

**DEPARTMENT OF AGRIC. ECONOMICS AND EXTENSION****100 LEVEL FIRST SEMESTER**

<b>S/N</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>STATUS</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>U</b>
1	MTH 101	Introductory Mathematics I	C	2	1	0	2
2	PHY 101	General Physics I	C	2	0	0	2
3	PHY 103	General Physics III	C	2	0	0	2
4	BIO 101	General Biology I	C	2	0	0	2
5	BIO 103	Practical Biology I	C	0	0	3	1
6	PHY 107	Practical Physics I	C	0	0	3	1
7	CHM 101	Introductory inorganic Chemistry	C	2	0	0	2
8	CHM 151	Practical Chemistry I	C	0	0	3	1
9	GST 101	Use of English I	C	2	0	0	2
10	STA 111	Introductory Statistics	C	2	0	0	2
11	CSC 101	Introduction to Computer Science	C	2	0	3	3
12	GST 113	Logical and Critical Thinking	C	2	0	0	2
13	GST 111	Use of Library and study skills	C	2	0	0	1
		<b>TOTAL</b>					<b>23</b>

**100 LEVEL, SECOND SEMESTER**

<b>S/N</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>STATUS</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>U</b>
1	PHY 102	General Physics II	C	2	0	0	2
2	PHY 108	Practical Physics	C	0	0	3	1
3	BIO 102	General Biology II	C	2	0	0	2
4	BIO 104	Practical Biology II	C	0	0	3	1
5	CHM 102	Introductory Organic Chemistry	C	2	0	0	2
6	CHM 104	Introductory Physical Chemistry		2	0	0	2
7	CHM 152	Practical Chemistry II	C	0	0	3	1
8	MTH 102	Introductory Math. II	C	2	1	0	2
9	GST 112	Nigerian Peoples and Culture	C	2	0	0	2
10	CSC 102	Introduction to Computer Programming	C	2	0	3	3
11	GST 102	Use of English II	C	2	0	0	2
		<b>TOTAL</b>					<b>20</b>

## 200 LEVEL, FIRST SEMESTER

S/N	COURSE CODE	COURSE TITLE	STATUS	L	T	P	U
1	APH 201	Introduction to Animal Production	C	1	- 3	<del>2</del>	2
2	CSP 201	General Agriculture (Theory)	C	1	-	-	1
3	CSP 205	Basic Meteorology for Agricultural Science	C	2	-	-	2
4.	CSP 207	Principles of Farmshops	C	2	-	3	3
5	FAT 201	Introduction to Fisheries and Aquaculture Technology	C	2	-	-	2
6	AEE 201	Introduction to Agric. Economics	C	2	-	-	2
7	FRM 201	Introduction to Ecotourism and Wildlife Management	C	1	-	3	2
8	FST 201	Introduction to Food Science and Technology	C	2	-	-	2
9	APH 203	Introductory Agricultural Biochemistry	C	2	-	3	3
10	GST 229	Introduction to Vocational Skills	C	2	-	-	2
11	GST 221	History and Philosophy of Science	C	1	-	3	1
		<b>TOTAL</b>					<b>22</b>

Required courses for Direct entry students (New students)

1	GST 101	Use of English I	C	2	0	0	2
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**200 LEVEL, SECOND SEMESTER**

<b>S/ N</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>STATUS</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>U</b>
1	APH 202	Anatomy and Physiology of Farm Animals	C	2	-	-	3
2	CSP 202	Basic Soil Science	C	1	-	3	2
3	CSP 204	Botany of Economic Crops	C	1	-	3	2
4	CSP 210	General Agriculture (Practical)	C	-	-	6	2
5	FRM 202	Introduction to Forest Resources Management & Agroforestry	C	2	-	3	2
6	AEE 204	Agricultural Statistics and Field Experimentation	C	2	-	3	3
7	AEE 210	Introduction to Agricultural Extension and Rural Sociology	C	3	-	-	3
9	GST 224	Peace Studies and Conflict Resolution	C	2	-	-	2
		<b>TOTAL</b>					<b>19</b>

**Required courses for Direct entry students (New students)**

1	GST 102	Communication in English II	C	2	-	-	2
2	GST 112	Nigerian Peoples and Culture	C	2	-	-	2

### 300 LEVEL, FIRST SEMESTER

S/ N	COURSE CODE	COURSE TITLE	STAT US	L	T	P	U
1	AEE 301	Principles of Agricultural Economics	C	2	1	-	3
2	AEE 303	Principles of Rural Sociology and Agricultural Extension	C	2	1	-	3
3	AEE 305	Introduction to Microeconomics	C	2	1	-	3
4.	AEE 307	Mathematical Economics	C	2	-	3	3
5	AEE 309	Introduction to Rural Life	C	2	-	3	3
6	AEE 311	Community Organization and Leadership	C	3	-	-	3
9	GST 331	Introduction to Entrepreneurial Skills	C	2	-	-	2
10		<b>TOTAL</b>					<b>20</b>

Required courses for Direct entry students (New Students)

S/N	COURSE CODE	COURSE TITLE	COURSE STATUS	L	T	P	Units
1	GST 113	Philosophy and Critical Thinking	C	2	-	-	2
2	GST 111	Introduction to Microeconomic Theory	C	2	-	-	2

**300 LEVEL, SECOND SEMESTER**

S/N	COURSE CODE	COURSE TITLE	STATUS	L	T	P	U
1	AEE 302	Elements of Agricultural Economics	C	2	1	-	3
2	AEE 304	Elements of Agricultural Extension	C	2	1	-	2
3	AEE 306	Farm Records and Analysis	C	2	1	-	3
4	AEE 308	Principles of Farm Management	C	2	1	-	2
5	AEE 310	Introduction to Macroeconomic Theory	C	2	1	-	3
6	AEE 312	Introduction to Rural Sociology	C	2	1	-	2
7	AEE 314	Extension Programme Development	C	-	-	6	2
8	AEE 306	Farm Records and Accounting	C	2	-	-	2
		<b>TOTAL</b>					<b>19</b>

**ELECTIVE FOR NEW CURRICULUM**

S/N	COURSE CODE	COURSE TITLE	COURSE STATUS	L	T	P	Units
1	FAT 306	Fish Farming Technique	E	1	3	2	3

**400 LEVEL, FIRST SEMESTER**

<b>S/ N</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>STATUS</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>U</b>
1	AEE 401	Agricultural Finance	C	1	1	-	2
2	AEE 403	Agricultural Production Economics and Resource Use	C	2	1	-	3
3	AEE 405	Extension Training and Curriculum Development	C	2	1	-	2
4.	AEE 407	Seminar in Agricultural Economics and Extension	C	-	-	6	2
5	AEE 409	Farm Business Analysis	C	2	-	-	2
6	AEE 411	Social Relationship and Behavioural Change	C	2	1	-	3
7	AEE 413	Project Appraisal and Planning	C	1	1	-	2
8	FAQ 433	Production and Utilization of Seaweeds and Freshwater Plants	C	3	-	-	2
		<b>TOTAL</b>					<b>18</b>

<b>ELECTIVE FOR NEW CURRICULUM</b>						
<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>COURSE STATUS</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Units</b>
CSP 401	Crop Preservation, Processing and Storage	E	2	-	3	3
APH 409	Beef Cattle, Sheep and Goat Production	E	2	-	3	3
APH 413	Poultry Production	E	2	-	3	3

**400 LEVEL, SECOND SEMESTER**

<b>S/N</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>STATUS</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>U</b>
1	FAQ 402	Industrial-Based /OSUSTECH Supervisor's Assessment	C	-	-	-	4
2	AEE 404	Assessment of Log Book	C	-	-	-	4
3	AEE 406	Student Technical Report and Oral Presentation	C	-	-	-	4
		<b>TOTAL</b>					<b>12</b>



**500 LEVEL FIRST SEMESTER**

<b>S/ N</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>STATUS</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>U</b>
1	AEE 501	Personnel and Labour Management	C	2	-	-	2
2	AEE 503	Rural Development and Adoption of Improved Technology	C	2	-	-	2
3	AEE 505	Agricultural Marketing	C	2	-	-	2
4.	AEE 509	Introductory Econometrics	C	2	1	-	3
5	AEE 511	Introduction to Agricultural Administration and Supervision	C	2	1	-	2
6	AEE 513	Extension Psychology	C	2	-	3	2
7	AEE 599	Final Project	C	-	-	1	6
		<b>TOTAL</b>					<b>19</b>

**500 LEVEL, SECOND SEMESTER**

<b>S/N</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>STATUS</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>U</b>
1	AEE 500	Students' Seminar	C	2	-	-	2
2	AEE 502	Extension Methods and Communication	C	3	-	-	3
3	AEE 504	Agricultural Development Administration	C	2	1	-	3
4	AEE 506	Industrial Visits	C	-	-	6	2
5	AEE 508	Agribusiness Management	C	1	1	-	2
6	AEE 510	Elements of Comparative Agricultural Extension	C	1	1	-	2
	AEE 512	Introduction to Operations Research	C	2	-	-	3
		<b>TOTAL</b>					<b>17</b>

## **COURSE DESCRIPTIONS**

### **AEE 201: INTRODUCTION TO AGRICULTURAL ECONOMICS (2 units)**

The nature of economics and economic problems, scope and method, price theory and functions of the market with particular reference to agriculture. Concept of opportunity cost, supply and demand and their application to agricultural problems. Production functions, cost analysis and functions. Concept of elasticities. Type of markets, perfect competition, monopoly, oligopoly, price theory and some applications. Cost and revenue theories. Theory of distribution, the component of agriculture in National income, resource allocation on farms. Aggregate income, expenditure, investment, interest rate, savings, employment, inflation, international trade, commodity agreements, and balance of payments. Money and banking.

### **AEE 202: INTRODUCTION TO AGRICULTURAL EXTENSION AND RURAL SOCIOLOGY (3 Units)**

The need for agricultural extension. Agricultural extension in the world and in Nigeria. Basic philosophies of agricultural extension. Institutional setting of agricultural extension. Basic concepts and principles of rural sociology to an understanding of importance of rural communities and institutions, social stratification, social processes and social changes in rural areas. Leadership in rural communities, role and functions of rural leaders. Development of rural community leaders. Extension agent and rural community. Communication techniques and strategies of change. Various agricultural extension teaching methods, aids and their uses.

### **AEE 204: AGRICULTURAL STATISTICS AND FIELD EXPERIMENTATION (3 UNITS)**

Elements of statistics – Data collection, assembling, and analysis and interpretations. Sampling techniques. Probability and non-probability sampling. Simple random sampling; stratified sampling; purposive sampling. Representation of data on charts. Computation of arithmetic mean, mode and median. Variance and standard deviation. Rules of probability. Probability theory. Joint probability and conditional probability. Statistical independence. Permutation and combination. Hypothesis testing. Test of significance in agricultural research and experimentation design. Review of research methods, Research methodology.

### **AEE 301: PRINCIPLES OF AGRICULTURAL ECONOMICS (3 UNITS)**

The scope of Agricultural Economics. Concept of Agricultural Economics. Demand and supply, Equilibrium price and quantity. Basic economics Principles applied in agricultural production and marketing. Application of concept of economics in agricultural production and marketing. Efficient

organization of scarce resources and factors of agricultural production. Discussions of principles and philosophies involved in Agricultural Economics. Cyclical theory in agricultural production and marketing. Agricultural projects. Tools of farm financial analysis. Farm efficiency measures.

### **AEE 302: ELEMENTS OF AGRICULTURAL ECONOMICS ( 3 UNITS)**

Role of agriculture in the Nigerian economy. Concept of agriculture and agricultural development. The theories of agricultural development. Mellor's model of agricultural transformation and its significance in the Nigerian situation. Role of 'accelerators' and 'essentials' in the process of agricultural modernization in Nigeria. Role of government in agricultural marketing. Basic problems of Nigerian agriculture. Elementary consideration of agricultural policy. Constituent of an agricultural policy in Nigeria. Capital formation in agriculture. Agricultural labour. Institutional agencies in agricultural credit.

### **AEE 304: ELEMENTS OF AGRICULTURAL EXTENSION (2 UNITS)**

Meaning, philosophy, scope, process and principles of extension. Introduction of major concepts in extension such as administration, leadership, motivation and sustainability. History of agricultural extension in Nigeria. Supporting structures for agricultural extension. Introduction to planning, monitoring and Evaluation of extension programs. Principles of planning, steps in planning, annual plan of work and calendar of work. Extension teaching methods and aids. Research – Extension – Farmer linkage. Problems of Agricultural Extension in Nigeria.

### **AEE 303: PRINCIPLES OF RURAL SOCIOLOGY AND AGRICULTURAL EXTENSION ( 3 UNITS)**

Definition of sociology, Branches of Sociology, Concept of Rural and Urban areas. Importance of studying Rural Sociology to Agricultural Extension. Concept in rural studies Rural Sociology to Agricultural Extension Education. Inter-relationship between them. Community development and extension services. The role of External Extension Education in integrated Rural Development Programmes. Communication and information transfer to rural people. Farmers' participation in rural project identification and development. Farm visits and appraisal. Indigenous knowledge in agricultural development.

### **AEE 306: FARM RECORDS AND ACCOUNTING ( 3 UNITS)**

Principles of record keeping. Types of farm record analysis: crops, livestock and machinery records. Enterprise analysis. Basic data needed for preparing farm records. Uses of farm records in modern agriculture. Trial balance, Income Statements and Net worth preparation and their usefulness in farm business analysis. Computer aided farm record analysis. Farm Accounting aspect- definition of farm financial accounting, source documents, farm account process, double entry system, subsidiary books of farm account. Treatment of cash discount and trade discount in

farm cash book. Farm inventory valuation – definitions, classifications and methods of farm inventory. Farm financial analysis.

### **AEE 305: INTRODUCTION TO MICRO – ECONOMIC THEORY (3 UNITS)**

Introduction. Microeconomics. Definition and Scope. The theory of the firm. Basic Concept. The production function, product curves, isoquants, elasticity of substitution. Optimism behaviours: Constrained output maximization, constrained cost maximization, profit maximization input demand functions. Cost functions: Short run cost functions, long run functions, constrained revenue maximization/profit maximization. The theory of consumer behavior: Nature of the utility function, indifference curve, the rate of commodity substitution and the existence of the utility function. The maximization of utility: first and second order conditions, the choice of the utility index. Demand functions: ordinary demand functions, compensated demand functions, demand curves, price and income elasticities of Demand, income and leisure, substitution and income effects, the Slutsky equation. Demand functions: Market demand/producer demand. Supply function: the very short period, the short run, the long run, external economies, diseconomies. Commodity – market equilibrium. Stability of equilibrium. Market Competition. Duopoly, oligopoly, monopoly & monopsony.

### **AEE 308: PRINCIPLE OF FARM MANAGEMENT (2 UNITS)**

Farm Management: identification and scope. The role and functions of management. Economic principles involved in managing factors of production. Production relationship. Factor- factor relationship. Profit maximization in different production relationships. Concept of marginal returns. Increasing marginal returns, decreasing marginal returns and constant marginal returns. Land, Labour and Capital. The farmer and his management ability. Risk Uncertainties in management of farms.

### **AEE 307: INTERMEDIATE MATHEMATICS FOR AGRICULTURIST/MATHEMATICAL ECONOMICS (3 UNITS)**

Economic theory and hypotheses. Relationship between economic theory and mathematics. Review of the use of Mathematics in economic analysis. Linear models and Matrix algebra and its application in agriculture. Demand and Supply. Application of mathematics in determination of equilibrium price and quantity. Differential calculus and its application to agricultural economics. Mathematics in microeconomics, optimization problems – equilibrium analysis, exponential and logarithmic functions, equality constraints and with several variables. Functions and functions forms in mathematics. Analysis involving time, probability and regression analysis in agriculture. Dynamic analysis – economic dynamics and integral calculus, first order differential equations, higher order differential equations. Discrete time: first order equations, higher order difference equations. Optimal control theory.

### **AEE 310: INTRODUCTION TO MACROECONOMIC THEORY ( 3 UNITS)**

Introduction to macroeconomics.Objectives of macroeconomic policy.Methodology of Macroeconomics. Actual and Potential GNP: fluctuations and Growth. A review of the national income and product accounts. Introduction to income determination; the multiplier. National income determination: the static equilibrium model. Sectoral demand functions and extensions of static model: consumption and consumer expenditure, investment demand, the demand for money, supply of money, monetary and fiscal policy in the extended model and the foreign sector and balance of payment. The IS-LM Model for a closed economy and for an open economy. Full employment, Price Stability, Economic Growth. Distribution aims. Policies for reducing inflation.Productivity.The Phillips Curve.Unemployment; Theories of unemployment, types of unemployment, Taxation and Price Support.Publicexpenditure.Publicrevenue.Business cycle or trade cycle.

### **AEE 309: INTRODUCTION TO RURAL LIFE (2 UNITS)**

Concept of rural life.Meaning of rurality.Semi- urban and urban life.Characteristics of each.Types of rural communities.Study of the rural communities; settlement patterns and village organizations, social life, economic life and poverty issue.Quality of life and its measurement.Land tenure in rural communities.Rural migration; causes of movement, effects of movement, patterns of movement, population trend.Rural development in Nigeria.

### **AEE 312: INTRODUCTION TO RURAL SOCIOLOGY (2UNITS)**

Meaning, Nature and Scope of Rural Sociology. Organization of Societies: basic sociological concepts, society, culture, etc. Major social institutions such as family and community.Social groups and social processes.Group participation in community activities.Inequality in rural areas of Nigeria.Social Stratification and social mobility. Social change and diffusion process in agriculture in agricultural innovation adoption. Challenges of rural development in Nigeria.

### **AEE 311: COMMUNITY ORGANIZATION AND LEADERSHIP (2 UNITS)**

Definition of a community, characteristics of communities.Methodologies of community studies.Concept of community organization and development.Basisfofr community development activities.Principles of community development.Benefits of community development.Stages/process of community development.Community development agents, characteristics, functions and principles of operation. Concept of leadership, types of leaders, styles of leadership, functions of leaders. Theories of leadership.Role of agriculture and agricultural extension in community development. Extension agents in providing administrative organization for rural development. Agric. Extension and community development programme. Leadership structure in rural Community, legitimization of programmes and diffusion of innovation.

### **AEE 314: EXTENSION PROGRAMME DEVELOPMENT ( 2 UNITS)**

Definition of Programme. Levels and types of programs. Concept of programme development and stages in programme development. Assumption in programme development. The course is expected to provide insight into the major Approaches to programme development and Clientele participation in programme development. Strategies for clientele participation. Levels of participation. Sustainability issues in programme development. Monitoring of programmes, Types of monitoring, Principles of monitoring, Process of monitoring. Evaluation of programmes. Types of evaluation, Process of evaluation, Principles of evaluation.

### **AEE 316: APPLICATION OF COMPUTER IN AGRICULTURE ( 2 UNITS)**

Consideration of improvement in the different fields of agriculture as a result of computer application. Introduction to computer programmes in relation to agriculture- spreadsheet programmes and word processing programmes; Programmes for graphics presentation; Statistical packages; Analytical models in agriculture; Computer softwares for data analysis in agriculture; Different functional forms in agriculture and application of computer. Analysis of agricultural data using computer software.

### **AEE 401: AGRICULTURAL FINANCE (2 UNITS)**

Role of agricultural finance in development. Credit and its role in farm production. Credit Utilization, sources of finance, loan acquisition, repayments and credit instrument. Principles of farm accounting, farm planning, budgeting and financial control. Farm record keeping and preparation of financial statements. Profit and loss account and balance sheet. The organization of resources and enterprises. Enterprises and resources combinations and control. Types of finance records in agriculture. Role of government in agricultural finance. Role of private sector in agricultural finance. Multilateral and international organizations and agencies and agricultural finance. Case study of World Bank and international fund for Agriculture in agricultural finance.

### **AEE 402/404/406: STUDENTS' INDUSTRIAL WORK EXPERIENCE (12 UNITS)**

Students are attached to industries, firms research stations etc., with a view to making these students develop more skills in farm management, Agribusiness, and related areas, and providing additional opportunity for them to learn to write field reports. Student are supervised during the training period and are expected to keep logbooks and other records designed for the purpose of monitoring their performances. Students are to write reports on their activities on site and present such report at a seminar on the department. The logbook, report and seminar presentation will contribute to the final grades in the course.

### **AEE 403: AGRICULTURAL PRODUCTION ECONOMICS (3 UNITS)**

Concept of the production function, functional forms. Profit maximization in production. Input – output relationships, Resources in Agriculture: Land, Labour, Capital, and Management resources.

Law of the diminishing returns. Problem of resources. Marginal analysis. Concept of an agricultural production. Steps in project introduction, appraisal, analysis and implementation. Methods of project appraisal, NPV, cost benefit ratios DCF, Financial and Economic Analysis, Linear programming.

#### **AEE 405: EXTENSION TRAINING AND CURRICULUM DEVELOPMENT ( 2 UNITS)**

Meaning of Extension Training. Importance of extension Training in Agricultural Development. Objectives of the different types of training. (e.g pre – service and in- service training) programmes for different categories of Extension personnel. Need assessment in training programmes. Methods of need assessment. Methods of Extension Training, Farmers Training programme, Curriculum development processes, Course organization, Evaluation of training programme.

#### **AEE 407: SEMINAR IN AGRICULTURAL ECONOMICS AND EXTENSION (2 UNITS)**

Students are expected to undertake studies of contemporary issues in agriculture, and write a term paper on a topical agricultural issue, to be presented in a class seminar. Students are expected to be supervised by instructors assigned to them during preparation of papers. Presented reports will be graded. Performance at the seminar presentation will also contribute towards grading of course.

#### **AEE 409: FARM BUSINESS ANALYSIS (2 UNITS)**

Nature and types of farm business. Characteristics of farm business. Decision making process, economic principles, tools of decision – making, farm management information and analysis, the farm budget, the computer as a farm management tool. Managing the organized farm. Relationship between farm and non- farm business. Family farm business management. Corporate farm business and management. Case studies of corporate farm business.

#### **AEE 411: SOCIAL RELATIONSHIP AND BEHAVIOURAL CHANGE (3 UNITS)**

Social relationship as an analytical unit in Agricultural extension system. Social relationship as an indicator of individuals and groups, Innovation process, Major theories of behavior change in agriculture. Social interactions: cooperation, competition, conflicts resolution, acculturation and assimilation. Sources of social and behavioural change in the society. Diffusion and adoption of agricultural innovations. Factors influencing adoption. Categories of adopters. Stages of adoption.

#### **AEE 413: PROJECT APPRAISAL AND PLANNING (2 UNITS)**

Project cycles, Project appraisal techniques. Capital Budgeting – Basic risk concepts, sensitivity analysis of risk, measuring project risk; risk and time, risk and values. Principles and procedures in planning enterprises combination, objective, scarce resources. Programme planning and



evaluation. Concept of feasibility reports. Internal rate of return. Net present value. Introduction to linear programming. Project management and appraisal.

#### **AEE 415: RESEARCH METHODS IN SOCIAL SCIENCE (2 UNITS)**

Types of empirical research in social science. Steps in empirical research- setting of objectives; hypothesis formulation and testing; sampling technique, design of questionnaire. Analytical techniques – descriptive and quantitative methods. Interpretation of result. Application of econometrics in data analysis. Use of inferential statistics in data analysis. Research report writing and presentation. Development of research proposal for grant application.

#### **AEE 500: STUDENTS' SEMINARS (2 UNITS)**

Preparation, presentation and review of important agricultural issues in Nigeria and globally. Such review will cover the following areas: Agricultural development, finance, Women in Agriculture, Children in Agriculture, Gender matters, Rural development, Agricultural marketing, Resource use, production economics, environment, diffusion of innovation, project appraisal, programme planning, policy and agricultural commodity marketing, climate change.

#### **AEE 501: PERSONNEL AND LABOUR MANAGEMENT (2 UNITS)**

Introduction to labour management. Labour law and administration, Work schedule combination and timing, Labour relationships. Internal labour organization. Nigerian Labour laws. Method study and work study techniques. Labour productivity issue and management. The concept of motivation in labour management. Labour management and industrial actions. Dispute resolution in labour management. Labour arbitration panel. Labour law and the Nigerian environment.

#### **AEE 502: EXTENSION METHODS AND COMMUNICATION (3 UNITS)**

Meaning and elements of the communication process. Learning situation and experiences, communication models. Social and mental factors influencing personality development. Concept of education. Learning, teaching, intelligence motivation. Steps in extension teaching – classification and description of teaching methods e.g demonstration, meeting campaigns, agric shows, field trips and individual contracts, mass, group and individual methods. Audio – Visual aids in extension communication. Production and use of audio – visual teaching aids. Types of media for extension activities. Merit and demerit of each.

#### **AEE 503: RURAL DEVELOPMENT AND ADOPTION OF IMPROVED TECHNOLOGY (2 UNITS)**

The Rural Development process – objectives of rural development, problems of rural development. Strategies for rural development. Approaches of rural development globally. Rural development strategies in Europe and Asia. Role of government and private sector in rural

development. Focus of appropriate technology, imitation, indigenous etc. Problems relating to transfer of technology. Technology and Nigerian small farmers. Pre-requisites for the acceptance of technology types.

#### **AEE 504: AGRICULTURAL DEVELOPMENT ADMINISTRATION (3 UNITS)**

Comparative study of agricultural development administration globally. Agricultural legislation. Overview of agricultural legislation in Nigeria. Agricultural legislation and implication on agricultural development. A review of land tenure and land laws in Nigeria. Identification of land tenure problems in Nigeria. Introduction and concept development plans in Nigeria. Plans and plan implementation in Nigeria. Agricultural development programmes. Problems of development plans. Roles of Federal, State, and Local government in planning. Development policy.

#### **AEE 505: AGRICULTURAL MARKETING (2 UNITS)**

Definition and scope of marketing. Distinctions between marketing and markets. Concepts in marketing: Market functions; Market efficiency. Types of market and objectives, the importance of marketing, characteristics of marketing problems, the role of marketing in agricultural business. Agricultural Demand and Supply as they relate to marketing. Determination of equilibrium price and quantity. Price analysis. Agricultural marketing and agricultural development. Market infrastructure and development. Agricultural marketing and global issues: economic meltdown; price fluctuation; climate change.

#### **AEE 506: INDUSTRIAL VISIT (2 UNITS)**

Class visit to farms, agro-industries, research institutions and other related establishments, on a weekly or bi-weekly basis, to acquaint students with the organization structure and processes of these establishments. Students are to note the raw materials used, their sources, the products of such companies, their by-products and their markets. They are to assess personnel management and welfare. Impact of the industry to the immediate environment is to be assessed. Opportunities for linkages after their graduation are to be explored. Each visit is to be followed by a written report by each student. Which is to be graded.

#### **AEE 508: THE CONCEPT OF AGRIBUSINESS (2 UNITS)**

Farm business and Agribusiness methods; Consumer Concept in marketing; concept of rationality vs irrationality in Agribusiness. Product oriented and consumer oriented production. Cooperation in marketing, rules and regulations governing cooperative societies. Cooperative societies vs producers vs consumers. The firm (or industrial) approach to marketing. The farm and location of industry. Identification of success factors in Agribusiness. Agribusiness development.

#### **AEE 509: INTRODUCTORY ECONOMETRICS (3 UNITS)**

Econometrics and economic theory. Basic statistical concepts: simple and multiple correlation, normal and t- distribution, hypotheses testing and confidence intervals. The simple regression model, estimation of regression parameters. Properties of least square estimators, statistical inference in regression model, violation of basic assumptions and their consequences. The multiple regression model; estimation of regression parameters, statistical inference problems of auto correlation and multi – colinearity, analysis of variance( ANOVA). Regression analysis of cross sectional and time series data.

### **AEE 510: ELEMENTS OF COMPARATIVE AGRICULTURAL EXTENSION SYSTEM (2 UNITS)**

Agricultural extension and agricultural development.Highlights of the existing types of Agric. Extension strategies in Nigeria and globally, e.g ministry type; private extension, T.V etc. Constraints, weaknesses, achievements and merits of such system are to be discussed. Agricultural extension strategies and organization in selected countries.Comparison of those systems with that of Nigeria.Emerging extension strategies of the 21<sup>st</sup> – century in use across the world.

### **AEE 511: INTRODUCTION TO AGRIC.EXTENSION ADMINISTRATION AND SUPERVISION (3 UNITS)**

Concepts, theories, principles and guidelines of agricultural extension administration. Organization and supervision as applied to the Agricultural Extension Services in Nigeria. Administrative functions and responsibilities in Agricultural Extension. Staff recruitment, selection, placement and supervision, budget development and fiscal control. Assessment of Extension Work accomplishments.Role of effective supervision in agricultural extension.Comparison of administration and supervision in public and private agricultural extension system.

### **AEE 512: INTRODUCTION TO OPERATIONS RESEARCH (3 UNITS)**

Role of operation research in economic analysis.Links between economic theory and quantitative analysis.Introduction to optimization problems. (a)Minimization; (b) Maximization.Introduction to inventory models.Types of inventory models.Concept of allocation problems in operation research.Types of allocation problems.Optimization process in allocation problem.Models in allocation problems. Linear Programming: simplex and graphical models, Games Theory. Input-output analysis.Optimization in linear models.Dynamic, linear and integer programming techniques.Linear and integer techniques in solving allocation problem.

### **AEE 513: EXTENSION PSYCHOLOGY (2 UNITS)**

Meaning of psychology, Nature of psychology; fields of psychology. Concepts in psychology: Intelligence, Individual Differences, Teaching, Learning, Motivation, attitude, values, etc. concept

of Human Development, stages of human development and implication for extension activity. Personality development. Emotion related to Extension Education. Application of psychology in agricultural extension. Psychology and rural development.

**AEE 599: FINAL YEAR STUDENT PROJECT (6 UNITS)** Students are to undertake supervision study on identified agricultural/economic related problems requiring empirical data collection, analysis and report writing. Students are also required to give both oral and written presentation. Students must apply the theory learnt in Research Methodology and econometrics in the implementation of their projects. Assessment of the course will involve grading of the project write – up, oral presentation and oral defense.