broad knowledge of agricultural economics and agribusiness theories.
- 3 equip students with skills and knowledge in the conduct of rigorous, evidenced based research to inform policy or course of action.
- 4 prepare students for careers in banking, management of projects/businesses, environmental and natural resource management, academia, donor funds management, marketing and entrepreneurship.

AGRIBUSINESS MANAGEMENT:

The specific objectives of the sub-programme of Agribusiness Management are to:

- 1 provide training for a wide variety of careers in the agribusiness industry so that such trainees and graduates can take up farming and other non-farm agribusinesses as a profitable livelihood upon graduation.
- 2 be able to address the complex challenges in the agri-food systems from scientific knowledge acquired in disciplines of business and agricultural business, economics, quantitative methods, and agricultural sciences. These will help in building competent and productive agripreneurs in the various agricultural value chains that will increase food supply, provide raw materials for industries and contribute to economic growth.
- 3 train a critical mass of graduates who will be able to provide leadership in efficient and prudent management of any type of agribusiness firm using acquired skills and knowledge in the field of agribusiness management
- 4 build experts in agribusiness management with contemporary skills and knowledge in agricultural and commodity marketing at local and international levels, banking, management of projects/businesses, environmental and natural resource management, academia, donor funds management and entrepreneurship
- 5 train experts who are vast and skilled in business analysis and knowledgeable in legal issues that agribusinesses operate in. Faculty members and advisors will maintain close relationships with agribusiness companies, which would offer to help with internships, scholarships and employment in agribusiness fields.

VISION

The Department of Agricultural Economics and Agribusiness Management at the University of Port Harcourt seeks to promote excellence in tertiary education and human capacity building in the area of agricultural economics and agribusiness management in the West African region in fulfilment of the University's vision to be at the centre of entrepreneurship development.

MISSION

To be excellent in the pursuit of knowledge and skills through relevant and quality research, teaching, training for sustainable development, job

creation, consultancy and outreach while contributing towards building improved human resources, agricultural productivity, agri-business development, wealth creation and food security using environmentally sustainable technologies and community engagement.

Entry Requirements

(a) O' Level Subjects

Candidates will possess five credits in GCE/SSCE/NECO in the following subjects: Mathematics, English Language, Chemistry, Biology or Agricultural Science and any one of Physics, Economics, Commerce or Geography at not more than two sittings.

(b) UTME Subjects

Candidates seeking admission into programme must:

- i. Pass the UTME, which must include Use of English, Chemistry, Mathematics or Physics, and Biology or Agricultural Science.
- ii. Pass the Post-UTME and the screening test at an acceptable score/cut off point of the University.

(c) Direct Entry

Prospective candidates of the Department must have a minimum of five (5) credit in WASC; GCE or NECO in Biology or Agricultural science, English Language, Mathematics and Chemistry. The other credits could come from Economics, Commerce, Geography and Government. The candidates who may fall in category two (Direct entry) must possess NCE, OND, or HND (at credit level) in addition to the minimum entry requirement for the JME candidates.

500 LEVEL (YEAR 5) COURSES AGRICULTURAL ECONOMICS OPTION

First semester			Second semester		
Course Codes	Course Titles	Units	Course Codes	Course Titles	Units
AEE 501.1	Social Research Methods and Statistics	2	AGE 500.2	Seminar	1

AGE 501.1	Econometrics	2	AGE 507.2	Principles of Cooperative Practice	2
AGX 505.1	Rural Sociology	2	AGE 508.2	Agri-Business Management and Finance	2
AGE 502.1	Agricultural Marketing and Product Price Analysis	2	AGE 509.2	Agricultural Project Management	2
AGE 503.1	Agricultural Development Policy and Planning	2	AGE 510.2	International Trade in Agriculture	2
AGE 504.1	Farm Management and Accounting	2	AGE 511.2	Production Economics	2
AGX 501.1	Programme Development and Planning in Agric Extension	2	AGX 510.2	Leadership and Group Dynamics	2
AGE 505.1	Micro- Economics	2	AGE 599.2	Research Project	6
AGE 506.1	Resource and Environmental Economics	2			
AGR 502.1	Advances in Agriculture	2			
TOTAL		20			19

Total units = 39

CUMULATIVE UNITS

Agricultural Economics 182 units

AGRICULTURAL EXTENSION AND DEVELOPMENT STUDIES

Philosophy

The founding fathers of the University of Port Harcourt believed that there was need to train Nigerian youths locally, and in sufficient numbers, for the formidable task of disseminating useful and practical information from the research base to the rural farm families for sustainability in food production. Agricultural Extension and Development Studies is based on the philosophy that rural people are intelligent, capable, and desirous of receiving information and making use of it for their individual and community welfare. It is purely voluntary and democratic in its approach to people. It is truly anchored on the principle of working with rural farm families where they are, build on what they have, add to what they know and enabling them to develop themselves.

Vision

Our goal for the agricultural extension program is to empower farmers with the knowledge and resources to increase productivity, improve livelihoods, and create a sustainable agricultural sector. we aim to foster an inclusive community of farmers through innovative approaches and promote environmental sustainability, social equity, and economic growth. our vision is for farmers to have access to the latest techniques and best practices, enabling them to thrive in their local context and contribute to the global food system.

Mission Statement

The mission of our agricultural extension program is to provide farmers with the necessary knowledge, skills, and resources to increase their productivity, improve their livelihoods, and contribute to a sustainable agricultural sector. We strive to achieve this mission by promoting effective communication, collaboration, and partnerships between farmers, researchers, extension agents, and other stakeholders. our program aims to identify and address the specific needs and challenges of farming communities, and to develop and disseminate innovative and

appropriate technologies and practices that can enhance the resilience and sustainability of agriculture. We are committed to promoting social and gender equity, environmental stewardship, and economic growth in the communities we serve. through our efforts, we seek to empower farmers to achieve their full potential and to contribute to the development of a more equitable and sustainable world.

Philosophy

The philosophy of our agricultural extension program is based on the belief that farmers are at the center of sustainable agriculture and rural development. we recognize the critical role that farmers play in feeding the world's population and sustaining the planet's natural resources. our program is grounded in the principles of participatory, farmer-centred, and demand-driven approaches to agricultural extension.

Objectives of the Programme

The objectives of our agricultural extension program are:

- to increase the productivity and profitability of smallholder farmers through the dissemination of appropriate and innovative agricultural technologies and practices.
- to enhance the resilience and sustainability of farming communities by promoting environmental stewardship, natural resource management, and climate-smart agriculture.
- to promote social and gender equity by ensuring that extension services and resources are accessible and responsive to the needs of women, youth, and other marginalized groups.
- to foster inclusive and participatory approaches to agricultural extension by engaging farmers as active partners in the development and dissemination of technologies and practices.
- to strengthen the capacity of extension agents, researchers, and other stakeholders to effectively support farmers and contribute to the development of sustainable agricultural systems.

- to promote market-oriented agriculture by providing farmers with the necessary knowledge and skills to access markets, add value to their products, and increase their incomes.
- to contribute to the development of a vibrant and sustainable agricultural sector that supports economic growth, food security, and poverty reduction.

Entry Requirement

Candidates seeking admission into the programme must:

- Pass the UTME, which must include the Use of English, Chemistry, Mathematics or Physics, and Biology or Agricultural Science.
- Pass the Post-UTME and the screening test at an acceptable score/cut off point of the University.
- Possess five credits in GCE/SSCE/NECO in the following subjects: Mathematics, English Language, Chemistry, Biology or Agricultural Science. The other credits could come from Economics, commerce, Geography and Government at not more than two sittings.

500 LEVEL (YEAR 5) COURSES

AGRICULTURAL EXTENSION AND DEVELOPMENT STUDIES

First semester			Second semester		
Course Codes	Course Titles	Units	Course Codes	Course Titles	Units
AGX 501.1	Programme Development and Planning in Agricultural Extension	2	AGX 500.2	Seminar	1
AGX 502.1	Environmental Issues in Agricultural Extension	2	AGX 508.2	Rural Community Development	2

AGX 503.1	Measurement Techniques and Participatory Tools in Extension Research	2	AGX 509.2	Development and Diffusion of Technologies in Agriculture	2
AGX 504.1	Gender Issues and Development in Extension	2	AGX 510.2	Leadership and Group Dynamics	2
AGX 505.1	Rural Sociology	2	AGX 511.2	Extension Administration, Organization and Supervision	2
AGX 506.1	Home Economics Extension	2	AGX 512.2	Sustainability in Development	2
AGX 507.1	Extension psychology	2	AGX 599.2	Research Project	6
Total		14	Total		17

Total units = 31
Cumulative Units

Elective Courses			Elective Courses		
AGX 508.1	Agricultural Extension Education	2	AGX 513.2	Facilitation and Advocacy in Agriculture (2 units)	2
AGR 502.1	Advances in Agriculture	2	AGX 514.2	Agricultural Extension programmes and Policies	2
Total		4	Total		4

CUMULATIVE UNITS

Agricultural Extension 182 units

**COMMON SYNOPSIS for Bachelor of Agriculture Programme
(Agricultural Economics and Agribusiness Management;
Agricultural Extension and Development Studies; Animal Science;
Crop and Soil Science)**

YEAR ONE (FIRST SEMESTER)

GES 100.1 Communication Skills in English (3 units)

Study/library skills and methods: methods for taking and making notes; techniques for organizing study time; study methods and coping with examinations; Library skills and location of library materials. Listening skills: skills for effective listening comprehension. Basic skills in understanding lectures, dialogue or conversation. Identifying/understanding relevant Language Points in the discourse. Making notes/summaries of lectures. Decoding texts/information, vocabulary, *inference* and meaning, understanding grammar, usage, and style. Reading skills: Importance of Reading; reading as study technique. Kinds of reading: speed reading, skimming, scanning, intensive, extensive, reading for evaluation. Understanding text organization. Reading comprehension: SQ3R method. Reading and developing Vocabulary. Using grammar in Reading and Writing. The Hierarchy: Words and their classes, phrases/clauses. Level of the sentence: English as a SVOCA language. Vocabulary, using the dictionary and word relationships: polysemy, antonym, synonyms, homonyms, homophones, denotation/connotation, collocational patterns: affixation, suffixation, etc. Writing and Speaking Skills.

FSB 101.1 General Biology I (3 units)

Characteristics of life. Investigation in biology. The scientific substance of life; the unit of life (including methods of study); activities of cells; the control of metabolic activities, cell division. Basic principles of inheritance.

CHM 130.1 General Chemistry I (3 units)

Introduction to chemistry; matter, energy, measurement, significant figures; dimensional analysis. State and classification of matter, mixtures, compounds and elements. Atomic theory and molecular structure. Atoms, molecules, ions, periodic table, inorganic nomenclature. Equations, types of reactions, atomic and molecular weights, the mole. Empirical formulae, stoichiometry limiting reagent, molarity, titration. Energy, enthalpy, Hess's law, standard heat of formation, calorimetry. Size of atoms, patterns on periodic table. Chemical bonding, valence, electrons, ionic bonding and size of ions, covalent bonding, and Lewis structures, resonances forms, bond energies, polarities. Hydrogen bonding in solids. Types of solution, concentrations, solution process, T and P effects, reactions in aqueous solutions, colligative properties.

PHY 101.1 Mechanics and Properties of Matter (3 units)

Topics covered in this course will include the following: motion in one dimension in a plane, work and energy, conservation laws, oscillation, solid friction, rotational kinematics and rotational dynamics, equilibrium of rigid bodies, gravitation, Galilean invariance, surface tension, elasticity and viscosity.

MTH 120.1 Calculus (3 units)

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.

GES102.1 Introduction to Logic and Philosophy (2units)

Symbolic logic, special symbols in symbolic logic; conjunction, negation, affirmation, disjunction, equivalence and conditional statement; the laws of thought; the method of deduction using rules of inference and bi-conditionals and quantification theory.

MTH 110.1 Elementary Algebra and Sets (2units)

Algebra and Trigonometry; Real number system, Real sequences and series: sets and sub sets; unit intersection, complements, empty and universal sets, Venn diagram; one way correspondence between sets; quadratic functions and equations; solution of linear equation, simple

properties of determinants; indices and binomial theorem; transformations e.g. Log transformation equation of the straight line and application to simple regression equation; permutations and combinations; circular measure, trigonometric functions of angles, addition and factor formulae; complex numbers; moments and couples; relative velocity; calculus; elementary function of simple real variables; graphs of simple functions; the differentiations of simple algebra; exponential and log functions, differentiation of a sum; product; quotient; function of function rules; implicit differentiation; definite and indefinite integrations of functions; application of definite and indefinite integrals to areas and volumes.

PHY 102.1 Physics Practical (1unit)

Motion in one dimension in a plane; work and energy; conservation laws; oscillation; solid friction, rotational kinematics and rotational dynamics; equilibrium of rigid bodies; gravitation, Galilean invariance, surface tension, elasticity and viscosity. Emphasis is on experimental verifications and quantitative measures of physical laws, treatment of measurement errors and graphical analysis. The experiments include studies of mechanical systems; static and rotational dynamics of rigid bodies, viscosity, elasticity, surface tension and hydrostatics.

YEAR ONE (SECOND SEMESTER)

GES 103.2 Nigerian People and Culture (2 units)

Concepts of culture; The study of Nigerian history and culture in the pre-colonial, colonial and contemporary times; the Nigerian's perception of his world; cultural areas of Nigeria and their characteristics; cultural contact and social change; ethnicity and integration; evolution of Nigeria as a political unit. Norms, values, moral obligations of citizens-environmental sanitation.

FSB 102.2 General Biology II (3 units)

Varieties of organisms. Principles of classification of organisms-systematics. A study of selected animals and plant groups. Analysis of flora and fauna of assigned habitats.

CHM 131.2 General Chemistry II (3 units)

Application of the principles of chemical and physical change to the study of the behaviour of matter and interaction between matters. Course content includes, the chemistry of the representative elements and their common compounds with emphasis on graduation of their properties. Brief chemistry of the first, series of transition elements, general principles of extraction of metals; introductory nuclear chemistry.

CHM 132.2 Introduction to Principles of Organic Chemistry (3 units)

A survey of carbon compounds including an overview of the common functional groups in aliphatic and benzenoid compounds. Introduction to reactants and reaction in organic chemistry.

PHY 115.2 Heat, Light and Sound (2 units)

Thermodynamics, colorimetry and heat transfer. Geometrical optics will include reflection of light at the plane and curved surfaces, and optical instruments. Properties and progression of sound waves. Sound waves propagating in air columns. Doppler effect.

GES 101.2 Computer Appreciation and Application (2 units)

Introduction to basic computer concepts. Historical development and classification of computers. Hardware, software and firm ware components of a computer. Computer programming languages,

introduction to data bases, data capture techniques. Introduction to computer networks, computer operation. Introduction to Disk Operating System (DOS). Microsoft windows and windows applications. Introduction to data processing. An introduction to the internet.

AGR 101.2 Introductory Statistics for Agriculture (2 units)

Idea of statistics. Sequence of statistical investigation; Data collection methods; Sampling; Basic statistical notations; Methods of collation and presentation of data; Measures of location (mean, mode, median); quantities; Measures of dispersion (variance, standard deviation, standard error, coefficient of variation), skewness and kurtosis.

YEAR TWO (FIRST SEMESTER)

AGR 201.1 General Agriculture (2 units)

Definition, scope and importance of agriculture; Agricultural ecological zones and distribution of farm; Introduction to Agricultural Economics and Extension; Introduction to Farm Forestry; Introduction to Crop Science; Introduction to Soil Science; Introduction to Farm Mechanization; Introduction to Animal Science; Introduction to Fisheries and Aquaculture; Post-harvest handling of agricultural products.

CPS 201.1 Crop Anatomy, Taxonomy and Physiology (2 units)

Parts of the crop cell, cell biology and cell types. Development of cells and tissues, comparative anatomy of major plant organs. Enzymes, photosynthesis, respiration and energy utilization; Transpiration; pollination and fertilization; seed dormancy and germination, mineral nutrition. Introduction to plant taxonomy, characteristics, distribution, economic importance and local examples of leguminosae, gramineae, compositae, dioscoreasae, rutaceasae, use of plant keys. Growth and development, structure and function of plant growth hormones. **Practical:** dormancy and seed germination studies; mineral nutrition experiment.

AGE 201.1 Principles of Agricultural Economics (2 units)

Economics of agriculture, efficiency of resource allocation; Agricultural resources; Production, processing, marketing/distribution and utilization of farm produce; Cost Price analysis, demand, supply.

FWL 201.1 Introduction to Forestry and Wildlife Management (2 units)

Nature and scope of forestry and forest. Structure, classification and importance of forest. Forest products; fauna and flora. Introduction to wildlife, importance of wildlife, forestry and wildlife interlinks.

AGR 2CS.1 Community Service (1 unit)

The course is designed to make the students appreciate the dignity of labour and to acquire a sense of service to the community. Students are to execute various special projects modelled in line with their field of study.

AGR 202.1 Introduction to Farm Power and Machinery (2 units)

Aims and objectives of farm mechanization. Basic mechanics. Workshop tools. Principles of internal combustion engines and electric motor. Study of farm machinery used for tillage; ploughs, harrows, cultivators, farm power transmission system. Harvesting and processing equipment. (sprayers and dusters). Equipment for livestock (automatic feed conveyors, automatic drinkers for poultry, feeding and watering equipment, milking and milk handling equipment, meat processing equipment). Water lifting and irrigation equipment. Survey instruments used on the farm. Operating principles, selection and maintenance procedure of farm machinery. Farm machinery costing and records. Workshop and building materials used on the farm. **Practical:** Day-to-day operations of machines and implements; visits to farm machinery suppliers such as Dizengoff, SCOA, etc.

SOS 201.1 Introduction to Soil Science (2 Credits)

Soils -genesis and formation, factors of soil formation, weathering (physical, chemical and biological), physico-chemical properties of soils. Soil moisture, air, and temperature, soil classification and survey, scope of soil science. Soil colloids, soil reactions. Soil organic matter and soil organisms, soil and water conservation, nutrient requirements and mineral nutrition of plants, introduction to fertilizers. **Practical:** Description of soil profile pit; particle size analysis.

AGR 203.1 Introduction to Agricultural Microbiology (2 units)

Importance of microbiology in agriculture; Introduction to microbial world; Broad groups of microflora and microfauna; Classification of microorganisms and other soil organisms (bacteria, fungi, viruses, nematodes, protozoans, earthworms, and other annelids) Morphology, growth and reproduction of bacteria, yeast, moulds, viruses; Importance of soil microbiology in agriculture, classification of soil organisms; soil organic matter decomposition; microbial transformation of phosphorus, iron, nitrogen and sulphur; biochemistry and microbiology of nitrification; nitrogen fixation by legumes and non-legumes and its significance. Microbial release of nutrients in soils and plant nutrition. Influence of soil factors on population and activities of microbes; role of micro-organisms in soil fertility. Transformation of hydrocarbons and pesticides. Rhizosphere and its importance. **Practical:** Use of microscopes; Cultivation of micro-organisms, preparation of culture media, isolation of bacteria and fungi; Preparation of slides for microscopic examination and identification; safety precautions in microbiology laboratory.

AGR 204.1 Computer Applications to Agriculture (2 units)

Importance of computers in Agriculture; ICT applications in Agriculture; Use of spreadsheet; use of graphics for agricultural communication; use of PowerPoint for presentation. Data management; Use of statistical packages. Visits to organizations

YEAR TWO (SECOND SEMESTER)

AGF 201.2 Farm Practice (2 units)

Fisheries	Animal Science	Crop & Soil Science	Forestry & Wildlife	Food Nutrition & Home Science
Fish culture Hatchery production Fish feed production	Livestock production Silage making	Mushroom production Composting Budding/ Grafting Soil survey	Bee keeping Snail production Game management and utilization	Food processing Food production Food demonstration

			Forest nursery/ Arboretum	
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AGR 205.2 Agro-climatology and Meteorology (2 units)

The principles, aims and scope of climatology and biogeography. The elements and control of climate and weather and the dynamics of the earth atmosphere. Radiation and heating of the atmospheric systems, atmospheric moisture, the dynamics of pressure and wind systems. Condensation and precipitation processes. Seasonal variation in temperature, day length, radiation, rainfall and evaporation. Equipment and maintenance of standard meteorological stations. The climate; relation between agriculture and climate with reference to crops, livestock, irrigation, pests and diseases. Environment and its significance to agriculture, influence of moisture, humidity temperature, radiation and wind in crop growth and production; wind breaks and shelter belts; micro-changes within crop stands and their effects on crops, selection of crops in relation to environmental factors. **Practical:** measurements of net radiation and micro-climatic parameter in crop stands, study of agro meteorological data; field trips to meteorological stations.

AGR 206.2 Principles of Food Science and Technology (2 units)

Definition and scope of Food Science and Technology; Food distribution and Marketing; Food and its functions; Food habits; Food poisoning and its prevention; Principles of food processing and preservation; Discussion of different preservation methods; Deterioration and spoilage of foods, other post-harvest changes in food; contamination of foods and natural sources; Composition and structures of Nigerian/West African food; factors contributing to texture, colour, aroma and flavour of food; Cost; Traditional and ethnic influences of food preparation and consumption pattern; Elementary Biotechnology. **Practical.**

AGR 207.2 Introduction to Home Economics (2 units)

Philosophy, scope, objectives and historical development of home economics (Food and Nutrition, Home management, Clothing and Textile); Examination of basic human needs with respect to food, clothing, shelter and health. Programme approaches in home economics which help to meet these needs. Preparation for careers in a variety of

occupation. Roles of women in agriculture. **Practical:** Flour confectioneries; industrial catering.

CPS 202.2 Principles of Crop Production (2 units)

Crop production and its development. The principles, problems and prospects of crop production, importance of crop rotation, cultural practices; water uptake, weeds, weed control, and their effects on crop production, pests and diseases. Basic Mendelian genetics. Principles of crop production, harvesting, processing and storage. **Practical:** Test of seed viability, germination of seeds in laboratory and in field; tillage practices; identification of fertilizers; field trip to different cropping systems.

ANS 201.2: Anatomy and Physiology of Farm Animals (2 units)

Introduction and glossary of some anatomical and physiological terms. External features of farm animals including their functions and usefulness. Skeletal, digestive and other systems in ruminants and non-ruminants. Nature of farm animals (body fluids; homeostasis; temperature regulation). Blood cells and their various functions. Classes and roles of farm animals. Nutrition and digestion in non-ruminants and ruminants. Endocrinology and its functions. Egg formation and production in poultry. Lactation and milk letdown in farm animals.

ANS 202.2: Principles of Animal Production (2 units)

Animal production and its development. The livestock industry – problems and prospects. Introduction to the factors of production in animal husbandry. Descriptions of different breeds of cattle, sheep and goats; pigs, poultry and rabbits, etc. Feeding habits of farm animals. Principles of breeding and livestock judging. General principles of management for different classes of farm animals (parent stock, breeders, weaners, etc.). Livestock husbandry operation and production systems for different livestock – cattle, sheep and goats, poultry, swine, and rabbit. The impacts of the environment on livestock production.

FSH 201.2 Introduction to Fisheries (2 units)

Introduction, definitions, nature and scope of fisheries; Fish products and their importance. External morphological features of bony and cartilaginous fishes.

YEAR THREE (FIRST SEMESTER)

AGR 301.1 Introduction to Remote Sensing (2 units)

Introduction; Physics of EMR (Energy sources, radiation principles); characteristics of Remote Sensing sensors and satellites; Reflectance properties of earth surface and atmospheric features (energy interactions, spectral reflectance curve, spectral reflectance of soil, water and vegetation); Remote sensing data analysis (visual image interpretation, digital image processing); Integration of remote sensing with GPS and GIS; Reference field data; successful applications. **Practical.**

AGR 302.1: Agricultural Research and Report Writing (2 units)

Purpose and type of research; research proposal; problem identification and hypothesis formulation; methods of primary and secondary data collection; data organization and presentation; scientific writing; formats for project and thesis presentation. Review of basic statistics: frequency distribution, measures of location and dispersion; Principles of field experimentation.

AGE 301.1 Introduction to Farm Management (2 units)

The nature of farm management and production economics. Theory of agricultural production and revenue concepts; Elements of time, risk, and uncertainty in agricultural production. Break-even, gross net margin, and budgetary analysis.

AGE 302.1 Introduction to Mathematical Economics for Agriculture (2 units)

Simple production function. The nature of Mathematics for Economists, Terminologies, Concepts and Tools in Mathematics for Economists; variables, constants, parameters and coefficients. Graphs, slopes and intercepts. Supply and Demand analysis. Derivatives and rules of differentiations. Income and determination models IS-LM analysis. Marginal concepts in Economics. Integration and logarithms.

AGE 303.1 Economic Analysis (2 units)

Nature and scope of macro-economics, circular flow of national income and product. Determinants of aggregates. National income, expenditure, investments, interest rates, savings and employments. Demand and supply of money and monetary policies. Macro-economic equilibrium. Nature, causes and remedies of inflation. International trade.

ANS 301.1: Animal Health and Diseases (2 units)

The economic impacts of diseases on livestock and poultry production; environmental factors in relation to major livestock and poultry diseases. Helminth and protozoal parasites of livestock and poultry. Bacterial, fungal and viral infections of farm animals; The classification, diagnosis, epidemiology, prevention, treatment and control of different livestock and poultry diseases. Notifiable diseases. Principles of immunity and disease resistance and their practical applications. The science, handling and management of sick animals; Drug administration, vaccination programmes and schedules. Ante- and post-mortem examinations in the diagnosis of diseases; Applied entomology and elements of chemical and biological control of disease vectors in livestock and poultry; Applied parasitology in livestock and poultry, and their socio-economic effects.

ANS 302.1: Non-Ruminant Animal Production (2 units)

Non-ruminant animal industry and its contribution to national growth and development. Importance and distribution of non-ruminant animals. Breeds and production systems. Nature of non-ruminant farm animals – poultry, swine, rabbits, and selected micro-livestock of socio-economic importance. Management and husbandry practices. Animal health and hygiene. Non-ruminant products and by-products, and marketing.

CPS 301.1 Arable Crop Production (2 units)

Origin, distribution, soil and climatic requirements of cereals, grain legumes, root and tuber crops, fibre crops, sugar crops and other important arable crops in Nigeria. Improved varieties, production practices, harvesting, utilization, processing, storage and economic aspects of the selected arable crops. **Practical:** study of various production practices of some selected crops from sowing to harvesting in small plots.

CPP 302.1 Introduction to Entomology (2 units)

Insect morphology, structure and function; life cycles and metamorphosis, semi-chemicals – kairomones, allomones, pheromones; insects' classification and identification; orders of insects of economic importance with special emphasis on insects found in Nigeria. **Practical:** insects' morphology, taxonomy and identification; killing and preservation of insects; preparation for insects' parts, fixing, staining and drawing.

SOS 301.1 Pedology and Soil Physics (2 units)

Soils, its origin, and formation. Soil morphological characteristics, soil components, rock and mineral weathering. Profile pit, soil survey, soil mapping, soil classification, properties and management of Nigerian soils. Definition of soil physics, physical properties of soils, mechanical analysis of soils, textural profile, soil structure, bulk density, porosity, effects of applied stress on soil, soil compaction and compression, soil air and aeration, soil water content, properties and forces acting on soil water, management of soil physical conditions, soil tilth and tillage, soil physics and agriculture **Practical:** laboratory and field determinations of soil physical properties, soil profile pit description.

YEAR THREE (SECOND SEMESTER)

ANS 303.2: Ruminant Animal Production (2 units)

Ruminant animal industry and its contribution to the growth and development of an economy. Breeds and production systems. Housing, feeding, breeding and reproduction in ruminants. Management of breeding stock; growing of young ruminants including housing and feeding of cattle, sheep and goats. Ruminant health and hygiene. Ruminant products and by-products, and marketing.

ANS 304.2: Animal Genetics and Breeding (2 units)

History of genetics and breeding; Chromosomes structure, number and variation; Gene and genotype; Genetic code; Mendelism; fundamental principles of inheritance; Quantitative and qualitative characters and their inheritance. Different types of gene action, values and means, repeatability, heritability, etc. Animal variation and selection principles; Breeding and environmental effects; Inbreeding, pure line breeding, cross

breeding and other breeding methods. Selection in breeding, and genetic engineering in contemporary livestock production systems.

AGF 301.2 Field Course (1unit)

Study visit to areas, institutions, industries, etc., relevant to students' area of specialization. Students are required to write a report on the trip.

AGR 303.2 Agricultural Biochemistry (2 units)

Biochemistry in agriculture, food and nutrition; Proteins, vitamins, minerals in farm produce- eggs, meat, vegetable, etc. food processing and natural products; Metabolism of carbohydrates, proteins and lipids (metabolic pathways).

CPS 303.2 Permanent Crops (2 units)

Origin, distribution, soil and climatic requirements of some important permanent and perennial crops such as cocoa, oil palm, rubber, coffee, tea, coconut, sugarcane, kola, cashew, mango, bananas, plantain, citrus, guava, gum Arabic, etc. Production practices, improvement, harvesting, utilization, processing, storage and economic aspects of some selected permanent and perennial crops. **Practical:** visit to different nurseries and plantations to observe practices followed in the propagation of permanent crops; propagation of few permanent crops in the University farm.

CPS 304.2 Crop Genetics and Breeding (2 units)

Cell structure and components, chromosomes, structure, number and variations; linkage and cross-over, mutation and genes in population and transmission of biological variations, theory of evolution, fundamental principles of inheritance. Mendelian genetics, introduction to population and quantitative genetics. Objectives and general principles of crop breeding including their application to self-pollinated and vegetatively propagated crops. General and special methods of selection, in-breeders and out-breeders; compatibility; male sterility. Heterosis, polyploidy in crop breeding; mutation breeding. Breeding methods for crop improvement, development, multiplication and distribution of improved varieties.

CPP 305.2 Introduction to Phytopathogens and Weed Science (2 units)

The major fungi, bacteria and viruses; nematodes, weeds and other disease organisms of crops and stored products. Study of the effects of bacteria, fungi, viruses and nematodes – their biology and ecology; morphology and taxonomy of weeds; modes of dispersal and germination; characteristics, classification and biology of weed. Taxonomy, morphology and life history of plant parasitic nematodes.

Practical: identification of common weeds in the area; field study in the University farm. Microscopic studies of nematodes; techniques of processing soil and plant material by means of sifting and gravity and Berman-funnel techniques

SOS 302.2 Soil Chemistry I (2 units)

The soil chemical composition, soil colloids, saline, alkaline, and acid soil properties, ion exchange, cation exchange capacity, base saturation, chelating agents and soil organic matter. Laboratory exercises. **Practical:** Determination of soil carbonates, organic matter content, extraction, fractionation, and characterization, exchangeable Ca, Mg, K, Na, and ESP determination, specific anion reactions, soil pH measurement, electrical conductivity measurement, exchangeable NO_3^- and NH_4^+ determination.

AGX 301.2 Extension Teaching, Learning Methods and Processes (2 Units)

The nature and elements of communication. The meaning of the concepts of teaching, learning and motivation; steps and principles of teaching and learning; extension teaching methods; preparation and use of teaching materials and aids.

GES 300.2: Fundamentals of Entrepreneurship (2 units)

Concept, history and development of entrepreneurship; The entrepreneur qualities and characteristics; The Entrepreneur and Business environment; identifying business opportunities; starting and developing new business ventures; legal forms of business ownership and registration; Types of business ownership; Feasibility studies; Role of small and Medium Scale Enterprise (SME) in the economy; Role of government on Entrepreneurship; Business location and layout; Accounting for SME; Financing SME; Managing of SME; Marketing in SME; Risk Management of SME; Success and Failure factors of SME;

Prospects and Challenges of Entrepreneurship and Intrapreneurship;
Ethical behaviour in small business.

YEAR FOUR

GES 400 Entrepreneurship project (2 units)

AGR 400 (SIWES): Report writing (30 units)

COURSE OPTIONS

AGRICULTURAL ECONOMICS PROGRAMME

YEAR FIVE (FIRST SEMESTER)

AEE 501.1 Social Research Methods and Statistics (2 units)

Defining a research problem; Developing hypothesis and objectives; Principles of research design; Questionnaire preparation and collection of data; Principles of measurement; Scaling techniques; Data collection methods; Sampling techniques; Report writing; Presentation procedures and skills (narrative, tabular, pictorial formats, etc.); Participatory research techniques; Inferential statistics: Chi-square; t-test; Z-test; Analysis of Variance (ANOVA); Correlation; Regression (Logit, Probit),

AGE501.1 Econometrics (2 units)

Nature and scope of econometrics. Correlation and regression analysis. Assumptions of the OLS method of estimation. Violation of the basic assumptions of the OLS method of estimation. Estimation with bad or deficient data. Multiple regression analysis. Applications of econometrics theory in statistical demand, production and cost analysis. Methods and application of econometrics to agricultural problems.

AGE 502.1 Agricultural Marketing and Product Price Analysis (2 units)

Factors affecting demand and supply of farm produce, elasticities (price, income and gross) and total revenue price and output fluctuation and cycles, Cobweb theorem; demand for farm inputs and optimum conditions; agricultural price stabilization and support policies; time series analysis. Approach to marketing studies, conduct and performance, types of agricultural markets and prices, farm gate, wholesale, and retails; demand for products and elasticities. Characteristics of supply of farm products; marketing efficiency; cost of marketing and marketing margins; pricing of agricultural commodities, standardization, grading, packaging, etc. Nigerian Commodity Marketing Boards; future markets, marketing problems in Nigerian agriculture.

AGE 503.1 Agricultural Development Policy and Planning (2 units)

Historical and analytical treatment of government agricultural policies and programmes in Nigeria and developing countries in general; theories and policies of agriculture; the role of agriculture in the economy; interrelationship between agricultural and individual development; sectoral planning of agriculture problems of agricultural development and planning. Integrated rural development and planning.

AGE 504.1 Farm Management and Accounting (2 units)

Decision making process, depreciation techniques of asset, farm budgeting, farm planning and analysis, problems of organization and managing farms, linear programming. Kinds and function of farm records and account, basic principles of accounting, nature of simple farm account, farm records and inventories, the balance sheet, journal and ledger, profit and loss statement preparation, adjusting entries.

AGE 505.1 Micro-Economics (2 units)

Nature and scope of micro-economic theory; The theory of consumer behaviour, theory of production, traditional versus modern theory of cost, theory of the firm, perfect competition, monopoly, monopolistic competition and oligopoly. Demand and supply analysis and its application in agriculture. Production, cost and revenue concepts; Theory of distribution, market structure and general equilibrium theory. Elements of welfare economics.

AGE 506.1 Resource and Environmental Economics (2 units)

Meaning and scope of land economics; institutional factors affecting land use; land tenure and its implication for agricultural development, renewability and non-renewability of land resources, Malthusian and Richardian models. Current public policies affecting land use; state in relation to agriculture, land tenure system, tenancy law; taxation of agricultural properties. Meaning and scope of environmental economics, externalities and market failure, Benefit Cost analysis.

AGX 501.1 Programme Development and Planning in Agricultural Extension (2 units)

Definition and principles of extension programme planning; approaches and steps in extension programme planning; importance of programme

planning in agricultural extension needs, types and criteria for effective programme objectives; learning experience, clientele participation; long and short range programme, plan of work and calendar of work; the role of good public relations; and cooperation for an extension worker; associations and cooperatives; concepts of evaluation applied to agricultural extension programme. **Practical:** Students will develop extension programme of work and report; field trip.

AGX 505.1 Rural Sociology (2 units)

Theory of sociology; Analysis of social structure of rural agrarian system and societies. Selected theories of social change and their potential for modernization of rural societies; social change and attitude change. Measurements of changes in rural societies, resistance and conducive forces to change in rural societies. Economic aspects of social change; group dynamics; traditional institutions and their transformation, leadership patterns. Involvement of local people in direct change. Problems of rural societies, their causes and solutions special topics in rural sociology, selected case studies.

AGR 502.1: Advances in Agriculture (2 units)

Historical background, Principles (principles of health, fairness, ecology, care) and practice of organic agriculture; Organic crop production, pest and disease management, predator control for sustainable and organic livestock production. Organic forestry, climate change and carbon sequestration, pasture management. Enterprise budgets and production costs for organic production, organic marketing resources and green markets; Hydroponic Agriculture: Preparation of nutrient solutions, media and methods (water culture, sub irrigation, sloop and drip). Benefits and constraints; Tissue Culture and Cloning Technology: Introduction, laboratory requirements, effects of hormone balance on explants growth and morphogenesis, callus formation and multiplication, establishment of Suspension Cultures and Anther culture. Applications and relevance to Agriculture. Criticisms and laws (Bioethics and Biopiracy). Genetically modified organisms (GMOs) (Health issues, influence on biodiversity, benefits and demerits); organic farm certification and export markets.

YEAR FIVE (SECOND SEMESTER)

AGE 500.2 Seminar (1 unit)

Each final year student is expected to deliver seminar on a chosen topic.

AGE 507.2 Principles of Cooperative Practice (2 units)

History and concept of cooperatives; Kinds and operations of agricultural cooperatives; Cooperative production and marketing; Agricultural cooperatives in socialist and capitalist economic systems; Problems of agricultural cooperatives in Nigeria.

AGE 508.2 Agri-Business Management and Finance (2 units)

Farm structure, size and performance of business organizations in the agricultural sector. Public policies affecting growth of agribusiness farms in Nigeria; organization and management of such large-scale farms; legal organization and tax strategies. Economics of agricultural processing, principles of agricultural finance and farm credit. Capital needs of agricultural industries. Sources of loan, government credit policies and approaches to efficient credit management.

AGE 509.2 Agricultural Project Management and Evaluation (2 units)

Nature of agricultural projects in agricultural development. Principles of development (project cycle). Agricultural schemes, e.g. River Basins, Plantations, Large scale farms. Techniques of project management in agriculture; Cost-Benefit analysis; rate of returns calculations; cash flow procedures; farm and other resource valuation

AGE 510.2 International Trade in Agriculture (2 units)

International trade theory and its implication for agriculture; determinants of trade specialization; terms of trade; balance of payments and exchange rate systems, trade policies, free trade versus protectionism and their implications for agriculture, regional blocs, EEC, ECOWAS etc.; problems of international trade.

AGE 511.2 Production Economics (2 units)

Scope and nature of production economics. Theory of production. Production relationships. Goals of production; Nature and structure of farm resources; organization of production-farm cost functions.

Agricultural supply functions. Production planning research; the linear programming approach. Case studies.

AGE 599.2 Research Project (6 units)

Each final year student is expected to take up a project topic, propose his/her research and present findings of the research work. This shall be under the supervision of a lecturer(s) in the department. Hard copies of the project must be submitted to the department.

DEPARTMENT OF AGRICULTURAL EXTENSION AND DEVELOPMENT STUDIES

YEAR FIVE (FIRST SEMESTER)

AEE 501.1 Social Research Methods and Statistics (2 units)

Defining a research problem; Developing hypothesis and objectives; Principles of research design; Questionnaire preparation and collection of data; Principles of measurement; Scaling techniques; Data collection methods; Sampling techniques; Report writing; Presentation procedures and skills (narrative, tabular, pictorial formats, etc.); Participatory research techniques; Inferential statistics: Chi-square; t-test; Z-test; Analysis of Variance (ANOVA); Correlation; Regression (Logit, Probit),

AGX 501.1 Programme Development and Planning in Agricultural Extension (2 units)

Definition and principles of extension programme planning; approaches and steps in extension programme planning; importance of programme planning in agricultural extension needs, types and criteria for effective programme objectives; learning experience, clientele participation; long and short range programme, plan of work and calendar of work; the role of good public relations; and cooperation for an extension worker; associations and cooperatives; concepts of evaluation applied to agricultural extension programme. **Practical:** Students will develop extension programme of work and report; field trip.

AGX 502.1 Adult and Sustainable Livelihood Education in Agricultural Extension (2 units)

Characteristics of formal education rationales for adult education in agriculture, principles of adult learning through lifespan; effective teaching methods for adult farmers; identifying and enrolling clientele; how and why adults learn; motivating and preserving farmers interest in learning; planning process for adult educational programme in agriculture; principles and procedures for evaluating programme in adult education in agriculture. Practical: case studies: field trip.

AGX 503.1 Communication in Agricultural Extension and Development Studies (2 units)

Definition and principles of effective communication process and agricultural productivity; communication models; patterns of communications in agriculture; principles of public speaking; Noise in communication and ways of controlling them; types of agricultural information materials and their preparations; principles and contribution of audio-visuals in agriculture, radio and television broadcast; extension circular letter, poster and report; new development in mass media for agricultural clientele. Use of ICTs in agriculture (Email. Internet. Web); photography and documentation in extension. Meaning and importance, concepts and techniques of speech writing; principles and methods of writing various types of extension publications. Leaflets, circular letter, future stories etc; techniques of writing scripts for radio press release and films; principles of layout and cover designs; working knowledge of various types of printing processes. Practical. Laboratory experience in preparation and use of projection and non-projected audio visuals. Trip to media houses. Practice on how to use several media such as digital cameras. Practice in writing and preparing leaflets, circular letters, feature articles, news stories, script for radio, etc.

AGX 504.1 Rural Youth and Women Extension Programme (2 units)

Philosophy of rural youth work; types of rural youth clubs; basic factors in organizing rural youth programme. Development of extension programme for youth clubs. Organization for administration and supervision; leadership training in rural youth organization, training professional youth workers; evaluating rural youth programme. Philosophy and principles of home economics extension in Nigeria; Scope of home economics; role of rural women in Nigerian agriculture and economic development; factors in home economics programmes, planning and evaluation; priority determination; coordinating home economics with other agencies and organizations for rural development. **Practical;** Field study and trips

AGX 505.1 Rural Sociology (2 units)

Theory of sociology; Analysis of social structure of rural agrarian system and societies. Selected theories of social change and their potential for modernization of rural societies; social change and attitude change. Measurements of changes in rural societies, resistance and conducive forces to change in rural societies. Economic aspects of social change; group dynamics; traditional institutions and their transformation, leadership patterns. Involvement of local people in direct change. Problems of rural societies, their causes and solutions special topics in rural sociology, selected case studies.

AGX 506.1 Home Economics Extension (2 Units)

Philosophy and principles of home economics extension in Nigeria: scope of home economics; Gender analysis in agricultural and rural development extension: Role of women in the household, research methodologies, rural livelihood diversity, appropriate technology for rural women, income generation, nutrition and household food security, environmental education, health education; role of rural women in Nigerian agriculture and economic development; Participatory training: principles of participatory training factors in home economics programmes, planning and evaluation; priority determination; coordinating home economics with other agencies and organisations for rural development. Post-harvest handling and storage, chemical and physical changes of food; food preparations methods; food systems and food environments, food hygiene and food safety education; food security; food processing techniques, presentation, and preservation.

Different types of fibers and fabrics for clothing and household uses; Dress sense; interior decoration, consumer education, principles of home management. **Practical:** Field study and trips.

AGX 507.1 Extension Psychology (2 units)

Personality development of individuals; factors influencing personality development; concepts, meaning of education, training. learning, teaching, intelligence, intelligent Quotient (IQ) and its application to learning. Concepts of remembering, forgetting, factors, enhancing them; strategies for solving problems of remembering, forgetting etc. EQ in human relations; classification of extension methods and description of selected methods- demonstration, meeting, campaigns, agric-shows, field-trip etc. Implications of psychology to extension education.

AGR 502.1: Advances in Agriculture (2 units)

Historical background, Principles (principles of health, fairness, ecology, care) and practice of organic agriculture; Organic crop production, pest and disease management, predator control for sustainable and organic livestock production. Organic forestry, climate change and carbon sequestration, pasture management. Enterprise budgets and production costs for organic production, organic marketing resources and green markets; Hydroponic Agriculture: Preparation of nutrient solutions, media and methods (water culture, sub irrigation, slop and drip). Benefits and constraints; Tissue Culture and Cloning Technology: Introduction, laboratory requirements, effects of hormone balance on explants growth and morphogenesis, callus formation and multiplication, establishment of Suspension cultures and Anther culture. Applications and relevance to Agriculture. Criticisms and laws (Bioethics and Biopiracy). Genetically modified organisms (GMOs) (Health issues, influence on biodiversity, benefits and demerits); organic farm certification and export markets.

AGX 510.2 Leadership and Group Dynamics (2 units)

Definition and determination of leadership; Sources and structure of leadership in rural communities; types of community leaders and their role in facilitating acceptance of improved agricultural practices. Leadership theory; selection of local leaders; leaders and the group; types of community groups; groups and group dynamic theory; cooperation and conflicts within community systems; theory of group action. Problem

solving in rural communities; group interactions and its effects on extension programme. **Practical:** Case studies; role play.

SECOND SEMESTER

AGX 500.2 Seminar (1 unit)

Each final year student is expected to deliver seminar on a chosen topic.

AGX 508.2 Rural Community Development (2 units)

Sociological, economic and related policy perspectives as they relate to rural development. The theories of community; community as a unit of social change; the micro and macro approaches to social change; dimensions of innovations; approaches to community development and other developments. Models of rural/agricultural development and infrastructural community development in Nigeria and other developing countries. The future of communities in Nigeria. Case studies on community development in Nigeria and other developing countries.

AGX 509.2 Technological and Social Change in Agriculture (2 units)

Understanding Technological change; Basic sociological concepts; technological change and societies; general principles in introducing technological change; Technological change in Nigerian agricultural development and extension; Ethical consideration in introducing technological change; Concept of Participatory Technology Development (PTD); Use of other participatory tools such as RRA, PRA etc. for development research

AGX 510.2 Leadership and Group Dynamics (2 units)

Definition and determination of leadership; Sources and structure of leadership in rural communities; types of community leaders and their role in facilitating acceptance of improved agricultural practices. Leadership theory; selection of local leaders; leaders and the group; types of community groups; groups and group dynamic theory; cooperation and conflicts within community systems; theory of group action. Problem solving in rural communities; group interactions and its effects on extension programme. **Practical:** Case studies; role play.

AGX 511.2 Agricultural Extension Administration (2 units)

Concepts, theories, principles and guidelines of administration, organization; supervision as applied to agricultural extension. Administrative functions and responsibility in agricultural extension, staff recruitment, training and development in extension services, selection and budget development and fiscal control; organization and administrative factors influencing development and implementation of extension policies; managerial decision making model in agriculture; extension personnel and office management; assessment of work accomplishment.

AGX 512.2 Diffusion of Innovations (2 units)

Definition and elements of diffusion; processes of adoption of innovations. The innovation decision process. Characteristics of innovation. Adoption rates and adopter categories. Factors to the differential adoption of agricultural innovations. Implication of these factors and process for effective agricultural extension work in rural areas. Relation between extension teaching methods and adoption categories opinion leadership. Theoretical formulation on the diffusion of innovations.

AGX 513.2 Comparative Extension Systems (2 units)

Agricultural extension in African countries (Nigeria, Kenya, Cameroun, Ghana, etc.); Agricultural extension in Europe/America; comparison of the various extension approaches used in different parts of the world. Private Extension Systems in selected countries of the world.

AGX 599.2 Research Project (6 units)

Each final year student is expected to take up a project topic, propose his research and present findings of the research work. This should be under the supervision of lecturer(s) in the department. Hard copies of the project should be submitted to the department.

DEPARTMENT OF ANIMAL SCIENCE

Vision

Our vision is to be recognized as leaders amongst entrepreneurial and research-intensive departments and as key players in the training of graduates that will acquire sufficient practical skills and theoretical knowledge to engage in teaching, research, entrepreneurial and other related activities in the Animal Industry.

Philosophy

Our philosophy is to produce animal scientists with the right competence that would enable them to harness the tremendous opportunities in agriculture through designing appropriate technologies that are demand-driven in response to local needs for sustainable animal agriculture and livestock production that is economically viable and profitable, socially acceptable, and environmentally friendly.

Objectives

- a). To produce the appropriate manpower equipped with necessary skills to establish and profitably operate animal and livestock enterprises;
- b). To improve the genetic stock and introduce scientific animal and livestock management in the Delta Creek ecosystem.
- c). To promote animal and livestock production and productivity by local small scale farmers, thereby providing solutions to the country's animal science and livestock production problems and challenges.
- d). To equip our graduates with the right technical and entrepreneurial skills and capacity necessary to appropriate their scientific knowhow for the development of practical solutions and the advancement of the animal and livestock sub-sector.
- e). To design appropriate technologies that would be demand-driven in response to local needs and resolve ecological challenges for increased and sustainable animal agriculture and livestock productivity.

Admission Requirements:

Candidates seeking admission into the programme must:

- i. Pass the UTME, which must include Use of English, Chemistry, Mathematics or Physics, and Biology or Agricultural Science and meet up the University (Uniport) minimum score for the session in view.
- ii. Pass the Post-UTME screening exercise of the University and meet up the requirements for the Faculty.
- iii. Possess five credits in GCE/SSCE/NECO in the following subjects: Mathematics, English Language, Chemistry, Biology or Agricultural Science and any one of Physics, Economics or Geography at not more than two sittings.

Structure and period of studies in the Universities, Industrial Training, planned visit and projects.

Students spend a minimum of five academic sessions (that is, 10 semesters) to complete the programme. The students are first exposed to external farm environment courtesy of farm practice and field course at 200 and 300 Levels, respectively that require excursions and field trips to any functional farm, usually an integrated farm within or outside the state. The whole of the fourth year is used for Industrial Training (IT) programme (also referred to as the Students' Industrial Work Experience Scheme; SIWES) at relevant farms and/or institutions.

Presently, the Department places or sends students on IT to:

- i) Domita Farms – Uyo in AkwaIbom State;
- ii) Fidelity Farm – Omagwa in Rivers State;
- iii) Rivers State Sustainable Development Agency (RSSDA) – Songhai Farms Bunu-Tai, Rivers State;
- iv) Songhai Farms – Bunu - Tai, Rivers State
- v) The African Regional Aquaculture Centre (ARAC) – Aluu in Rivers State;
- vi) The Faculty of Agriculture Demonstration Farm as well as the University Teaching and Research Farm.

Also, as part of strategies to strengthen our relationship with the industry partners for the IT programme to enhance the practical skills of students, we have also signed Memorandum of Understanding (MOU) with Domita Farms and Rivers State Sustainable Development Agency (RSSDA) – Songhai Farms Bunu-Tai, Rivers State and has been sending

students to these farms for a more sustainable and mutually rewarding IT programme (SIWES).

500 LEVEL (YEAR 5) COURSES

Course Code	Course Title	Unit	Course Code	Course Title	Units
ANS 501.1	Monogastric Nutrition	2	ANS 508.2	Ruminant Nutrition	2
ANS 502.1	APPLIED ANIMAL BREEDING	2	ANS509.2	Animal Products and Handling	2
ANS 503.1	Game Production and Utilization	2	ANS 510.2	Pasture and Range Management	2
ANS 504.1	Poultry, Swine and Rabbit Production	2	ANS 511.2	Reproductive Physiology and Artificial Insemination	2
ANS 505.1	Cattle, Sheep And Goat Production	2	AGE 508.2	Agribusiness Management and Finance	2
ANS 506.1	Nigerian Feeds and Feeding Stuff	2	ANS 500.2	Seminar	1
ANS 507.1	Animal Experimentation and Research Technique	2	ANS 599.2	RESEARCH PROJECT	6
AGR 502.1	Advances in Agriculture	2	ANS 512.2	Livestock Economics	2
AGX 501.1	Programme Development and Administration in Agricultural Extension	2			

TOTAL		18			19
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Total Units = 37

CUMULATIVE UNITS

Animal Science 180 Units

COURSE SYNOPSIS FOR THE BACHELOR OF AGRICULTURE (ANIMAL SCIENCE) PROGRAMME

YEAR FIVE (FIRST SEMESTER)

ANS 501.1: Monogastric Nutrition (2 units)

Brief history of nutrition as a science. Principles of monogastric nutrition, elements of human nutritional dietary allowances, food surveys and balance sheets; Feeding standards; Nutrient requirements for the various classes of animals; Feed additives and probiotics. Water metabolism in nutrition. Feed evaluation and composition. Ration formulation; Large scale feed mixing and manufacture. The feed industry.

ANS 502.1: Applied Animal Breeding (2 units)

Determination of genetic parameters in farm animals; Statistical tools for studying inheritance, genetic variation and co-variance; Heritability and repeatability; Gene mutation and lethal genes; Improvement of farm animals by application of genetic principles; Breeding systems; Selection methods; Sex determination; Foundation stock and its determination in livestock and poultry production; Advanced techniques in animal breeding – molecular biology, animal genomics, biotechnology, gene cloning, etc. The contribution of animal breeding to the growth and development of animal agriculture.

ANS 503.1: Game Production and Utilization (2 units)

Game production; Traditional uses of game and game products; Problems of game cropping; harvesting strategies and hunting techniques; “bush meat” processing methods; Growth behaviour and reproduction of game animals in captivity; Habits and food preferences; Game ranching and domestication. Design of paddocks, game animal houses and cages; Husbandry techniques and health care in captivity.

ANS 504.1: Poultry, Swine and Rabbit Production (2 units)

Importance of poultry, swine and rabbits; Production, management and husbandry practices, feeding, housing, etc. Sexing in chickens and other techniques peculiar to poultry. Specific techniques relevant to swine and rabbits. Poultry, swine and rabbit health and hygiene. Products processing, distribution, marketing, and utilization.

ANS 505.1: Cattle, Sheep and Goat Production (2 units)

Description and importance of meat and milk types; Milking and ruminant physiology; Husbandry practices including feeding and housing; Health and hygiene. Product processing, distribution, marketing, and utilization.

ANS 506.1: Nigerian Feeds and Feeding Stuff (2 units)

The Nigerian feed industry: past, present and future challenges and prospects. Feeds and feedstuffs in animal (non-ruminant and ruminant) nutrition. Grains, pasture and fodder, concentrates, sources of feeds and feeding stuff and their nutritional value. Identification and feed value of, locally, available feed resources. The place of animal by-products, and crop residues and by-products as feed resources in animal agriculture.

ANS 507.1: Animal Experimentation and Research Techniques (2 units)

Overview of animal experimentation and instrumentation, including precautions to be taken while, planning, developing and executing animal experiments. Techniques and procedures for experiments in the Animal Sciences: animal breeding and genetics; Animal nutrition and biochemistry including grazing trials, studies in pasture and range management; Animal physiology including studies in bioclimatology; Animal products processing and storage; Animal health and diseases diagnostic studies and post-mortem examination. Experimental designs and data analysis using basic statistical tools such as frequency distribution, variation, standard error and deviation, variance, *t*-Tests, *F*-Test, Chi-Squared test, measures of location and dispersion, regression and correlation analyses as well as the application of computer-aided statistical packages for data analysis in Animal Science research. Presentation (graphical, pictorial, tabular, etc.) and interpretation of

results from animal experiments. Project report write-up and scientific communication in the Animal Sciences.

AGR 502.1: Advances in Agriculture (2 units)

Historical background, Principles (principles of health, fairness, ecology, care) and practice of organic agriculture; Organic crop production, pest and disease management, predator control for sustainable and organic livestock production. Organic forestry, climate change and carbon sequestration, pasture management. Enterprise budgets and production costs for organic production, organic marketing resources and green markets; Hydroponic Agriculture: Preparation of nutrient solutions, media and methods (water culture, sub irrigation, slop and drip). Benefits and constraints; Tissue Culture and Cloning Technology: Introduction, laboratory requirements, effects of hormone balance on explants growth and morphogenesis, callus formation and multiplication, establishment of Suspension cultures and Anther culture. Applications and relevance to Agriculture. Criticisms and laws (Bioethics and Biopyracy). Genetically modified organisms (GMOs) (Health issues, influence on biodiversity, benefits and demerits); organic farm certification and export markets.

YEAR FIVE (SECOND SEMESTER)

ANS 500.2: Seminar (1 unit)

Each final year student is expected to deliver seminar on a chosen topic.

ANS 508.2: Ruminant Nutrition (2 units)

Rumen microbiology and ecology; Physiology of rumen action; Metabolic processes and pathways; Non-protein nitrogen utilization; Determination of digestion coefficients; Balance trials; Systems for energy evaluation; Scheme for protein values; Water metabolism in ruminant nutrition; Water and other nutrient requirements and their inter-relationship in ruminant nutrition; Feed additives and probiotics, feed/forage evaluation; Ration formulation, metabolic and nutritional disorders in ruminants.

ANS 509.2: Animal Products and Handling (2 units)

Preparation of farm animals for slaughter, evisceration and dressing percentages; Care of carcass and its cuts. Processing and care of hides, skin and wool. Meat and meat products processing, cooking flavour and

storage. Milk and milk products hygiene, microbiology, processing and cooking flavour. Post-harvest physiology of animal products; Egg quality, sorting and grading; Chemistry and nutritive value of meat, milk and eggs. Products such as butter, cheese, whey, bacon, sausage, ham, pork, poultry products, and so on as well as their processing and storage should be discussed. Food additives; flavours and aroma. Marketing and distribution of animal products.

ANS 510.2: Pasture and Range Management (2 units)

Adaptation and botany of indigenous and exotic pastures and forage plants. Characteristics of grasses, legumes and shrubs. Establishment, production and management of pasture and range plants; Utilization and maintenance in permanent and temporary pastures. Range management and paddock designs; Grazing systems; Forage conservation (hay, silage, etc.), dry season feeds.

ANS 511.2: Reproductive Physiology and Artificial Insemination (2 units)

Reproductive physiology of farm animals – cattle, sheep and goats, poultry, swine, and so on. The reproductive process – mating, gestation and parturition. The role and influence of hormones in animal reproduction. Artificial insemination – importance, processes, techniques and challenges.

ANS 512.2: Livestock Economics (2 Units)

The place of livestock in the Nigerian economy, consumer and consumption pattern of livestock product; Micro and Macro-economics in animal production; Agricultural production functions including data collection and analysis; Marketing theory in relation to livestock production; Application of economic theory and quantitative analysis. Capital investment and depreciation of capital; the economics of egg, meat and milk production. Livestock feed economics; input/return relationship in livestock production.

ANS 599.2: Research Project (6 units)

Each final year student is expected to take up a project topic, propose his research and present findings of the research work. This should be under the supervision of a lecturer(s) in the Department. Hard copies of the project shall then be submitted to the Department.

DEPARTMENT OF CROP AND SOIL SCIENCE

Vision

The Department of Crop and Soil Science is one of the departments of the Faculty of Agriculture that is designed to give a broad based undergraduate training in Agriculture especially as it relates to the aspect of Crop and Soil Science.

Philosophy

The philosophy of the programme is to train students with broad-based skills and capacity to utilize scientific knowledge in developing practical solutions to the problems of agriculture and the related activities particularly in the Niger Delta environment.

Mission

Our mission is to contribute to national enlightenment and agricultural development, self-reliance and unity through the advancement and propagation of scientific knowledge and to utilize same for service to community and humanity.

Objectives

The objectives of the department are to produce graduates of agriculture that will be able to accomplish the following:

- a. Engage in production and research that would provide relevant and appropriate solutions to the country's agricultural and rural development problems as it relates to the elements of crop/soil and also to improve agricultural productivity in general;
- b. Take up employment anywhere in Nigeria in any aspect of Crop and Soil Science and related areas;
- c. To advance knowledge in Crop Production, Protection and Soil Management techniques in order to enhance their skills and expertise required for expertise and self-reliance and gainful employment;
- d. To train students in improved crop production techniques which will enable them provide services to farmers;
- e. To build capacity of the students to be able to conduct research in areas of fertility and Integrated Pest/Disease Management;
- f. To establish linkages with national and international agricultural and other related institutions for Research and Development;

- g. To enable the students to acquire knowledge through broad-based training to meet the Minimum Academic Standards (MAS) for Agriculture required by the National Universities Commission (NUC), thereby making our graduates competitive in various ventures;
- h. Profitably put their skills into practice by establishing and operating their own farming enterprises; and
- i. To harness all the above to specifically solve crop production problems of the peculiar ecology of the Niger Delta.

**500 LEVEL (YEAR 5) COURSES
CROP PROTECTION OPTION**

FIRST SEMESTER			SECOND SEMESTER		
Course Code	Course Title	Unit	Course Code	Course Title	Unit
CPP 501.1	Weed Science	2	CPP 500.2	Seminar	1
CPP 502.1	Crop Pathology	2	CPP 506.2	Pesticides and their Application	2
CPP 503.1	Pest Ecology	2	CPP 507.2	Agricultural Entomology	2
CPP 504.1	Applied Nematology	2	CPP 508.2	Crop Disease Control	2
CPP 505.1	Integrated Pest Management	2	CPP 509.2	Pests of Stored Products	2

AGR 501.1	Experimental Techniques	2	CPS 516.2	Post – Harvest Physiology and Product Storage	2
AGR 502.1	Advances in Agriculture	2	SOS 511.2	Irrigation and Drainage	2
CPS 512.1	Farming Systems	2	CPP 599.2	Research Project	
SOS 507.1	Soil and Plant Analysis	2			
SOS 504.1	Soil Fertility and Plant Nutrition	2			
TOTAL		20			19

Total units = 39

CROP PRODUCTION OPTION

FIRST SEMESTER			SECOND SEMESTER		
Course Code	Course Title	Unit	Course Code	Course Title	Unit
CPS 510.1	Forage and Fodder Crop Production	2	CPS 500.2	Seminar	2

CPS 512.1	Farming Systems	2	CPS 516.2	Post – Harvest Physiology and Product Storage	2
CPS 513.1	Plant Breeding and Seed Production	2	CPS 518.2	Agronomy of Neglected Plants	2
CPS 514.1	Floriculture and Land Scaping	2	CPP 506.2	Pesticides and their Application	2
CPS 515.1	Crop Physiology	3	CPS 517.2	Vegetable Crop Production	2
CPP 501.1	Weed Science	2	SOS 511.2	Irrigation and Drainage	2
AGR 501.1	Experimental Techniques	2	SOS 509.2	Fertilizers and their Uses	2
AGR 502.1	Advances in Agriculture	2	CPS 599.2	Research Project	6
SOS 504.1	Soil Fertility and Plant Nutrition	2			
SOS 507.1	Soil and Plant Analysis	2			

TOTAL		20			19
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Total units = 39

SOIL SCIENCE OPTION

FIRST SEMESTER			SECOND SEMESTER		
Course Code	Course Title	Unit	Course Code	Course Title	Unit
SOS 501.1	Soil Chemistry II	2	SOS 500.2	Seminar	1
SOS 502.1	Soil Physics	2	SOS 508.2	Soil Classification	2
SOS 503.1	Soil water and Plant relations	2	SOS 509.2	Fertilizers and their uses	2
SOS 504.1	Soil Fertility and Plant Nutrition	2	SOS 510.2	Remote sensing and GIS	2
SOS 505.1	Soil Microbiology	2	SOS 511.2	Irrigation and Drainage	2
SOS 506.1	Soil Survey and Land Scaping	2	SOS 512.2	Soil Conservation and Remediation	6
SOS 507.1	Soil and Plant Analysis	2	CPP 506.2	Pesticides and their application	2
AGR 501.1	Experimental Techniques	2	CPP 506.2	Research project	2
CPS 512.1	Farming systems	2			
AGR 502.1	Advances in Agriculture	2			
TOTAL		20			19

Total units =39

CUMULATIVE UNITS

Crop Protection Option 182

Crop Production Option 182

Soil Science Option 182

COURSE SYNOPSIS

CROP PROTECTION OPTION

YEAR FIVE (FIRST SEMESTER)

AGR 501.1 Experimentation Techniques (2 Units)

Experimental designs and field layout (CRD, RCBD, Other factorial experiments); their sources of variation and assumptions. Sampling techniques: plot sampling techniques, sampling units and sampling size; Experimental errors; types I and II; Data analysis; cropping systems experiments: Land Equivalent ratio; Analysis of variance (ANOVA) its assumptions. Data transformation (Log, Square root transformation, Arcsine; their assumptions). Analysis of missing data. Pair wise comparison (t-test). Parametric (LSD, DMRT, Studentized test, Scheffe's test, Turkey's test) and Non parametric (Kruskal Wallis, Wilcoxon, Mann Whitney, Wilcoxon-Signed rank-test); Regression and Correlation Analysis; conditions for use, assumptions and properties in linear regression, sources of variation in linear regression, interpretation and prediction of linear regression, interpretation and estimation of correlation co-efficient; Data handling and presentation-graphic, tables, etc.; Quantitative assessment of pesticidal efficacy - Toxicological statistics. Experimental method; Determination of the critical toxic effects (ED_{50} , LD_{50} , LC_{50} , KD_{50} , LT_{50}).

AGR 502.1: Advances in Agriculture (2 units)

Historical background, Principles (principles of health, fairness, ecology, care) and practice of organic agriculture; Organic crop production, pest and disease management, predator control for sustainable and organic livestock production. Organic forestry, climate change and carbon sequestration, pasture management. Enterprise budgets and production costs for organic production, organic marketing resources and green markets; Hydroponic Agriculture: Preparation of nutrient solutions, media and methods (water culture, sub irrigation, slop and drip). Benefits and constraints; Tissue Culture and Cloning Technology: Introduction, laboratory requirements, effects of hormone balance on explants growth and morphogenesis, callus formation and multiplication, establishment of suspension cultures and Anther culture. Applications and relevance to

Agriculture. Criticisms and laws (Bioethics and Biopiracy). Genetically modified organisms (GMOs) (Health issues, influence on biodiversity, benefits and demerits); organic farm certification and export markets.

CPP 501.1 Weed Science (2 units)

Losses due to weeds; problems associated with weed infestation; methods of weed control - cultural, physical, biological, mechanical, chemical, etc., major weeds of cultivated plants and crops, pasture and gardens; aquatic weeds, physiology of weeds; crop-weed-fertilizer interrelationship; classification of herbicides; chemistry and selectivity, formulation, application, storage and mode of action. Herbicides and the environment, safety factors in the use of herbicides. Application equipment and techniques, practical methods of controlling weed in Nigeria. **Practical:** identification of major weeds of the area; visit to nearby farms; fields experiment on weed-crop-fertilizer inter-relationship and weed control.

CPP 502.1 Crop Pathology (2 units)

History of plant pathology; importance of plant pathology in agriculture, general characteristics and classification of plant pathogens - fungi, bacteria, virus and mycoplasmas. Life history of representative plant pathogenic fungi responsible for important plant diseases, events in disease development, transmission of plant pathogens, major crop diseases (caused by animate and inanimate agents), Host-parasite interaction, factors affecting epiphytotic; predisposition, variability, physiologic specialization, resistance and susceptibility, structural and biochemical defenses. **Practical:** microscopic studies of fungi and phytopathogenic bacteria, identification of major diseases of cultivated plants.

CPP 503.1 Insect Ecology (2 units)

Interdependence between economic entomology and insect ecology; expressing population changes, populations and generation curves, mortality and survivals, etc. Factors affecting population fluctuations, processes regulating abundance. Life tables, inference from life table; forecasting outbreaks. **Practical:** life table, mark-release-recapture as a technique for monitoring changes in population, etc.

CPP 504.1 Applied Nematology (2 units)

Host-plant relations, life cycle, pathogenicity and control of nematodes attacking tropical crops; plant disorders due to nematodes activities, extractions and identification of plant and soil nematodes. **Practical:** teasing plant materials in water; Baermann funnel techniques and sieving technique; isolating, killing and fixing specimens and preparing microscopic slides for study and future references.

CPP 505.1 Insect Pest Management (2 units)

Origin and nature of pest problems; life cycle and food habits of insects as basis for control measures. Insects and mites in the field and store; vectors of plants pathogens, crop ecosystem management and insects' relationship to plant pathogen, weed and bird control. Control techniques including cultural, physical, legislative and microbial control; entomophagous insects and biological control. Integrated pest management- its concept, application and economic considerations. **Practical.** Detailed studies of feeding stage and food habits with particular reference to crop and storage pest, laboratory studies of selected pests and field collections.

CPS 512.1 Farming Systems (2 units)

Phases of agricultural development, salient characteristics of different farming systems, shifting and semi-shifting cultivation, development of continuous cropping, mono-cropping, inter-cropping, multiple-cropping, crop rotation, dry land farming, contour farming, alley farming, Fadama farming, transition from traditional to modern agricultural system to semi-intensive and intensive cropping system; components of farming system, mushroom farming, economics of crop production, modern agriculture and green revolution in developing countries.

Practical: field experiment in the University farm on different cropping system; field trip to various part of the country to study the different cropping systems.

CPP 500.2 Seminar (1 unit)

Each final year student is expected to deliver seminar on a chosen topic.

YEAR FIVE (SECOND SEMESTER)

CPP 599.2 Research Project (6 units)

Each final year student must undertake a research project under the supervision of a lecturer(s), propose a topic and present findings of the research work.

CPP 506.2 Pesticides and their application (2 units)

Classification, chemistry, formulation and selectivity of insecticides, herbicides, fungicides, etc., their toxicity and mode of action; phytotoxicity, pest resurgence, pest resistance and environmental hazards, pesticides behaviour in soils; microbial pesticides. Pesticide application methods and equipment. **Practical:** experiments to demonstrate selectivity, toxicity, phytotoxicity and other properties of pesticides.

CPP 507.2 Agricultural Entomology (2 units)

Insects in relation to selected tropical crops; pest description and biology in relation to major cash crops, field, horticultural and tree crops in Nigeria; **Practical:** observation of insects attacking important crops in Nigeria, their life cycles; extent of damage; field trips to local farms to make observations.

CPP 508.2 Crop Disease Control (2 units)

General principles of crop disease control - physical, biological, cultural, chemical, mechanical, etc.; etiology; disease cycle; symptoms and control of important diseases of cereals (maize, sorghum, pearl millet, rice, wheat) grain legumes (groundnuts, cowpea, soybean, etc.), root and tubers (yam, cassava, cocoyam, etc.), sugarcane, tree crops, horticultural crops. **Practical:** Collection and identification of diseased crops; application of fungicides and bactericides.

CPP 509.2 Pests of Stored Products 2 units.

Types of stored crops; Storage structures; Assessment of loss of stored crops. Biology, ecology and management of insect, mite and vertebrate pests (major families of pest beetles and moths; acarines; rodents, etc.) and disease organisms (fungi, bacteria, viruses and nematodes) affecting stored crops. Abiotic factors (temperature, humidity, light, moisture, etc.) which influence the storage environment. **Practical:** identification and

classification of major insect, fungi, vertebrate pests of stored crops; use of selected pesticide in storage.

CROP PRODUCTION OPTION

YEAR FIVE (FIRST SEMESTER)

CPS 510.1 Forage and Fodder Crop Production (2 units)

Adaptation and botany of indigenous and introduced pastures and forage plants. Characteristics of grasses, legumes and shrubs. Establishment, propagation and seed production of pasture plants; the utilization and maintenance of permanent and temporary pastures. Forage conservation; Grazing systems. **Practical:** collection and identification of forage crops.

CPP 501.1 Weed Science (2 units)

Losses due to weeds; problems associated with weed infestation; methods of weed control - cultural, physical, biological, mechanical, chemical, etc., major weeds of cultivated plants and crops, pasture and gardens; aquatic weeds, physiology of weeds; crop-weed-fertilizer interrelationship; classification of herbicides; chemistry and selectivity, formulation, application, storage and mode of action. Herbicides and the environment, safety factors in the use of herbicides. Application equipment and techniques, practical methods of controlling weed in Nigeria. **Practical:** identification of major weeds of the area; visit to nearby farms; fields experiment on weed-crop-fertilizer inter-relationship and weed control.

AGR 501.1 Experimentation Techniques (2 Units)

Experimental designs and field layout (CRD, RCBD, Other factorial experiments); their sources of variation and assumptions. Sampling techniques: plot sampling techniques, sampling units and sampling size; Experimental errors; types I and II; Data analysis; cropping systems experiments: Land Equivalent ratio; Analysis of variance (ANOVA) its assumptions. Data transformation (Log, Square root transformation, Arcsine; their assumptions). Analysis of missing data. Pair wise comparison (t-test). Parametric (LSD, DMRT, Studentized test, Scheffe's test, Turkey's test) and Non parametric (Kruskal Wallis, Wilcoxon, Mann Whitney, Wilcoxon-Signed rank-test); Regression and Correlation Analysis; conditions for use, assumptions and properties in linear

regression, sources of variation in linear regression, interpretation and prediction of linear regression, interpretation and estimation of correlation co-efficient; Data handling and presentation-graphic, tables, etc.; Quantitative assessment of pesticidal efficacy - Toxicological statistics. Experimental method; Determination of the critical toxic effects (ED_{50} , LD_{50} , LC_{50} , KD_{50} , LT_{50}).

AGR 502.1: Advances in Agriculture (2 units)

Historical background, Principles (principles of health, fairness, ecology, care) and practice of organic agriculture; Organic crop production, pest and disease management, predator control for sustainable and organic livestock production. Organic forestry, climate change and carbon sequestration, pasture management. Enterprise budgets and production costs for organic production, organic marketing resources and green markets; Hydroponic Agriculture: Preparation of nutrient solutions, media and methods (water culture, sub irrigation, slop and drip). Benefits and constraints; Tissue Culture and Cloning Technology: Introduction, laboratory requirements, effects of hormone balance on explants growth and morphogenesis, callus formation and multiplication, establishment of suspension cultures and Anther culture. Applications and relevance to Agriculture. Criticisms and laws (Bioethics and Biopiracy). Genetically modified organisms (GMOs) (Health issues, influence on biodiversity, benefits and demerits); organic farm certification and export markets.

CPS 512.1 Farming Systems (2 units)

Phases of agricultural development, salient characteristics of different farming systems, shifting and semi-shifting cultivation, development of continuous cropping, mono-cropping, inter-cropping, multiple-cropping, crop rotation, dry land farming, contour farming, alley farming, Fadama farming, transition from traditional to modern agricultural system to semi-intensive and intensive cropping system; components of farming system, mushroom farming, economics of crop production, modern agriculture and green revolution in developing countries.

Practical: field experiment in the University farm on different cropping system; field trip to various part of the country to study the different cropping systems.

CPS 513.1 Plant Breeding and Seed Production (2 units)

Genetic significance of reproductive systems in cultivated plants. Sexual reproduction in crop plants, selection methods in breeding programmes. The role of plant breeding in disease and pest control in crops. Maintenance of breeding stocks. Nature and structures of seeds. Seed certification and release to the farmers. Certified seed multiplication and distribution to the farmers.

CPS 514.1 Floriculture and Landscaping (2 units)

Vegetable crop production, and other horticultural crops including nuts, spices, and medicinal plants; Principles and techniques of sexual and asexual propagation with special reference to indigenous/tropical ornamental plants. Importance and classification of tropical and subtropical annual flower plants, principles of floriculture and landscaping; landscaping of public parks and institutions; establishment and maintenance of hedges and lawns. **Practical:** practices in common propagation methods, cutting, budding, grafting; layering and inarching techniques; identification of common ornamental flowering plants, planning of flower gardens and their layout.

CPS 515.1 Crop Physiology and Production (2 units)

Water, light, temperature and gases as factors of environment, growth phases and rhythms in crop; assimilate partitioning in relation to yield determination, crop geometry, cultural manipulation; plant growth regulators in crop production; photoperiodism and vernalisation in crops and their effects on crop introduction and production. Ecophysiology, physiology of atmospheric nitrogen fixation and combined nitrogen; physiology of tuber formation and multiplication; plant-water relations; dormancy, mineral nutrition, physiology of herbicides; physiological aspects of pollution (Environmental impact assessment, EIA on crops) **Practical:** experiments on different growth phases of few selected crops, use of growth regulating chemicals at different stages of growth and their effects, experiments on photoperiodism, experiments on pollution.

YEAR FIVE SECOND SEMESTER

CPS 500.2 Seminar (1 unit)

Each final year student is expected to deliver seminar on a chosen topic.

CPS 516.2 Post-harvest Physiology and Product Storage (2 units)

Storage life of harvested fruits, seeds, vegetables and flowers; tropical environment in relation to maturity, ripening and senescence. Physical and chemical indices of quality in fruits, seeds, vegetables and other crop products. Storage of crop materials. Traditional methods of vegetable processing and storage. Fundamentals and principles of crop storage and transportation. Storage and shelf life problems, ideal atmosphere for storing fruits, seeds, vegetables, flowers and other crop products. Controlled environment for transit and long term storage; protective treatment, design and operation of equipments for storage and preservation. **Practical:** traditional and modern methods of processing and preservation of indigenous vegetables and fruits.

CPS 517.2 Vegetable Crop Production (2 units)

Definition, scope and importance. Production Practices (Outdoor and Protected Culture) including vegetable processing, marketing and distribution, sexual and asexual propagation **Practical:** Grow indigenous vegetables. Practice asexual propagation methods.

SOS 509.2 Fertilizers and their uses (2 units)

Fertilizers and their management, Nutrient uptake, utilization and deficiency symptoms; fertilizer sources, properties and reactions; and fertilization practices. Fertilizer manufacture, sources, application methods, rates and timing. Handling and storage of fertilizers, crop growth and response to nutrients. **Practical:** formulation of compound fertilizer, application, pot/field experiment.

CPP 506.2 Pesticides and their application (2 units)

Classification, chemistry, formulation and selectivity of insecticides, herbicides, fungicides, etc., their toxicity and mode of action; phytotoxicity, pest resurgence, pest resistance and environmental hazards, pesticides behaviour in soils; microbial pesticides. Pesticide application methods and equipment. **Practical:** experiments to demonstrate selectivity, toxicity, phytotoxicity and other properties of pesticides.

CPS 518.2 Agronomy of Neglected Crops (2 units)

Origin, distribution and importance of neglected crops (*Ukazi*, *Uziza*- West African black pepper, Water leaf, Oil bean, *Dawadawa*- Locust

bean tree, *Ukpo*), etc.; Climatic and soil requirements, cultural operations, methods of propagation, harvesting, handling and storage of some major neglected crops of great potentials in Nigerian species, medicinal, food crops, plantation crops, etc.

CPS 599.2 Research Project (6 units)

Each final year student must undertake a research project under the supervision of a lecturer(s), propose a topic and present findings of the research work.

SOIL SCIENCE OPTION

YEAR FIVE (FIRST SEMESTER)

SOS 501.1 Soil Chemistry II (2 units)

Introduction to basic chemistry concepts, atoms and elements, compounds, molecules, and atomic bonds, ions, elements needed by plants, chemical reactions, adsorption and absorption, organic/ organic, soil colloids: definition, importance, soil solution, cation exchange capacity (CEC) and base saturation, factors influencing CEC, significance, anion exchange, pH, effect of pH on nutrient availability and uptake, soil acidity; distribution of acid soils, problems associated with acidity and liming. Reclamation of acidic/sodic soil.

SOS 502.1 Soil Physics (2 units)

Physical properties of soil, size groupings, surface relationship, specific surface of soil particle. Genesis of compound structure, effects of texture on soil structure, soil tilth and tillage, soil consistency, soil air and aeration, dynamic properties of soils, soil thermal properties, soil temperature, soil heat capacity, heat flow through soil. Determination of soil water content, properties of soil water, energy state of soil water, saturated and unsaturated flow, infiltration and infiltration equations, redistribution of soil water. **Practical:** Laboratory and field measurements of soil physical properties (infiltration, water retention curves, aggregate stability etc.).

SOS 503.1 Soil- Water- Plant relations (2 units)

Soil characteristics, soil water, soil salinity and its effect on plant growth, nitrogen, sulphur, carbon, phosphorus cycle. Hysteresis, capillary rise of

soil water. Water movement in soils. Field capacity, the continuous chain for relationship between soil-water-plant-atmosphere. Soil colloids; their nature and practical significance to plant growth regulators. Soil stabilizers, macro and micronutrient elements and plant growth, Plant water consumption and wilting point.

SOS 504.1 Soil Fertility and Plant Nutrition (2 units)

Factors affecting plant growth – Edaphic, climatic, etc. Mathematical models of plant response to nutritional factors - Forms of plant nutrients in Soils - Qualitative and quantitative evaluation of nutrient status in Soils - Available forms and their evaluation using biological and chemical methods including isotope techniques. Plant nutrients definition, classification, role(s) in plant metabolism. Nutrient absorption-mechanisms and dynamics, competition and factors affecting them. Nutrient translocation in plants – pathways, mechanisms, regulations. - Factors affecting plant nutrition, Correcting nutritional disorders. **Practical:** Identification of various symptoms of nutrient deficiencies, identification of fertilizers and calculations.

AGR 501.1 Experimentation Techniques (2 Units)

Experimental designs and field layout (CRD, RCBD, Other factorial experiments); their sources of variation and assumptions. Sampling techniques: plot sampling techniques, sampling units and sampling size; Experimental errors; types I and II; Data analysis; cropping systems experiments: Land Equivalent ratio; Analysis of variance (ANOVA) its assumptions. Data transformation (Log, Square root transformation, Arcsine; their assumptions). Analysis of missing data. Pair wise comparison (t-test). Parametric (LSD, DMRT, Studentized test, Scheffe's test, Turkey's test) and Non parametric (Kruskal Wallis, Wilcoxon, Mann Whitney, Wilcoxon-Signed rank-test); Regression and Correlation Analysis; conditions for use, assumptions and properties in linear regression, sources of variation in linear regression, interpretation and prediction of linear regression, interpretation and estimation of correlation co-efficient; Data handling and presentation-graphic, tables, etc.; Quantitative assessment of pesticidal efficacy - Toxicological statistics. Experimental method; Determination of the critical toxic effects (ED₅₀, LD₅₀, LC₅₀, KD₅₀, LT₅₀).

SOS 505.1 Soil Microbiology (2 units)

Soil microbiological communities. Factors affecting microbial communities in soil; Collection and processing of microbial soil samples; Composting; Biofertilization - Rhizobial inoculation, mycorrhizal fungal inoculation; Biocontrol by soil bacteria and soil fungi. Genetic modification of microbial inocula; Microbial ecology of polluted soils; Soil ecological effects of genetically modified microbes; Degradation of xenobiotics; Bioremediation in contaminated soils; Environmental modification for bioremediation; Bioremediation efficacy testing; Microbial leaching of metals in soils; Management of the Nitrogen cycle in agriculture; Microbial decomposition under aerobic and anaerobic conditions.

SOS 506.1 Soil Survey and Land Use Planning (2 units)

Basic principles of soil classification; Soil profile study and description; soil survey methodology; soil forming minerals; Soil forming factors; assemblage of maps; use of aerial photographs, topographic maps, field survey versus grid survey; field mapping; soil morphological investigations. Land capability classifications for various purposes, land potential assessment. **Practical:** Laboratory determinations; soil correlation; soil survey, mapping and report writing, interpretive reports, land use planning/management

SOS 507.1 Soil and Plant Analysis (2 units)

Soil and plant sampling, sample preparation; theories and procedures for chemical analysis of soil and plant materials. Soil analysis (nitrogen, phosphorus, potassium, organic carbon, calcium magnesium etc.), determination of soil pH. Plant analysis (basic plant nutrients). Interpretation of data. Maintenance and operations of major analytical instruments; flame photometer, colorimeter, spectrophotometer, amino acid analyzer, pH meters; conductivity bridge; gas systems for monitoring analytical procedures; features and functions of a soil testing laboratory.

AGR 502.1: Advances in Agriculture (2 units)

Historical background, Principles (principles of health, fairness, ecology, care) and practice of organic agriculture; Organic crop production, pest and disease management, predator control for sustainable and organic

livestock production. Organic forestry, climate change and carbon sequestration, pasture management. Enterprise budgets and production costs for organic production, organic marketing resources and green markets; Hydroponic Agriculture: Preparation of nutrient solutions, media and methods (water culture, sub irrigation, slop and drip). Benefits and constraints; Tissue Culture and Cloning Technology: Introduction, laboratory requirements, effects of hormone balance on explants growth and morphogenesis, callus formation and multiplication, establishment of suspension cultures and Anther culture. Applications and relevance to Agriculture. Criticisms and laws (Bioethics and Biopiracy). Genetically modified organisms (GMOs) (Health issues, influence on biodiversity, benefits and demerits); organic farm certification and export markets.

YEAR FIVE (SECOND SEMESTER)

SOS 500.2 Seminar (1unit)

Presentation of a seminar on an approved current topic in soil science.

SOS 599.2 Research Project (6 units)

Each final year student must undertake a research project under the supervision of a lecturer(s), propose a topic and present findings of the research work.

SOS 508.2 Soil Classification (2 units)

The study of soil genesis, classification, and geomorphology / evolution of soils, their organization into natural units and their distribution throughout the world. Physical, chemical, and morphological soil characteristics. Processes that influence the development of soils- biological, physical, and chemical, soil forming factors, distribution of the soils of the world. soil morphology, soil taxonomy, diagnostic epipedons and subsurface horizons, soil orders, suborders, great groups, subgroups, families, and series soil forming reactions, soil forming factors, major soils of the world: their genesis and distribution. **Practical:** Description of soil profile pit

SOS 509.2: Fertilizers and their Uses (2 units)

Fertilizers and their management, Nutrient uptake, utilization and deficiency symptoms; fertilizer sources, properties and reactions; and

fertilization practices. Fertilizer manufacture, sources, application methods, rates and timing. Handling and storage of fertilizers, crop growth and response to nutrients. **Practical:** Formulation of compound fertilizer, application, pot/field experiment.

SOS 510.2 Remote Sensing and GIS (2 units)

Definition of remote sensing; History, evolution, and basic principles and vocabulary; Electromagnetic radiation and its interaction: foundation and principles of remote sensing. Remote sensing techniques, photogrammetry; sensors (multispectral and hyperspectral); Electromagnetic induction (EMI) measurement of soil electrical conductivity (EC); Ground Penetrating Radar (GPR); Thermal infrared imaging/thermography; Lidar (light detection and ranging) SAR: Synthetic Aperture Radar; Passive microwave radiometry; Passive gamma ray spectrometry; etc. Ground, aerial, and satellite/space platforms, Soil characterization (e.g., mineralogy, moisture, organic matter etc.) and mapping, Land use/Land cover; Precision Agriculture: Topographic mapping, Wetland restoration, Water quality; On-site waste disposal, Famine Early Warning Systems (FEWS). Post-harvest processing applications.

SOS 511.2 Irrigation and Drainage (2 units)

Types of irrigation; costs and profitability of irrigation; application of irrigation to different crops. Soil-water-plant- atmosphere relationships; crop water requirements (meteorological approach and critical growth stages for water of different field crops) scheduling irrigation for major crops; time of irrigation; agronomic management of irrigated crops; crop rotations and sequence under irrigated conditions, evaporation losses of irrigation water, maintenance of irrigation equipments, drainage.

SOS 512.2 Soil Conservation and Remediation (2 units)

Meaning and significance of soil conservation, causes, agents, and types of soil erosion, factors influencing soil erosion, quantitative and qualitative estimation of soil loss, erosivity and erodibility, problems of soil erosion, erosion control techniques, restoration of eroded lands, wind erosion, soil degradation, remediation of degraded land, administrative and legislative measures to prevent land degradation, including oil spills. Bioremediation, phytoremediation, etc. Sources of salts in soil, saline soil, alkali soil, leaching factor, water balance and salt balance

relationship, SAR, ESR, ESP, water quality criteria. Threshold concentration, chemical amendments. **Practical:** Field trips to regions with saline problems and oil pollution, analysis of water and soil samples, construction of runoff plots.

CPP 506.2 Pesticides and their Application (2 units)

Classification, chemistry, formulation and selectivity of insecticides, herbicides, fungicides, etc., their toxicity and mode of action; phytotoxicity, pest resurgence, pest resistance and environmental hazards, pesticides behaviour in soils; microbial pesticides. Pesticide application methods and equipment. **Practical:** Experiments to demonstrate selectivity, toxicity, phytotoxicity and other properties of pesticides.

DEPARTMENT OF FISHERIES

Vision

To promote knowledge and provide solutions needed in tackling the challenges of fish production, and the management of aquatic environments through quality education, scholarly research and service delivery; enhancing economic opportunities in Nigeria.

Philosophy

Our philosophy is to produce fisheries and aquaculture experts with the right competence that would enable them to harness the tremendous opportunities in agriculture through designing appropriate technologies that are demand-driven in response to local needs for sustainable fisheries and aquaculture that is economically viable and profitable, socially acceptable, and environmentally friendly.

Objectives

- a) To produce the appropriate manpower equipped with necessary skills to establish and profitably operate fisheries enterprises;
- b) To improve the genetic stock and introduce scientific fisheries management in the Niger Delta river ecosystems;
- c) To promote fisheries and aquaculture production and productivity by artisanal fisherfolks and small scale farmers, thereby providing solutions to the country's fisheries and aquaculture problems and challenges;
- d) To equip our graduates with the right technical and entrepreneurial skills and capacity necessary to appropriate their scientific know how for the development of practical solutions and the advancement of the fisheries and aquaculture sub-sectors; and
- e) To develop appropriate technologies that would be demand-driven in response to local needs and resolve ecological challenges for increased and sustainable fisheries and aquaculture productivity.

Admission Requirements

Candidates seeking admission into Fisheries programme must:

- i. Pass the UTME, which must include Use of English, Chemistry, Mathematics or Physics, and Biology or Agricultural Science.
- ii. Pass the Post-UTME screening exercise of the University.
- iii. Possess five credits in GCE/SSCE/NECO in the following subjects: Mathematics, English Language, Chemistry, Biology or Agricultural Science and any one of Physics, Economics or Geography at not more than two sittings.

Structure and period of studies in the Universities, Industrial Training, planned visit and projects.

Students spend a minimum of five academic sessions (that is, 10 semesters) to complete the programme. The students are first exposed to external farm environment courtesy of farm practice and field course at 200 and 300 Levels, respectively that require excursions and field trips to any functional farm, usually an integrated farm within or outside the state. The whole of the fourth year is used for Industrial Training (IT) programme (also referred to as the Students' Industrial Work Experience Scheme; SIWES) at relevant farms and/or institutions.

Presently, the Department places or sends students on IT to:

- vii) Domita Farms – Uyo in AkwaIbom State;
- viii) Fidelity Farm – Omagwa in Rivers State;
- ix) Rivers State Sustainable Development Agency (RSSDA) – Bunu-Tai Farms, Rivers State;
- x) Songhai Farms – Bunu - Tai, Rivers State
- xi) The African Regional Aquaculture Centre (ARAC) – Aluu in Rivers State;
- xii) The Faculty of Agriculture Demonstration Farm as well as the University Teaching and Research Farm.
- xiii) Nigerian Oceanography and Marine Research (NIOMR), Lagos
- xiv) Nigerian Institute for Freshwater Fisheries Research (NIFFR), New Bussa

Also, as part of strategies to strengthen our relationship with the industry partners for the IT programme to enhance the practical skills of students, we have also signed Memorandum of Understanding (MOU) with

Domita Farms and intend to do so for others for a more sustainable and mutually rewarding IT programme (SIWES).

BACHELOR OF FISHERIES

300 LEVEL (YEAR 3) COURSES

FIRST SEMESTER

SECOND

SEMESTER

Course Code	Course Title	Units	Course Code	Course Title	Units
FSH 301.1	Fish Biology and Ichthyology	2	FSH 307.2	Fish Nutrition	2
FSH 302.1	Fish Ecology	2	FSH 308.2	Fish-Gear Technology	2
FSH 303.1	Aquaculture	2	FSH 309.2	Fish Parasites and Diseases	2
FSH 304.1	Limnology	2	FSH 310.2	Elementary Seamanship and Navigation	2
FSH 305.1	Ornamental Fisheries and Production of Other Aquatic Organisms	2	FSH 311.2	Oceanography	2
FSH 306.1	Fish Population Dynamics	2	FSH 313.2	Fish Pond Construction and Management	2
FSH 312.1	Fish Farm Techniques and Hatchery Management	2	FSH 314.2	Fish Adaptation and Physiology	2
FSH 315.1	Aquatic Flora and Fauna	2	GES 300.2	Fundamentals of Entrepreneurship	2
AGE 301.1	Introduction to Farm Management	2	AGR 303.2	Agricultural Biochemistry	2

AGR 302.1	Agricultural Research and Report Writing	2	AGF 301.2	Field Course	1
TOTAL		20			19

Total units = 39

400 LEVEL (YEAR) SIWES 32 UNITS

Course codes	Course Title	Units
GES 400	Entrepreneurship project	2
AGR 400	SIWES	30
Total		32

500 LEVEL (YEAR 5) COURSES

FIRST SEMESTER			SECOND SEMESTER		
Course Code	Course Title	Units	Course Code	Course Title	Units
FSH 501.1	Fish Farm Engineering	2	FSH 509.2	Fish Zoogeography	2
FSH 502.1	Fish Production and Management	2	FSH 510.2	Fish Technology, Processing and Storage	2
FSH 504.1	Water Quality and Pollution Control	2	FSH 511.2	Fish Genetics and Breeding	2

FSH 505.1	Fisheries Economics and Marketing	2	FSH 512.2	Farm Management and Fishery Business Management	2
FSH 506.1	Advanced Fish Nutrition	2	FSH 513.2	Fishery Policy and Legislation	2
FSH 507.1	Research Techniques in Fisheries	2	FSH 500.2	Seminar	1
FSH 508.1	Aquatic Toxicology	2	FSH 599.2	Research Project	6
AGX 501.1	Programme Development and Administration in Extension(Elective)	2			
AGR 502.1	Advances in Agriculture	2			
TOTAL		18			17

Total units = 35

CUMULATIVE UNITS

Fisheries option 178 units

COURSE SYNOPSIS FOR THE BACHELOR OF FISHERIES PROGRAMME

YEAR THREE (FIRST SEMESTER)

FSH 301.1 Fish Biology and Ichthyology (2 units)

The gross external and internal anatomy of a typical bony and cartilaginous fishes. The different types of anatomical structures (organs, systems) and their basic functions in the fish. Embryology and life history of fish with special reference to commercially important fish e.g. tilapia, catfishes and mullets. Principles of systematics. Taxonomy and detailed study of principal commercial fish species of Nigerian waters: inland,

estuarine and ocean; Aquatic invertebrates and reptiles. Identification of species using keys and monographs. Important world species; Sardines, tuna, anchovies, etc. biological attributes of fish populations. Phylogenetic relationships.

FSH 302.1 Fish Ecology (2 units)

Ecology of fish with special reference to distribution and adaptation; application of this knowledge in fisheries management and for obtaining maximum returns from fishery resources. Characteristics of the aquatic environment, organic production in aquatic fauna and flora - eutrophication and algal blooms; plankton and benthos biomass assessment. Food and feeding habits of fish, food and habitat selection, population, niche concept. Food chains and food webs. Reproductive behaviour and life cycles of some selected fish species.

FSH 303.1 Aquaculture (2 units)

Aims and types of aquaculture; history, present organization and status of aquaculture in Nigeria. Principles of aquaculture – liming and pond fertilization; Food supply, growth rate and food conversion, selection of culture species, introduction to exotic and endemic species and their implications: water requirements/water quality control and aeration. Stocking, feeding and harvesting practices; Fish farm design, economic consideration of aquaculture.

FSH 304.1 Limnology (2 units)

Physical and chemical properties of inland waters (rivers, natural and man-made lakes): illumination, temperature, density, diffusion, viscosity, dissolved gases, mineral compositions, water circulation, thermal properties and stratification, etc. Hydrology and water circle.

FSH 305.1 Ornamental Fisheries and Production of other Aquatic Organisms (2 units)

Ecology and life histories of crustaceans and aquatic molluscs. Culture of shrimps, oysters, crabs, lobsters, cockles, periwinkles, marine gastropods, frogs, edible sea weeds and fresh water plants. Open sea and coastal farming of some shell and fin fishes. Ornamental fish breeding, management and nutrition; Design and maintenance of various aquaria.

FSH 306.1 Fish Population Dynamics (2 units)

Age determination of fish; Length/weight relationships, condition factor. Von Bertalanffy growth equations, Ford-Walford plot, growth curves. Estimation of mortality; Natural, fishing and total mortality. Fish stock assessment; Virtual population analysis, recruitment, yield models; Estimation of standing stock size, potential stock size; Maximum sustainable yield, optimum yield etc; Over-fishing.

FSH 312.1 Fish Farming Techniques and Hatchery Management (2 Units)

Artisanal and commercial fishing methods and importance in fishing boats, trawlers and gears – hooks, traps and nets – different types of fish culture techniques, monoculture, polyculture, selected breeding, intensive and extensive culture in inland and brackish water, in rice fields, in floating cages and rafts. Gear selectivity, electro fishing; Spawning methods, artificial fertilization; incubation, rearing, harvesting and transportation of fry and fingerlings; Selection and care of breeders; Larvae and fingerlings. Control of weeds parasites and diseases in the hatchery; Control of physiochemical properties of water.

FSH 315.1 Aquatic Flora and Fauna (2 Units)

Study and identification of the characteristic flora and fauna of importance in fresh water and coastal swamps of the tropics. The ecology, utilization and management of aquatic flora and fauna. Introduction to aquatic insects (classification, identification of main orders with emphasis on tropical taxa). Control of aquatic weeds in ponds –chemical, mechanical and biological.

AGE 301.1 Introduction to Farm Management (2 units)

The nature of farm management and production economics. Theory of agricultural production and revenue concepts; Elements of time, risk, and uncertainty in agricultural production. Break-even, gross net margin, and budgetary analysis.

YEAR THREE (SECOND SEMESTER)

FSH 307.2 Fish Nutrition (2 units)

Principles of fish nutrition. Classification of foods, feeding stuff and feed supplements; Chemistry and nutritive value of various classes of fish feed and feeding stuff (cereals and legumes). Nutrient sources and practical consideration in fish feeding/feeding systems. Feed formulation.

FSH 308.2 Fish-Gear Technology (2 units)

The relationship between the development of gear and habits of fish. Design, characteristics and types of gear and fishing vessels; Properties of the materials used in their construction. Assessment of efficiency of fishing gear, concepts of catch per unit effort and gear selectivity. Introduction and trial of gear, construction of hooks, traps and nets. Artisanal and commercial fishing methods. Importance of fishing boats and trawlers; Electro-fishing.

FSH 309.2 Fish Parasites and Diseases (2 units)

Identification, morphology, taxonomy and life history of fish parasites. The ecological and pathological effects of parasites and diseases on fish. Epidemiology of parasite population in water bodies, common bacterial, fungal and viral fish diseases and their control. Other enemies of fish. Internal regulations on trans-boundary transportation of fish and fishery products. Fish ponds and public health.

FSH 310.2 Elementary Seamanship and Navigation (2 units)

Important sea terminologies; Parts of a boat and a ship; Wind strength and state of the sea; Coastal beacons and light vessels. Measurement of distance, water depth, speed, etc. Launching and boarding of small vessels; Lifesaving and fire-fighting equipment and application methods. Swimming and diving.

FSH 311.2 Oceanography (2 units)

Topography of the sea, physical and chemical characteristics of sea water. Illumination, temperature, specific heat, electrical conductivity, density, specific gravity, pressure, diffusion, viscosity, acoustic characteristics, salinity (chlorinity), dissolved gases and ocean currents. Coastal processes, waves, tides (tide tables) and coastal erosion. Species composition, distribution and adaptation of marine organisms: plankton, invertebrates, fish, reptiles and mammals. Dynamics of flora and fauna of brackish water environments.

FSH 313.2 Fish Pond Construction and Management (2 units)

Principles of pond construction. Surveying and fish pond layout. Types of ponds. Maintenance of ponds: Repair of pond leakages, desilting, flushing of old ponds, erosion control, checks on sluice gates and monks, water inflow and outflow pipes, etc.

FSH 314.2 Fish Physiology and Adaptation (2 units)

The different shapes and adaptive designs in fish in relation to the aquatic environment. Natural environmental adaptation of fish: migration, reproduction, feeding habits, responses to salinity, temperature and other environmental factors; Life cycles. Modified environmental behaviour of fish to pressure, light, electrical field and noise. Classification of fin-fish and shell-fish.

GES 300.2 Fundamentals of Entrepreneurship (2 units)

Concept, history and development of entrepreneurship; The entrepreneur qualities and characteristics; The Entrepreneur and Business environment; identifying business opportunities; starting and developing new business ventures; legal forms of business ownership and registration; Types of business ownership; Feasibility studies; Role of small and Medium Scale Enterprise (SME) in the economy; Role of government on Entrepreneurship; Business location and layout; Accounting for SME; Financing SME; Managing of SME; Marketing in SME; Risk Management of SME; Success and Failure factors of SME; Prospects and Challenges of Entrepreneurship and Intrapreneurship; Ethical behaviour in small business.

AGR 303.2 Agricultural Biochemistry (2 units)

Biochemistry in agriculture, food and nutrition; Proteins, vitamins, minerals in farm produce- eggs, meat, vegetable, etc. food processing and natural products; Metabolism of carbohydrates, proteins and lipids (metabolic pathways).

AGF 301.2 Field Course (1unit)

Study visit to areas, institutions, industries, etc, relevant to students' area of specialization. Students are required to write a report on the trip.

YEAR FOUR

GES 400 Entrepreneurship project (2 units)

AGR 400 (SIWES): Report writing (30 units)

YEAR FIVE (FIRST SEMESTER)

FSH 501.1 Fish Farm Engineering (2 units)

General surveying and site selection; Freshwater and brackish water culture facilities. Design and construction of dykes, sluice gates, monks, drainage facilities, tanks, ponds, pens, cages, rafts and other types of fish rearing facilities; Design of inland fish farms, pumping station, recirculatory systems and fish hatcheries. Waste treatment approaches.

FSH 502.1 Fish Production and Management (2 Units)

Practical aspects of handling and care of fish; Breeding of fish; Production of fingerlings and fries; Management of breeders and equipment needed in a fish farm; Procurement of feed and systems of feeding; Harvesting and marketing; Appraisal of management structure and effectiveness of fisheries management policies; Preparation of management plan for fisheries project.

FSH 504.1 Water Quality and Pollution Control (2 units)

Composition of water bodies (physical, biological and chemical) – nutrient cycles; Physical, chemical and biological assessment of water types; Aquatic pollution and control strategies. Pollutant behaviour in water – quantification, characterization and mitigation. Effect of pollution on fish, plankton and benthos. Development and application of biotic indices to monitor the various water types. Environmental Impact Assessment (EIA) – process of EIA; Simple models in environmental assessment; Evaluation of case studies. Ecological Risk Assessment, Health and Social Impact Assessments

FSH 505.1 Fisheries Economics and Marketing (2 units)

Major economic constraints in fishery development; Free access fishery; Sustainability yield curve and total revenue. Bionomic equilibrium, factor rents, welfare economic theory and its relevance for fisheries externalities in fisheries, capital investment and depreciation of

equipment, consumer and consumption patterns; Fishery resources and right of ownership.

FSH 506.1 Advance Fish Nutrition (2 units)

Classification of foods, feeding stuffs and feed supplements. An extensive coverage of the chemistry and nutritive values of succulent feeding stuffs, concentrate feeds (cereals and legumes). Chemistry and Nutritive values of some Nigeria grasses and legumes species. Consideration of methods of their biological value evaluation. Principles of fish nutrition; Requirements for energy, protein, vitamins and minerals, and non-nutrient components. Feed computation and formulation methods; The fish feed industries; feed pelleting, fish habits; Feed evaluation, practical consideration in fish feed. Feed formulation, feed mixing and manufacture of feed on commercial scale.

FSH 507.1 Research Techniques in Fisheries (2 units)

Fisheries and aquatic biology experimentation; Experimental designs (completely randomized design – CRD, randomized complete block design – RCBD, etc.). Sampling methods; Interpretation and presentation of data in Nutrition, Growth, Population and Community studies, etc.

FSH 508.1 Aquatic Toxicology (2 units)

Concepts of toxico-kinetics, biotransformation and dose-response relationships of different xenobiotics. Toxicological impact of single and multiple pollutants on aquatic species. Determination of LC₅₀ values and Probit analysis. Introduction to genotoxicity, current methods of determining genotypic impacts. Genotoxic effects of a variety of xenobiotics; their mechanism of action. Phases of biotransformations and factors which lead to variations in the capacity to biotransform xenobiotics.

AGX 501.1 Programme Development and Administration in Extension (2 units)

Concepts, theories, principles and guidelines of administration, organization and supervision as applied to extension; Importance of programme planning in extension. Principles and concepts of programme planning in agriculture extension need, education objective, learning

experience, clientele participation, plan of work and calendar of work. the role of good public relations, good leadership and cooperation for an extension worker. Association and cooperatives; concepts of evaluation applied to agricultural extension programmes.

AGR 502.1: Advances in Agriculture (2 units)

Historical background, Principles (principles of health, fairness, ecology, care) and practice of organic agriculture; Organic crop production, pest and disease management, predator control for sustainable and organic livestock production. Organic forestry, climate change and carbon sequestration, pasture management. Enterprise budgets and production costs for organic production, organic marketing resources and green markets; Hydroponic Agriculture: Preparation of nutrient solutions, media and methods (water culture, sub irrigation, slop and drip). Benefits and constraints; Tissue Culture and Cloning Technology: Introduction, laboratory requirements, effects of hormone balance on explants growth and morphogenesis, callus formation and multiplication, establishment of suspension cultures and another culture. Applications and relevance to Agriculture. Criticisms and laws (Bioethics and Biopiracy). Genetically modified organisms (GMOs) (Health issues, influence on biodiversity, benefits and demerits); organic farm certification and export markets.

YEAR FIVE (SECOND SEMESTER)

FSH 500.2 Seminar (1 unit)

Each final year student is expected to deliver seminar on a chosen topic.

FSH 509.2 Fish Zoogeography (2 units)

Principles, definition and process; Overview of fish zoogeography, types of distribution. Evolution of major groups of fish – historical zoogeography, variance and test of variance hypothesis; dispersal and isolation, continental drift, glaciations. World fish zoogeography; Reef fishes of the world, ostariophysan zoogeography. Major inshore marine regions; Fishes of Indo-West Pacific Region, fish of the West Atlantic Region, fish of the East Pacific Region. Freshwater fish Regions; Nearctic (N. America), Neotropical (S. America), Palearctic (N. Europe and Asia), Africa, Oriental, Australian.

FSH 510.2 Fish Technology, Processing and Storage (2 units)

Composition of fish; Biochemical and microbiological changes in fish post-mortem; Nature and effects of processing procedures. Post-harvest spoilage, principles and methods of preservation, packaging, storage, product evaluation and quality control; Estimation of nutrients in fish flesh. Traditional versus modern preservation techniques.

FSH 511.2 Fish Breeding and Genetics (2 units)

Principles of fish genetics and hybridization. Determination of heritable characteristics. Basic principles of Mendelian and quantitative inheritance. Genetic manipulation of cultivable fish and shell fish species; Natural and artificial selection of desirable traits. Breeding and cultivation of common types of fin and shell fish; Practical aspects of broodstock handling. Breeding of fish. Goals and plans in fish breeding; Selection types and methods of selective breeding in fish; Breeding methods. Hybrids and heterosis, directed programme in selected species e.g. tilapia, catfish, etc.

FSH 512.2 Farm Management and Fishery Business (2 units)

Fish farming planning and organization; Farm budgeting; Farm growth; Problems of organizing and managing fish farms under commercial, and peasant systems. The scope of fishery business and management, types of business management; Types of credit marketing arrangements, fish farm record and accounting; Financial management.

FSH 513.2 Fishery Policy and Legislation (2 units)

Fisheries institutions; fisheries policy and laws of Nigeria. International laws; laws of the sea. Preparation of management plan for fisheries project Aquatic conservation strategies/management of endangered, threatened and sensitive species; Catchment management; Legal issues and recovery plans; Captive propagations; Designing aquatic nature reserves, minimum viable populations for conservation.

FSH 599.2 Research Project (6 units)

Each final year student is expected to take up a project topic, propose his research and present findings of the research work. This should be under

the supervision of a lecturer(s) in the Department. Hard copies of the project shall then be submitted to the Department.

DEPARTMENT OF FORESTRY AND WILDLIFE MANAGEMENT

Philosophy

The philosophy of the programme is to equip potential graduates with a wide range of skill and the capacity to utilize scientific knowledge in developing practical solutions the problems of forestry and wildlife and to be entrepreneurs instead of Job seekers.

The main objectives of the programme are to;

- i. Produce the appropriate manpower equipped with necessary skills to establish and profitably operate their own family enterprises.
- j. Improve the genetic stock and encourage integrated farming systems in the Delta Creek ecosystem e.g. Agroforestry.
- k. Promote forestry production and productivity, thereby providing solutions to global climatic problems – global warming, temperature increase and ozone layer depletion etc.
- l. Promote wildlife conservation and domestication for the supply of protein and revenue generation.

Admission Requirements:

Candidates seeking admission into the programme must

- i) Pass the UTME and subsequently the post UTME screening exercise of the University.
- ii) Possess five credit passes in the following subjects: English Language, Mathematics, Chemistry, Biology or Agricultural Science and any one of physics, Economics or Geography at the GCE/SSCE/NECO 'O' Levels, or its equivalent in not more than two sittings.

300 LEVEL (YEAR 3) COURSES

FIRST SEMESTER			SECOND SEMESTER		
Course Code	Course Title	Unit	Course Code	Course Title	Unit
FWL 301.1	Forest Biometrics I	2	FWL 308.2	Forest Engineering	2
FWL 302.1	Principles of Silviculture	2	FWL 309.2	Wildlife Population Analysis	2
FWL 303.1	Forest Ecology	2	FWL 310.2	Forest Economics and Management I	2
FWL 304.	Wood Formation and Properties	2	FWL 311.2	Management of Game Birds	2
FWL 305.1	Forest Resource Inventory and Mensuration	2	FWL 312.2	Agroforestry	2
FWL 306.1	Harvesting, Processing & Utilization of Forest Plants	2	FWL 313.2	Forest Aerial and Ground Survey	2
FWL 307.1	Urban Forestry Development	2	FWL 314.2	Wildlife Ecology and Management	2
AGR 301.1	Introduction to Remote Sensing	2	FWL 315.2	Environmental Impact Assessment	1
CPP 302.1	Introduction to Entomology	2	AGR 304.2	Agricultural Biochemistry	2

AGR 302.1	Agricultural Research and report writing	2	GES 300.2	Fundamentals of Entrepreneurship	2
			AGF 301.2	Field Course	1
TOTAL		20	Total		20

Total units = 40

400 LEVEL (YEAR 4) SIWES 32 UNITS

Course codes	Course Title	Unit
GES 400	Entrepreneurship project	2
AGR 400	SIWES	30
TOTAL		32

Total units = 32

500 LEVEL (YEAR 5) COURSES

FIRST SEMESTER			SECOND SEMESTER		
Course Code	Course Title	Unit	Course Code	Course Title	Unit
FWL 501.1	Multiple Land Use	2	FWL 500.2	Seminar	1

FWL 502.1	Forest Economics and Management II	2	FWL 509.2	Wood Processing and Pulping Process	2
FWL 503.1	Forest and Wildlife Policy, Law and Administration	2	FWL 510.2	Forest Mensuration	2
FWL 504.1	Advanced Silviculture	2	FWL 511.2	Forest Industries and Timber Quality Control	2
FWL 505.1	Forest Genetics and Tree Breeding	2	FWL 512.2	Wildlife Nutrition, Management and Utilization	2
FWL 506.1	Forest and Wildlife Pests, Diseases and Protection	2	FWL 513.2	Non-wood Forest Products	2
FWL 507.1	Forest Soils	2	FWL 514.2	Forest and Wildlife Extension and Education	2
FWL 508.1	Forest Biometrics	2	FWL 599.2	Research Project	6
AGR 501.1	Experimentation Techniques				
AGR 502.1	Advances in Agriculture	2			

TOTAL		20			19
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Total units = 39

CUMULATIVE UNITS

Forestry and Wildlife Management 183 units

COURSE SYNOPSIS

YEAR TWO (FIRST SEMESTER)

FWL 201.1 Introduction to Forestry and Wildlife Management (2 units)

Nature and scope of forestry and forest. Structure, classification and importance of forest. Forest products; fauna and flora. Introduction to wildlife, importance of wildlife, forestry and wildlife interlinks.

YEAR THREE (FIRST SEMESTER)

AGR 302.1 Agricultural Research and Report writing (2 units)

Purpose and type of research; research proposal; problem identification and hypothesis formulation; methods of primary and secondary data collection; data organization and presentation; scientific writing; formats for project and thesis presentation. Review of basic statistics: frequency distribution, measures of location and dispersion; Principles of field experimentation.

FWL 301.1 Forest Biometrics I (2 Units)

Design and analysis of experiment on tree crops and wildlife; Basic techniques in survey sampling and design; Resource inventory and mensuration data processing

FWL 302.1 Principles of Silviculture (2 units)

Definition of silviculture, its importance in forestry operation, tree growth as determined by climatic and edaphic factors. Tropical forest regeneration methods (natural and artificial). Tungya and other silviculture practices necessary for tree development. The concept of Agroforestry, genesis, current development, prospects and problems. Interlink between crop, tree and animal husbandry. Socio-economic. Feasibilities and limitations.

FWL 303.1 Forest Ecology (2 units)

Distribution structure and Dynamics of land and freshwater ecosystem; The flow of energy and materials through natural ecosystems. The importance of conservation and conservation techniques.

FWL 304.1 Wood Anatomy, Formation and Properties (2 units)

Structure of wood and its chemical composition. Wood formation and properties. Physical and chemical properties of wood. Anatomical characteristics of wood; and its use in identification process.

FWL 305.1 Forest Resource Inventory and Mensuration (2 units)

Fundamentals of resource inventory and mensuration. Theory of tree measurements: diameter, height, back thickness, taper and form, and tree volume estimation. Stand volume estimation and volume equations. Tree measurement's Instruments. Concepts of growth: increment of trees and stands. Stand table projection; volume tables; yield tables; growth and yield; equations/modelling. Concept of stand structure: stand density and stocking. Site quality assessment and site index. Tree biomass estimation.

FWL 306.1 Harvesting, Processing and Utilization of Forest Plants (2 units)

Timber harvesting and merchandizing, safety and precautions in timber harvesting. Sustainable harvesting, processing and utilizing of forest products. Non-timber forest product harvesting and processing (seeds, fruits foliage, barks, fuel wood, ferns and lianas).

FWL 307.1 Urban Forestry Development (2 units)

Definition, scope and importance of urban forestry. Distribution and ownership of urban forests. Structure, conditions and management of urban forests. Nursery establishment and site selection for urban planting. Landscaping and design for urban planting. Tree care and maintenance in the urban environment.

YEAR THREE (SECOND SEMESTER)

FWL 308.2 Forest Engineering (2 units)

Design, construction, drainage and maintenance of forest roads, bridges, dams and buildings; logging and transportation. Planning, analysis and supervision of operations.

FWL 309.2 Wildlife Population Analysis (2 units)

Objectives of population assessment, methods of studying animal numbers and distribution. Attributes of population dynamics such as growth, mortality, density, age, sex ratio reproduction and survival rates. Population determination by handling and marking methods. Life table, survivorship curve and population. Implications of population dynamics to wildlife management.

FWL 310.2 Forest Economics and Management I (2 units)

Definition of forest goods and services; application of economic principles to forest resources (concept of demand and supply); Marketing of forest goods and services, price mechanism. Nature, scope and peculiarities of forest management, forest organizations and subdivisions. Sustain yield principle in forest management.

FWL 311.2 Management of Game Birds (2 units)

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

FWL 312.2 Agroforestry (2 units)

Definition and history of agroforestry. Importance of agroforestry including sustainable production of food and fibre, environmental protection and conservation. Major agroforestry systems including taungya, alley farming, shelterbelts or windbreak, etc. Component classification of agroforestry system, e.g. (a) two-component system such as (i) trees and arable crops (agrisilviculture), (ii) trees and livestock (silvopasture), (b) three-component system such as trees, arable crops and livestock pasture (agrisilvopasture) (c) Others such as silvi-sericulture, agrisilviculture, horti-apiculture, silvoaquaculture, etc.

FWL 313.2 Forest Aerial and Ground Survey (2 units)

Aerial photography. Aerial photogrammetry, Photo-interpretation, Mapping from AP and planimetry. Remote sensing Applications in forestry, Application of Geographic Information System (GIS) in forestry projects. Procedures in ground survey and ground survey instruments. Chain surveying (open and close traversing) and triangulation. Obstacles in chain survey, how to overcome them and sources of errors. Compass survey: function, limitations and use during survey exercise and sources of errors. Plotting around survey maps, plans and methods of area calculations. Lettering and conventional signs. Levelling and contours. Plane tabling. Tacheometry and application of Theodolite Area and volume calculations

FWL 314.2 Wildlife Ecology and Management (2 units)

Wildlife in relation to their environment. Factors affecting the distribution and abundance of wildlife. Interrelationship between climate, soil, vegetation, history and wildlife population characteristics as related to reproduction and mortality factors, movement, behaviour, lifecycles, feeding habits of wildlife. Nature and efficient usage of rangeland in West Africa. Method of range assessment and management.

FWL 315.2 Environmental Impact Assessment (1 unit)

Definition, principles and procedures. Role of forest in the formation of a stable environment. Environmental Impact of human actions. Responses of societies to environmental change. Introduction to Rapid Appraisal Techniques.

YEAR FOUR

GES 400 Entrepreneurship project (2 units)

AGR 400 (SIWES): Report writing (30 units)

YEAR FIVE (FIRST SEMESTER)

FWL 501.1 Multiple Land Use (2 units)

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

FWL 502.1 Forest Economics and Management II (2 units)

Forest project analysis and evaluation. Application of economic principles in decision making to forestry (NPV, IRR, Cost-benefit analysis, sensitivity analysis). Forestry and economic development. Trade in forest goods. Principles and application of sustained yield; Theoretical basis for yield regulation. Basic factors affecting forest growth and increment. Concept of normal forest, structure of normal forest. Systems approach to forest management, use of analytical procedures in forest management.

FWL 503.1 Forest and Wildlife Policy, Law and Administration (2 units)

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

FWL 504.1 Advanced Silviculture (2 units)

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

FWL 505.1 Forest Genetics and Tree Breeding (2 units)

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

FWL 506.1 Forest and Wildlife Pests, Diseases and Forest Protection (2 units)

Taxonomy and biology of major pests and diseases of forest tree. Principles underlying diseases and pest control; genetic and environmental control; meaning of forest protection, agents of

forest/wildlife destruction, fire use and control; protection against fire encroachment, disease and illegal felling. Integrated forest protection guidelines. Natural pest and disease control among wild animals. Wild curative plant species.

FWL 507.1 Forest Soils (2 units)

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

FWL 508.1 Forest Biometrics (2 units)

The place of Biometrical procedures in forestry research; Application of basic biometrical techniques to problems in forestry and wildlife management. Processing of data for management purposes. Selected topics in applied statistics, e.g. multiple regression and frequency distribution models. Use of common statistical packages for forestry and wildlife data analysis. Presentation and interpretation of results of statistical analysis. Funding opportunity in forestry research. Application of computers to forestry projects and analysis. Open source software of use in forestry and wildlife management (e.g R-software and curve Expert)

AGR 501.1 Experimentation Techniques (2 Units)

Experimental designs and field layout (CRD, RCBD, Other factorial experiments); their sources of variation and assumptions. Sampling techniques: plot sampling techniques, sampling units and sampling size; Experimental errors; types I and II; Data analysis; cropping systems experiments: Land Equivalent ratio; Analysis of variance (ANOVA) its assumptions. Data transformation (Log, Square root transformation, Arcsine; their assumptions). Analysis of missing data. Pair wise comparison (t-test). Parametric (LSD, DMRT, Studentized test, Scheffe's test, Turkey's test) and Non parametric (Kruskal Wallis, Wilcoxon, Mann Whitney, Wilcoxon-Signed rank-test); Regression and Correlation Analysis; conditions for use, assumptions and properties in linear regression, sources of variation in linear regression, interpretation and prediction of linear regression, interpretation and estimation of

correlation co-efficient; Data handling and presentation-graphic, tables, etc.; Quantitative assessment of pesticidal efficacy - Toxicological statistics. Experimental method; Determination of the critical toxic effects (ED₅₀, LD₅₀, LC₅₀, KD₅₀, LT₅₀).

AGR 502.1: Advances in Agriculture (2 units)

Historical background, Principles (principles of health, fairness, ecology, care) and practice of organic agriculture; Organic crop production, pest and disease management, predator control for sustainable and organic livestock production. Organic forestry, climate change and carbon sequestration, pasture management. Enterprise budgets and production costs for organic production, organic marketing resources and green markets; Hydroponic Agriculture: Preparation of nutrient solutions, media and methods (water culture, sub irrigation, slop and drip). Benefits and constraints; Tissue Culture and Cloning Technology: Introduction, laboratory requirements, effects of hormone balance on explants growth and morphogenesis, callus formation and multiplication, establishment of suspension cultures and Anther culture. Applications and relevance to Agriculture. Criticisms and laws (Bioethics and Biopiracy). Genetically modified organisms (GMOs) (Health issues, influence on biodiversity, benefits and demerits); organic farm certification and export markets.

YEAR FIVE (SECOND SEMESTER)

FWL 500.2 Seminar (1 unit)

Each final year student is expected to deliver seminar on a chosen topic.

FWL 509.2: Wood Processing and Pulping Process (2 units)

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

FWL 510.2 Forest Mensuration (2 units)

Review of fundamentals of forest measurement procedures; planning of forest inventory-field trip to conduct forest inventory of a selected forest area; camp set up and field crew organization field data compilation; Inventory data processing & inventory reports. Stand table projection; volume tables; yield tables; growth and yield equations/modelling.

Concept of stand structure: Stand density and stocking. Site quality assessment and site index. Tree biomass estimation.

FWL 511.2 Forest Industries and Timber Quality Control (2 units)

Forest- based industries, including furniture, sawmills, ply mills, fibre-board, chipboard, and particle board mills, determination of timber quality and its control, inspection, sampling and grading; wood protection, minor forest based industries e.g. Charcoal production, cellulose derivatives industry, marketing of forest resources; setting of forest industries.

FWL 512.2 Wildlife Nutrition, Management and Utilization (2 units)

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

FWL 513.2 Non-wood Forest Products (2 units)

Non-wood forest products used in fisheries as fish poison, for production of fishing nets and lines, etc.; Sericulture: production of silk from silkworms fed with forest tree leaves, plant dyes, gum-Arabic, cane for furniture, rubber, chemicals etc.; Other non-wood forest products used in homes and cottage industries.

FWL 514.2 Forestry and Wildlife Extension (2 units)

Management interpretation to include methods and techniques for communicating values of forestry, parks, game reserves and other wild lands. The role of the extension agent in providing organizational and administrative support in forestry. Training programmes for extension workers in forestry and wild life; Wildlife and its conservation. Wildlife ecology, principles governing wild animals' population and programmes, game, ranching and domestication; Evaluation of wildlife resources of selected projects areas; Beekeeping/wetland; Planning and legislation.

FWL 599.2 Research Project (6 units)

Each final year student is expected to take up a project topic, propose his research and present findings of the research work. This should be under the supervision of lecturer(s) in the department. Hard copies of the project should be submitted to the department.

DEPARTMENT OF FOOD, NUTRITION AND HOME SCIENCE

OBJECTIVES OF THE PROGRAMMES

The degree of Bachelor of Science in Food Science and Nutrition is designed to provide a practical and theoretical training on:

- Conversion of raw agricultural produce into processed, packaged shelf stable food products and intermediate industrial raw materials.
- Understanding the chemical complexities of foods and their vulnerability to spoilage so as to ensure the effective preservation of their nutritive qualities during and after processing.
- Establishment, maintenance and assurance of food quality in raw and processed forms.
- Integrated rural development designed to extend the benefits of improved nutritional practices to rural communities.
- High level technical man-power in food industries, food research laboratories and government agencies responsible for the formulation and enforcement of food laws.

The Bachelor of Science Degree in Home Science is designed to provide theoretical and practical training to the students. The objectives of the programme **are** as follows:

- Train students in the development, use and management of material resources required to foster various aspects of individual, family and national development.
- Develop the latent potentials of students and enable them to take up leadership positions and become professionals in public and private establishments related to their chosen area of study.
- Equip students with entrepreneurial skills needed to create small and medium scale businesses in the major areas of the curriculum.
- Understand the interrelationship among agriculture and food security as well as how they relate to health.
- Plan, implement, monitor and evaluate family, community, home management, etc. programmes.

The objectives of the Home Science and Nutrition programme are as follows:

- (i) Train students in the development, use and management of material resources required to foster various aspects of individual, family and national development.
- (ii) Teach the interrelationship among agriculture, food and nutrition as well as how they relate to health.
- (iii) Educate students on the effect of handling methods on the nutritive value of foods and apply techniques appropriately to improve the quality of local food resources in order to meet the nutritional needs of individual, community and population groups.
- (iv) Equip students with entrepreneurial skills needed to create small and medium scale businesses in the major areas of the curriculum.

COMMON COURSES FOR FOOD SCIENCE AND NUTRITION; HOME SCIENCE

Students of Food Science and Nutrition, and Home Science will have common courses in the 1st and 2nd Year.

100 LEVEL (YEAR1) COURSES

FIRST SEMESTER			SECOND SEMESTER		
COURSE CODE	COURSE TITLE	UNITS	COURSE CODE	COURSE TITLE	UNITS
CHM 130.1	General Chemistry 1	3	AGR 101.2	Introductory Statistics for Agriculture	2
FSB 101.1	General Biology 1	3	CHM 131.2	General Chemistry II	3
GES 100.1	Communication Skills in English	3	CHM 132.2	Introduction to Principles of Organic Chemistry	3
GES 102.1	Introduction to Logic and Philosophy	2	FSB 102.2	General Biology II	3

MTH 110.1	Elementary Algebra and Sets	2	GES 101.2	Computer Appreciation and Application	2
MTH 120.1	Calculus	3	GES 103.2	Nigerian People and Culture	2
PHY 101.1	Mechanics and Properties of Matter	3	PHY 115.2	Heat, Light and Sound	2
PHY 102.1	Physics Practical	1	ENG 104.2	Workshop Practice	2
ENG 101.1	Engineering Drawing	2			
TOTAL		22			19

Total units = 41

200 LEVEL (YEAR2) COURSES

FIRST SEMESTER			SECOND SEMESTER		
COURSE CODE	COURSE TITLE	UNITS	COURSE CODE	COURSE TITLE	UNITS
AGE 201.1	Principles of Agricultural Economics	2	AGR 206.2	Principles of Food Science and Technology	2
AGR 2C1.1	Community Service	1	FSH 201.2	Introduction to Fisheries	2
AGR 204.1	Computer Application to Agriculture	2	ANS 202.2	Principles of Animal Production	2

FSN 201.1	Agricultural Food Products	2	CPS 202.2	Principles of Crop Production	2
AGR 203.1	Introduction to Agricultural Microbiology	2	AGR 207.2	Introduction to Home Economics	2
FSN 202.1	Food and Nutrition	2	FSN 203.2	Principles of Nutrition	2
AGR 201.1	General Agriculture	2	AGF 201.2	Farm Practice	1
FWL 201.1	Introduction to Forestry & Wildlife Mgt	2	FSN 204.2	Basic Human Anatomy and Physiology	2
AGR 202.1	Introduction to Farm Power and Machinery	2	HEM 201.2	Family Life Education and Planning	2
Total		17			17

Total units = 34

**FOOD SCIENCE AND NUTRITION PROGRAMME:
YEAR 3 TO YEAR 5 COURSES**

300 LEVEL (YEAR3) COURSES

FIRST SEMESTER			SECOND SEMESTER		
COURSE CODE	COURSE TITLE	UNITS	COURSE CODE	COURSE TITLE	UNITS
AGR 302.1	Agricultural Research and	2	AGR 303.2	Agricultural Biochemistry	2

	Report Writing				
FSN 301.1	Food Chemistry	2	FSN 309.2	Food Product Development	2
FSN 302.1	Food Product Development and Marketing	2	FSN 310.2	Sensory Evaluation	2
FSN 303.1	Fundamental of Food Processing	2	FSN 311.2	Postharvest Physiology and Storage technology	2
FSN 304.1	Basic Food and Diet	2	FSN 312.2	Principles of Food Preservation	2
FSN 305.1	Community Nutrition	2	FSN 313.2	Food Plant Management/ Process design	2
FSN 306.1	Food Microbiology I	2	FSN 314.2	Food Microbiology 2	2
FSN 307.1	Food Analysis I	2	GES 300.2	Fundamentals of Entrepreneurship	2
FSN 308.1	Public Health Nutrition	2	FSN 315.2	Clinical Nutrition	2
			AGF 301.2	Field Course	1
Total		18			19

Total units = 37

400 LEVEL (YEAR FOUR COURSES)

COURSE CODE	COURSE TITLE	UNITS
AGR 400	SIWES	30
GES 400	Entrepreneurship Project	2
TOTAL		32 Units

500 LEVEL (YEAR FIVE COURSES)

FIRST SEMESTER			SECOND SEMESTER		
COURSE CODE	COURSE TITLE	UNITS	COURSE CODE	COURSE TITLE	UNITS
FSN 501.1	Research Techniques in Food and Nutrition Science	2	FSN 500.2	Seminar	2
FSN 502.1	Food Chemistry	2	FSN 510.2	Cereal Technology	2
FSN 503.1	Fermentation and Brewing Technology	2	FSN 511.2	Meat/Fish Processing Technology	2
FSN 504.1	Fruit and Vegetable Processing	2	FSN 512.2	Processing of Miscellaneous Foods	2
FSN 505.1	Milk and Dairy Processing Technology	2	FSN 513.2	Poultry and Egg Processing Technology	2
FSN 506.1	Food Packaging	2	FSN 514.2	Human Nutrition and Toxicology	2
FSN 507.1	Food Standards	3	FSN 599.2	Research Project	6

	and Quality Control				
FSN 508.1	Food Analysis II	2			
FSN 509.1	Food Preparation	2			
Total		19			18

Total units = 37

CUMULATIVE UNITS 181

Electives

COURSE CODE	COURSE TITLE	UNITS
FSN 515.1	Consumer Education	2
FSN 516.1	Nutrition Education	2
FSN 517.2	Diet Therapy and Hospital Practice	2
AGE 508.2	Agri-Business Mgt and Finance	2

**COURSE SYNOPSIS FOR THE FOOD SCIENCE AND
NUTRITION PROGRAMME
YEAR ONE (FIRST SEMESTER)**

CHM 130.1 General Chemistry I (3 Units)

Introduction to chemistry; matter, energy, measurement, significant figures; dimensional analysis. State and classification of matter, mixtures, compounds, elements. Atomic theory and molecular structure. Atoms, molecules, ions, periodic table, inorganic nomenclature. Equations, types of reactions, atomic and molecular weights, the mole. Empirical formulae, stoichiometry limiting reagent, molarity, titration, Energy, Enthalpy, Hess law, standard heat of formation, calorimetry. Size of atoms, patterns on periodic table. Chemical bonding, valence, electrons, ionic bonding and size of ions, covalent bonding and Lewis structures, resonances forms, bond energies, polarities, Hydrogen bonding in solids, Types of solution, concentrations, solution process, T and P effects, reaction in aqueous solutions, colligative properties.

FSB 101.1 General Biology I (3 Units)

Characteristics of life. Investigation in biology. The specific substance of life; the unit of life (including method of study); activities of cells; the control of metabolic activities; cell division. Basic principles of inheritance.

GES 100.1 Communication Skills in English (3 Units)

Study/library skills and method: methods for taking and making notes; techniques for organizing study time; study methods and coping with examinations; library skills and location of library materials. Listening skills: skills for effective listening comprehension. Basic skills in understanding lectures, dialogue or conversation. Identifying/understanding relevant language points in the discourse. Making notes/summaries of lectures. Decoding texts/information, vocabulary, inference and meaning, understanding grammar, usage and style. Reading skills: Importance of reading; reading as study technique. Kinds of reading: speed reading, skimming, scanning, intensive, extensive, reading for evaluation. Understanding text organization. Reading comprehension: SQ3R method. Reading and developing

vocabulary. Using grammar in reading and writing. The Hierarchy: Words and their classes, phrases/clauses. Level of sentence: English as a SVOCA language. Vocabulary, using dictionary and word relationships: polysemy, antonym, synonyms, homonyms, homophones, denotation/connotation, collocational patterns: affixation, suffixation, etc. Writing and speaking skills.

GES 102.1 Introduction to Logic and Philosophy (2 Units)

Symbolic logic, Special symbols in symbolic logic; conjunction negation, affirmation, disjunction, equivalence and conditional statements; the laws of thought; the method of deduction using rules of inference and bi-conditions and quantification theory.

MTH 110.1 Elementary Algebra and Sets (2 Units)

Algebra and Trigonometry; Real number system, Real sequences and series: sets and sub sets: unit intersection, complements, empty, and universal sets, Venn diagram; one way correspondence between sets; quadratic functions and equations, solution of linear equation, simple properties of determinants, indices and binomial theorem; transformations e.g. Log transformation of the equation of the straight line and application to simple regression equation; permutation and combinations; circular measure, trigonometric functions of angles, addition and factor formulae; complex numbers, moments and couples; relative velocity; calculus; elementary function of simple real variable; graphs of simple functions; differentiation of simple algebra; exponential and log functions, differentiation of a sum; product; quotient; function of function rules; implicit differentiation; definite and indefinite integration of functions; application of definite and indefinite integrals to areas and volumes.

MTH 120.1 Calculus (3 Units)

Function of a real variable, graphs, limit 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 and volumes.

PHY 101.1 Mechanics and Properties of Matter (3 Units)

Topics covered in course will include the following: motion in one dimension in a plane, work and energy, conservation laws, oscillation, solid friction, rotational kinematics and rotational dynamics, equilibrium of rigid bodies, gravitation, Galilean invariance, surface tension, elasticity and viscosity

PHY 102.1 Physics Practical (1 Unit)

Motion in one dimensional plane; work and energy; conservation laws; oscillation; solid friction, rotational kinematics and rotational dynamics; equilibrium of rigid bodies; gravitation, Galilean invariance, surface tension, elasticity and viscosity. Emphasis on experimental verifications and quantitative measures of physical laws, treatment of measurement errors and graphical analysis. The experiments include studies of mechanical systems; static and rotational dynamics of rigid bodies, viscosity, elasticity, surface tension and hydrostatics.

ENG 101.1 Engineering Drawing (2 Units)

Introduction to drawing instruments, scale, draughting aids and their proper use. Size of paper and drawing layout. Dimensioning, line work and letting. Geometrical constructions and Engineering graphics. Development of geometrical figures and intersection of solids and curves. Introduction to projections.

YEAR ONE (SECOND SEMESTER)

AGR 101.2 Introductory Statistics for Agriculture (2 Units)

Idea of statistics. Sequence of statistical investigation; Data collection methods; sampling; Basic statistical notations; methods of collation and presentation of data; measures of location (mean, mode, median); quantities; Measures of dispersion (variance, standard deviation, standard error, coefficient of variation); skewness and kurtosis.

CHM 131.2 General Chemistry II (3 Units)

Application of the principles of chemical and physical change to the study of the behaviour of matter and interaction between matters. Course content includes, the chemistry of representative elements and their common compounds with emphasis on graduation of their properties.

Brief chemistry of the first series of transition elements, general principles of extraction of metals; introductory nuclear chemistry.

CHM 132.2 Introduction to Principles of Organic Chemistry (3 Units)

A Survey of carbon compounds including an overview of the common functional groups in aliphatic and benzenoid compounds. Introduction to reactants and reactions in organic chemistry.

FSB 102.2 General Biology II (3 units)

Varieties of organisms. Principles of classification of organisms, systematic. A study of selected animals and plant groups. Analysis of flora and fauna of assigned habitats.

GES 101.2 Computer Appreciation and Application (2 Units)

Introduction to basic computer concepts. Historical development and classification of computers. Hardware, software and firm ware components of a computer. Computer programming languages, introduction to data bases, data capture techniques. Introduction to computer networks, computer operation. Introduction to disk operating system (DOS), Microsoft windows and windows applications. Introduction to data processing. An Introduction to internet.

GES 103.2 Nigerian People and Culture (2 Units)

Concepts of culture; The study of Nigerian history and culture in the pre-colonial, colonial and contemporary times, the Nigerian's perception of his world; cultural areas of Nigeria and their characteristics; cultural contact and social change; ethnicity and integration; evolution of Nigeria as a political unit. Norms, values, moral obligations of citizens, - environmental sanitation.

PHY 115.2 Heat, Light and Sound (2 Units)

Thermodynamics, colorimetry and heat transfer. Geometrical optics will include reflection of light at the plane and curved surfaces and optical instruments. Properties and regression of sound waves. Sound waves propagating in air columns. Doppler effect.

YEAR 2 (FIRST SEMESTER)

AGE 201.1 Principles of Agricultural Economics (2 Units)

Economics of agriculture, efficiency of resource allocation, agricultural resources; production, processing, marketing/ distribution and utilization of farm produce; cost price analysis, demand, supply.

AGR 2CS.1 Community Service (1 Unit)

The course is designed to make the students appreciate the dignity of labour and acquire a sense of service to the community. Students are to execute various projects modelled in line with their field of study.

AGR 204.1 Computer Applications to Agriculture (2 Units)

Importance of computers to Agriculture; ICT applications in agriculture; Use of spreadsheets; use of graphics for agricultural communication; use of PowerPoint for presentations. Data management; use of statistical packages.

FSN 201.1 Agricultural Food Products (3 Units)

Different types of foods and agricultural products, their structures and composition. Vegetables, fruits, cereal, palm wine, roots and tubers, sugar, cane oil, palm, meat, milk, cheese, butter, sausage ham, fish, mango and other juices. The processing and storage of these food products, techniques and problems of developing, fabricating and merchandising ingredient regulation, taste panels, market research etc.

AGR 203.1 Introduction to Agricultural Microbiology (2 Units)

Importance of microbiology in agriculture; Introduction to microbial world; Broad groups of microflora and microfauna; Classification of microorganisms and other soil organisms (bacteria, fungi, viruses, nematodes, protozoans, earthworms, and other annelids) Morphology, growth and reproduction of bacteria, yeast, moulds, viruses; Importance of soil microbiology in agriculture, classification of soil organisms; soil organic matter decomposition; microbial transformation of phosphorus, iron, nitrogen and sulphur; biochemistry and microbiology of nitrification; nitrogen fixation by legumes and non-legumes and its significance. Microbial release of nutrients in soils and plant nutrition. Influence of soil factors on population and activities of microbes; role of micro-organisms in soil fertility. Transformation of hydrocarbons and

pesticides. Rhizosphere and its importance. **Practical:** Use of microscopes; Cultivation of micro-organisms, preparation of culture media, isolation of bacteria and fungi; Preparation of slides for microscopic examination and identification; safety precautions in microbiology laboratory.

FSN 202.1 Food and Nutrition (2 Units)

Food sources, nutrient content, utility availability, production, storage and preservation etc. of the following: Cereals, legumes, starchy roots and tubers. Fruits and vegetables. Oil seeds and nuts. Meat and products. Fish and other products, poultry, eggs and other such snails, edible insects. Basic definitions of nutrition and dietetics. Relationship between nutrition and other Sciences such as biochemistry, food science, Home Economic, Physiology and anatomy. malnutrition and its various types, causes and prevention. Identification of vulnerable groups such as pregnant and lactating mothers, children under five years, elderly etc. nutritional needs in disease conditions. HIV/AIDS and Nutrition.

AGR 201.1 General Agriculture (2 Units)

Definition, scope and importance of agriculture; Agricultural ecological zones and distribution of farm; Introduction to Agricultural Economics and Extension; Introduction to Farm Forestry; Introduction to Crop Science; Introduction to Soil Science; Introduction to Farm Mechanization; Introduction to Animal Science; Introduction to Fisheries and Aquaculture; Post-harvest handling of agricultural products.

FWL 201.1 Introduction to Forestry and Wildlife Management (2 Units)

Nature and scope of forestry and forest. Structure, classification and importance of forest. Forest products; fauna and flora. Introduction to wildlife, importance of wildlife, forestry and wildlife interlinks.

AGR 202.1 Introduction to Farm Power and Machinery (2 Units)

Aims and objectives of farm mechanization. Basic mechanics. Workshop tools. Principles of internal combustion engines and electric motor. Study of farm machinery used for tillage; ploughs, harrows, cultivators, farm power transmission system. Harvesting and processing equipment.

(sprayers and dusters). Equipment for livestock (automatic feed conveyors, automatic drinkers for poultry, feeding and watering equipment, milking and milk handling equipment, meat processing equipment). Water lifting and irrigation equipment. Survey instruments used on the farm. Operating principles, selection and maintenance procedure of farm machinery. Farm machinery costing and records. Workshop and building materials used on the farm. **Practical:** day-to-day operations of machines and implements; visits to farm machinery suppliers such as Dizengoff, SCOA, etc.

YEAR TWO (SECOND SEMESTER)

AGR 206.2 Principles of Food Science and Technology (2 Units)

Definition and scope of Food Science and Technology, food distribution and marketing, food and its functions, food habits; food poisoning and its prevention, principles of food processing and preservation, discussion of different preservation methods, deterioration and spoilage of foods, other postharvest changes in food, contamination of foods and natural sources, composition and structures of Nigerian/West African Food, factors contributing to texture, colour, aroma and flavour of food, cost, traditional and ethnic influences of food preparation and consumption pattern, Elementary Biotechnology Practical.

FSH 201.2 Introduction to Fisheries (2 Units)

Introduction, definitions, nature and scope of fisheries; Fish products and their importance. External morphological features of bony and cartilaginous fishes.

ANS 202.2: Principles of Animal Production (2 Units)

Animal production and its development. The livestock industry – problems and prospects. Introduction to the factors of production in animal husbandry. Descriptions of different breeds of cattle, sheep and goats; pigs, poultry and rabbits, etc. Feeding habits of farm animals. Principles of breeding and livestock judging. General principles of management for different classes of farm animals (parent stock, breeders, weaners, etc.). Livestock husbandry operation and production systems for different livestock – cattle, sheep and goats, poultry, swine, and rabbit. The impacts of the environment on livestock production.

CPS 202.2 Principles of Crop Production (2 Units)

Crop production and its development. The principles, problems and prospects of crop production, importance of crop rotation, cultural practices; water uptake, weeds, weed control, and their effects on crop production, pests and diseases. Basic Mendelian genetics. Principles of crop production, harvesting, processing and storage. **Practical:** test of seed viability, germination of seeds in laboratory and in field; tillage practices; identification of fertilizers; field trip to different cropping systems.

AGR 207.2 Introduction to Home Economics (2 Units)

Philosophy, scope, objectives and historical development of home economics (Food and Nutrition, Home management, Clothing and Textile); Examination of basic human needs with respect to food, clothing, shelter and health. Programme approaches in home economics which help to meet these needs. Preparation for careers in a variety of occupation. Roles of women in agriculture. **Practical:** Flour confectioneries; industrial catering

FSN 203.2 Principles of Nutrition (2 Units)

Basic nutrition principles with special emphasis on nutrients; digestion and absorption and their problems. Control of appetite. Nutritive value of tropical foods and Nigeria diets; effect on season and cultural habits. Selection and formulation of balanced diets. Foetus as a parasite. Non-conventional foods. Food enrichment and supplementation in general.

AGF 201.2 Farm Practice (2 units)

Fisheries	Animal Science	Crop & Soil Science	Forestry & Wildlife	Food Nutrition & Home Science
Fish culture Hatchery production Fish feed production	Livestock production Silage making	Mushroom production Composting Budding/ Grafting Soil survey	Bee keeping Snail production Game management and utilization	Food processing Food production Food demonstration

			Forest nursery/ arboretum	
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FSN 204.2 Basic Human Anatomy and Physiology (2 Units)

Cell and its functions. An introduction to basic anatomy, physiology in various systems. Nerves and muscles as agents of communication in the body. Kidney as osmo-regulator of the body. Blood and immunity, protective mechanisms of the body. Circulatory, respiratory, endocrine and digestive systems of the body. Special sense organs. Body homeostasis. Philosophy of growth, pregnancy and lactation.

HEM 201.2 Family Life Education and Family Planning (2 Units)

Theories, concepts and principles of family communication, interaction, processes of decision making, conflict resolution, integration and networking systems in the family and community. Inter-relationship of these to the wider society. Emphasis on the function of the family as vital unit of the effective socialization and upbringing of responsible and productive members of society, principles of responsible sex behaviour, parenthood and family and civic responsibilities; family polices. Principles and concepts of family planning birth control and population education; modern and traditional techniques of birth control, suitability, effectiveness and acceptability in various cultures; family planning resources and availability.

YEAR THREE (FIRST SEMESTER)

AGR 302.1 Agricultural Research and Report Writing (2 Unit)

Purpose and type of research; research proposal; problem identification and hypothesis formulation; methods of primary and secondary data collection; data organization and presentation; scientific writing; formats for project and thesis presentation. Review of basic statistics: frequency distribution, measures of location and dispersion; Principles of field experimentation.

FSN 301.1 Food Chemistry 1(2 Units)

Naturally occurring constituents of foods. Their structure, chemical and physical properties and significance. Chemical, physical and biochemical changes that occur in foods during handling, processing and storage.

Chemistry of food components: proteins, amino acids, carbohydrates, vitamins, minerals, oil, fats, pigments/colouring food flavours and water. Properties of water in food systems.

FSN 302.1 Food Product Development and Marketing (2 Units)

A study of the sequence of events involved in the development and marketing of new food products, especially on the physio-chemical principles of food fabrication and the economics of new product development. Nutritional considerations in selected fabricated foods, branding and packaging of food products including beverages.

FSN 303.1 Fundamentals of Food Processing (2 Units)

The chemical, physical and microbiological basis of food deterioration and spoilage. Broad overview of techniques of food processing and preservation: chemical preservatives, drying, high and low temperature processing including canning and freeze-drying, fermentation, and irradiation. Food waste and management fundamentals of food packaging, fundamentals of extrusion technology.

FSN 304.1 Basic Foods and Diet (2 Units)

Chemistry, Sources and functions of energy yielding nutrients. Energy value of nutrients in food, physiological fuel value, factors that determine total value of energy and nutrient. Nutritional requirements, Application of nutrition principles to the needs of children and other vulnerable groups such as the aged and adolescents. Nutrition and dietetics as field of study and as profession. Historical background of development of nutrition and dietetics as science. Academic requirements and career opportunities in nutrition and dietetics. Major concepts in nutrition and dietetics. Challenges of nutrition and dietetics in national development studies and jurisprudence.

FSN 305.1 Community Nutrition (2 Units)

Assessment of nutritional status of individuals and groups in a community using established anthropometric standards, clinical signs, vital statistics, food consumption and laboratory methods. Use of growth and development chart, economic aspects of nutrition, food budgets, food habits, surveys in rural and urban communities. Assessment of ecological factors. Applied nutrition programmes. Supplementary and group

feeding; school lunch programmes. Nutrition procedure in times of disaster including famine relief operations nutrition rehabilitation centres. Population and food supply. Nutrition and national harmony.

FSN 306.1 Food Microbiology I (2 Units)

The micro-flora of foods; role, significance. Growth and survival of micro-organisms in foods. Micro-organisms as sources of nutrients, Thermo and cryobacteriology; factors influencing heat resistance of micro-organisms. Microbiological examination of water and foods. Food sanitary quality, (microbiological standards and criteria). Microbiology of dairy products, meat, fish/sea foods, eggs, fruits/ vegetables, canned.

FSN 307.1 Food Analysis I (2 Units)

Physical and Chemical analysis of Water and other major Food Components such as moisture, fat, protein, carbohydrates and other macro-nutrients. Application of spectrophotometry in the determination of micro constituents, use of dye binding complex metric and radiometric technique in food analysis and other techniques in food analysis.

FSN 308.1 Public Health Nutrition (2 Units)

Nutritional problems of Nigeria public importance. Socio-economic effect of nutritional problems within low income people. Effect of malnutrition on physical and mental development. Steps to improve health and nutritional status of people. Food sanitation and safety. Environmental and nutrition. Development of primary health care and nutrition of Nigeria. Improving social and economic services at all levels with special interest on the vulnerable groups.

YEAR THREE (SECOND SEMESTER)

AGR 303.2 Agricultural Biochemistry (2 Units)

Biochemistry in agriculture, food and nutrition; Proteins, vitamins, minerals in farm produce- eggs, meat, vegetable, etc. food processing and natural products; Metabolism of carbohydrates, proteins and lipids (metabolic pathways).

FSN 309.2 Food Product Development (2 Units)

A study of the sequence of events involved in the development and marketing of new food products, especially on the physicochemical

principle of food fabrication and the economics of new product development, nutritional considerations in selected fabricated foods.

FSN 310.2 Sensory Evaluation (2 Units)

The senses – odour, texture, vision, hearing rating scales, ranking, hedonic scale sampling method, instrumentation. Relationship between sensory evaluation in physical and chemical measurement. Principles of subjective evaluation, method of measurement. Psychology of food preference.

FSN 311.2 Post-Harvest Physiology and Storage Technology (2 Units)

Post-harvest physiology of horticultural commodities. Control of post-harvest losses. Refrigeration and cooling systems. Handling and storage of cereal grains and legumes. Measurement of temperature, relative humidity, moisture in stored foods Building and other structures for food storage.

FSN 312.2 Principles of Food Preservation (2 Units)

Preservation by use of low temperature – temperature and life activities, causes of spoilage and their dependence on temperature. Typical cooling equipment, estimation of refrigerating chamber. Cold storage of fruits and vegetables. Effect of the rate of freezing on product quality (freezer burn), effect of freezing on components of food methods of freezing preservation, the use of food additives, factor influencing their use, legal and technological justifications. Microorganism inhibiting chemicals-antibiotics, fungicides, antioxidants etc.

FSN 313.2 Food Plant Management / Process Design (2 Units)

Food plant site selection criteria (infrastructures, markets, raw materials, etc.) plant layout (efficiency, space economy, etc.) design of food engineering equipment, components and system (heat exchangers, fermenters, dryers, in packaging, etc.). Wasteless food plant design techniques, Ergonomics, Environment, Health and Safety considerations (waste disposal, noise, sanitation, etc.). Economics and optimization of food plants. Business and technical management concepts associated with food plants. Efficient concepts. Industrial economic, financial and cost accounting.

FSN 314.2 Food Microbiology II (2 Units)

Contamination of food from plants, soil, air, water, sewage, animal, handling and processing. Food spoilage-microorganisms responsible: type of spoilage. Effects of heat, desiccation, chemicals, radiation on micro-organisms. Food hygiene. Hygienic design of food processing plants. Public health and sanitation. Microbial hazards in foods. Food poisoning (infection and intoxication) and its control. Other biological hazards in foods.

GES 300.2 Fundamental of Entrepreneurship (2 Units)

Concept, history and development of entrepreneurship; the entrepreneur qualities and characteristics; The entrepreneur and business environment; identifying business opportunities; starting and developing new business ventures; legal forms of business ownership and registration; Types of business ownership; Feasibility studies; Role of small and medium scale Enterprise (SME) in the economy; Role of government on Entrepreneurship; Business location and layout; Accounting for SME; Financing SME; Managing SME; Marketing in SME; Risk Management of SME; success and failure of SME; Prospects and challenges of Entrepreneurship and Intrapreneurship; Ethical behaviour in small business.

FSN 315.2 Clinical Nutrition (2 Units)

Malnutrition as a health problem. Classification of nutritional diseases. Disease of over-nutrition, diseases due to biological and chemical toxicants in foods, diet and dental diseases. Diet and cancer. Nutritional basis of diseases – renal, liver G-I diabetes, hypertension etc. Nutritional application to management of diseases. Nutritional problems of public health importance. Causes of nutritional problems. Prevention of nutritional problems. In born errors of metabolism, metabolic diseases and allergies, nutrition and immunity.

AGF 301.2 Field Course (1 Unit)

Study visit to areas, institutions, industries, etc., relevant to students' area of specialization. Students are required to write a report on the trip.

FSN504.1 Fruits and Vegetable Processing (2 Units)

Preservation of fruits and vegetables, Harvest and pre-processing operations. Use of chemicals to control enzymatic and non-enzymatic changes in processed fruits and vegetables, processing of Jam, Jellies, tomato ketchup, tomato puree, dried vegetable etc.

FSN505.1 Milk and Dairy Processing (2 Units)

Composition, nutritive value and properties of milk. Factors affecting the composition, of nutritive value and properties of milk. Microbiology of milk and milk products. Quality tests. Technology of milk products; condensed and evaporated milk, cream, ice-cream, butter, cheese, cultured milk, dehydrated milk, filled milk, skin milk and milk by-products. Plant sanitation; dairy waste management and processing.

FSN 506.1 Food Packaging (2 Units)

Characteristics of various packaging materials for food industries. Functions of packaging. Plastic and other materials and methods of production; heat seals and effect of pressure, temperature and time. Testing for structural quality and performance of packaging materials, packaging requirements for fresh and processed foods for local and foreign markets.

FSN 507.1 Food Standard and Quality Control (3 Units)

Definition, scope and significance of food quality and quality control. Quality parameters, Quality assurance and specifications, food standards, food laws, good manufacturing practice (GMP), food legislation and the Codex Alimentarius. Food standards: - International food standard: Nigerian Industrial Standards (NIS). Enforcement of food standards. Principles and methods of food quality control. Quality control charts. Hazard Analysis and Critical Control Points System (HACCP). Plant sanitation as a quality control tool, Sensory and instrumental evaluation of quality parameters. Statistical handling of data: fortification and enrichment. Nutritional. Labelling instruments of quality control.

FSN 508.1 Food Analysis II (2 Units)

Statistical Methods: Experimental design, sampling and sampling errors, sampling methods, presentation and treatment of analytical data. Sample

preparation and storage. Principles of food analysis. Instrumental methods of food analysis, colorimetry, spectrophotometry, polarimetry, biosensing, refractometry, gravimetry, chromatography and electrophoresis. Methods of evaluating moisture, ash, lipids, carbohydrates, amino acids and proteins, vitamins. Food colours, additives, trace metals, and contaminants in foods. Preparation of food for trace elements analysis using dry ashing and wet oxidation. Significance of ash fractions e.g. acid, alkali water soluble and insoluble ash, sulphated ash etc.

FSN 509.1 Food Preparation (2 Units)

The application of principles of nutrition and management to planning and preparation of meals for special groups, and occasions; developmental research and controlled experiments with food; developing food demonstration techniques; quality characteristics of some important traditional Nigerian food ingredients; strategies for improving nutrient value and utilization of the traditional and non-traditional meals.

YEAR FIVE (SECOND SEMESTER)

FSN 500.2 Seminar (2 Units)

Under the supervision of a staff, students, carry out simple research work in a selected problem area of interest, write and present a report in a prescribed format. This is reviewed and assessed by internal examiners in the department based on the write-up and presentation by the student.

FSN 510.2 Cereal Technology (2 Units)

Structure, composition and nutritional significance of Cereals and Pulses. Post-harvest losses, causes and controls. Storage characteristics and methods. Fumigation, drying and aeration. Milling of cereals and pulses. Production of cereal and legume flours; protein-rich special flours; composite flours. Functional properties of flours in relation to end uses. Baking of bread, biscuits and other baked products. Extruded, fried, popped and puffed products. Baking with composite flours and non-wheat flours e.g. Cassava flour. Breakfast cereals production.

FSN 511.2 Meat and Fish Processing Technology (2 Units)

Meat and Meat Products: Definition of Meat, Meat food product and meat by products. Abattoir design and operation. Factors affecting postmortem change and ultimate properties of meat: Rigor mortis, aging, tenderization., Meat quality, Meat microbiology; meat food-borne diseases. Meat curing, manufacture of sausages and other cured products. Smoking, refrigeration, freezing; dehydration, irradiation, fermentation and canning. Intermediate moisture meat and use of chemical additives. Meat by products. Methods of meat storage. Composition of fish: Quality evaluation. Indices of freshness. Fish spoilage. Handling, processing and preservation- Refrigeration and Freezing drying, salting, smoking, - Pickling, and fermentation. Fish products – sausage, sauce. Fish protein concentrate, fish meal, fish oil, canned fish etc.

FSN 512.2 Processing of Miscellaneous Food Commodities (2 Units)

Processing of cocoa, tea, coffee, sugar, confectionary, soft drinks, extraction and refining of vegetable oils. Technology of oil extraction – mechanical expression, solvent extraction. Refining of oils and fats: Degumming, bleaching, deodorization, Hydrogenation, and esterification. Stability of oils and fats. Utilization of oils and fats. Products: shortenings, margarine, salad oils, coating fats.

FSN 513.2 Poultry and Egg Processing Technology (2 Units)

Processing and marketing of poultry. Future potential of poultry technology. Quality identification, poultry inspection and quality maintenance. Chemical and nutritive characteristics. Measuring yield and characteristics. Microbiology of poultry meat. Processing, packaging, refrigerated storage of poultry. Poultry processing and preservation. Dehydration. Curing and smoking etc. inedible by-products. Physical, chemical, nutritional and functional characteristics of egg. Quality identification and preservation of shell eggs. Microbiology of eggs. Chemistry of Egg products (processing eggs). Uses of eggs for non-human foods. Egg Industry

FSN 514.2 Human Nutrition and Toxicology (2 Units)

State of nutrition in Nigeria. Protein–energy malnutrition. Selected mineral and vitamin deficiencies, etiology and control. Nutrition and infection. Food balance sheets, food composition tables and recommended dietary allowance. National problems of affluence.

FSN 599.2 Research Project (6 Units)

Under the supervision of a staff, students, carryout a detailed empirical research work in a selected problem area of interest, write and present a report in a prescribed format. This is reviewed and assessed by internal and external examiners based on the report and defence by the student.

FSN 515.1 Consumer Education (2 Units)

Definition and principles of Consumer Education; and analysis of economic forces affecting individuals and families as consumers of goods and services; creating awareness of the rights and responsibilities of consumers in the market place; developing aids and techniques for making intelligent choices of foods and services; political, social, economic and legal implication of consumer decisions and actions.

FSN 516.1 Nutrition Education (2 Units)

Formal and non-formal aspects of nutrition education. Nutrition education by whom to whom, and for what. Methods of nutrition education, improving socio- cultural aspects of foods including food habits, food taboos, and food choice. Activity oriented programmes adopted in fostering nutrition education and nutritional status of people. Content of nutrition in the dissemination of nutrition education at household, village and institutional levels. Factors influencing teaching and learning. Uses and problems visual aids in nutrition education by various groups. Behaviour and attitude of nutrition education.

FSN 517.2 Diet Therapy and Hospital Practice (2 Units)

Introduction to dietary management in disease states, consideration for factors in patients care plan, coordinated nutritional services for patients, therapeutic adaptation of the normal diet and problems of planning therapeutic diets using local foods. Principles or nutritional modification for the underweight, protein energy malnutrition, nutritional care plan and dietary treatment, nutrient need in surgery – postoperative nutritional care following gastrointestinal tract surgery; study of the diet for the vulnerable group, diarrhoea in infants; oral re-hydration therapy.

AGE 508.2 Agri-Business Management and Finance (2 Units)

Farm structure, size and performance of business organizations in the agricultural sector. Public policies affecting growth of agribusiness farms in Nigeria; organization and management of such large-scale farms; legal organization and tax strategies. Economics of agricultural processing, principles of agricultural finance and farm credit. Capital needs of agricultural industries. Sources of loan, government credit policies and approaches to efficient credit management.

HOME SCIENCE PROGRAMME

YEAR 3 TO YEAR 5 COURSES

300 LEVEL (YEAR 3) COURSES

FIRST SEMESTER			SECOND SEMESTER		
COURSE CODE	COURSE TITLE	UNITS	COURSE CODE	COURSE TITLE	UNITS
AGR 302.1	Agricultural Research and Report Writing	2	GES 300.2	Fundamentals of Entrepreneurship	2
HEM 301.1	Food Preparation II	2	HEM 309.2	Food Service Systems and Administration	2
HEM 302.1	Clothing Construction	2	AGF 301.2	Field Course	1
HEM 303.1	Home Furnishing & Management	2	HEM 310.2	Pattern Design and Alteration	2
HEM 304.1	Introduction to Hotel management and Tourism	2	HEM 311.2	Home Furnishing and Management	2
HEM 305.1	Personal, Family and Community Health	2	FSN 315.2	Clinical Nutrition	2
HEM 306.1	Introduction to Textile and Clothing	2	HEM 312.2	Hotel and Catering Regulations	2
HEM 307.1	Home Technology	2	HEM 313.2	Pregnancy and Child Development	2
HEM 308.1	Institutional Equipment	2	AGR 303.2	Agricultural Biochemistry	2

	and Management I				
TOTAL		18			17

Total units 35

400 LEVEL (YEAR 4) COURSES

COURSE CODE	COURSE TITLE	UNITS
HEM 400.0	Report Writing	4
HEM 401.0	Interior Design and Decoration	3
HEM 402.0	Catering	2
HEM 403.0	Clothing Construction	2
HEM 404.0	Pattern Design and Alteration	3
HEM 405.0	Home Management	2
FSN 406.0	Nutrition Planning and Allergy	2
GES 400.0	Entrepreneurship project	2
HEM 407.0	Home Equipment Maintenance	2
HEM 408.0	Food and Beverage Service	3
HEM 409.0	Home Sanitation	2
HEM 410.0	Hotel and catering regulations	2
HEM 411.0	Accommodation Planning & Operation	3
TOTAL		32 Units

500 LEVEL (YEAR 5) COURSES

FIRST SEMESTER			SECOND SEMESTER		
COURSE CODE	COURSE TITLE	UNITS	COURSE CODE	COURSE TITLE	UNITS
HEM 501.1	Extension Programmes in Home Economics	2	HEM 500.2	Seminar	1
FSN 507.1	Food Standards and Quality Control	3	HEM 508.2	Interior Decoration and Design	2
HEM 502.1	Research Techniques in Home Science	2	HEM 509.2	Nutritional Biochemistry	2
HEM 503.1	Advanced Clothing Construction	2	HEM 510.2	Catering II	2
HEM 504.1	Marriage and the Family	2	HEM 511.2	Hospitality Facility Planning and Design	2
HEM 505.1	Catering I	2	HEM 512.2	Food Preservation and Processing	2
HEM 506.1	Introduction to Child development and training	2	HEM 599.2	Research Project	6
HEM 507.1	Institutional Equipment and Management II	2			
TOTAL		17			17

Total units = 34

Elective

COURSE CODE	COURSE TITLE	UNITS
HEM 512.1	Resource Management	2
AGX 504.1	Rural Youth and Women Extension Programme	2
AGE 509.2	Agricultural Project Management	2
AGE 508.2	Agri-Business Management and Finance	2

COURSE SYNOPSIS FOR HOME SCIENCE PROGRAMME YEAR 3 (FIRST SEMESTER)

AGR 302.1: Agricultural Research and Report Writing (2 Units)

Purpose and type of research; research proposal; problem identification and hypothesis formulation; methods of primary and secondary data collection; data organization and presentation; scientific writing; formats for project and thesis presentation. Review of basic statistics: frequency distribution, measures of location and dispersion; Principles of field experimentation.

HEM 301.1 Food Preparation II (2 Units)

Principles of cookery, scientific principles of handling and cooking of food. Measuring techniques. Leavening agents, flour mixtures, modern and traditional equipment procedures in relation to food expenditures. Preparation and uses of soups, sauces, gravies, salads, snacks, breakfast dishes, sweets.

HEM 302.1 Clothing Construction (3 Units)

Fitting techniques and construction methods as applied to sewing, woven and knitted fabrics. Wardrobe planning; fabric selection and construction of garments for personal and family use.

HEM 303.1 Home Furnishing and Management (2 Units)

Study of the historical development of furniture; functions, selection and use of furnishings; practical interior furnishing techniques: decoration, refurbishing and restoration of furniture and soft furnishings, construction of window treatment and practical application in analysis and evaluation in terms of money and time management; work simplification at different family life-cycle stages and socio-economic levels.

HEM 304.1 Introduction to Hotel Management and Tourism

(2 Units)

Hotel accounting and bookkeeping; accounting concept, nature and purpose of bookkeeping; nature and challenges of personnel management; personnel qualities; Accommodation management and types; Restaurant organization and presentations; Housekeeping organization; Reception management, Departmental interrelationship;

Definition, purpose and importance of catering hygiene and safety; Hotel laws; Legislation relating to Nigeria law on hygiene, health, safety and welfare of staff and guests. Factors and events in the development of tourism. Significance of tourism, structure and organization; Growth and demand for tourism in Nigeria; Laws that govern tourism. Travelling. Procedure for booking and ticketing routing, scheduled individual and group travel; linking carriers; provision of information services and owning a travel agency.

HEM 305.1 Personal, Family and Community Health (2 Units)

Concept of health-recognizing and coping with problems. Level of prevention. Environmental sanitation. Diseases spread by water, food and air. Common health problems in Nigerian communities. Diseases that can be prevented by immunization. Governmental and voluntary agencies efforts in solving health problems. Accidents in and outside the home. Family adjustments to health curses and community organization in health.

HEM 306.1 Introduction to Textile and Clothing (2 Units)

Physical and chemical characteristics of various types of fibres (natural and synthetic); fabrics and finishes in use, selection, uses and care for home use and for apparel. Study of clothing needs based on physical, aesthetic, economics, cultural and social psychological factors; basic clothing construction methods, equipment, measurement.

HEM 307.1 Home Technology (2 Units)

Introduction to design features and practical applications of food services and other home equipments, e.g. ovens, fryers, steamers and pressure cookers, refrigerators / freezers, food mixers, dish washers etc. Operation and maintenance of home equipment and other electrical equipment.

HEM 308.1 Institutional Equipments and Management I (2 Units)

Definition, Designs and Classification of Institutional Equipment; requirement and specification for installation and operating large equipment; methods of evaluating equipment performance; use and routine care of equipment and special maintenance practices of equipment and environment.

SECOND SEMESTER

GES 300.2 Fundamentals of Entrepreneurship (2 Units)

Concept, history and development of entrepreneurship; the entrepreneur qualities and characteristics; The entrepreneur and business environment; identifying business opportunities; starting and developing new business ventures; legal forms of business ownership and registration; Types of business ownership; Feasibility studies; Role of small and medium scale Enterprise (SME) in the economy; Role of government on Entrepreneurship; Business location and layout; Accounting for SME; Financing SME; Managing SME; Marketing in SME; Risk Management of SME; success and failure of SME; Prospects and challenges of Entrepreneurship and Intrapreneurship; Ethical behaviour in small business.

HEM 309.2 Food Service Systems and Administration (3 Units)

Technical operations and management of food services; primary functions, menu planning and evaluation forecasting, food and labour cost control, schools catering establishment (small and large) and hospitals food distribution systems, quality food production principles, budgeting, purchasing, convenience and sanitation supervision and management of personnel.

AGF 301.2 Field Course (1 Unit)

Study visit to areas, institutions, industries, etc. relevant to students' area of specialization. Students are required to write a report on the trip.

HEM 310.2 Pattern Design and Alteration (3 Units)

Principles of design by drafting in muslin and fabric, advanced principle of pattern drafting development and alterations. Advanced fitting techniques.

HEM 311.2 Home Furnishing and Management (3 Units)

Study of historical development of furniture; functions selection and use of furnishings, practical interior furnishing techniques. Decoration, refurbishing and restoration of furniture and soft furnishing. Construction of window treatment and practical application in analysis and evaluation

of terms of money and time management. Work simplification at different family life cycle stages and socio-economic levels.

FSN 315.2 Clinical Nutrition (2 Units)

Malnutrition as a health problem. Classification of nutritional diseases. Decision of over-nutrition, diseases due to biological and chemical toxicants in foods. diet and dental diseases. Diet and cancer. Nutritional basis of diseases – renal, liver G-I diabetes, hypertension etc. Nutritional application to management of diseases. Nutritional problems of public health importance. Causes of nutritional problems. Prevention of nutritional problems. Inborn errors of metabolism, metabolic diseases and allergies, nutrition and immunity.

HEM 312.2 Hotel and Catering Regulations (2 Units)

Basic concepts of law – common, civil, criminal cases. Introduction to company law, partnership law, sole trading. Introduction to employment law, employers' liability, common law provisions. Relevant provision of ECOWAS, Contractual basis of employment, the contract and its incidence at common law and by statute, Remunerations – salary controls and negotiation, the payment of salaries Health, safety and welfare, conditions and at work.

HEM 313.2 Pregnancy and Child Development (2 Units)

Basic theories of development from infancy through adulthood. Awareness and understanding of the physical, social, emotional and intellectual aspects of human growth and development in infancy: childhood and adolescence, mechanism of menstruation, ovulation, process of fertilization, pregnancy testing, problems of pregnancy, human reproduction and conception. Introductory studies of children and their caretakers in the family, and settings outside the home (day care centres and nursery schools).

AGR 303.2 Agricultural Biochemistry (2 Units)

Biochemistry in agriculture, food and nutrition; Proteins, vitamins, minerals in farm produce- eggs, meat, vegetable, etc. food processing and natural products; Metabolism of carbohydrates, proteins and lipids (metabolic pathways).

YEAR 4

AGR 400 SIWES 30

GES 400 Entrepreneurship Project 2

YEAR 5 (FIRST SEMESTER)

HEM 501.1 Extension Programmes in Home Economics (2 Units)

Concepts, theories, principles and guidelines of Administration, organization, supervision as applied to extension. Administrative function and responsibility in agricultural extension; staff recruitment, selection, placement and supervision, budget development and fiscal control; importance of programme planning in extension; principles and concepts of programme planning in agricultural extension need, educative objective, learning experience, clientele participation, plan or work, and calendar of work: the role of good public relations, good leadership and cooperation for an extension worker; associations and cooperatives. Concepts of evaluation applied to agricultural extension programme.

FSN 507.1 Food Standards and Quality Control (3 Units)

Definition, scope and significance of food quality and quality control. Quality parameters, quality assurance and specifications, food standards, food laws, Good Manufacturing Practice (GMP) good legislation and the codex alimentaries. Food standards: International food standard Nigerian Industrial Standard (NIS). Enforcement of food standard principles and methods of food quality control. Quality control charts. Hazard Analysis and Critical Control Points System (HACCPS), plant sanitation as a quality control tool. Sensory and instrumental evaluation of quality parameters. Statistical handling of data: Fortification and enrichment, nutritional labelling instruments of quality control.

HEM 502.1 Research Technique in Home Science (2 Units)

The thrust of this course is on theory and statistical principles of research techniques in human nutrition. Planning of research and investigation methods. Data collection organization and presentation of investigation methods. Data collection organization and presentation of data in acceptable form. Techniques used in Nutrition research involving laboratory animals and man, PER, NPU, BV, NDPE etc. use of experimental diets and analytical techniques. Interpretation of results, co-relationships, levels of significance, regression analysis, standard error and deviations, sample distribution, use of percentiles and percentages in growth standard.

HEM 503.1 Advanced Clothing Construction (3 Units)

Theories and application of advanced techniques in garment construction using diverse fabrics; construction of contour garment; principles of construction of men's wear, female wears and children wears.

HEM 504 .1 Marriage and Family (2 Units)

Processes of mate selection; preparation for marriage; adjustment and interaction in marriage; Laws and customs affecting marriage in different cultures with special emphasis on Nigeria; Marriage and Family Institution; Responsibilities in varying family systems and meeting challenges/crisis in family relationships caused by social change.

HEM 505.1 Catering I(3 Units)

Hardwork garnishing, cooking, stuffing of fish, meat and poultry. Use of potatoes and vegetables, cake making, preparation of eggs, grain dishes, pastries, puddings, sandwiches, beverages, savouries and non-alcoholic drinks.

HEM 506.1 Introduction to Child development and Training (2 Units)

Principles, objectives and types of child care programmes; decisions or establishment of programme(s), getting prepared and organized, understanding children and their special needs. Keeping children safe, providing nutritious food, discipline and guidance, recognizing and handling child abuse and neglect, working with parents. Basic theories of development from infancy through adulthood. Awareness and

understanding of the physical, social, emotional, and intellectual aspects of human growth and development in infancy; Childhood and Adolescence, early and late adulthood; influence of the family, home and community environment on personality development in a changing society; problems of pregnancy, human reproduction and conception; introductory studies of children and their caretakers in the family, and settings outside the home (day care centres and nursery schools).

HEM 507.1 Institutional Equipment and Management II(2 Units)

Organizational structures in food service institutions and hospitals. Effective staffing, staff recruitment, discipline and management. Staff welfare and work- output. Sanitation and safety. Planning institutional catering for all age groups. Menu planning, budgeting, book-keeping. Nutritional consideration of institutional meals.

SECOND SEMESTER

HEM 500.2 Seminar in Home Science (1 Unit)

Under the supervision of staff, students carry out simple research work in a selected problem area of interest, write and present reports in a prescribed format. This is reviewed and assessed by internal and external examiners.

HEM 508.2Interior Decoration and Design (3 Units)

Application of design principles to interior decoration and management of living space. Analysis, organization and development of multi-functional spaces within the living environment. Exploration of interior living environment. Contemporary and traditional residential areas in an ecological, behavioural and cultural context.

HEM 509.2 Nutritional Biochemistry (2 Units)

Chemistry of cell constituents and their function. Structure and function of enzymes and hormones. Biosynthesis and functions of nucleic acid. Metabolism of nutrients under different physiological condition. Effects of diet on biochemical processes. Nutrient interrelationships in metabolism. Environmental factors that alter nutrient requirements. Regulatory mechanism of various nutrients. Biological oxidation. Mitochondrial and electron transport systems. Protein and nucleic acid synthesis. Inborn errors of metabolism.

HEM510.2 Catering II (2 Units)

Recipe development and testing; principles of food quality evaluation and development of standard taste; flavour; principles of recipe formulation and presentation; acceptability, trials, selection of participants; analysis of results; planning and preparation of special groups and occasions. Developmental research and controlled experiments with food.

HEM 511.2 Hospitality Facility Planning and Design (2 Units)

Design and maintenance of buildings, furniture fixtures and equipment in hospitality industry. Factors affecting selection and location of food service, laundry, water and surface parking systems. Inputs needed for operational efficiency, cost control through extending equipment and building life and reducing utility expenses. Innovative and environmentally friendly options for solid waste reduction and disposal. Using modern technology to streamline operational procedures, Renovation.

HEM 512.2 Food Preservation and Processing (2 Units)

Preliminary operations in food processing – raw material transportation and storage. Cleaning, sorting and grading. Conversion operations. Size reduction mixing and emulsification. Filtration and expression. Centrifugation, crystallization, heat transfer and generation. Canning – unit operations, micro-organisms important in canning and factors influencing their heat resistance. Retort operations. Methods of calculating process time. Evaporation – use, influence of feed liquor, equipment and heat conservation in evaporators. Drying and dehydration methods, principles, equipment and calculating volumes of air required in drying. Biological preservation of food – with examples. Theory and methods of pickling. Irradiation – uses, mode and effects on micro-organisms. Fats, proteins etc. spoilage of processed foods.

HEM 599.2 Research Project (6 Units)

Under the supervision of staff, student carry out a detailed empirical research work in a selected problem area of interest, write and present reports in a prescribed format. This is reviewed and assessed by internal and external examiners based on the report and defence by the student.

HEM 513.2 Resource Management (2 Units)

Application of Management principles in using resources – work capacity, work methods, work spaces, time and financial management. Identifying and analyzing problems of resource management at individual, family, community and national levels. Social, political and economic policies affecting resource management.

AGX 504.1 Rural Youth and Women Extension Programme (2 units)

Philosophy of rural youth work; types of rural youth clubs; basic factors in organizing rural youth programme. Development of extension programme for youth clubs. Organization for administration and supervision; leadership training in rural youth organization, training professional youth workers; evaluating rural youth programme. Philosophy and principles of home economics extension in Nigeria; Scope of home economics; role of rural women in Nigerian agriculture and economic development; factors in home economics programmes, planning and evaluation; priority determination; coordinating home economics with other agencies and organizations for rural development.

Practical; Field study and trips

AGE 508.2 Agri-Business Management and Finance (2 Units)

Farm structure, size and performance of business organizations in the agricultural sector. Public policies affecting growth of agribusiness farms in Nigeria; organization and management of such large-scale farms; legal organization and tax strategies. Economics of agricultural processing, principles of agricultural finance and farm credit. Capital needs of agricultural industries. Sources of loan, government credit policies and approaches to efficient credit management.

AGE 509.2 Agricultural Project Management and Evaluation (2 Units)

Nature of agricultural projects in agricultural development. Principles of development (project cycle). Agricultural schemes, e.g. River Basins, Plantations, Large scale farms. Techniques of project management in agriculture; Cost-Benefit analysis; rate of returns calculations; cash flow procedures; farm and other resource valuation

INSTITUTE OF AGRICULTURAL RESEARCH AND DEVELOPMENT (IARD)

The Institute of Agricultural Research and Development (IARD) of the University of Port Harcourt was one of the academic units approved by the National Universities Commission (NUC) for the University at its inception in 1975. However, the IARD was formally established in 1982; seven years after the NUC approval. Its mandate is to tackle the problems of agriculture and rural development of the Niger Delta of Nigeria, so as to develop the agricultural potentials of the region. The overall research goal of the Institute is to mitigate the challenges of agriculture as they affect peasant and small-scale farmers in the region.

Generally, the Institute possesses research competence in Fish farming, Rice cultivation, Propagation of traditional food crops, Vegetables and local spices, Farming systems, Agroforestry, non-timber products and wildlife interventions, Poultry and livestock production, Exploitation of underutilized animal and plant species; Agricultural pests and diseases control, Food processing and preservation, Extension and outreach programmes, and Environmental management. Thus, the IARD is the strategic agricultural research arm of the Faculty of Agriculture and, indeed, the University of Port Harcourt with its staff also serving as lecturers in the four departments (Agricultural Economics and Extension; Animal Science and Fisheries; Crop and Soil Science; Forestry and Wildlife Management) and other departments in the University.

The Institute is charged with the mandate, **“Tackle the problems of agriculture and rural development of the Niger Delta of Nigeria, so as to develop the agricultural potentials of the region.”** It is designed to function in collaboration with other national, regional and international agricultural research and training institutes / centres / academies as well as other agricultural associations and professional bodies to conduct research and offer training in agriculture, fisheries and forestry. The target audience are: young school leavers, smallholder farmers, rural and urban farmers, youths, women, retired civil and public servants, workers from government and nongovernmental agencies, and others who may have a desire to update their knowledge in agricultural business. Upon

completion, candidates shall be issued the University of Port Harcourt certificate in any of the options below. The University is a member of the African Network for Agriculture, Agroforestry and Natural Resources Education, ANAFE, Nairobi, Kenya.

Available Training Options

a) Short Courses

These are practical-oriented courses designed to meet the immediate needs of clients already in the business or prospective ones.

1. Agripreneurship and Agribusiness Management
2. Agritrade and Farm Produce Marketing
3. Social Capital and Networking for Agricultural Development
4. Feed Formulation and Composition
5. Profitable Poultry Production and Management
6. Smallholder Goat Farming for Urban Markets
7. Fish Handling and Processing Technology
8. Principles of Pond Fertilization and Maintenance
9. Small and Medium Size Fish Farming for Livelihood
10. Farm Tractor Operation and Maintenance
11. Improved Weed Management for Sustainable Crop Production
12. Integrated Crop Pests and Diseases Management
13. Bee Keeping and Apiary Management
14. Planning a Small-scale Plant Nursery
15. Snail Farming for Export
16. Post-Harvest Technology and Food Storage
17. Processing and Packaging Farm Produce
18. Strategies for Mitigating Greenhouse Gas Emission with Changing Climate

b) Professional Diploma Programmes

These are targeted agricultural trainings suitable for candidates with relevant or related practical experience and wishing to become more efficient on their current or future jobs.

1. Agricultural Communication Skills, Conflict Management and Resolution
2. Co-operative Management
3. Agricultural Laws and Policies for Agribusiness

4. Farm Animal Husbandry
5. Principles of Animal Health, Diseases and Hygiene
6. Mini-Livestock Production for Landless Farmers
7. Fish Handling and Processing Technology
8. Principles of Pond Fertilization and Maintenance
9. Small and Medium Size Fish Farming for Livelihood
10. Farm Mechanization and Agricultural Safety
11. Principles and Practices of Farm Irrigation
12. Mushroom Production and Management
13. Agricultural Farm Produce Management
14. Forestry and Environmental Management
15. Plantation Establishment and Maintenance
16. Urban Tree Management Practice and Landscaping
17. Organic Farming for Sustainable Agriculture
18. Responsive Agriculture and Climate Change

c) **Certificate Programmes**

The certificate programmes are intended for candidates with little or no experience but, desirous to increase their knowledge to enhance their agri-entrepreneurship skills or plan to pursue a degree programme in fisheries, forestry, agriculture and agri-preneurship. Upon successful completion of the one-year certificate programme with an average score of 60% and above, the candidate may seek to be admitted into the corresponding degree programme offered by the Faculty of Agriculture, University of Port Harcourt. Such a candidate intending to pursue a degree programme is also expected to possess the relevant five O'Levels subjects and must have sat for the UTME and obtained the minimum score stipulated for the prevailing academic session.

1. Agricultural Economics and Food Marketing
2. Agricultural Extension and Rural Sociology
3. Animal Production and Management
4. Fish Farming and Fisheries Technology
5. Food and Cash Crop Production
6. Soil Resource Management
7. Forest Resource Management
8. Ecotourism and Wildlife Management
9. Food Processing and Post-Harvest Technology

Admission Requirements

a) Short Courses

1. Possess relevant or related practical experience.

b) Professional Diploma Programme

1. Possess relevant or related practical experience.
2. Possession of Higher National Diploma (HND) or first degree in Agriculture, Fisheries and Forestry are added advantages.

c) Certificate Programme

1. Possess relevant or related practical experience.
2. Possess the requisite O'Levels credit passes, which must include:
 - (i) English Language (*compulsory*)
 - (ii) Chemistry (*compulsory*)
 - (iii) Biology or Agriculture (*and not both*),
 - (iv) Mathematics or Physics (*and not both*), and
 - (v) any other subject (Economics, Geography, Further Mathematics, or Commerce).
3. Three relevant O'Levels subjects but, cannot pursue the degree programmes.
4. Passing the remaining two O'Levels subjects qualifies for degree programme.

Duration of Programme

- (i) **Short Courses:** Shall last between 10 and 21 days.
- (ii) **Professional Diploma Programme:** Shall last 12 Calendar months.
- (iii) **Certificate Programme:** Shall last 12 Calendar months.

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**STATEMENT OF ACADEMIC POLICIES OF THE
UNIVERSITY OF PORT HARCOURT
ACADEMIC OBJECTIVES**

1.1 The academic objectives of the University of Port Harcourt shall be:

To contribute to national development, self-reliance and unity through the advancement and propagation of knowledge and to use such knowledge for service to the community and to humanity.

To this end:

- 1.1.1.1 Degree programmes shall be provided with the objective of producing persons who are well grounded in contemporary culture, have sound knowledge of at least one branch of learning, and are intellectually and morally well equipped to make an effective contribution to national development, self-reliance and unity.
- 1.1.1.2 Research facilities shall be provided for staff and students to undertake research relevant to the development of Nigeria.
- 1.1.2 Continuing education programmes shall be provided for the benefit of persons in the various sectors of the economy and in public service, with a view to increasing their efficiency and productivity through knowledge of new developments relating to their work.
- 1.1.3 Programmes shall be provided to assist the local community to benefit from the facilities provided by the institution.

DEGREE STRUCTURE

The Faculty of Agriculture runs a five (5) year degree programmes in Agricultural Economics and Extension, Animal Science, Fisheries. Crop & Soil Science, and Forestry & Wildlife Management and Food, Nutrition and Home Science for regular students. The basic entry requirement is the Senior Secondary Certificate Examination/West African School Certificate/General Certificate of Education with credits in five relevant subjects including English Language. Mathematics Chemistry, Biology/Agricultural Science, and any one of Physics Geography and Economics.

REQUIREMENTS FOR A BACHELOR'S DEGREE

To obtain a Bachelor of Agriculture (B.Agric) degree in the faculty of Agriculture a student must complete an approved programme of study consisting of.

- a) **University Required Courses:** Four General Studies Courses namely (GES 101.0, GES 101.2, GES 101.1, GES 103.2:) prescribed for all students in the university and one Community Service Course selected from those approved for the faculty. A grade of not below “E” must be achieved in each of the above course. The purpose of general studies courses is to improve basic intellectual and communication skills of the students and to promote a continuous awareness and understanding of contemporary society as well as the historical and cultural origins of people. On the other hand, Community service is a field project directed towards service to the community or the university and is an integral part of

the degree programme. The objective of the project is to involve both staff and students in a practical way with some of the problems of society as well as with efforts to provide solutions to them, and to inculcate and develop in both staff and students a consciousness of their responsibilities to society and the satisfaction of rendering service to others. The projects which are practical in nature require the application of some of the skills being acquired in the degree programme to serve the community and generally, involve manual work. It is credit earning and is an essential requirement in the degree programmes

- b) **Faculty –wide Courses:** These are the courses prescribed by the Faculty of for all its students across the faculty. A grade of not less than “E” must be obtained. The objective is to emphasize the integral nature of our programme.
- c) **Courses in the students’ major fields of interest:** These shall begin as limited number of major courses in the first two years and occupy most of the students’ time in subsequent years. At least, a grade of “E” must be achieved in each of these courses
- d) **Elective Courses:** Elective courses offer some opportunities to students to broaden their interest either within or outside their major discipline. Subject to the advice of their Academic Adviser students are encouraged to follow their personal interest in electives. Students must pass all elective courses they have chosen with at least “E” grade.

In order to graduate an undergraduate student must have at least 150 credit units and maximum of 210 credit units from year one to year five. The candidates are also required to pass the relevant courses under the general studies programme in order to graduate with a Bachelor's Degree in Agriculture.

The award of a Bachelor's degree in Agriculture is classified as follows

Cumulative Grade Point average	Class of Degree
4.50 – 5.00	First Class
3.50 – 4.49	Second Class Upper
2.40 – 3.49	Second Class Lower
1.50 – 2.39	Third Class
1.00 – 1.49	Pass

2.1 University of Port Harcourt does not admit “direct entry” into the second year of the degree programme. NECO, NABTEB certificates are acceptable.

2.2 scientific training

In the training of scientists, the programme gives adequate emphasis to the practical, social and cultural implications of scientific knowledge and seeks to correct some of the disabilities inherent in scientific education in the society that is still largely technologically backward and superstitious. This shall be done even if it requires

departure from some of the traditional methods of European and American scientific education. To achieve these objectives, the programme include training in the mechanical skills that are usually taken for granted in technologically more advanced societies but are usually lacking in our students and very vital for scientific innovation and advancement.

2.1.4 Framework for degree structure

The general framework for the degree structure is as follows:

1st Year	2nd Year
General studies Course	General Studies Courses (where
Foundation Courses	applicable)
Major Courses	Foundation Courses
	Major Courses
	Community Service Course (Where
applicable	
	Elective courses
	Teaching Practice (where applicable)
3rd Year	4th Year
General Studies Courses	General Studies Courses
(where applicable)	(where applicable)
Major Courses	Major Courses (Where
applicable)	

Elective Courses	Elective Course (where applicable)
Industrial Training/Teaching Practice/Year Abroad (where applicable)	Seminar courses (where applicable)
	Projects (where applicable)
5th year	6th Year
General Studies Courses (where applicable)	Major Courses (where applicable)
Major Courses (where applicable)	Elective courses (where applicable)
Applicable	Seminar course (where applicable)
Elective courses (where applicable)	Projects (where applicable)
Seminar courses where applicable	
Projects (where applicable)	

3.0 REQUIREMENTS FOR MATRICULATION

3.1 University Requirement

The basic admission requirement of the university:

1. Five credits in senior secondary Certificate or equivalent including English, obtained at not more than two sittings

2. A score in JAMB not below the cut-off point for the particular department in the year in question. The JME subjects must be relevant to the program desired by potential students.

3.2 Department Requirement

In addition to meeting the basic admission requirements of the University, potential students are also required to fulfil the requirements of their respective departments.

3.3 Transfer Requirement. For conditions on transfer or change of programme please see section 10-11

4.0 GUIDELINES FOR COURSES SYSTEM AND INSTRUCTION

4.1 For the purpose of teaching and examination, the academic year is divided into two semesters, each of approximately sixteen weeks of teaching.

4.2 Instructions shall be by courses and every proposed course with an outline of contents must be presented to senate for approval.

4.3 The unit of credit for a course is the credit unit, one credit unit being when a class meets for one hour every week for one semester in a lecture or tutorial, or for 3 hours every week in practical in the laboratory, workshop or field.

4.4 Each course carries 1 to 6 credit units and its duration is one semester.

4.5 The normal course load for a full-time student is 15-24 credit units per semester. No student is permitted to register for less than 15 or more than 24 credit units in any semester. This does not apply to students on fieldwork/industrial attachments/teaching practice in vacation periods.

- 4.6 Prerequisite and concurrent requirement for courses may be prescribed but may be waived at the discretion of the faculty teaching the course for which they are prescribed upon the recommendation of the department offering the course.
- 4.7 Every course shall be continuously assessed, and examined at the end of the semester in which it is given
- 4.8 Resit examination have no place in the course credit system and are not permitted.
- 4.9 Students are required to obtain a minimum of 75% attendance at lectures/tutorials and or laboratory practice to be eligible for examination in the courses.

5. GENERAL REQUIREMENTS FOR A DEGREE PROGRAMME

5.1 Programme

- 5.1.1 To obtain a degree in the University of Port Harcourt, students must complete the approved programme of study in their department, and all courses which the programmes specified must be passed. All students are urged to familiarize themselves with the specific requirement for a Bachelor's degree in their department as specified in the current brochure for the faculty or Department.
- 5.1.2 It is the responsibility of each faculty and Department to ensure that copies of a brochure with correct details of all current programmes are available to each set of incoming student.
- 5.2 Students will graduate on the programme which was in effect in their Department at the time they were admitted into the Department.

- 5.3 The pass mark for undergraduate course is 40% except for college of Health Science where it is 50%
- 5.4 Each Faculty and department will specify to own minimum, requirement for the award of its degrees, subject to a minimum of 120 credit units and a maximum of 148 credit units for a 4-year programme, or a maximum of 150 credit units and a maximum of 210 credit units for a 5 years programme A well balanced programme should require between 120 and 148 credit units for a 4-year programme and between 150 and 210 credit units for a 5-year programme to be taken.
- 5.5 Each faculty and Department must specify the minimum number of units which must passed in order to graduate.
- 5.6 All registered courses other than studied courses. Students must be passed.
- 5.7. When re-registering failed courses, students must not exceed the maximum number of 24 credit units for one semester. Any course which would cause the maximum to be exceeded must be deferred to the following academic year.
- 5.8 Grade points earned in all attempt at a particular course count towards the (CGPA).
- 5.9 Students are not allowed to repeat a course which they have passed
- 5.10. The various kinds of course available are as follows:

5.10.1 **General Studies Courses**

General studies courses are university-wide, and the appropriate combination of course specified by the student faculty

5.10.2 Foundation Courses

Various foundation for faculty wide courses for the first two years of study are prescribed by each faculty. Departments specify the particular foundation course which their students must take.

5.10.3 Major Discipline courses

Courses in the major discipline occupy most of the curriculum in the third and subsequent years of the regular four-year structure. All students are advised to be acquainted with their requirement of their faculty and Department.

5.10.4 Community Service Course

One community service course must be passed

5.10.5 Elective Course

Every programme must include some provision for elective course

6.REGULATIONS FOR DIPLOMAS, CERTIFICATES AND BASIC STUDIES

6.1 Diploma Certificates and Basic Studies programmes have their own regulative which must be sought in the appropriate brochures

7.ACADEMIC ADVISERS

7.1 Every student is attached to an Academic Adviser who is a member of the academic staff and who will advise him/her academic affairs as well as on personal matters. Academic advisers are expected to follow their student's academic progress and provide counselling for them.

7.2 It is the duty of the Head of department to assign an academic adviser to each student at the beginning of each session.

7.3 Academic adviser should give clear information on the notice board about appropriate times and places at which they will be available to students who wish to consult them.

8. REGISTRATION OF COURSES

8.1 The period for normal registration is the first week of each academic year excluding the orientation week.

8.2 The period for late registration is the second week of the first semester of the academic year. Late registration will attract a surcharge penalty

8.3 Course registration is the responsibility of the student's parent department. The Head of Department signs for all the courses registered.

8.4 In registering students, the parent department should ensure that students re-register for all previously failed course in which the programme requires a pass, and meet the prescribed requirement for each course registered furthermore, that the total credit units registered are not less than 15 nor more than 24 per semester (cf 4.5 and 57).

8.5 Any registration completed after the time specified will be null and void and will not be credited to the student even when her/she has taken and passed an examination in the course.

8.6 Students are not allowed to sit for examination in a course for which they have previously registered. Such action is fraudulent and culprits will be appropriately disciplined.

8.7 Any genuine request for late registration must be made through the Head of department and a late registration fee whose amount is reviewed each year in line with the cost of living must be paid to the

bursary. Forms for late registration will be given out only when the appropriate receipt is documented on the form.

8.8 A list of students registered for each course should be kept (see appendix 1). This list should be displayed for one week immediately after the close of registration for necessary correction.

8.9 The parent faculty and the parent department retain one copy of this list and forward the three copies to the Teaching faculty to be distributed thus one to the Faculty, one to the Department and one to the course lecturer. This list becomes the authentic register for the course examination.

8.10 For all students, the following forms are returned to the Academic Office. Form MIS-01 9(SIF) for fresh student MIS-02 (Course Registration form) and MIS-04 (Fee Form)

8.11 Students should be encouraged to join their professional association, but the due for such association should not be tied to registration forms

8.12 Application for adding or dropping a course must be made on the prescribed ADD/DROP Form and certified by the registrar after obtaining the approval of the Head of Department concerned not later than four weeks before the examination in each semester. Any change of course made by altering the registration form will be null and void.

9.0 **AUDITING OF COURSES**

9.1 Students may attend a course outside their prescribed programme. The course shall be recorded in their transcript only if they have registered for it with the approval of the Head of their department and the Dean of their Faculty and taken the prescribed examination. An audited course shall not be used in calculating the CGPA

10. CHANGE OF DEGREE PROGRAMME

10.1 A student who has been admitted to a degree programme on satisfying the minimum requirements for entry into the University as well as course requirement for the Faculty and Department shall not be allowed to change until he /she has completed the first academic year in the degree programme.

A student awarded a scholarship in a discipline different from that for which he/she is admitted shall be allowed to change. Faculty or department to that in which the programme specified by the scholarship Award is available, provided that he/she meets the requirements of the Faculty or Department to which a change is desired.

10.2 Application to change faculty shall normally be made by the student concerned through the purchase of the form Admission office in the 2nd semester preceding the year of transfer. The form shall be filled by the student and processed by the Department and faculty not later than 6 weeks of the 1st semester of the year of transfer. The recommendation from the Faculty Board shall be forwarded to the Committee of Provosts and Dean (CPD) for approval, thereafter, a letter of approval to transfer shall be issued to the student before actual transfer takes place. Any student who transfers before approval by CPD shall be deregistered from the university for irregular transfer. For the purpose of transfer. The JAMB subjects must be relevant to the new programme

103 To qualify for transfer into the professional programmes. Medicine, Engineering and Management sciences, students shall be required to have a CGPA of 4 points or above at the time of application.

For a student to qualify for transfer into other faculties, he/she requires a CGPA of 3.0 points at the time of application. Those from College (CHS) to Science must have the continuation CGPA of 1.0 point Intra Faculty Transfer should be done by the Faculty Board and the Committee of Provost and Deans informed.

11. **INTER UNIVERSITY TRANSFER**

1.1.1 A student from another University may seek a transfer to any of the programme of the University of Port Harcourt. Such applicants shall purchase a form from Admission Office on payment of N50 000) at the Bursary Department. The form shall be duly filled and the former University be requested to forward the transcript of academic record to the Registrar, the Registrar shall refer the request to the appropriate Head of department after the transcript has been authenticated. The HOD after considering the application shall make an appropriate recommendation through the Faculty Board to the Committee of Provosts and Dean (CPD) for approval Thereafter a letter of approval to transfer shall be issued to the student before actual transfer. All such applications must be processed before the beginning of an academic year Irregular transfer is not allowed.

11.2 All applicant for Inter-University transfer shall be required to be in good standing in their previous University.

11.3 A student who has been suspended or expelled from any university for acts for misconduct shall not be eligible for transfer to the University of Port Harcourt.

11.4 The residence requirement shall be a minimum of two years

12. **TIME TABLES**

1.2.1 The lecture timetable should be released at least two weeks before the first day of lectures. For large classes the different streams shall be allocated same slot on the timetable and the streams taught in parallel classes running at different venues

1.2.2 Faculty Officers are required to collate information on the number of students registered for each course in their Faculty at the close of registration, and forward it to the Timetable Committee not later than three weeks after the close of registration

1.2.3 Then examination timetable should be released at least three weeks before the schedule date of the start of examination.

1.2.4 Examination involving large classes should be conducted in the first week of examinations. At the time of such examinations no other examination should be scheduled, so as to enable enough space and invigilators to be available. Large classes are defined as University wide or faculty wide courses

1.2.5 Scheduled times and dates for examinations must be adhered to. If it is found necessary to re-schedule and examination this must be with the permission of the chairman. Timetable Committee and the Provost of Dean of Faculty

1.2.6 Because of the constraints of space examinations are currently (1997) scheduled to last for three weeks. As soon as adequate classroom space is available this should be reduced to two weeks.

13 **TEACHING**

1.3.1 The large classes shall be co-taught and no class should exceed 500. The assignment of lecturers to teach the different streams of students

in any of these large classes shall be done at properly constituted department meeting of the parent department on the course

1.3.2 The co-ordination of the teaching of Faculty and University wide courses involving fresh men should be restricted to senior academic staff not below the rank of Senior Lecturer.

1.3.3 Heads of Departments should ensure that lecturers take their teaching assignment seriously in particular course outlines based on the approved course description must be made available to students free of charge at the commencement of lectures

1.3.4 Continues assessment normally comprises of 30% of the marks for the course, but may be up to 60% for courses of practical nature. Continuous assessment must be administered during the teaching period and NOT as a test immediately preceding the examination nor as an extra question on the examination paper

1.4 GRADING SYSTEM

1.4.1 The following systems of grade Points shall be used for all facilities

NEW STUDENTS*			OLD STUDENTS**		
MAR K SCOR E	LETTER NOATATIO N	GRAD E POINT	MAR K SCOR E	LETTER NOTATIO N	GRAD E POINT

70% and above	A	5.00	70% and above	A	5.00
60-69	B	4.00	65-69	B*	4.50
50-59	C	3.00	60-64	B	4.00
45-49	D	2.00	55-59	C*	3.50
40-49	E	1.00	50-54	C	3.00
0-39	F	0.00	45-49	D*	2.50
			40-44	D	2.00
			30-39	E	1.00
			29% and below	F	0.00

- New students are those in the first year of the degree programme by October 2021 and after.
- Old students are those enrolled in second or higher level course by October 2021 having completed at least the first year of the degree programme.

1.4.2 Students are obliged to sit for examination in all registered courses. Any student who fails to sit for a course examination without satisfactory reason earns the grade of **F**.

15.1 COMPUTATION OF GRADE POINT AVERAGE

15.1 Every course carries a fixed number of Credit Units (CU) one credit unit being when a class meets for one hour every week for one semester, or three hours every week in the laboratory workshop or field.

15.2 Quality points (QP) are derived by multiplying the credit units by the Grade Points earned by the student e.g. in a course with three credit units in which a student earned a B with 4 Grade Points, the Quality Points are $3 \times 4 = 12$

15.3 Grade Point Average (GPA) is derived by dividing the Quality Points for the semester by the Credit Units for the semester e.g. in a semester where the student earned 56 Quality Points for 18 Credit Units, the GPA is $56/18=3.11$

15.4 Cumulative Grade Point average (CGPA) is derived by adding the Total Quality Points (TQP) to date and dividing by the Total Credit units (TCU) to date e.g. if the TQP are 228 and the TCU are 68 then the CGPA is $228/68=3.35$.

15.5 Detailed example of how to calculate GPA and CGPA is shown on below:

Cours e	Cred it unit	Letter notati on	Gra de poin t	Quali ty point	Grade point average (gpa)	Cumulative grade point average
APC 100	3	B	4	12	QP=66	TQP=66
APC 101	2	C	3	6	CU=20	TCU=17

APC 102	1	C	3	3	GPA 66/17=3. 88	CGPA=66/17= 3.88
APC 103	4	B	4	16		
APC 104	5	A	5	2.5		
APC1 05	2	D	2	4		
TOTA L	17			66		

FIRS YEAR, SEMESTER TWO

Cours e	Cre dit unit	Letter notati on	Gra de poin t	Quali ty point	Grade point average (gpa)	Cumulative grade point average
APC 106	5	E	1	5	QP =48	TQP =114
APC1 07	4	D	2	8	CU =20	TCP=37
APC 108	5	B	4	20	GPA 48/20=2 .40	CGPA=114/37 =3.08

APC 109	3	F	0	0	
APC 110	3	A	5	15	
TOT AL	20			48	

SECOND YEAR, SEMESTER ONE

Cours e	Cre dit unit	Letter notati on	Gra de poin t	Quali ty point	Grade point average (gpa)	Cumulative grade point average
APC 210	2	E	1	2	QP =61	TQP =175
APC2 11	3	C	3	9	CU =18	TCP=55
APC 212	5	B	4	20	GPA 61/18=3 .18	CGPA=175/55 =3.18
APC 213	5	C	3	15		
APC 214	3	A	5	15		
TOT AL	18			16		

SECOND YEAR, SEMESTER TWO

Cour se	Cre dit unit	Letter notati on	Gra de poin t	Quali ty point	Grade point average (gpa)	Cumulative grade point average
APC 215	3	B	4	12	QP =59	TQP =234
APC 216	4	C	3	12	CU =20	TCP=75
APC 217	5	B	4	20	GPA 59/20=2 .95	CGPA=234/75 =3.12
APC 218	2	F	0	0		
APC 219	3	C	3	9		
APC 109	3	D	2	6		
TOT AL	20			59		

Observe how the course APC 109 was failed in Year 1. Semester 2, and computed with F=0 Year 1. It was then re-registered and computed with D=2 in Year II. Semester 2. The old grade is not replaced by the new one.

THIRD YEAR, SEMESTER ONE

Cour se	Cre dit unit	Letter notati on	Gra de poin t	Quali ty point	Grade point average (gpa)	Cumulative grade point average
APC 300	3	B	4	12	QP =51	TQP =285
APC 301	3	C	3	9	CU =17	TCP=92
APC 302	3	F	0	0	GPA 51/17=3 .00	CGPA=285/92 =3.10
APC 303	4	B	4	16		
APC 304	2	A	5	10		
APC 305	2	D	2	4		
TOT AL	17			51		

THIRD YEAR, SEMESTER TWO

Cour se	Cre dit unit	Letter notati on	Gra de	Quali ty point	Grade point	Cumulative grade point average
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			point		average (gpa)	
APC 301	3	D	2	6	QP =55	TQP =340
APC 311	3	C	3	9	CU =21	TCP=113
APC 312	3	E	1	3	GPA 55/21=2 .62	CGPA=340/113 =3.01
APC 313	4	B	4	16		
APC 314	3	A	5	15		
APC 315	3	F	0	0		
APC 318	2	C	3	6		
TOTAL	21			55		

FOURTH YEAR, FIRST SEMESTER

COURSE	CRE DIT UNIT	LETTER NOTATION	GRADE POINT	QUALITY POINT	GRADE POINT AVERAGE (GPA)	CUMULATIVE GRADE POINT AVERAGE
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APC 400	3	A	5	15	QP =63	TQP =403
APC 401	3	C	3	9	CU =20	TCP=133
APC 402	3	B	4	12	GPA 63/20= 3.15	CGPA=403/1 33=3.03
APC 403	4	C	3	12		
APC 404	2	E	1	2		
APC 405	2	D	2	4		
APC 302	3	C	3	9		
TOT AL	20			63		

FOURTH YEAR, SECOND SEMESTER

Cour se	Cre dit unit	Letter notati on	Gra de poin t	Quali ty point	Grade point average (gpa)	Cumulative grade point average
APC 410	3	B	4	12	QP =88	TQP =491

APC 411	3	D	2	6	CU =25	TCP=158
APC 412	3	C	3	9	GPA 88/25=3 .52	CGPA=491/158 =3.12
APC 413	4	B	4	16		
APC 414	2	A	5	15		
APC 415	2	B	4	24		
APC 315	3	D	2	6		
TOT AL	25			88		

15.6 Grades obtained in all approved courses of a student's prescribed programme, excluding audited courses, shall be used to compute the GPA.

15.7 With the reduction in Total Credit Units for graduation as directed by NUC, no student is allowed to over register for courses.

15.8 When a student was registered for a course but the result is unavailable, due to no fault of the student, no result will be recorded for that course and the student will re-register for it in the next academic year.

15.9 When a student transfers from one Faculty to another, only the grades obtained in the courses in the new prescribed programme of study

will be used to compute the CGPA. Courses which were completed before the change of programme and which are not part of the new prescribed programme will be treated as audited courses.

16. CONTINUATION, PROBATION AND WITHDRAWAL

16.1 Continuation requirement

The continuation requirement in the University is a CGPA of 1.00 at the end of every academic year.

16.2 Probation

Probation is a status granted to a student whose academic performance fails below an acceptable standard. A student whose Cumulative Grade Point Average is below 1.00 at the end of a particular year of study came a period of probation for one academic session.

16.3 Limitation of registration

Students on probation may not register for more than 15 units per semester. The purpose of the restriction is to give the students a chance to concentrate on improving their performance and thus raising their CGPA.

16.4 Warning of danger of probation

Student should be warned by their department if at the end of any semester their CGPA fails below 1.00.

16.5 Repeating failed course units

Subject to the condition for withdrawal or probation, a student must repeat the failed course unit (s) at the next available opportunity. Provided that the total number of credit units carried during that semester does not exceed 24, and the grade Points earned at all attempts shall count towards the CGPA.

16.6 Temporary Withdrawal form study

Any students who takes ill and goes into hospital should write and inform the university about the sickness, and when discharged should write to inform the university and attach the medical reports to the application of resumption of study. The medical papers should be authenticated by the Faculty Services Department. Any student who takes off without permission or informing the university and stays away for more than two years should regard himself or herself as being out of the programme.

16.7 Withdrawal

A student whose Cumulative Grade Point Average is below 1.00 at the end of one year's probation shall be required to withdraw from the programme. However, in order to minimize waste of human resources, consideration should be given to withdrawal from the programme of study and possible transfer to other programme within the university, provided the student meets the departmental and Faculty requirements with regards to relevant credits and JAMB score. The Faculty/Department must be willing to accept the student.

16.8 Duration of Degree Programmes

A student who after the maximum length of time allowed for a degree programme, has not obtained a degree shall have his degree result calculated on pass out/fail out basis. The maximum length of time that a student shall be permitted to spend on a standard 4-year programme shall be 6 years, and on a 5-year programme shall be 7 years. This duration does not apply to MBBS programme which has its own requirements. In Part-Time programmes, the appropriate ratio should apply. It is mandatory that a student presents and defends his project to earn a degree.

17 CLASSIFICATION OF DEGREES

17.1 The degree shall be awarded with 1st 2nd Upper, 2nd Lower, or 3rd Class Honours, or as a Pass degree. The Cumulative Grade Point Average for these classes shall be

CLASS OF CUMULATIVE GRADE POINT AVERAGE		
DEGREE		
	New student*	Old student*
1 st Class	4.50-5.00	4.60-5.00
2 nd Class Upper	3.50-4.49	4.00-4.59
2 nd Lower	2.40-3.49	3.00-3.99
3 rd Class	1.50-2.39	2.60-2.99
Pass	1.00-1.49	2.00-2.59

*Old and New Students are as defined in section 14.1

18. EXAMINATION REGULATIONS

18.1 Examiners should ensure that question papers are prepared under conditions of maximum security and are ready in time. For all examinations, well-packaged question papers must be accompanied by a list of supervisors/Invigilators and the relevant forms. The examiners should ensure that the question papers, adequately packaged and sealed, are submitted to the supervisor at least one hour before the start of the examinations.

18.2 Subject only to administrative supervision by the office of the Provost/Dean/Director, the conduct of course examinations shall be the

responsibility of Head of Departments. The Head of Department should ensure that examination questions are moderated.

18.3 For each examination, there should be a supervisor and invigilator in a ratio of at least one invigilator to 50 students, including both male and female invigilators.

18.4 It is the responsibility of the parent department to appoint supervisors and invigilator. The list should be forwarded to the head of the teaching department not later than one week before the commencement of semester examinations. Students should be seated according to their Departments and they should be invigilated by academic staff from their departments.

18.5 Supervisors should be appointed from the rank of Senior Lecturers and above and invigilators should be other members of academic staff. Part-time teachers, where necessary are also regarded as Internal Examiners.

18.6 supervisors must identify and check students into the examination hall using the authenticated register of students for that course. The student must show the invigilators his /her registration/identity card on entry to every examination. he/she must leave these on the desk throughout the examination for easy inspection by the invigilator.

18.7 All examination scripts used by the students must be endorsed by the supervisor at least 30 minutes after the commencement of the examination.

18.8 The invigilator must ensure that no student removes from the examination venue any paper or examination material except the printed

question paper where it is allowed. Answer booklets are the property of the university and must not be in the possession of students.

18.9 During examinations security must be stepped up, especially around examination centres, to ensure the safety of staff and students. The security department is to ensure that no person not involved in the examinations is allowed to loiter around the hall.

18.10 No unregistered student is allowed to take any examination.

18.11 A student should be in the examination room at least 30 minutes before the start of the examination. A student who is up to 30 minutes late shall be admitted, but shall not be given any extra time. A student who arrives more than 30 minutes after the start of the examination shall not be admitted. A student may be allowed to leave the examination room temporarily before the end of the examination, but must NOT.

a. Do so during the first hour of the examination except in cases of emergency like illness.

b. Do so unaccompanied OR with his scripts.

18.12 A student must write their name and matriculation number and sign the attendance register within the first hour of the examination.

18.13 All students must write their number (not name) at the appropriate places on the cover and pages of the answer booklet.

18.14 No student shall keep any handbag, briefcases, books, notebooks, or paper near him/her during the examination.

18.15 No student shall directly or indirectly give or accept any assistance during the examination, including lending borrowing any materials.

18.16 No student shall continue when at the end of the allotted time, the invigilators order all students to stop writing.

18.17 A student shall avoid noise making and /or communicating with any other student or with any other person, except with the Invigilator if necessary.

18.18 Students who disrupt an examination at any venue shall have their examination cancelled, and they will be required to re-register for the course.

18.19 At the end of the examination, the supervisor/invigilator should ensure that the scripts are checked, properly packaged, and returned along with relevant forms to the chief examiner.

18.20 A member of staff who fails to turn up for invigilation shall lose a monthly examination allowance for each offence and be quarried for this act the first time. If this is repeated during any other period of examination the member of staff will lose the monthly allowance for each offence and will in addition lose the next promotion and be warned in writing by the Vice Chancellor.

18.21 The Provost/Dean is responsible for reporting to the Vice-Chancellor any defaulting invigilator.

18.22 These examination regulations apply to any student studying for the award of University of Port Harcourt degrees, diplomas and certificates and where appropriate to all staff.

19. RESULTS

19.1 Results should be returned in quadruplicate distributed as follows: a copy to the course lecturer, a copy to the Head of Department,

two copies to the Dean, who signs and returns and return one copy of the mark sheet to the Department.

19.2 Summary of results for all courses taken in the Department with the date of departmental meeting reflected on them shall be presented to the Extra-Ordinary meeting of the Senate five weeks following the conclusion of the semester and degree examinations. Lecturers who fail to meet the deadline shall face strict sanctions of salary suspension. The Dean shall report such lecturer to the Vice-Chancellor for the necessary sanctions to be applied

19.3 A moderator of an examination must have access to the script and the course mark sheet must show an itemized. Distribution of the score. All result must be published provisionally not later than 24 hours after the Faculty Board had considered them.

19.4 Computation of result should be restricted to academic staff.

19.5 Examiners should ensure the security of scripts, and the scripts should normally be returned to the Head of Department after one year. Scripts are not to be disposed-off until after five years.

19.6 Faculty Officers. Head of Department and Provost/Deans /Directors should ensure that mark sheets and results are treated as higher security document. A copy of the mark sheets of all the courses should be sent to the Registrar for preparation of students' transcripts.

20. **PROCEDURE FOR CHANGE OF RESULT**

20.1 Results may be changed as a result of a review or as the result of the discovery of an error or fraudulent change in the recording of either semester or degree results.

20.2 No result/grade approved by the Faculty Board shall be changed without reference to the Faculty Board.

20.3 No result/grade approved by the senate shall be changed without reference to the senate.

20.4 Any application for a change of grade must be made in writing appropriately routed, giving clearly defined reasons for the change.

20.5 Where the change is suspected to be the result of fraud, it should be investigated at the appropriate level and a recommendation made to senate

20.6 The application must be personal, i.e. an appeal by someone for the review of someone else's script shall not be entertained.

21.7 No group appeal by candidates involved in the examination in question, (or any other group of persons) shall be entertained.

22. PROCEDURE FOR INVESTIGATION OF EXAMINATION MALPRACTICES

22.1 Definition Examination Malpractice.

Examination malpractice shall be defined as all forms of cheating Examination malpractice shall be defined as all forms of cheating which directly or indirectly falsify the ability of the student. These shall include cheating within an examination hall, cheating outside an examination hall, and any involvement in all illegal examination related offences, forms of cheating are categorized as follows.

A. Cheating within an examination hall/room

1. Copying from one another/exchanging questions/answer sheets

2. Bringing in prepared answers, copying from textbooks, notebooks, laboratory specimens or any other instructional aids smuggled into the examination hall.
3. Collaboration with an invigilator/lecturer where it involves the lecturer providing written/oral answers to a student in the examination hall.
4. Oral/written communication between/amongst students.
5. Bringing in prepared answers written on any part of the body.
6. Receiving information, whether written or oral, from any person(s) outside an examination hall.
7. Refusal to stop writing at the end of the examination
8. Impersonation
9. Non-submission of answer scripts at the end of an examination
10. Illegal removal of an answer script from an examination hall.
11. Copying laboratory material or field work reports and /or term paper or others.
12. Manipulation of registration forms in order to sit for an examination for which the students is not qualified.
13. Sitting for an examination which the student is not qualified as a result of manipulation of registration
14. Colluding with a medical doctor in order to obtain an excused duty/medical certificates on grounds of feigned illness.

B. Cheating inside the Examination hall/room

1. Plagiarism is a form of examination malpractice and should be investigated and punished. Plagiarism is the use of another person's work

without appropriate acknowledgement both in the text and in the reference at the end.

2. Colluding with a member of staff to obtain or on his own initiative obtaining set questions or answers beforehand.

3. Colluding with a member of staff to modify or on his/her own initiative modifying students' score cards, answers scripts and/or mark sheets.

4. Colluding with a member of staff in order to submit a new, prepared answered script as a substitute for the original script after the examination.

5. Writing of projects, laboratory and /or field reports on behalf of a student by a member of staff.

6. Soliciting for help after an examination

7. Secretly breaking into a staff office or departmental office in order to obtain question papers, answer script for the original script.

8. Refusing to co-operate with the faculty Investigating Panel or the Senate Committee on Examinations Malpractices in the investigation of alleged examination malpractices.

C. Related offences

1. Producing a fake medical certificate

2. Assault and intimidation of the invigilator within or outside the examination hall.

3. Attempting to destroy and/or destroying evidence of examination malpractice.

4. Intimidation/threats to extort sex/money/other favours from students by a member of staff in exchange for grades.

22.2 Investigation of Examination Malpractice

- 22.2.1 Any unauthorized material found in the possession of a student shall be seized by the invigilator after the student has signed it, acknowledging that it was retrieved from him/her. Refusal to sign is tantamount to acceptance of guilt.
- 22.2.2 Where the student refuses to sign, the invigilator should make a clear statement on the answer sheet.
- 22.2.3 The student shall, however, not be prevented from finishing the examination
- 22.2.4 The invigilator shall, immediately after the examination, submit a written report to the Head of Department conducting the examination.
- 22.2.5 The report shall include all necessary information, following the format given in Appendix 4.
- 22.2.6 The department conducting the examination shall set up a committee/panel to examine the merit of the case
- 22.2.7 If the Departmental Board feels that a prima facie case has been established, the cases shall be presented to the Faculty Board which shall appoint a panel to investigate the case and report back to the Faculty
- 22.2.8 If the faculty is satisfied that a case has been established, the case should be reported to the senate Committee on Examination Malpractices (SCEM)
- 22.2.9 The Senate Committee on Examination Malpractices (SCEM) shall investigate the case and report to Senate for decision. The investigation of examination malpractices should take as much time as it takes to dispose of the matter, but it must not go

beyond the end of the semester following the one in which the offence was allegedly committed. Meanwhile, the student allegedly involved in an examination malpractice shall be allowed to register for courses and take examinations in them. But results of the courses shall not be released by the parent or any other department until investigation has been completed and his /her innocence established by Senate.

23 **PUNISHMENT FOR EXAMINATION MALPRACTICE**

- 23.1 (a) A student found guilty of examination malpractice in section A, has the result in the course cancelled and suspended for one semester for a first offence. Suspension for one session is the punishment for a second offence.
- (b) A student found guilty of any form of examination malpractice in section B. has the result in the course cancelled and is suspended for the first offence. Expulsion from the university is the punishment for a second offence.
- C. A student found guilty of any offence in section C, is expelled from the University.
- d) Member of staff involved in aiding and abetting students in then examination malpractice should be made to appear before an investigation panel. If the member of the staff is found guilty the report should be sent to the appropriate Disciplinary Committee.
- 23.2 This decision should be communicated to all students and their sponsors before the commencement of each session. The information should be pasted on all notice boards throughout the

university and should also be contained in each faculty prospectus so as to give it the widest possible publicity.

- 23.3 The decision should take effect immediately after its publication
- 23.4 Member of staff involved in aiding and abetting students in then examination malpractice should be made to appear before an investigation panel. If the member of the staff is found guilty, the report should be sent to the appropriate Disciplinary Committee.
- 23.5 For student involved in an examination malpractice and proven guilty. Senate should take the ultimate decision while for staff, the appropriate Disciplinary Committee (as prescribed in the conditions of service) should forward its recommendation to Council.

24. **SECRET SOCIETIES CULT**

- 24.1 Secret societies /cults are anti-social and are banned by the University. Any student proved to belong to a secret society will be expelled.

Appendix 1

List of students registered for course

Course numberSession.....

Teaching Department Course title

Teaching Faculty Parent department.....

Parent faculty.....

	For use during registration				For use during examination	
S/N	Mat. No.	Name	Gender	Signature	Mat. No.	Signature
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Appendix 2

EXAMINATION SUPERVISOR'S REPORT

Course no.....

Course title:

Date of examination:

Venues used

The invigilators allocated	The invigilators present

(Continue on back if necessary)

Total No. of students present:

Total No. of scripts submitted:

Comments on the examination

.....

.....

(Continue on back if necessary)

Name of supervisor Sign
.....

Appendix 3

Examination supervisor's report

Course number.....
Course title
Date of examination
Venue of examination.....
Time examination ended
Number of students
Number of answer booklets collected
Number of answer booklets used
Number of answer booklets returned
Comments on the examination
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

CONTINUE ON BACK IF NECESSARY

NAME OF INVIGILATOR

.....SIGN.....

...

APPENDIX 4

REPORT OF EXAMINATION MALPRACTICE

Name of Student/Staff.....

Student’s registration/Matriculation No.....

Student /Staff’s department

Course number (If applicable)

Venue of examination

Location of examination

Date and time of examination (if applicable)

.....

Examination offence (with evidence/statement, if any)

.....
.....
.....
.....
.....
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.....
.....
.....

(CONTINUE ON BACK IF NECESSARY)

Chief Invigilator/Invigilator’s

Signature.....

Witness Signature (If any)

Students' comment (If possible)
.....
.....
.....

(CONTINUE ON BACK IF NECESSARY)

STUDENT'S SIGNATURE (IF POSSIBLE)

DATE:

APPENDIX 5
UNIVERSITY OF PORT HARCOURT
ADD/DROP COURSE REGISTRATION FORM

..... **SESSION**

To be completed in quadruplicate: (1) Dean's Office (2) Exams &
Records (3) Department and (4) Students copy

Name

(Surname first)

(other names)

Matriculation No. Sex.....

Department

Year of study:

COURSES TO BE DROPPED

Serial No.	Course No.	Course title	Credit units	Lecturer's signature & Date
1				
2				
3				
4				

COURSES TO BE ADDED

Serial No.	Course No.	Course title	Credit units	Lecturer's signature & Date
1				
2				
3				
4				

The above changes are approved

Name signature Date

Academic adviser

Head of department

Dean