

UNIVERSITY OF NIGERIA, NSUKKA
DEPARTMENT OF AGRICULTURAL EDUCATION

POSTGRADUATE PROGRAMMES IN AGRICULTURAL EDUCATION

PHILOSOPHY

The Postgraduate Diploma in Technical Education,(PGDTE),Masters in Technology Education(M.Tech). and Doctor of Philosophy (Ph.D) Programmes of the Department of Agricultural Education are intended to prepare professionally qualified individuals who can assume leadership positions in government, secondary schools, Colleges of Education, Polytechnics, Universities, agricultural industry and commerce. The Federal Government of Nigeria has, since the introduction of the National Policy on Education (NPE), placed emphasis on vocational and technical education. This emphasis has led to the establishment of College of Education (Technical) in various parts of the country and the introduction of programmes of technical and vocational education in several polytechnics and Universities in Nigeria. All such programmes require well-trained lecturers with postgraduate qualifications in vocational and technical education. The PGDTE programme is made available to youth and adults who are already at work but are motivated to update or upgrade their present occupational skills or learn new skills and extended knowledge. Based on the strength of this philosophy, most of the people who will be admitted into the programme are already employed in teaching and technology education administration. Therefore, the Postgraduate Diploma in Technology Education will make them more effective in their respective employments.

OBJECTIVES

The general objective of the programme is to provide students with adequate knowledge, attitudes and skills generic to Agricultural Education studies. Specifically, the programme is designed to:

1. equip students with professional competencies that will enable them serve in leadership positions in secondary schools, government, Colleges of Education, Colleges of agriculture, Polytechnics, Universities and agricultural related enterprises;
2. increase the technical knowledge and skills of students so that they can keep abreast of technological development in agricultural education;
3. develop research skills in students and teach them to apply such skills in the solution of problems in vocational agriculture and other technical education areas; and
4. to provide persons in teaching and administrative positions in technical and vocational institutions who do not possess any formal professional qualifications in technical education with the required body of knowledge and instructions.

SCOPE

The PGDTE Programme is designed to cover foundational studies in vocational and technical basic courses in general education. The specific area of technology education covered by the programme is

Agricultural Education. The M.Tech. and Ph.D Programmes of the Department of Agricultural Education are designed to offer courses in Agricultural Education.

ADMISSION REQUIREMENTS:

a) PGDTE Programme

- i. Graduates of the University of Nigeria or other recognized Universities who have obtained a degree of Bachelor in Agricultural Education or any field of Agriculture with at least third class honours with GPA not less than 2.00 on a five point scale or its equivalent.
- ii. Graduates of Higher National Diploma in any area of agriculture passed at distinction or upper credit level.

b) Master of Technology Education(M.Tech) Programme

The following categories of candidates may be admitted on application

- i. Graduates of the University of Nigeria, or of other approved universities who have obtained at least a second-class honours degree or its equivalent in Agricultural Education
- ii. Graduates of related disciplines in different areas of Agriculture, who have obtained a second class honours degree or its equivalent, and who have additional Post-Graduate Diploma in Technical Education (PGDTE) passed at credit level or above.
- iii. Holders of the Higher National Diploma in different fields of agriculture who have in addition obtained a Postgraduate Diploma in Technical Education at credit level or above.
- iv. Other Graduates of the University of Nigeria, or of other recognized universities whose detailed academic records are considered satisfactory by the Senate of the University of Nigeria.

c). Doctor of Philosophy (Ph.D) Programme

- i. Candidates who possess a Masters or Higher degree in Agricultural Education from the University of Nigeria or other approved universities may be admitted into the Doctor of Philosophy Programme provided that they obtained a minimum GPA of 3.50 on a 5-point scale or 3.00 on a 4-point scale and that a satisfactory research work formed part of the Master's degree.
- ii. Candidates who hold other qualifications may be admitted into the Doctor of Philosophy programme if their detailed academic records are satisfactory to the Senate of the University.
- iii. Candidates who possess a master degree in Agricultural Education with a GPA below 3.50 but not less than 3.00 can be admitted to M.Tech/Ph.D Programme

AREAS OF SPECIALIZATION: M.Tech & Ph.D

- i Technology education in production agriculture
- ii. Agro-business education
- iii Soil education

DURATION OF PROGRAMMES

PGDTE

Minimum and maximum for PGDTE Programme shall be

Full Time A minimum of 2 semesters
 A maximum of 4 semesters

M.Tech

Full Time A minimum of 3 semesters
 A maximum of 5 semesters

Part- Time A minimum of 6 semesters
 A maximum of 8 semesters

Ph.D

Full- Time A minimum of 6 semesters
 A maximum of 10 semesters

Part- Time A minimum of 8 semesters
 A maximum of 12 semesters

REQUIREMENTS FOR GRADUATION

PGDTE Programme

To be awarded PGDTE in Agricultural Education, a student must have taken and passed the prescribed number of required courses from the approved list, a total of 34units as follows:

Courses	30units
Project/Long Essay	4units
Total	34units

M.Tech Programme

To be awarded the M.Tech degree in Agricultural Education, a student must have taken and passed the prescribed number of courses selected from the approved list, a total of 44 units as follows:

Courses	38 Units
Project	6 Units
Total	44 Units

Ph.D Programme

To graduate, all the Ph.D candidates must take and pass all the requisite courses as prescribed in the Ph.D course list, a total of 41 Units as follows:

Courses	31units
Thesis	10units
Total	41 units

LIST OF APPROVED SUPERVISORS

Prof. Emmanuel .C Osinem
B.Sc , M.Ed, Ph.D (Nig)

Dr. Francis M. Onu
B.Sc , M.Ed, Ph.D (Nig)

Dr Juliana A. Ukonze
B.Sc , M.Ed, Ph.D (Nig)

Dr Florence O Ifeanyieze
B.Sc , M.Ed, Ph.D (Nig)

Dr Tooohukwu. E Ejiofor
B.Sc , M.Ed, Ph.D (Nig)

Dr Cajethan U. Ugwoke
B.Sc , M.Ed, Ph.D (Nig)

JOB OPPORTUNITIES

Most of the people who will pursue the PGDTE Programme are already employed or will be employed in teaching and vocational/technical education administration. The Postgraduate Diploma in Technology Education will make them more effective in their respective employments.

Students who successfully complete the M.Tech and Ph.D degree programmes of the Department of Agricultural Education may be employed in the following positions:

- (i) Secondary school principals, vice-principals and teachers of vocational and technical agricultural subjects.
- (ii) Administrators and managers of training programmes in Education sector and industries.
- (iii) Lecturers of N.C.E programmes in Vocational and Technical Education in Colleges of Education, Colleges of Agriculture and Polytechnics.
- (iv) Lecturers in degree programmes in Vocational and Technical Education Programmes in Universities.

POSTGRADUATE DIPLOMA IN TECHNOLOGY EDUCATION

AGRICULTURAL EDUCATION

COURSES

First Semester

Course No.	Course Title	Units
VTE 0501	Foundations of Vocational Technical Education	2
VTE 0503	Vocational Guidance	2
VTE 0505	Administration of Vocational Technical Education	2
VTE 0507	Measurement & Evaluation in Technology Education	2
VTE 0511	Research Methods in Vocational Technical Education	2
EDU 0511	Educational Psychology I	2
EDU 0521	Curriculum Theory and Planning	3
AGE 0515	Environmental Education in Agriculture	2
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Second Semester

AGE 0516	Curriculum Development in Agricultural Education	2
AGE 0510	Methodology in Agricultural Education	2
AGE 0512	Seminar in Agricultural Education	2
AGE 0514	Management of the School Farm for Profit	2
VTE 0504	Practical Teaching in Voc and Technical Education	3
EDU 0512	Educational Psychology II	2
AGE 0590	Project	4
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PGDTE COURSE DESCRIPTIONS

VTE 0501 Foundations of Technology Education

Philosophical, sociological, historical and economic foundations - a comparative analysis. Content scope and objectives. Vocational education and national development. Professional opportunities in vocational education

(2 units)

VTE 0503 Vocational Guidance

An introductory course in the principles and practices of vocational guidance. Emphasis on problems in schools. Historical, philosophical, psychological and socio-economic foundations of the guidance movements and course in career education.

(2 units)

VTE 0504 Practical Teaching in Voc and Technical Education

Students are exposed to basic principles and procedures of practical teaching in vocational subjects including micro-teaching; participate in micro-teaching before the actual field practical teaching; actual field practical teaching of vocational subjects in post-primary institutions for a period of at least 6 weeks.

(2 units)

VTE 0505 Administration of Vocational Technical Education

Study of the philosophical, historical, social and psychological foundations underlying the organization, administration, supervision and teaching of vocational and technical education. Examination of existing patterns in Nigeria.

(2 units)

VTE 0507 Measurement and Evaluation in Voc and Technical Education

Theories and approaches to evaluation in technology education. Importance and objectives. Norm reference and criterion referenced, effective domain and psychomotor domain. Essay tests, objective tests and performance tests, test validity and reliability, test administration and evaluation. Product and process evaluation in technology education, skills evaluation in technology education.

(2 units)

AGE 0510 Methodology in Agricultural Education

Application of the principles of curriculum and course construction. Attention to specialized methods of teaching, measurement and supervision techniques appropriate to agricultural education. Development of lesson plan, Planning of teaching in laboratories and instructional materials,

(2 units)

VTE 0511 Research Methods in Vocational & Technical Education

Techniques of empirical study including designing various types of study; methods of data collection; data analysis, simple ways of testing hypotheses and methods of writing research proposal and research reports.

(2 units)

AGE 0512 Seminar in Agricultural Education

A consideration, identification and examination of some of the major issues presently facing Nigerian educational authorities regarding the role and nature of various technical vocational education and training under formal and non-formal settings. Instructional problems of teachers and students' problems in choosing careers in vocational and technical subjects will be considered.

(2 units)

AGE 0514 Management of the School Farm for Profit

Emphasis will be placed on the importance of the school farm; difference between a school farm and a commercial and/or traditional farm; agricultural activities on the social farm. Practical activities in designing, locating/plotting and establishing school farms. The experience students and teachers could transfer from the school farm to improve agricultural outputs of the community will be discussed. Maintenance operation in the school farm will be of great focus.

AGE 0515 Environmental Education in Agriculture 2 units

Meaning of ecology and ecosystem from agro-ecological perspective. Agro-ecological problems/Degradation – causes, consequences and remedies. Environmental resources conservation and management approaches. Farm – level application of soil conservation technologies in schools. Farmstead planning and farm sanitation, Establishment and maintenance of ornamentals and lawns in schools.

AGE 0516 Curriculum Development in Agricultural Education

Major components of curriculum in vocational education. Sources and factors in curriculum planning in vocational education. Historical trends in curriculum revision and innovation in technology education in Nigeria; steps in curriculum development. Curriculum evaluation – roles procedure, stages and evaluation of instruments in technology education. A review of syllabuses of secondary school vocational subjects related to course of study.

(2 units)

M.Tech. PROGRAMME

First Semester

Course No.	Course Title	Units
VTE 501	Theories and Administration of Voc & Technical Education	3
VTE 503	Research Methods in Voc. & Technical Education	3
VTE 505	Curriculum Development in Voc & Technical Education	3
VTE 507	ICT in Vocational Technical Education	3
AGE 515	Agricultural Resources Management Education	2
PGC 601	Research Methodology and Application of ICT in Research	3
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		17

Second Semester

Course No.	Course Title	Units
AGE 510	Work Experience Designs in Agriculture	2
AGE 512	Agricultural Training Facilities/resources Management	2
Options		6
		<hr/>
		10

Options: (See below)

Four units of courses must be chosen from options A, B or C according to the following areas of specialization:

A. TECHNOLOGY EDUCATION IN PRODUCTION AGRICULTURE

AGE 522	Voc Agric Programmes in Crops and Livestock Production	3
AEX 622	Diffusion of Innovations	3

B. AGRO-BUSINESS EDUCATION

AGE 532	Business Development plans for Agric ventures in Schools	3
AEC 632	Marketing Management for Agribusiness Firms	3

C. SOIL EDUCATION

AGE 542	Training in Tropical Soils Utilization and Improvement	3
SSC 662	Advanced Soil Fertility	3

Third Semester

Course No	Course Title	Units
AGE 511	Seminar in Agricultural Education	3
AGE 590	Project	6
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		9

Grand Total of Course Units =

36

Ph.D PROGRAMME

First Semester

Course Code	Course Title	Units
VTE 601	Emerging Issues and Innovations in Voc and Tech Education	3
VTE 603	Enterprise Development in Voc and Technical Education	3
VTE 605	Proposal and Grant Writing skills in Technology Education	3
PGC 701	Synopses and Grant Writing	<u>3</u>
		<u>12</u>

2nd Semester

AGE 612	Doctoral Seminar in Technology Education	4
AGE 614	Advanced Curriculum Studies in Agricultural Education	3
		<u>07</u>

3rd Semester

AGE 611	Advanced Agricultural Research and Training Models	2
AGE 613	Ergonomic principles and skills development in Agriculture	2
AGE 615	Green Technology and Skills Development in Agriculture	<u>2</u>
		<u>6</u>

4th Semester

OPTIONS (See below)

Six units of course must be chosen from options A, B or C according to the following areas of specialization:

A. TECHNOLOGY EDUCATION IN PRODUCTION AGRICULTURE

AGE 622	Entrepreneurship Education in Agricultural Production	3
AGE 624	Innovations in Micro livestock Production in Schools	3

B. AGRO-BUSINESS EDUCATION

AGE 632	Advanced Agribusiness Management Education	3
AGE 634	Business Development Plans for Youths in Agric.	3

C. SOIL EDUCATION

AGE 642	Soil Fertility and Conservation Education	3
AGE 644	Environmental Crisis and Climate Change Education	3

5th and 6th Semesters

AGE 690	Thesis	10
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Grand TOTAL 41

COURSE DESCRIPTIONS

M.Tech. and Ph.D PROGRAMMES

VTE 501 Theories and Administration of Technology Education

Vocational and Technology Education theories, and processes that have shaped vocational/technology education. Evaluation of the basic theoretical concepts, self-concept, personality concepts, environmental and self-realization concepts relating to Vocational/technology Education. The concept of policy, institutions in educational policy formulation; policy analysis tools; issues in Nigerian Educational Policy and Vocational/Technical Education. Principles and approaches in Vocational/technology education administration and supervision. Administration and supervision of secondary and tertiary vocational education institutions.

(4 units)

VTE 502 Occupational Guidance

Techniques, procedures and instrument for providing occupational guidance for school leavers. Review of occupational areas, placement follow-up activities, classification and description of jobs and industries and current issues, problems and trends in education, society and the world of work.

(2 units)

VTE 503 Research Methods in Technology Education

Methodologies and procedures in Vocational/Technical Education research; problems formulation - use of problem tree and solution tree analysis; research objectives, questions and hypothesis; research designs, methods of data collection, development of instrument for data collection, thesis proposal and reporting. Statistical techniques applicable to research in Vocational/Technical Education; Descriptive techniques and inferential statistics such as t-test, analysis of variance (ANOVA), analysis of covariance (ANCOVA), regression analysis etc. Non-parametric statistical techniques.

(3 units)

VTE 504 Evaluation in Vocational/Technical Educational

Theories and approaches to evaluation in Vocational Education. Current methodology in evaluation, such as criterion-referencing, cost benefit analysis, cost effectiveness, Programme Evaluation and Review Techniques (PERT)

(2 units)

VTE 505 Curriculum Development in Vocational Education

Selection and organization of instructional materials for technology education courses, study of current curriculum practices, concepts and trend in the field of technology education. Curriculum designs in different occupational fields of technology education. Principles underlying curriculum research, development, and improvement.

(2 units)

VTE 506 Fundamentals of Vocational Enterprise Development

Developing business centres, functions of business development centres. Vision, mission, scope, activity areas, partnerships and collaboration of BDCs.

(3 units)

VTE 507 ICT in Vocational/Technical Education

Computer Literacy. Principles and general application of Information Communication Technology in Vocational Education Programmes. ICT as curriculum content, instructional delivery tools,

evaluation/assessment tools etc.. Internet Services and use of e-learning concepts. Instructional methods and materials for ICT application.

(3 units)

VTE 509 Seminar in Vocational Education

Study and analysis of social economic and technological trends in vocational education, and current development in technology education. Minor research papers are to be presented.

(3 units)

AGE 510 Work Experience Programmes Designs in Agriculture

Work experience/activity-based learning theories. Planning, execution and evaluation of work experience programmes in agricultural occupations. Analysis of emerging and sustainable crops, livestock and other agricultural production technologies; related non- farm occupations for work experience programmes in agriculture. Designing specific occupational/work experience programme in for schools and colleges.

(2 units)

AGE 511 Seminar in Agricultural Education

Study and analysis of social economic and technological trends in agriculture, land development and agricultural education. Minor research papers are to be presented.

(3 units)

AGE 512 Agricultural Training Facilities/resources Management

Categorizing facility/resources required for agricultural teaching and learning at all levels of education system. Problems associated with resource wastages and techniques in determining agricultural training resources/ facility needs and sourcing for schools and colleges; evaluations and assessing facilities and resources, planning for new construction, utilizing specialized personnel, and related financial matters.

(2 units)

AGE 514 Voc. Agricultural Programmes in Crops and Livestock Production

Commercial school and college farm production programmes. Application of sustainable crops and livestock production technologies for improving small holder farm productivity in Nigeria. Designing crops and livestock training programmes. Farmer education and productivity. Strategies for assisting farmers in adopting green technologies for increasing production.

(3 units)

AGE 515 Agricultural Resources Management Education

Land, forest, wildlife and water resources and their sustainable management. Resources exploitation-related environment crises. Environmental education and environmental improvement principles and practices. Case studies of agricultural resources management options among diverse local users.

(2 units)

AGE 516 Business Development plans for Agric ventures in Schools

Concept, models/types and scope of business plan development in agriculture. Agricultural ventures in schools and colleges business plans could be developed on.

Management concept and models. Economic principles of agricultural production, management in agri-business, financial analysis and statements in agri-business farm management advising. Agricultural project cycle - planning, implementation and evaluation. Practical procedures for developing business plans and possible try-out methods.

(3 units)

AGE 518 Training in Tropical Soils Utilization and Improvement

Soil degradation concept, forms, manifestations/effects/consequences Tropical soils characteristics and types. Soil requirements of major-tropical crops. Soil Associated with the Tropical Forest Biomes. Forest Soil and Hydrological Cycle. Management of Problem Soils - management of Dry sands, Wetland Management, Strip Mine Spoils, Nutrient-depleted sites, Other Problems. Diagnosis and Correction of Nutrient Deficiencies. Soil fertility management for sustainable agricultural productivity in small-holder agriculture. Practical Steps in mounting soil conservation education programmes in schools. (3 units)

**PGC 601 Research Methodology and Application of ICT in Research
(Masters Degree Course)**

In-dept research work aimed at acquiring full knowledge and presentation in scholarly writing of the concepts, issues, trends in the definition and development of the study area from African and Western perspectives. Major steps in research: Selection of problem, Literature review, Design, Data collection, analysis and interpretation, conclusions. Study of various research designs, Historical, Case studies, surveys, descriptive, cross sectional experimental, etc. Analysis, surveys and synthesis of conceptual and philosophical foundations of different disciplines. Identification of research problems and development of research data and the format for presenting research results (from designing the table of contents to referencing, bibliography and appendix). Data analysis and result presentation in different disciplines using appropriate analytical tools. Methods of project/dissertation writing. Application of appropriate advanced ICT tools relevant in every discipline for data gathering, analysis and result presentation. Essentials of spreadsheets, Internet technology, and Internet search engines. All registered Masters Degree students must attend a solution based interactive workshop to be organised by the School of Postgraduate Studies for a practical demonstration and application of the knowledge acquired from the course, conducted by selected experts.

AEX 622 Diffusion of Innovations

The concepts of innovation adoption process. Sources of information factors affecting diffusion and adoption of innovation. Opinion leaders and flow of ideas. The role of change agents and the consequences of innovations. Recent research on diffusion and adoption. (3 unit)

AEC 632 Marketing Management for Agribusiness Firms

A study of marketing decision making in agribusiness. Analysis, planning, control and evaluation of marketing opportunities. The marketing mix and demand creation; marketing in the internet; consumer and industrial markets. The SWOT analysis, market research; case study. (3 unit)

SSC 662 Advanced Soil Fertility

Soil condition affecting availability of plant nutrients. Method of determining soil fertility and insufficiency of plant nutrients in soil. Fertilizers and micro-nutrient crop response curves. Soil testing and interpretation of soil test results. Nutrient movement-caution exchange theory, mass flow, and diffusion. On uptake and translocation on roots, line weaver-burke plot (3 units)

AGE 590 Research Project

Supervised independent investigation of topics in the areas of Vocational Agriculture,. A project is required. (6 units)

VTE 601 **Doctoral Seminar in Technology Education**

Analyses, discussions and presentation of pertinent issues in Technology teacher education with general emphases on vocational education and particular references to the various specializations in Agricultural Education; Business Education; Computer Education; Home Economics Education and Industrial Technical Education.

(4 units)

VTE 602 **Enterprise Developments in Technology Education**

Productivity theories and entrepreneurial developments with emphasis on the management of enterprises and the development and marketing of products. Application of vocational skills in enterprise development and production of consumer products. Feasibility study and development of business plans. Crafting vision and mission statements. Logical and legal frameworks for business enterprise. Management structures and operations in business management. Students and community engagements in business enterprises. Monitoring and evaluation of business enterprises.

(3 units)

VTE 603 **Advanced Curriculum Studies in Technology Education**

Identification and examination of curriculum problems and issues in various areas of Technology education. Application of various curriculum principles and framework. Development of curricular for various technology areas. Curriculum innovations and practical application in curriculum improvement. Candidates will be expected to deliver one seminar in this course.

(3 units)

VTE 604 **Proposal and Grant Writing in Technology Education**

Procedures in writing research proposals. Writing styles, chapter, citation, organization, referencing, etc. Concept and types of grants. Grant writing techniques grants in technology education. Sources of grants in TVET. Challenges and prospects in writing grant proposals.

(3 units)

VTE 605 **Emerging Issues in Technology Education**

Identification of emerging issues and challenges that have implications for technology Education – National and Global; Greening TVET concept, green jobs and green skills in technology education. Climate change and environmental preservation- implications for technology education. Problem solving skills and innovations Today’s national and international emphasis on funding and financing of vocational education for increased productivity. Students are expected to deliver one seminar paper in this course.

(3 units)

VTE 606 **Career Development in Vocational Education**

Planning cooperative education and internship programmes. Career planning guide, internship and full time positions. Career fairs , professional ethics. Writing resumes – functional, chronological, internship, electronic. Power verbs for resume writing. Letters and interviews – informational, behavioural. Frequently asked questions (FAQs) by employers and employees. Transferable skills.

(3 units)

VTE 607 **Human Resource Management in Vocational Education**

Course will focus on identification of available human resources in vocational education; their utilization for efficient vocational programmes implementation and management. Organization of workshops, seminars, conferences on current human resource development issues in vocational education
(3 units)

VTE 608 Public Speaking and Advocacy in Technology.

Speaking and listening techniques, speech preparation- organizing and outlining. Speech presentation, varieties of public speaking in vocational education. Advocacy models, techniques and media. Key vocational issues requiring advocacy and public speaking. (3 units)

VTE 609 Analysis of Apprenticeship systems and Skills Development

Apprenticeship concept, types/models in formal and informal TVET systems. Issues and challenges in apprenticeship systems and skills development. Designing apprenticeship programmes in different occupational areas. (3 units)

AGE 611 Advanced Agricultural Research and Training Models

Typology of Agricultural research. Agricultural Education research models. Agricultural research, Extension and Education & training linkage mechanisms. Role of Agricultural Education in national innovation system. Agricultural Training Models. Action Research Model. Designing farm research programme for schools. Designing agricultural training programme for specified beneficiaries.
(2 units)

AGE 612 Entrepreneurship Education in Agricultural Production

Concepts of Entrepreneurship Education and Agricultural Productivity. Objectives of Entrepreneurship Studies in Agricultural production. Management of Agricultural Enterprises for profit maximization. Prospects and challenges of Entrepreneurship Development in Agricultural (Production) Education. Development of Entrepreneurship Competencies for successful Agricultural business. Entrepreneurship in crop production. Entrepreneurship in livestock production. (3 units)

AGE 613 Ergonomic principles and skills development in Agriculture Concept of

ergonomics. Hazards in agricultural work environment. Ergonomic principles and farm safety measures. Application of ergonomic principles for skills development in crop and livestock production. Ergonomics and supervision of students out-door agricultural activities.
(2 units)

AGE 614 Advanced Agribusiness Management Education

Analysis of Different Management concepts in agribusiness e.g. The six “M” Management Concept. Industrial Engineering Approach. Organizational Theory. POD CC Concept, etc. Primary Agricultural Production, Processing and Marketing Management. Business Development. Project Maximization Principles. Budgeting and Financing. Financial Statements. Sourcing and Application of Production Technologies and Marketing Information. Production and Marketing Efficiency, Indicators/Measures. Business Communication in

Agro-industry. Skills in Business Communication. Strategies in Designing Business Communication. Problems of Agribusiness Management in the Developing Countries of Africa.

(3 units)

AGE 615 Green Technology and Skills Development in Agriculture

Concepts of greening TVET, green technologies, green jobs and green skills. High carbon and low carbon economies - concepts. Transition from high carbon economy to low carbon economy. Green technologies for promoting agricultural production system. Modalities for utilizing green technologies and developing green skills in agriculture.

(2 Unit)

AGE 616 Soil Fertility and Conservation Education

Soil typology and classification. Topographical and vegetation influences on soil quality. Fertile and Non-fertile soil conditions. Soil Nutrients movement theory and Utilization by Plants. Nutrient loss in the soil and hunger signs in plants. Soil Conservation principles and practices. Soil Conservation education models – awareness, interest, decision making, adoption and satisfaction. Developing soil conservation training programmes. Experimental Studies in Soil Fertility and Conservation.

(3 units)

AGE Business Development Plans for Youths in Agric.

Concept and models of business development plans. Challenges of youth engagements in agriculture. Analysis of agricultural business ventures that interests the youth. Practical steps in developing a business plan of named venture for specified category of youth and possible try-out mechanism.

(3 units)

AGE 618 Innovations in Micro livestock Production in Schools

Micro livestock concept in school agriculture. Rationale/justification for undertaking the production of mini livestock in schools. Innovative approaches and practical techniques involved in the production of Giant cane rat/grass cutter, Quill birds, Snails, Bees, etc. Students are expected to deliver one seminar paper in this course.

(3 units)

AGE 619 Environmental Crisis and Climate Change Education

Global, national and local environmental issues in agriculture. Causes, consequences and remedial actions related to environmental problems. Trends in global and local climate change and mitigation measures. Effects of climate change in agricultural production in Nigeria, Designing climate change farmers' learning programme – for climate change adaptation and mitigation.

(3 units)

PGC 701: Synopsis and Grant Writing

Identification of types and nature of grant and grant writing; mining of grants application calls on the internet. Determining appropriate strategy for each grant application. Study of various grant application structures and contents and writing of concept notes, detailed project description, budgeting and budget defence. Study of sample grant writings in various forms and writing of mock research and other grants. Identification of University of Nigeria synopsis structure and requirements, (Introduction, Methodology and Results). Determining the contents of each sub-unit of the synopsis. Steps in writing synopsis from the Dissertation/Thesis document. Structural and language issues. Common errors in synopsis writing

and strategies for avoiding them. The roles of the student and the supervisor in the production of a synopsis. Writing of mock synopsis. All registered Ph.D students must attend a solution-based interactive workshop to be organised by the School of Postgraduate Studies for a practical demonstration and application of the knowledge acquired from the course, conducted by selected experts.