400 Level: First Semester

Course Code	Course Title	U	L	T	P
BFN 401	International Finance	3	2	1	-
BFN 403	Quantitative Analysis for Financial Decisions	3	2	1	-
BFN 405	Capital Market and Portfolio Theory	3	2	1	-
BFN 407	Theory of Corporate Finance	3	2	1	-
BFN 409	Management Information System	3	2	1	-
BAM 401	Business Policy and Strategy 1	3	2	1	-
BFN 497	Seminar I	1	-	-	1
	Elective: Minimum of one (1) course				
BFN 411	Multinational Business Finance	3	2	1	
Total		**22**	**14**	**7**	**1**

400 Level: Second Semester

Course Code	Course Title	U	L	T	P
BFN 402	Law, Ethics and Corporate Governance	2	2	1	-
BFN 404	Marketing of Financial Service	3	2	1	-
BFN 406	Bank Lending and Loan Administration	3	2	1	-
BAM 402	Business Policy and Strategy II	3	2	1	
BFN 408	Mortgage Finance	2	2	-	-
BFN 498	Seminar II	1	-	1	-
BFN 499	Research Project	4	4	-	-
BFN 412	Trust Administration	2	2	-	-
BFN 414	Treasury Management	2	2	1	-
Total		**22**	**18**	**6**	

COURSE SYNOPSES

BFN 101: INTRODUCTION TO FINANCE **3Units**

Overview of Finance; Evolution of Finance, Definition of Finance, Types of Finance; Introduction to the Scope of Finance Functions, Scope of Finance Functions, Functions of Financial Managers, Financial Decisions, The Finance Functions, Accounting Versus Finance, The Finance Manager and His Environment, Career Opportunities in Finance; The Theory of the Firm, Profit Maximization, Satisficing Concept, Shareholders Wealth Maximization, Others types of Objectives; Sources of Business Finance and Management, Short Term Finance, Medium Term Finance, Long Term Finance, Equity

Capital and Start up Finance,Finance for Exports, Public Sector Finance and Assistance, Choice of Finance; The Risk Dimension in Finance, Definition of Risk, Distinction between Risk and Uncertainty, Attitude to Risk, Sources of Risk' Types of Risk, Classifications of Risk; The Nigerian Financial Market, The Money Market, Instruments of Money Market in Nigeria, The Nigerian Capital Market, The Nigerian Securities and Exchange Commission, Recent Developments in Nigerian Stock Exchange; The Concept of Time Value of Money, The Time Value of Money, Factors that affect the Value of Money, Simple Interest, Future Value, Compound Interest, Compounding, Present Value; Financial/Ratio Analysis, Nature of Financial Ratio, Uses of Ratio Analysis, Types of Ratio, Limitations of Ratios

BFN 102: INTRODUCTION TO MONEY AND BANKING (3 Units)

Concepts of money and its origin; The Central Bank of Nigeria, Savings and Investment, The Nigerian Money Market, Bank's Balance Sheet, Bills of Exchange, The roles of Chartered Institute of Bankers (CIBN), Evolution and structure of International Banking, evolution and structure of different types of Banking Institutions; Central Banks, Commercial Banks, Development banks and non-Banking/Finance Institution, Principles governing borrowing and lending, Bank Clearing system and Non-Bank financial intermediaries, Critical issues affecting Banking Services in Nigeria

BFN 202: PRINCIPLES OF BANK MANAGEMENT (3 Units)

Basic concepts in management; management principles, functions of the manager, planning; nature and purpose of organization, span of management, departmentalization, lines and staff authority, service department. Staffing and directing; selecting management appraisal of a manager. Nature or directing, motivation, leadership, controlling; the control process, the Nigerian environment: management, problems in Nigeria, challenges of indigenization.

BFN 203: INTRODUCTION TO INSURANCE (2 Units)

Introduction: Historical Development of Insurance, Insurance Career and Institutions, Functions of Insurance; Economy Theory of Insurance; Legal Principles of Insurance; Elements in an insurance contract, types of insurance and marketing system, insurance company operations, Insurance Regulation and code of conduct, social insurance and social welfare.

BFN 205: BUSINESS LAW (3 Units)

The Nigerian legal system; Source of Nigeria Law; hierarchy of Nigerian courts; commercial arbitration; law of contract and commercial contracts; commercial relations between persons; unfair competition and 'Trade Libel'; company laws, powers and functions of company directors, introduction to taxation laws

BFN 206: INTRODUCTION TO DEVELOPMENT FINANCE (2 Units)

Definitions and explanations of Development Concept, Principles, Processes and Strategies of Development. Leading Development Theories and Models. Dominant Issues and problems in Nigeria's Development. Development Globalisation and Localisation, Government and Development, understanding of various Sectors of Rural and National Development including the Agricultural Sector. The oil curse and development in Nigeria, Leading Development Agencies in Nigeria and the World and the World. Poverty and Development, Financing Development Project/Programmes Planning and Management, the Financial Sector and Financial Institutions (World Bank, IMF, BIO, UNDIC, SEC, NSE, Nigerian Agricultural Bank and others). Financing Micro, Small and Medium Enterprises (MSMES) for Development. Financing development infrastructure development, Community Development, banks and financing, Development Clusters and Micro-financing. Rural banking and rural development.

BFN 207: MATHEMATICS FOR FINANCE (2Units)

Need for and uses of Mathematics in Finance, Introduction to Progression and series, Compounding and discounting involving simple interest, compound interest (future value) and present value. General application of Time value of money to investment and Credit Analysis; Concept and application of Annuity, Sinking fund and Amortization, Differentiation; Rules, derivatives and Application in Finance, Integration; Rules, theorems and Application to Finance, Regression and Correlation Analyses

BFN 208: PENSION SCHEME ADMINISTRATION (2units)

Overview of Retirement Income Arrangements; Employer Pension Plans: Terms and Conditions; Government Pension Programs Administration and Communication of Pension Plans; Financial Management of Pension Plans; Pension Fund Investment Management; Registration of Pension Plans under the Income Tax Act and Taxation of Retirement Benefits; Pension Standards Legislation and Case Law Affecting Pension Plans; Supplementary Pension Arrangements Other Retirement Income, Savings and Deferred Compensation; Disability Benefits and Income Plans Group Life and Accident Insurance Post-Retirement /Employment Benefits Administration of Employee Benefits; Financial Management Administration of Employee Benefit Plans.

BFN 301: INVESTMENT BANKING (2 Units)

Evolution of merchant Banking: Distinguishing features of functions of investment/merchant banks; merchant banks methods and processes; management of merchant/banking organisations and services: structures and performance of in Nigeria of Investment banks: syndication, investment banks and international operations.

BFN 302: BANK AUDIT AND INSPECTION (3 Units)

General overview of banking operation; bank inspector; inspector functions and responsibilities: Funds; forgeries and operational errors, nature and type. Factor influencing fraudulent practices and detection, prevention and control, computer fraud. Investigation procedure

BFN 304: BUSINESS FINANCE (3 Units)

Financing decision of the firm; Sources of finance and raising of new finance by business enterprise. Investment decision of a firm under conditions of certainty and uncertainty, problem of mutually exclusive projects, capital rationing and inflation; Cost of capital as a decision and relevance of dividend decision for the firm; Concepts of capital market efficiency and pricing of capital assets

Working capital management; Lease financing; Merger and acquisitions; Techniques of financial planning and control; Interpretation and analysis of financial statements; Problems relating to the financing of unincorporated business, small scale business and agricultural financing in Nigeria

BFN 305: NIGERIAN FINANCIAL SYSTEM I (2 Units)

Role of finance in economics development: regulatory environments (including financial services regulations coordinating committee (FSRCC, CBN, NDIC): Institutional Environments – structure and elements; Bank and financial institutions: deposit money banks, development banks (BIO, NACRDB, FMBN, UDB, DFES), Microfinance banks:

BFN 306: NIGERIAN FINANCIAL SYSTEM II (2 Units)

Non-bank financial institutions; insurance companies, NAICOM, Nigeria Re, Africa Re, Discount House, Unit Trust Scheme, NEXIM, Finance companies, Primary Mortgage Institutions, Equipment leasing, Hire Purchase, Debt Management Office, AMCON: Money and Capital Market; regulatory/supervisory environment –CBN, SEC, NSE, CIS, issuing houses association: Pension Schemes: Financing Schemes: ACGS; Traditional Financial Institutions: ESUSU, daily contribution, cooperative thrift and credit association, money lenders.

BFN 307: COMPARATIVE BANKING (3 Units)

The socio-cultural and political environment of banking: inter-temporal comparison of banking in Nigeria and other countries. Political Economic of Banking: Capitalism, Socialism, Islamic non-interest and traditional banking systems: Banking structure, branch, unit, holding company, chain, mix, correspondent, hybrid and universal banking systems; Inter-country comparison.

BFN 308: BANKING LAWS AND REGULATIONS (3 Units)

Need for, nature and forms of bank's regulations. Regulatory agencies, their evolution and functions. Critical aspect of banking practices subject to control, current status of banking evolutions in Nigeria. Banking laws and regulations and their effects on bank performance as in cheque and negotiable instruments and Bill of Exchange. Other

aspects of general and business laws relevant to practicing bankers.

BFN 309: PRACTICE OF BANKING (3Units)

Bankers and Customer Relationship, Determination Banker and Customer Relationships, Types of Account Holders, Banking Transaction and Payment Systems, Securities for Bank Lending, Types of Securities, Financial Securities, other types of Securities, Special Types of Securities, Perfection of Securities, Negotiable Instruments.

BFN 311: MONETARY THEORY AND POLICY (3 Units)

Objectives of monetary and fiscal policy, goals targets and indicators of monetary policy, instruments and types of monetary policy; credit planning; monetary policy in economic growth; time lags of monetary policy; fiscal and monetary policy and liquidity management.; controllability of money supply; controversy in monetary policy; International monetary problem, monetarists versus fiscalist; Monetary transmission mechanism: fiscal policy and debt management: crowding out effect and availability doctrine

BFN 312: PUBLIC SECTORFINANCE (2 Units)

Basic concept of welfare economics, resources allocation problems of the public sector; rationale for public and government intervention in economic activities; Public expenditure; sources and composition of government revenues pattern and growth of government expenditure; budgeting and taxation; parliamentary procedure for the estimation and control of government expenditure and raising of revenue; the incidence allocation and distributional effects of different forms of taxation and current expenditure; the public debt, causes and consequence; debt management and its monetary implication; the concept of public goods; the problem of externalities; grants and pricing policies in the public sector; assessment of public sector projects and services; element of cost benefits analysis; appraisal of public sector economic performance.

BFN 313: AGRICULTURAL FINANCE (3 Units)

Economic analysis of acquisition and utilization of capital in agriculture, role of agriculture in the economy and the supply and demand of funds in the agricultural sector, sources of agricultural finance, role of credit in agricultural business; evaluation of credit capacity and analysis of loan interest rates and repayment terms; income and cash flow statements of farm business risk management in agriculture; crop insurance; management of farm business; role of financial markets in agricultural business financing; role of banks and other financial institutions in the provision agricultural credit in Nigeria; agricultural finance and policy

BFN 315: MICROFINANCE BANKING (2 Units)

History of informal savings, the major components of Microfinance as social

entrepreneurship: programme design and operation – The Graneen Bank, Group Lending and Variations, Balancing Mission with sustainability; Measuring Impact and Financial Performance; Commercialisation of Microfinance; Competition, Investing in Microfinance Funds; Capital Market and Regulation; Comparing for-profit microfinance institutions; Global development of Microfinance Institutions.

BFN 316: BANKING METHODS AND PROCESSESS (3units)

Payment and collection of cheques and other instruments; The banker clearing systems, protection given to bankers under the Bills of Exchange Act Cap 35 of LFN 1990 and cheques Acct; termination of banker's authority to pay customer's cheques with particular reference to countermand of payments, receipts of court injunctions and other legal processes; determination of the banker and customers relationship actions to be taken on the death, mental disorder and bankruptcy of customers, dissolution of partnership, wind up of corporate customers or upon receipt of garnishee order or summons.

BFN 317: MANAGEMENT OF FINANCIAL INSTITUTION I (3 Units)

Liquidity Management. Risk Management, Lending Concepts, Principles and Practice, Lending Policies, Capital Adequacy, Public Relations in Banks, Industrial Relations in Banks, Training and Man Power Development in Financial Institutions. Frauds in Banking, Marketing of Financial Services, -An Overview, Organizational Communication, Source and uses of Funds, Bank Audit, Management Information Systems, Off-Balance Sheet Activities: On Measuring of the Efficiency of Banking Industry in a Developing Environment, the Regulatory and Institutional Environment, Corporate Financial Planning, Operations Research in Bank. Organisational structure, Prudential Regulation of Banks, Solvency/Distress Roles and Responsibilities of Directors. Deposit Insurance, Investment Banking: Definition /Description Legislative and Regulatory Framework. Institutions, Leverage Buy-outs/Buy-ins, Project Financing Treasury Management, Securitization, Leasing, Hire Purchase. Investment/Portfolio Management Services Offered.

BFN 318: FINANCIAL MANAGEMENT (3 Units)

Financing decision of the firm; Sources of finance and raising of new finance by business enterprise. Investment decision of a firm under conditions of certainty and uncertainty, problem of mutually exclusive projects, capital rationing and inflation; Cost of capital as a decision and relevance of dividend decision for the firm; Concepts of capital market efficiency and pricing of capital assets. Working capital management; Lease financing; Merger and acquisitions; Techniques of financial planning and control; Interpretation and analysis of financial statements; Problems relating to the financing of unincorporated business, small scale business and agricultural financing in Nigeria.

BFN 320: RESEARCH METHODS IN FINANCE (3Units)

Definition of research, the role of research in development, developments in research methodology, essential features of research work, procedures and stages involved in research proposal and report writing in finance. New developments in research methods in Finance, use of statistical and Econometric methods in research.

BFN 401: INTERNATIONAL FINANCE I (3 Units)

Introduction to International Trade Business; Balance of Payments and its adjustment, Concept of Multinational Corporation (MNC), Goal of MNC, Concept of Current Account and Capital Account, Foreign Exchange Market and its Efficiency. Theory and practice of devaluation, International Financial Institutions and Marketing: Functions, Features, instruments, structures and performance. International Capital flows: External Debt and Financing, Portfolio and Foreign Direct Investment, Exchange Rate Equilibrium, Forward contracts used by MNCs Fixed and floating Exchange Rate Systems Purchasing power parity, Multinational Capital Budgeting, Financing International Trade, Regulation of International Trade Finance in Nigeria, Euro-dollar Market, International Bond Market.

BFN 402: LAW, ETHICS AND CORPORATE GOVERNANCE (2 Units)

Status and Regulations, Business Law, securities Law, Bankruptcy Law, Nature of Ethics, basic Issues in ethics, Fundamental Principles of Business Morality, Corporate Governance, Self-Regulatory Mechanism in the Banking Industry.

BFN 403: QUANTITATIVE ANALYSIS FOR FINANCIAL DECISIONS I (3 Units)

Financial model building; mathematical programming, formulation of the firm's short term and long term investment-financing choice of problems; Sensitivity analysis; use of linear programming for short term decisions opportunity; costing and financial control of production; cash management, simulation approach to working capital decisions, linear programming and profit planning, introduction to goal programme; linear programming and investment decisions under certainty; game theory; depreciation methods; transportation technique; assignment model.

BFN 404: MARKETING OF FINANCIAL SERVICES (3 Units)

The concepts of ''Marketing'' and ''Financial Services'', Marketing Review and the role of Marketing in Financial Service, Industry, Customer behaviour and Decision Process; Segmentation, Targeting , Positioning etc, Service and Customer Orientation; Financial Services Development and Management: Marketing Channels and the Effect of Technology, Pricing, Profitability, Decision Making Communication (IMC): Advertising, Branding, Sales Promotion, Sponsorships, Events in the Financial Services Industry,

Building Marketing Staff Retention and Loyalty: Competitive Strategies in the Financial Services Industry. Globalisation, External Environmental Factors and their impact on the Financial Services Industry

BFN 405: INVESTMENT ANALYSIS AND PORTFOLIO THEORY (3 Units)

Introduction: review of the investment concept, the asset allocation decision, selecting investments in a global market, organisation and functioning of securities markets; Capital Market Theory: Efficient Capital Market, Technical and fundamental analysis, diversification; Securities Analysis: basic security valuation (equity and bonds) stock market analysis, industry analysis, analysis of financial statements, company analysis and stock selection; Equity Portfolio Management, strategies, Bond Portfolio Management, Professional Asset Management, Portfolio Performance evaluation and revision; Empirical evidence of portfolio theory models.

BFN 406: BANK LENDING AND LOAN ADMINISTRATION (3 Units)

Lending: Introduction – Reconciliation of liquidity, Profitability and solvency: Lending policies, lending concepts principles and practices, Credit culture, credit standards, Financial Analysis, Credit Analysis, Credit Administration, Debt Recovery Strategies, Major Sources of Funds in Lending and their Mitigants, Bank Services to Customers, Contemporary Banking Practice Issues.

BFN 407: THEORY OF CORPORATE FINANCE (3 Units)

Advance treatment of the theoretical bases and economic rationale of investment financing decision: single and multi, capital structure model, dividend valuation model, capital asset pricing and option pricing models; Financial Management problems; Working Capital Management, Capital Budgeting, Capital Structure, Agency Conflicts and Payout Policy.

BFN 408: MORTGAGE FINANCE (2 Units)

The concept of housing finance: key housing policy issues and trends in Nigeria, factors influencing housing policy, private sector participation in housing delivery, social and economic aspects of housing. The law of poverty: the National Housing Fund: role, functions and operation: key Mortgage finance institutions and their financial services: evolution and operation of primary mortgage institutions in Nigeria, regulatory framework for the industry, scope of operation and statutory returns: savings and investment services; savings mobilization and competition, types of customers, Mortgage lending services the principles and practices of lending, types of loan, application, valuations, assessment, personal convenience advance, form and content of mortgage deed, types of mortgage, security of mortgage, general administration of mortgage accounts, arrears and ministration and redemption.

BFN 409: MANAGEMENT INFORMATION SYSTEM (3 Units)

Introduction to Information System. Types of information system, Organization

requirement, Systems development strategy, Decisions support systems, Data and information management, Information systems management, Control and implementation; Goals, Objectives, and Sub-System Objectives in Information System Management; Influence of Human Elements on Information System; Management Information System: Development; Cycle and System Classification; Approaches to MIS-development; Data and Information Management.

BFN 412: TRUST ADMINISTRATION (2 Units)

Trusts; Introduction and creation: Background and History, Trust Purpose and common uses overview of governing law for trusts, reasons, advantages and motivation for having a trust: The role of the trustee: duties of the trustee, powers of the trustee: duties of the trustees powers of the trustee, investing trusts assets, records and accounting, compliance with tax laws, compliance with other government regulations, conflicts of interest; choosing trustees individual, corporate trustee, trust administration and the judiciary obligations, right to distribution from the trust fund; modifications of trust, rescuing old and defective trusts.

BFN 411: MULTINATIONAL BUSINESS FINANCE (3 Units)

Finance operations of multinational business- working capital management, capital budgeting, cost of capital and financial structure; effect of transactions in multiple currencies dealing with risk in exchange rate fluctuations, segment capital markets, exchange controls and political risk-nationalization and expropriations; transfer pricing and other financial manipulations at variance with financial regulations and policies of best countries.

BFN 414: TREASURY MANAGEMENT (2 Units)

Introduction to the principle of treasury management; basic micro and macro-economic factors that affect the functions of treasury manager, financial structure and financial instruments; working capital cycle, over trading and over capitalization, inventory control cash management, debtor management and credit control.

BFN 497: SEMINAR I (1 Unit)

BFN 498: SEMINAR II (1 Unit)

BFN 499: RESEARCH PROJECT (4 Units)

Planning the research, Literature review, Problem Identification, Objectives of the study, conceptual framework, hypotheses, techniques (methodology), data sources, communicating research results, presentation of the report. The long essay would be supervised by lecturers in the department as approved by the Head of Department.

DEPARTMENT OF BUSINESS ADMINISTRATION

Philosophy

The guiding principle of the programme is founded on the need to develop the total being of the individual student. Specifically, the programme aims at developing the mind and impacting theoretical and practical knowledge that will encourage self-reliance in the individual and nation at large. It also aimed at educating prospective graduate of the programme to understand, exploit and if possible change his environment through the adoption and application of management theories, thoughts, principles, processes and techniques.

Objectives

The objectives of the programme are to:

a. provide basic knowledge needed for an understanding and analysis of problem related to the management or administration of industrial, commercial, public and other human organizations
b. equip students with the skills needed for recognising and defining problems and taking appropriate decisions, using scientific techniques and tools
c. inculcate in students an awareness of, and sensitivity to, environmental factors and conditions and their impact on managerial/administrative practice and decisions
d. develop leadership and interpersonal relations skills which are needed for working in organizations.
e. facilitate the creation of entrepreneurial spirit in young men and women who can help to exploit the available resources and opportunities in Nigeria
f. provide for preparation of management teachers and researchers to keep pace with the ever rising demand for management education
g. facilitate the education and training of managers at undergraduate levels help produce teaching materials and literature more appropriate to the Nigerian environment through research and cross fertilization of ideas in the classroom

Academic Staff

Name	Qualification	Specialization	Designation
J. E. Ekpudu	B.Sc, M.Sc, (Lagos), M.Phil, Ph.D.(Ife), AMNIM.	Strategic Business Operations Management.	Lecturer I & Coordinator
A. O. Salami	B.Sc., MBA, (Ilorin), M.Sc, Ph.D(Ogbomoso)	Operations Research and Quantitative Techniques	Professor
A. J. Abiodun	B.Sc, MBA, M.Sc, (Ilorin) Ph.D (Ota)	Operations Research and Quantitative Techniques	Senior Lecturer
M. A. Abioro	B.Sc (Ogun), M.Sc, (Lagos) Ph.D.(Ogbomoso)	Human Resources Management, Organizational Behaviour, Industrial Relations	LecturerII
A. O. Akinbola	B.Sc (Ojoo), M.Sc (Ota) ANIMN	Entrepreneurship & Business Administration	LecturerII

100 Level: First Semester

Course Code	Course Title	U	L	T	P
BAM 101	Introduction to Business I	3	3	1	-
ECO 101	Introduction to Microeconomics	3	2	1	-
ACC 101	Principles of Accounting and Reporting I	3	2	1	-
BFN 101	Introduction to Finance I	3	2	1	
ETS 101	Entrepreneurial Studies	2	2	-	-
CMS 101	Mathematics for Management Sciences I	3	2	1	-
GNS 101	Use of English	2	2	-	-
GNS 105	Introduction to Logic and Philosophy	2	2	-	-
	TOTAL	**21**	**16**	**5**	-

100 Level: Second Semester

Course Code	Course Title	U	L	T	P
BAM 102	Introduction to Business II	3	2	1	-
ECO 102	Introduction to Macroeconomics	3	2	1	-
ACC 102	Principles of Accounting and Reporting II	3	2	1	-
BFN 102	Elements of Money and Banking	3	2	1	-
CMS 102	Mathematics for Mgt. Sciences II	3	2	1	-
CMS 104	Introduction to Computer Science	3	2	1	
GNS 102	Introduction to Nigerian History	1	1	-	-
GNS 104	History and Philosophy of Science	2	2	-	-
GNS 106	Introduction to Sociology	2	2	-	-
	TOTAL	**23**	**17**	**6**	-

200 Level: First Semester

Course Code	Course Title	U	L	T	P
BAM 215	Business Communication Skills	2	2	-	-
BAM 205	Principles of Management I	3	2	1	-
BAM 213	Commercial Law	3	2	1	
ACC 203	Cost Accounting I	3	2	1	-
ECO 251	Principles of Micro-Economics	2	2		
ECO 253	Principles of Macroeconomics	2	2		
CMS 201	Statistics for Management Sciences I	3	2	1	-
GNS 203	Use of Library	1	1	-	-
GNS 201	Writing and Literary Appreciation	1	1	-	-
	TOTAL	**20**	**16**	**4**	

200 Level: Second Semester

Course Code	Course Title	U	L	T	P
BAM 202	Concepts and Principles of Entrepreneurship	2	2	-	-
BAM 204	Principles of Marketing	3	2	1	-
BAM 206	Principles of Management II	3	2	1	
ETS 206	Entrepreneurship and Change Management	2	2		-
BAM 214	Human Resources Management	3	2	1	-
CMS 202	Statistics for Management Sciences11	3	2	1	-
CMS204	Application of Computer	3	2	1	-
GNS 202	Element of Government	3	2	1	-
	TOTAL	**22**	**16**	**7**	**-**

300 Level: First Semester

Course Code	Course Title	U	L	T	P
BAM 301	Advanced Management Theory	3	2	**1**	**-**
BAM 303	Introduction to Management Science Techniques I	3	2	1	-
BAM 305	Organizational Behaviour	3	2	**1**	**-**
BAM 309	Marketing Management	3	2	1	**-**
BAM 313	Production Management	3	2	**1**	-
ACC 303	Performance Management I	3	2	1	**-**
ECO 357	International Economics 1	**3**	**2**	**1**	**-**
	TOTAL	**21**	**14**	**7**	

300 Level: Second Semester

Course Code	Course Title	U	L	T	P
BAM 302	Practice of Entrepreneurship	3	2	1	**-**
BAM 304	Introduction to Management Science Techniques II	3	2	1	**-**
BAM 316	Financial Management for Business	3	2	1	**-**
BAM 318	Consumer Behaviour	3	2	1	**-**
BAM 314	Business Research Methods	3	2	1	**-**
BAM 312	Small Business Management	3	2	1	**-**
BAM 320	Introduction to Industrial Relations	2	2	**-**	**-**
	TOTAL	**20**	**14**	**6**	**-**

400 Level: First Semester

Course Code	Course Title	U	L	T	P
BAM 401	Business Policy and Strategy I	3	3	-	-
BAM 403	Analysis for Business Decisions	3	2	1	-
BAM 405	International Business	3	3	-	-
BAM 409	Corporate Planning	3	3	-	-
BAM 497	Seminar I	1	-	-	-
	Electives	6	-	-	-
	TOTAL	**19**	**11**	1	
ELECTIVES					
BAM 411	Human Resource Management Theory	3	3	-	-
BAM 421	Theory of Industrial Relations	3	3	-	-
BAM 417	Operations Management	3	2	1	-
BAM 419	Forecasting and Planning Techniques	3	2	1	-
BAM 407	Marketing Research and Information System	3	3	-	-
ECO 465	Labour Economics I	3	3	1	-

400 Level: Second Semester

Course Code	Course Title	U	L	T	P
BAM 402	Business Policy and Strategy II	3	3	1	-
BAM 404	Comparative Management	3	2	1	-
BAM 406	Management Information System	3	3	-	-
BAM 498	Seminar II	1	-	-	-
ETS 406	Venture Creation and Growth	2	2	-	-
BAM 499	Research Project	4	-	-	-
	Electives	3	-	-	-
	TOTAL	**19**	**10**	**1**	-
ELECTIVES					
BAM 410	Service Design and Management	3	3	-	-
BAM 414	Distribution and Sales Management	3	3	-	-
BAM 418	International Management	3	3	-	-
BAM 420	Creativity and Innovation Management	3	3	-	-
ETS 412	E-Business	3	3	-	-
ECO 464	Labour Economics II	3	3	-	-

COURSE SYNOPSES

BAM 101 INTRODUCTION TO BUSINESS I (3 Units)

The scope of business and characteristics of business from social, legal and economic perspectives, the place of business in national development, the environment of business, forms of business ownership, the place of marketing in business; marketing system, marketing mix and marketing concepts, social responsibility of business, and

production system. The scope of business. Forms of ownership. Forms of business ownership, organization and management. Government and business.

BAM 102: INTRODUCTION TO BUSINESS II (3 Units)

Business ethics, Business organisation; essence of organisation, kinds of organisation, organisational structure, challenges of Nigerian business enterprises, government roles in business, international business. Finance for business, essentials for a successful business. Government and business. The social responsibility of business. Problems of business enterprise. Globalization and business. Also topics treated include a survey and general knowledge of the functional areas of business, elementary concept in marketing, production management, personnel management, accounting and finance, banking and insurance management and other areas in Business Administration.

CMS 101: MATHEMATICS FOR MANAGEMENT SCIENCES I (3 Units)

The course covers the fundamentals of mathematics required for management students. Essentially, the course is designed to equip business students with the quantitative skills they will require in other management courses (and related disciplines). Topics will cover arithmetic of directed numbers, operation of complex number, ratios, percentages, square and cube roots, and introduction to algebra: set theory and its applications, time value of money, Simple equations, inequalities, functions and graphs, simultaneous equations, quadratic equations, Indices and Logarithms, Surds, Sequences and Series (A.P and G.P), Permutations & Combinations, Binomial theorem, Pursuit curve.

CMS 102: MATHEMATICS FOR MANAGEMENT SCIENCES I (3 Units)

This course deals with relationships between variables. The basic Algebraic Functions the Straight Line, Logarithmic, Exponential Functions Differential and Integral calculus. Discrete and continuous variables. The idea of function – Even and Odd functions sample, rational and composite algebraic functions. Graphs of these functions. The straight line in various forms. Logarithmic functions. The definition and laws of logarithm. Simple operations on logarithmic functions: Graphs of logarithmic function. Exponential functions: Differential Calculus: Limits and continuity of functions. Matrix algebra, Vectors.Vector additionandmultiplications. Products of three or more vectors. Vector functions and their derivatives. Velocity and acceleration. Matrixalgebra. Addition and multiplications. Transpose. Determinants. Inverse of non-singularmatrices. Cramer's rule and application to the solution of linear equations. (Examples should be limited to mxn matrices where m3,n3.) Transformations of the plane. Translation, reflection, rotation, enlargement, shear. Composition. Composition of transformations. Invariant points and lines. Derivatives of elementary functions. Derivative of implicit function. Simple applications to geometry and dynamics. Partial derivatives. Maxima, minima and points of inflexion.

Application to curve tracing

CMS 104: INTRODUCTION TO COMPUTER SCIENCES (3 Units)

History and Development of Computer Technology. The Why and How of Computers. Computer Types: Analogue, Digital, and Hybrid. Central Preparation Equipments: Keypunch, Sorter etc. Data Transmission, Nature, Speed and Error Detection. Data Capture and Validation including Error Detection. Systems Analysis and Design. The Programming Process: problem definition, flow charting and decision table

BAM 202: CONCEPTS AND PRINCIPLES OF ENTREPRENEURSHIP (3 Units)

Introduction to entrepreneurship and new venture formation; Entrepreneurship in theory and practice; The Opportunity, forms of business, staffing, marketing, and the new venture. Determining capital requirements, raising capital, financial planning and management; Starting a new business; Feasibility Studies, innovation, legal issues, insurance and environmental considerations; Characteristic of entrepreneurs, lessons from successful entrepreneurial efforts, possible business opportunities in Nigeria

BAM 204: PRINCIPLES OF MARKETING (3 Units)

The course focuses on introduction to marketing. Issues discussed include the nature and evolution of marketing. The role and functions of marketing: the marketing concept, relationship marketing, the marketing environment, marketing mix, types of markets, consumer behaviour, market segmentation, market measurement and forecasting, marketing research, ethical issues in marketing, consumerism and marketing problems in Nigeria

BAM 205: PRINCIPLES OF MANAGEMENT I (3 Units)

The course is a general introduction to the concept, principles, processes and significance of management in the context of a changing socio-economic environment particularly in developing nations. Basic Concepts in Management: **General** analysis of management from a systems point of view, including management science; environmental forces affecting management, Management Principles, Functions of the Manager. Planning. Other issues discussed are the role of management and the management functions of planning, organizing, staffing communication, coordination, motivation, directing and controlling**.**

BAM 206: PRINCIPLES OF MANAGEMENT II (2 Units)

The course extends the knowledge gained in BAM 205. Authority and Delegation. Nature and Purpose the organizing function, Department, Line and Staff Authority, Staffing and Directing: Selection of Employees and Managers, Appraisal of Managers, Management Development, Nature of Directing, Motivation and performance

Communication and interpersonal relationship, Leadership Controlling: the Control Process, Control technique, recent developments in the control Function The Nigerian environment: management problems in Nigeria, Challenges of Indigenization, transferability of Management system. Motivation, incentives, leadership, communication, and interpersonal relations; and discussion of production and decision-making and mathematical models

BAM 213: COMMERCIAL LAW (3 Units)

The course has two aims: to develop a general awareness of sources administration and the basic elements of the Nigerian Legal System, and to develop a basic working knowledge of the aspects of Nigerian and International legislation which govern the conduct of business. Topics covered include sources of Nigerian Law, the administration of justice in Nigeria, distinction between civil and criminal liability, real and personal property etc., elements of logic, partnership law, the meaning of corporate personality and the doctrine of ultra vires. Other topics include laws of contract, agency, sales of goods, hire purchase, carriage of goods, negotiable instruments, money lending, surety ship and guarantee, and basic provisions of the Nigerian law governing insurance and banking institutions. This course also designed to place emphasis on the constitution and operations of corporate entities (Company Law) and the administration of insolvent estates, trusts, ad estates of deceased persons (insolvency, executorship and trusteeship law). Topics covered include, company law, type of companies, company formation, procedure, documentation, issue and transfer of shares and debentures, prospectus and statutory books, meetings and resolutions, duties of officers (directors, secretary, auditors, etc), provisions relating to disclosure in corporate accounts, reconstructions, amalgamation and takeovers. Insolvency, executorship and trusteeship, the laws relating to bankruptcy, deeds of arrangement, voluntary and compulsory liquidations; disposition of property by wills and letters of administration, etc.

BAM 214: HUMAN RESOURCES MANAGEMENT (3 Units)

This first part of the course aims at an in-depth examination of the evolution of, and activities involved in, human resources management generally and in Nigeria in particular. The course examines such HRM activities as: the essence of HRM, the HRM organization, the Nigerian and international environment of HRM, recruitment, selection and placement, HRM planning, career planning and management succession planning, job analysis and evaluation, training and development and performance appraisal. While Nigeria and organizations in Nigeria provide the context for the examination of these and related HRM activities, the discussions also examine these practices in other contexts and cultures.

BAM 215: BUSINESS COMMUNICATION (2units)

RudimentsofCommunication:CommunicationDefined,ElementsofCommunication, Principles of Communication; Oral, Written and Non-verbal Communication: Language Defined, Non-verbal communication, Listening, Oral and written Communication; Functions and settings of Communication: Functions of Communication, Communication setting; Communication Theories and Models: Linear Model, Interactional Model, Transactional Model etc. Writing and Communication Methods: Writing Defined, stages of Writing, other Aspects of the Writing Process, Corporate and Public Communications, Commercial Communication Method and Letter Writing. Process of Meetings, Conferences, Seminars, Symposium and Debates: Meeting Defined, Conduct, Procedures, Aims and Benefits/Disadvantages of Meetings. Written Rules Affecting Meetings, Conference, Seminar, Symposium and Debates. Uses of Words, Sentences and Figurative Expressions, Words and their Meanings, Synonyms and Antonym Dynamism in Words, and Predication, Suffixation, Sentences/Figurative Expression. Reports and Handover notes: Types of Reports, Components of Reports and Hand over Notes. Organization communication: The concept of organizational communication, Factors Affecting Effectiveness Organizational Communication. Types of organizational Communication. Public Relations and Marketing Communication.

CMS 201: STATISTICS FOR MANAGEMENT SCIENCE I (3 Units)

The focus of this course is on descriptive statistics. Topic covered include: nature of statistics, statistical inquiries, forms and design. The role of statistics in business management, basic concepts in Statistics, discrete and continuous variables, functional relationships, Sources of data, methods of collecting data, presentation of statistical data, measures of central tendency, measures of dispersion, moments, Skewness and Kurtosis, Elementary probability distributions: Normal, Binominal, Poission and Hypergeometric

CMS 202: STATISTICS FOR MANAGEMENT SCIENCE II (3 Units)

This course focuses on statistical inferences. Topics include: Sampling theory, estimation theory, Student t-distribution, Statistical decision theory, Tests of hypotheses for small and large samples, Chi-square distribution and test of goodness of fit, linear regression, Correlation, index numbers, time series and analysis of time series.

CMS 204 APPLICATION OF COMPUTER (3 Units)

Itcoversthefollowingtopics:Introductiontocomputer,Computerapplicationinstorage control, Computer application in financial analysis, Computer application in financial control, computer application in quality control and computer application in decision making in investment

BAM 301: ADVANCED MANAGEMENT THEORY (3 Units)

Concepts of theory in the physical and social sciences. Levels of theory. The features of theory in management. Links between management theories and management models. Practice of management conduct as a test of good management theory. Existing difficulties of developing useful management theories in Nigeria and other developing countries. Theories of management, e.g. the scientific management movement, the human relations movement, the systems movement, and the managerial behavioural movement, Theory X and Theory Y. The Grid approach, Participative models. Management by objectives, Quantitative and behavioural control models, Testing specific theories and models in Nigeria. Criteria for locating bad management practices, and ideas of how better management theories may be introduced to particular Nigerian organizations.

BAM 302: PRACTICE OF ENTREPRENEURSHIP (3 Units)

The course builds on the skills learnt in the first course on Entrepreneurship and it is geared towards getting the students to put into the practice the concepts learned. Students will where practicable be posted to understudy business and non-business enterprises. They are also required to prepare business plans and defend them. Students will be required to prepare feasibility reports and possibly implement any business opportunity of interest. Students will be graded partly on the implementation of a mini feasibility study.

BAM 303: INTRODUCTION TO MANAGEMENT SCIENCE TECHNIQUES I (3 Units)

A history of O.R; fundamental applications of O.R; modeling in operations research, formulation and graphical solution of linear programming problems, prototype linear programming models. Cost benefit analysis, decision model, decision tree, inventory model which includes quantity and cash discounting method. Theory of fundamental probabilities as it relates to operations research

BAM 304: INTRODUCTION TO MANAGEMENT SCIENCE TECHNIQUES II (3 Units)

Critical Path Analysis (CPA); Project Review and Evaluation Techniques (PERT); Overview of inventory models, General coverage of other O.R models like game theory, Markov chains, queuing theory and simulation. LP (Simplex method), multi-objective programming, integer programming and dynamic programming

BAM 305: ORGANISATIONAL BEHAVIOUR (3 Units)

The most important aspects of organisations are the people: the men and women who make up management as well as the workforce. The aim of this course is to provide a systematic understanding of organisational life as created by the human beings in the firm. Students will be encouraged to understand issues such as group dynamics, individual differences, values and perceptions, organisational politics as well as

interpersonal interactions. Theories, concepts and issues in the field of organizational behaviour with an emphasis on individual and team processes. Core topics include employee motivation and performance, stress management, communication, work perceptions and attitudes, decision-making, team dynamics, employee involvement and conflict management Theories of organizational behaviour and relevance to Nigeria. Behavioural model-building. Exercises in simple models of behaviour observable in Nigerian organizations. Making changes in individuals and groups. Theories of behavioural change. Managing resistance to planned changes. Behaviour modification

BAM 309: MARKETING MANAGEMENT (3 Units)

The thrust of the course is to equip students with conceptual and analytical skills for identifying marketing problems, formulating marketing goals and objectives, and marketing decision making and control in various areas of marketing including product planning and development, market segmentation and 'marketing information. Issues covered include marketing strategy formulation, marketing planning, product decisions, pricing policies, promotional decisions, distribution problems and decisions and the evaluation and control of marketing efforts It also explores the impact of environmental and internal factors on marketing strategy. It relies heavily on the case method and role play. To cover other problem areas of marketing such as promotion, distribution, marketing audit, relationship marketing, internet marketing, customer service and non-business marketing. Emphasis is on a strategic approach to marketing, involving the use of the case method

BAM 312: SMALL BUSINESS MANAGEMENT (3 Units)

This course has the following objectives: To assist the student with identifying, planning, and successfully managing a small scale business. To develop a conceptual framework for making sound, effective and profitable decision, and to demonstrate the use of modern business techniques which help to minimize risks involved in starting and successfully operating small businesses. This is a practical and not theoretical course. Its end product is increased understanding and acquisition of skills, which should lead by way of increased efficient planning, to higher levels of performance in terms of sales and profitability. The following issues will be addressed. Definition of Small Business Operations, the role of Small Business Operations in the Nigerian Economy and Government Policies toward them, common types of small Business Operation. Factors which affect the decision to own and manage a business, business planning, financial needs, financial management techniques, marketing policies and procedures for small business, interpretation of company accounts and ratio analysis, success or failure key determinant.

BAM 313: PRODUCTION MANAGEMENT (3 Units)

Introductory course in decision-making problems in production; includes the theoretical foundations for production management as well as the applications of decision-making techniques to production problems in the firm; and considers production processes, plant layout, maintenance, scheduling, quality control, and production control in particular. Elements of production processes, flow shop, job shop and project, process design and management, facility location and layout, modern tools and machines, element of standard in production process, line balancing and automations Production scheduling and control, work study, maintenance, quality control and assurance. Inventory control, project planning, forecasting, aggregate planning, material requirement planning, capacity requirement planning, time management, space management, skill management and modeling techniques

BAM 314: BUSINESS RESEARCH METHODS (3 Units)

This first part of this course introduces the student to the rudiments of business research. It is designed to equip the students with the skills of conceptualizing, defining and planning the scientific investigation of business problems. Topics to be treated include the nature of science, management science, scientific research, basic concepts in research (theory, hypothesis, models, inductive reasoning, deductive reasoning) identification and definition of research problems, selecting a research topic, literature review. The second part will focuses on data gathering methodology, data analysis and interpretation and report writing. Topics covered include specification of the population under study, sampling, sampling methods, measurement, reliability and validity, questionnaire construction, data collection methods (surveys, experiments, case studies, observation), data analysis and hypothesis testing using linear correlation, regression analysis, analysis of variances, t-test, z-test and non-parametric statistics among others, report writing, referencing styles, peculiarities and challenges of conducting research in Nigeria and social and ethical issues in business research

BAM 316: FINANCIAL MANAGEMENT FOR BUSINESS (3 Units)

The nature, scope and purpose of Financial Management; Meaning of Finance, The finance Function, Goals of the Firm, Finance and Related Disciplines, The Role of Financial Managers, Finance Decisions and Risk Return Trade off, Finance in the Organisation Structure of the Firm. Basic Forms of Business organizations; Sources of Business Finance; Introduction of Financial Analysis; Profit planning; Financial Forecasting; and Introduction to Working Capital Management Sources and costs of short, medium – and long-term finance; sources and problems of new financing, capital budgeting; management of working capital. Analysis and interpretation of basic financial statements; business mergers and take-overs; determinants and

implications of dividend policy, valuation of shares, assets and enterprises. Risks of Finance and methods of avoiding them. Banking systems and industrial finance, Mortgage Finance, Capital Structure of Nigerian firms.

BAM 318: CONSUMER BEHAVIOUR (3 Units)

Consumers, Role of the Consumer in Marketing, consumer Perspectives and View Points, View Points, Overview of Consumer Decision – Process behavior. Group influence on Consumer: Culture Context of Consumer Behaviour, Social stratification, Reference groups and sub-culture influences. The nature and influence of individual: Predispositions. Information process, evaluative criteria, attitudes, personality. Attitude change and persuasive communication: Nature of communication; Attitude change. Decision processes: Problem recognition processes, Evaluation processes, Purchasing processes, Post-purchase processes. Consumerism: Issues in consumerism, Current Status of Consumer Behaviour Research

BAM 320: INTRODUCTION TO INDUSTRIAL RELATIONS (2 Units)

The course introduces students to the broad field of Industrial Relations and provide foundation for subsequent courses in industrial relations. The course provides a general introduction to the study of trade unions, employers, requirements of a valid contract and the duties and obligations of the employer and the employee will be discussed as well as union rights and managerial prerogatives. organization, Workers participation in management and the role of communication and joint consultation in labour relations. Grievance and disciplinary procedures at work collective bargaining, industrial conflict, labour economics and labour management relations. the role of statutory: institutions such as the federal ministry of labour, employment and productivity, the IAP and the NIC in industrial disputes resolution and HRM and democratic politics.

BAM 401: BUSINESS POLICY AND STRATEGY I (3 Units)

This course focuses on giving students an opportunity to pull together what they have learned in the separate business fields and utilize this knowledge in the analysis of complex business problems. The course seeks to develop an integrated (organization-wide) perspective of problems of management which the student may already be partially familiar with through earlier courses. Emphasis of the course is on the development of skills in identifying, analyzing and solving problems in a situation which is as close as the classroom can ever be to the real business world. Lecture and cases will focus on strategy formulation; the concept of policy and strategy, decision making, mission, vision and objective formulation, environmental analysis, including the social, political, technological and economical facets of the environment, Internal appraisal, SWOT analysis, formulating strategy at the corporate, divisional (SBU) and functional area levels.

BAM 402: BUSINESS POLICY AND STRATEGY II (3 Units)

Lectures and cases in this second leg if business policy and strategy will focus on topics in strategy formulation: components of a comprehensive strategy plan, issue on strategy implementation – communication and deployment of the strategy, leadership issues in implementation, devising an appropriate structure, formulation of derivative functional areas policies, corporate governance, managing culture and change as they relate to effective implementation of strategy, evaluation and control.

BAM 403: ANALYSIS FOR BUSINESS DECISIONS (3 Units)

This is an examination of various business problems and the quantitative approaches in finding solutions to these problems are discussed in this course. Topics include finding solutions to allocation, queuing, investment, marketing and pricing problems using linear programming, simulation and probability techniques. Decision-making under conditions of certainty are reviewed. Elements of decision analysis, Types of decision situations, Decision trees: Operational research approach to decision analysis, Systems and system analysis; Modeling in OR, Simulation; Cases for OR analysis, Mathematical programming; Transportation model, Assignment model, Conflict analysis and Game theory, Project management, other OR models: Inventory, Replacement, Line balancing, Routing and sequencing, and search.

BAM 404: COMPARATIVE MANAGEMENT (3 Units)

The comparative approach to Management and Administration. Elements of Management and Administration. The skill of Management in private and public sectors. The military administrator, the civil servant, the manager, as 50 interchangeable experts. Constraints of organizational setting on the management of group activities. Profiles of Nigerian executives that have moved from public to private sectors, and vice versa. The use of management consultants and management contracts in streamlining the operation of public corporation Theories of comparative administration. Theories of Comparative Management. Constraints imposed on managerial discretion in public corporations. A human resources management model that meets the needs of private and public sectors, Selected problems in Comparative Management and Administration. Motivating personnel. Controlling and rewarding performance, training and developing staff, introducing change, and modifying employee behaviour. The Change-agent role of Nigerian professionals in undertaking comparative management and administration research

BAM 405: INTERNATIONAL BUSINESS (3 Units)

Introduction: The concept of international business, Classical trade theory: introduction, Mercantilism and nation building, Free trade, Theory of absolute advantage, Theory of comparative advantage, the assumptions of classical trade theory factors proportions and factor intensity, offer curves reciprocal demand and supply, Dynamic factors. Changing the basis of trade, Terms of trade measures, and

The effects of tariff; International finance: Balance of payment accounting – Credits, Debits, and Current account, Balance of payment accounting - The financing accounts, National income, Prices and trade balance, the foreign exchange markets, Relatively fixed rate system. The gold and gold exchange standard. International business environments.

BAM 406: MANAGEMENT INFORMATION SYSTEM (3 Units)

This course is designed to provide an introductory platform on information system for business students. It is designed also to familiarize them with organizational and managerial foundations of systems, the technical foundation for understanding information system in enhancing business processes and management decision making across the enterprise and the process of building and managing systems. Introduction to the fundamentals of data processing. A brief history of conventional data Processing methods; Manual methods and mechanized methods. Classification of systems and their relative merits. Closed loop and open systems: Effect on time-lag; The total systems approach and objective; Total system and subsystems. Data processing and management information system (MIS). The organizations of MIS including the use of mechanical and electronic accounting machines; Flow charting and the principles of systems design and documentation. Managerial uses of the information output as a basic for developing criteria and systems. Information needs of management and design of MIS. Electronic, Data process (EDP) method: Batch processing, Real-time processing and the management of EPD. Business System hierarchical structure of Organization: The sub-optimization issue.

BAM 407: MARKETING RESEARCH AND INFORMATION SYSTEM (3 Units)

The Role of research in Marketing Application of analytical tools to marketing problems Marketing research and decision making, research design, value and cost of information Secondary data, survey research, experimentation. Questionnaire Design, attitudinal scales, observation, depth interviews and projective techniques, sampling techniques analysis of data, sales forecasting, product and pricing research, promotion and distribution research control evaluation and reporting of marketing research ethnical issues in marketing research. Marketing Research in Nigeria, Data in marketing research Sources of Research data Marketing Research brief and research proposal Sampling theory in Marketing Research Quantitative methods of Marketing Research, Presentation of Statistical analysis, in marketing Research Data, Report writing and presentation. Contemporary issues in marketing research

BAM 409: CORPORATE PLANNING (3 units)

The concept and theory of planning, Strategic Planning, Environmental study and analysis, Technological Forecasting, Socio-Political forecasting, Industry analysis, planning tasks and techniques, Operational Planning and the resource allocation

processes; Organisation for planning, organizational and behavioural planner, Managing and Corporate Planning process

BAM 410: SERVICE DESIGN AND MANAGEMENT (3 Units)

This course covers wide the multi-dimensional and multi-disciplinary nature of service with peculiar emphasis on effectiveness of managerial practices and organizational objectives. Coverage include concept of service, roles of services in an economy .nature of service, good dominant logic versus service dominant logic. Designing service system, Service Quality; customer expectation vs customer perception, Service Strategy, service growth and expansion, Service positioning, new service development ,process design, capacity and demand management for services Service supply chain management, specialized areas in service /social management: Financial services, Educational services, Computer and Telecommunication services & Health care services, Political Management & church management

BAM 411: ADVANCED HUMAN RESOURCE MANAGEMENT (3 Units)

This second part of the course include in-depth examination of the various activities in HRM. The themes and issues covered include compensation systems and benefits management, pensions systems and management, developing and managing HRM data base systems, conducting and applying the results of HRM research and related issues. This module of the course pays particular attention to Globalisation and HRM, International human resource management, methods and principles of human resourceplanningandevaluationofhumanresourceprogramsintheprivateandpublic sectors.Emphasisisonmicroandmacrolevelanalyses,forecastingforthedemandand supplyofhumanresources.Humanresourceaudit,Careerplanninganddevelopment, successionplanning.Themanpowersystemandanalysisofwastageandreplacement policies and programmes

BAM 414: DISTRIBUTION AND SALES MANAGEMENT (3 Units)

The course focuses on distribution and sales force management. The course focuses on the total sales process, Selection, Training, Motivation, and Compensation of sales personnel, Sales forecasting, Sales territory management and Sales analysis. The emphasis of the course is to enable students to Plan, Organize and Direct the sales force for the attainment of sales goals and objectives

BAM 417: OPERATIONS MANAGEMENT (3 Units)

Issues in operations strategy and competitiveness, management of operational and technology, process analysis and the use of the data and managerial opinion in making effective propositions to address questions in operations decision. Major economic decision problems of production and operations management, learning curve, product design, aggregate production and workforce scheduling, multi-plant

allocation of product, large scale project control (CPM and PERT), demand forecasting, quality control; and short-run job-shop scheduling, application of dynamic programming and multi-criteria mathematical programming Modern Production Environment: Classification of production systems; Product structure and Bill of materials; Demand forecasting; Operations sequencing and balancing; Planning and scheduling – Decision rules and effectiveness criteria, Material planning and control, Quality control and assurance.

BAM 418: INTERNATIONAL MANAGEMENT (3Units)

Concept of management across national boundaries, Differences and similarities in management practices across nations, Analysis of the strategic and operational issues that arise from the international nature of multinational corporations' activities, Issues covered include alternative internationalisation strategies, interaction between firms and governments, dealing with global competitors, and staffing and organisational implications of cross-border operations. Influences of culture on management in particular national environments. Geo-Political influences on managerial practices and philosophies in international settings. Benefits, problems, prospects, and challenges of social forces impacting management in today's global environment. Analysis of corruption dynamics, ethical issues, environmental pollution. Management social responsibility in international perspective

BAM 419: FORECASTING AND PLANNING TECHNIQUES (3 Units)

Nature of business fluctuations and forecasting; Measurement and data sources; Sampling techniques; Research design and Survey methods; Time series analysis and business fluctuations; Forecasting for an industry and individual business; Projecting the trend of business: Econometric method; Statistical inference; Input-Output analysis; Game theory; Building and Expenditure mode; Topics in forecasting techniques; Management of Forecasting methods and Economic and Business activities.

BAM 420: CREATIVITY AND INNOVATIONS MANAGEMENT (3Unit)

Business students must understand and take decision concerning the nature of Business and Management dynamics. The course aims to equip management students with an understanding of the main issues in creativity and the management of innovation and an appreciation of the relevant skills needed to manage innovation at both strategic and operational levels. Innovation is a fundamental driver of competitiveness and it plays a large part in improving quality of life. The course covers I(a) Business creation and innovation (b) Brain storming for New/Old organization (c) Project stimulation into it system and sub-system (d) Employment generation and project-cum-revenue multiplier capacity. II(a) Management stimulation and

conversion of discoveries, Inventions and creative into Innovation for management policy and decision (b) The New product Committee, task force (c) Top Management adoption process (d) Usage of appropriate Technology, Technology Transfer process, choice of tech acquisition and diffusional process of Technologies Concept of creativity, principles of creativity, innovation, concept of Management of Technological Innovation, Organizing for Innovation Technological Innovation, Innovation Strategy, Networks and Communities of Innovators, The Management of Research and Development, Managing Product Innovation, The Other Side of R&D: Learning from Others, Capturing Value from Innovation, Conclusions and Future Challenge

BAM 423: THEORY OF INDUSTRIAL RELATIONS (3 Units)

The Concept of Industrial Relations. Trade Union Characteristics. Industrial Relations Laws in Nigeria. Types of Unions; Internal Structures and government of Unions; Trade Union Federation; Central Labour Organisation and International Affiliations; Union Solidarity and Check-offSystems. Collective Bargaining; Industrial Disputes; Dispute Settlement; Joint Consultation: The State and Industrial Relations. Comparative Industrial Relations System and Theory. Alternative Dispute Resolution (ADR)

BAM 497: RESEARCH SEMINAR I (1 Unit)

BAM 498: RESEARCH SEMINAR II (1 Unit)

BAM 499: RESEARCH PROJECT (4 Units)

The project is undertaken during the second semester in the fourth year of study and is equivalent to one course unit. A satisfactory report of reasonable and acceptable length and quality must be completed and marked by the supervisor(s) and the external examiner, and presented in a final oral examination.

DEPARTMENT OF ECONOMICS

Philosophy

The general philosophy underlying Economics programme is to develop the mind through impartation of theoretical and practical knowledge to enable graduates of the Department acquire skills and ability to function in the academics, industries, public sector at national and international levels.

Mission

To build great future leaders and generate knowledge through research and intellectually stimulating environment for teaching, learning and community outreach towards sustainable development.

Vision

To be a centre of excellence in knowledge generation for global development and the sustenance of an environmentally friendly society.

Values

- Dedicated to fostering an academic community in which the learning and scholarship of every member may flourish;
- The diverse and multi-cultural community with professionalism, sensitivity and respect;
- The proximity to the arteries of industry, transportation and communication without the externality;
- The location creates a workplace environment that encourages the development of professional and personal growth and integrity.

Objective of the Programme

The principal objective of the programme in Economics is to produce world class graduates of economics with strong academic foundation and skill to handle contemporary economic issues and policies.

The specific objectives of the degree programme in Economics are:

- To provide a strong foundation in economic theory;
- To equip students with appropriate tools of economic analysis; and
- To develop in students a range of useful knowledge and skills that will be useful to themselves and the society at large

Academic Staff

Name	Qualifications	Specialisation	Designation
S. O. Akinbode	B.Agric.(Abeokuta), M.Sc. (Abeokuta), PhD. , (Abeokuta), M.Sc(Ogun).	Development Economics, Health Economics	Senior Lecturer and Ag. Head
S. M. A. Posu	B.Sc.(Ogun), M.Phil (Ibadan), M.Sc.(Ibadan), PhD. (Ife)	Environmental Economics, International Economics	Senior Lecturer
B. B. Phillip	B.Sc. (Zaria), M.Sc. (Iowa), Ph.D.(Zaria)	Development Economics	Professor
E. A. Olubiyi	B.Ed.(Ibadan), M.Sc. (Ibadan),Ph.D. (Ibadan).	Development Economics Labour Economics International Economics	Lecturer I
A. O. Adedeji	B.Sc. (Ife), M.Sc.(Ife), PhD.(Ife)	Health Economics, Labour Economics & Development Economics	Lecturer I
M. A. Dada	B.Sc. (Ife), M.Sc. (Ife), MBA (Ife),M.Ed. (Ife), PhD.(Ife),	Public Sector Economics, International Economics	Lecturer I
O. T. Ojo	B. Agric.(Abeokuta), M.Sc. (Ibadan), M.Sc. (Liverpool Hope)	Environmental Economics, Welfare Economics, Media Economics	Lecturer II
A. N. Raheem	B.Sc. (Ibadan), Dip. Statistics (Ibadan); M.Sc.(Ibadan)	Monetary Economics, Transport Economics	Lecturer II
O. J. Oyewole	B.Sc.(Ede), M.Sc. (Northampton)	Petroleum Economics	Lecturer II

100 Level: First Semester

Course Code	Course Title	U	L	T	P
ECO 101	Introduction to Microeconomics	3	2	1	-
ECO 103	Introductory Mathematics for Economists I	3	2	1	-
ACC 101	Principles of Financial Accounting I	3	2	1	-
BAM 101	Introduction to Business I	3	2	1	-
BAM 101	Introduction to Finance	3	2	1	-
ETS 101	Entrepreneurial Studies	2	2	0	-
GNS 101	Use of English	2	2	0	-
GNS 105	Introduction to Logic and Philosophy	2	2	0	-
	Total	21	16	5	

100 Level: Second Semester

Course Code	Course Title	U	L	T	P
ECO 102	Introduction to Macroeconomics	3	2	1	-
ECO 104	Introductory Mathematics for Economists II	3	2	1	-
BAM 102	Introduction to Business II	3	2	1	-
BFN 102	Introduction to Money and Banking	3	2	1	-
ACC 102	Principles of Financial Accounting II	3	2	1	-
CMS 104	Introduction to Computer	3	2	1	-
GNS 102	Introduction to Nigerian History	1	1	0	-
GNS 104	History and Philosophy of Science	2	2	0	--
GNS 106	Introduction to Sociology	2	2	0	-
	Total	**23**	**17**	**6**	**-**

200 Level: First Semester

Course Code	Course Title	U	L	T	P
ECO 251	Principles of Microeconomics I	2	2	0	-
ECO 253	Principles of Macroeconomics	2	2	0	-
ECO 255	Statistics I	2	2		-
ECO 257	Basic Mathematics for Economists I	2	2	0	-
ECO 259	Structure of the Nigerian Economy I	2	2	0	-
ECO 261	Money and Financial Institution	2	2	0	-
GNS 201	Writing and Literary Appreciation	1	1	0	-
GNS 203	Use of Library	1	1	0	-
	Minimum elective units	6	4	2	-
	Total Units	**20**	**18**	**0**	
	Restricted Electives (a minimum of 2 course) †				
ACC 203	Cost Accounting I	3	2	1	-
ACC 201	Financial Accounting and Reporting I	3	2	1	-
ECO 263	Urban and Regional Economics	3	2	1	-
ECO 265	Human Resource Economics	3	2	1	-
BAM 313	Production Management I	3	2	1	-

† Direct Entry students must not take any Elective course

*** Direct Entry students must take ECO 103, GNS 101 and GNS 105 to make a total of 24 units**

200 Level: Second Semester

Course Code	Course Title	Pre-req	U	L	T	P
ECO 252	Principles of Microeconomics II	ECO 102	2	2	-	-
ECO 254	Principles of Macroeconomics	ECO 102	2	2	-	-
ECO 256	Statistics II	Nil	2	2	-	-
ECO 258	Basic Mathematics for Economists II	ECO 104	2	2	-	-
ECO 260	Structure of Nigerian Economy II	Nil	2	2	-	-
ECO 262	Public Finance	Nil	2	2	-	-
ETS 206	Entrepreneurship and Change Management	Nil	2	2	-	-
AEM 312	Principles of Agribusiness and Farm management	Nil	2	2	-	-
GNS 208	Peace Studies and Conflict Resolution	Nil	2	2	-	-
Restricted Electives (a minimum of 1 course) †						
ECO 264	Introduction to Operation Research	Nil	3	2	1	
ACC 202	Financial Accounting and Reporting II	Nil	3	2	1	
ACC 204	Cost Accounting II	Nil	3	2	1	
BAM 214	Human Resource Management	Nil	3	2	1	
Total			**21**	**20**	**1**	

† Direct Entry students must take one Elective course

* Direct Entry students must take ECO 104, GNS 102 and GNS 104 to make a total of 25 units

300 Level: First Semester

Course Code	Course Title	Pre-req	U	L	T	P
ECO 351	Intermediate Microeconomic Theory I	Nil	2	2	-	-
ECO 353	Intermediate Macroeconomic Theory	Nil	2	2	-	-
ECO 355	Introductory Econometrics	Nil	2	2	-	-
ECO 357	International Economics I	Nil	3	2	1	-
ECO 359	History of Economic Thought I	Nil	2	2	-	-
ECO 361	Public Sector Economics I	Nil	2	2	-	-
ECO 363	Economic Growth and Development	Nil	2	2	-	-
ECO 365	Comparative Economic System	Nil	2	2	-	-
Electives (a minimum of 1 course) *						
ECO 367	Mathematical Economics	ECO 258	2	2	-	-
ECO 369	Natural Resource Economics	Nil	2	2	-	-
ECO 371	Industrial Economics	Nil	2	2	-	-
ECO 373	Business Economics					
ECO 375	Monetary Economics	ECO 261	2	2	-	-
ECO 377	Political Economy	Nil	2	2	-	-
ACC 303	Performance Management I		3	2	1	
AEM 301	Principles of Agricultural Production Economics	Nil	2	2	-	-
AER 303	Entrepreneurial Skill in Agribusiness Management		2	2	-	-
	Total		**19**	**18**	**1**	

* Direct Entry students must take 2 Elective Courses which may include electives at 200 level to make a total of 24 units

300 Level: Second Semester

Course Code	Course Title	Pre-req	U	L	T	P
ECO 352	Intermediate Microeconomic Theory II	Nil	2	2	-	-
ECO 354	Intermediate Macroeconomic Theory II	Nil	2	2	-	-
ECO 356	Basic Econometrics	Nil	2	2	-	-
ECO 358	International Economics II	Nil	3	2	1	-
ECO 360	History of Economic Thought II	Nil	2	2	-	-
ECO 362	Public Sector Economics II	Nil	2	2	-	-
ECO 364	Project Evaluation I	Nil	2	2	-	-
ECO 366	Research Methods in Economics	Nil	2	2	-	-
ECO 368	Computer Software for Economic Analysis	Nil	2	2	-	
Electives (minimum of 1 course)						
ECO 370	Transport Economics	Nil	2	2	-	-
ECO 372	Environmental Economics	Nil	2	2	-	-
ECO 374	Financial Economics	Nil	2	2	-	-
ECO 376	Information Economics	Nil	2	2	-	-
ACC 304	Performance Management II	Nil	3	2	1	
AEM 304	Principles of Agricultural Marketing	Nil	2	2	-	-
AEM 306	World Hunger, Population &Food Supplies	Nil	2	2	-	-
ARD 304	Agricultural Development in Transition in Nigeria	Nil	2	2	-	-
	Total		**21**	**21**	**-**	**-**

* Direct Entry students must take 3 Elective Courses to make a total of 24 units

400 Level: First Semester

Course Code	Course Title	Pre-req	U	L	T	P
ECO 451	Advanced Microeconomic Theory I	Nil	2	2	-	-
ECO 453	Advanced Macroeconomic Theory I	Nil	2	2	-	-
ECO 455	Fiscal Policy and Management	Nil	3	2	1	-
ECO 457	Issues in Development Economics	Nil	2	2	-	-
ECO 459	Project Evaluation II	Nil	2	2	-	-
ECO 461	Economics of Production	Nil	2	2	-	-
ECO 497	Seminar I	Nil	1	1	-	-
Electives (a minimum of 3 Units)						
ECO 463	Health Economics	Nil	3	2	1	-
ECO 465	Labour Economics 1	Nil	3	2	1	-
ECO 467	Theory of International Trade	ECO 357	3	2	1	-
ECO 469	Applied Econometrics	ECO355,356	3	2	1	-
ECO 471	Game Theory	Nil	3	2	1	-
ECO 473	Gender Economics	Nil	3	2	1	-
AEM 511	Farm Accounting	Nil	2	2	-	-
AEM 513	Agricultural Finance	Nil	2	2	-	-
BAM 423	Theory of Industrial Relations		3	2	1	
	Total		**17**	**14**	**2**	**-**

400 Level: Second Semester

Course Code	Course Title	Pre-req	U	L	T	P
ECO 452	Advanced Microeconomic Theory II	Nil	2	2	0	-
ECO 454	Advanced Macroeconomic Theory II	Nil	2	2	-	-
ECO 456	Economic Planning and Development	Nil	3	2	1	-
ECO 498	Seminar II	Nil	1	1	-	
ECO 499	Research Project	Nil	4	-	-	4
	Restricted Electives (a minimum of 6 Units)					
ECO 460	Money Theory and Policy	ECO 375	3	2	1	-
ECO 458	Statistical Theory and Application	ECO 256	3	2	1	-
ECO 462	Health Care Planning and Finance	Nil	3	2	1	-
ECO 464	Labour Economics II	Nil	3	2	1	-
ECO 466	International Finance	ECO 358	3	2	1	-
ECO 468	Energy Economics	Nil	3	2	1	-
ARD 504	Technological Change& Innovation in Agriculture	Nil	2	2	-	-
AEM 512	Agricultural Cooperatives	Nil	3	2	1	-
			18	**14**		**4**

COURSE SYNOPSES

ECO 101: INTRODUCTION TO MICROECONOMICS (3Units)

Nature and scope of economics, Normative and positive economics; the problems of economic theory; comparative economic system (capitalism, socialism, mixed economics); the elementary theory of demand and supply, the theory of consumer behaviour, elasticity of demand and supply, the theory of production, the theory of costs, market structures (perfect competition, monopolistic competition, monopoly and oligopoly). Elements of information economics and welfare economics.

ECO102: INTRODUCTION TO MACROECONOMICS (3Units)

Basic concepts of macroeconomics, Measurement of national income, national income determination; Inflation and unemployment. Revenue and expenditure. Determinant of aggregate Demand; Macroeconomic policy and objectives; International economic institutions, the use monetary and fiscal policy analysis.

ECO 103: INTRODUCTORY MATHEMATICS FOR ECONOMISTS I (3Units)

Relevance of mathematics in economics. Set theory. Revision of elementary algebra, equations and identities; equations in one or two variables; simultaneous equations; quadratic equations; the remainder theorem, completing the square, partial fractions, surds, indices and logarithms. Sequences and Series: arithmetic progression and geometric progression. Permutation and combination, Binominal theorem.

ECO 104: INTRODUCTORY MATHEMATICS FOR ECONOMISTS II (3Units)

Introduction to matrix algebra: addition, multiplication and inversion of matrices. Determinants, simultaneous solution of equations by matrix and determinant methods. Differentiation of Functions of one variable; derivatives of standard functions, rates of change and limits. Maxima and minima, point of inflexion, partial derivatives. Unconstrained optimization. Integration of functions of one variable; standard integrals. Co-ordinate geometry of a straight line, Intersection of the straight lines, plotting of curves, computation of distances and areas by co-ordinates. Basic Trigonometry.

ECO 251: PRINCIPLES OF MICROECONOMICS I (2 Units)

Economics as a social science and foundations of economic thought; Consumer behaviour: Cardinal and utility analyses. Budget line, Indifference curve and consumer's equilibrium. Income and substitution effects. Theory of demand, supply and equilibrium; Elasticity and related implications on consumers, producers, and tax. Theory of Cost. Types of cost curves. Theory of Producer behavior. Isocost line, Isoquant and producer's equilibrium. Optimisation goals of the producer in decision making.

ECO 252: PRINCIPLES OF MICROECONOMICS II (2Units)

Cobweb model. Market Structure: Perfect and Imperfect Markets, Monopoly. Monopolistic Competition. Monopsony. Duopoly. Duopsony. Oligopoly. Cartel. Factor markets and theory of distribution. Game theory. Welfare economics.

ECO 253: PRINCIPLES OF MACROECONOMICS I (2 Units)

Review of microeconomics and macroeconomics, National income accounting, Circular flow of income, National Income equilibrium models and analyses, Money and monetary institutions. Monetary and fiscal economic stabilization policies.

ECO 254: PRINCIPLES OF MACROECONOMICS II (2 Units)

Inflation and price control. Labour market Unemployment. The Phillip's curve. Theory of consumption. Investment theory, The Classical, Keynesian and Monetarist schools, The Murdell-Fleming model. Optimal Monetary System Balance of payments theory. Economic growth. International monetary and economic institutions. Commercial Policy.

ECO 255: STATISTICS I (2 Units)

The nature of Statistical Methods; Classifications and sources of data, Methods of data collection, Characteristics of good data, Data in national planning, Problems of data collection in Nigeria, Data analyses and presentation: Frequency Distribution; Measures of Central Tendencies- Mean, Median, Mode, etc; Measures of Dispersion-

Range, Variance, Standard Deviation; Elementary Normal, Poison and Probability Distributions.

ECO 256: STATISTICS II (2 Units)

Probability Distribution; Tests of significance; Chi-Square Analysis; Index numbers; Analysis of Variance; Correlation Analysis; Regression Analysis; Time Series Analysis; Sources of Statistical data in Nigeria, Introduction to Research Methodology and Design.

ECO 257: BASIC MATHEMATICS FOR ECONOMISTS I (2 Units)

Mathematical notations, Functions, graphs and mathematical economic models, Limits and Continuity of functions. Derivatives of different types of functions; Maxima and minima, Partial and total derivatives. L. Hopital's rule, Marginal Concepts. Applications of partial derivatives, Comparative static analysis of economic concepts, Unconstrained and Constrained Optimization, Lagrange multiplier.

ECO 258: BASIC MATHEMATICS FOR ECONOMISTS II (2 Units)

Review of differential calculus, Taylor's theorem. Integral calculus and applications. Differential equation. Comparative static analysis. Matrix algebra, Inverse matrix, Simultaneous linear equations. Introduction to linear programming. Dynamics and stability of equilibrium. Mathematical analysis and general applications of basic theories of economics.

ECO 259: STRUCTURE OF THE NIGERIAN ECONOMY I (2 Units)

Economic analysis of pre-colonial and post-colonial periods. Nature and structure of the Nigerian economy, Macroeconomic framework in the Nigerian economy, Components of economic growth and development, Macroeconomic policies in Nigeria, The Nigerian Agricultural Sector.

ECO 260: STRUCTURE OF THE NIGERIAN ECONOMY II (2 Units)

Industrialization and the Nigerian economy, Oil resources and the Nigerian economy, transport and communication sector, Nigerian banking and financial sector, International Trade, contemporary issues in the economy.

ECO 261: MONEY AND FINANCIAL INSTITUTIONS (2 Units)

Money and its role in the economy; Demand and Supply of Money; tools of Monetary and Fiscal policy; growth of commercial bank in Nigeria, and the development of financial institutions. Commercial banking central banking. Insurance companies, Money and capital markets and the effectiveness of inter-mediation and the effectiveness of monetary policy. General equilibrium of the money and product markets (IS-LM). West African Currency Board International monetary systems, the IMF and the World Bank; The African Development Bank (ADB).

ECO 262: PUBLIC FINANCE (2 Units)

Public finance, Revenue and taxation, expenditure and fiscal budget, fiscal budgeting in Nigeria. Government accounting. Fiscal federalism and government expenditure, Structure of public expenditure; inter-governmental transfers, regional/state revenues. Public debts and the Nigerian experience. Problems of public debt in Nigeria. Deficit financing and fiscal spending. Fiscal policy analysis.

ECO 263: URBAN AND REGIONAL ECONOMICS (3 Units)

Theories of urban development, City topology and measurement, and use analysis, trade, social investment in metropolitan communities, Regional growth and efficiency, the location determinants of development, Economic planning in the city-region.

ECO 264: INTRODUCTION TO OPERATIONS RESEARCH (2 Units)

Linear programming - formulation of LP problems and solution using the graphical method only. Transportation problems. Assignment problems, inventory models-deterministic only, Network analysis, critical path method (CPM) and programme evaluation and review technique (PERT).

ECO 265: HUMAN RESOURCE ECONOMICS (3 Units)

Concepts- human capital, returns to investment in human capital. Human resource allocation theory. Working population analysis. Investment in human capital in relation to capital investment. Human capital accumulations and determinants. Investment in education- social and private costs and returns to education. Economics of education. Manpower analysis in a developing economy; structure and characteristics, education and training; manpower policy; industrial relations. Manpower planning; rationale and process; future manpower requirements; survey of planning models; the planning gaps and the problems of manpower planning.

ECO 351: INTERMEDIATE MICROECONOMIC THEORY I (2 Units)

Advanced mathematical treatment of microeconomic theory: Consumer behaviour, Individual consumer behaviour, the utility approach, the indifference curve approach, consumer's equilibrium, consumer surplus, Demand analysis. Theory of cost, cost functions and types of cost, shapes of cost and decision making. Theory of production, Production function: single product and multiproduct, derivation of cost functions from production functions, producer's goals and equilibrium, ridge lines and optimal expansion path

ECO 352: INTERMEDIATE MICROECONOMIC THEORY II (2Units)

Theory of the firm, price and output determination under perfect competition, monopoly, monopolistic competitions, oligopoly, cartel. Exchange theory. Game

theory. Factor pricing. General equilibrium theory. Welfare economics.

ECO 353: INTERMEDIATE MACROECONOMIC THEORY I (2 Units)
National Income Model extensions: open and closed economies. Theory of real economic cycles, Unemployment and inflation. Inflation and monetary policy. Money and interest. General equilibrium of money and commodity markets (**IS-LM** model).

ECO 354: INTERMEDIATE MACROECONOMIC THEORY II (2 Units)
Macroeconomic Policy Macroeconomic economic growth aggregates in the Classical, Keynesian and Monetarist models. Introductory growth theories on consumption and investment. Balance of Payment Theory

ECO 355: INTRODUCTORY ECONOMETRICS (2 Units)
Definition and subject matter of econometrics, Ordinary least square (OLS) and other models: bivariate and multivariate, linear and non-linear, Parameter estimation, validity of estimates and dynamic formulation of models, Variances, covariance and correlation coefficients between/among the variables of models. Assumption of multicollinearity, heteroscedasticity and autocorrelation, Non-stationarity and co-integration-causes, consequences, tests and correction in models, Predictive power and significant tests of models;

ECO 357: INTERNATIONAL ECONOMICS I (2 Units)
Domestic and foreign trade. Trade theory: Absolute cost advantage, Comparative cost advantage, Labour theory of value, Heckscher-Ohlin model; Rybncyzski model, Factor intensity model, Modern trade theories, Foreign trade protection.

ECO 359: HISTORY OF ECONOMIC THOUGHT (2 Units)
Nature and significance of history of economic thought, comparative survey and assessment of development in economic thought with special references to the mercantilists, physiocrats. Adam Smith, J. B. Say, David Ricardo, Thomas Malthus, Sismondi, Fredrick List, John Stuart Mill, Keynesian School of economic thought, contemporary stage of development in economics and future prospects. Marginalists and modern schools of economic thought. African economic ideas and future prospects.

ECO 360: HISTORY OF ECONOMIC THOUGHT II (2Units)
Colonial economic policies, conditions of economic progress in Britain, Western Europe and the USA in the eighteenth and nineteenth centuries, Industrialisation and economic growth in Russia and Japan, The breakup of labour theory of value; the Mathematical school including Stanley Jevons, Leon Walras and Bohm-Baerl Socialist Economists: Karl Marx, Wilfredo Pareto, Lennis Engel and others, Karl Max and

economic thought: evolution and contemporary development of Marxian school of economic thought.

ECO 361: PUBLIC SECTOR ECONOMICS I (2 Units)

The concept, characteristics and significance of the public sector; The public sector and economic development; Reasons for government intervention in the economy, the measurement of the impact of the government sector; Investment and financing of public sector enterprises; Public goods versus private goods, Pricing and allocating of cost of public goods and private goods; Analysis of selected public policies. Market failures and externalities.

ECO 356: BASIC ECONOMETRICS (2Units)

Review of concepts, Primary data analysis. Dummy variable and discrete choice models, Censored models, Duration and lagged models, Simultaneous Equation Models, Formulation of generalized linear regression models in n-independent variables and t-joint observation (panel data regression). Time series analysis and forecasts.

ECO 358: INTERNATIONAL ECONOMICS II (3Units)

Economic integration, Terms of trade and commercial policy, Exchange rate and management, Export and import management. Balance of payments, Debt and deficit financing. Foreign aid and capital flows, Trade and contemporary macroeconomic policies.

ECO 362: PUBLIC SECTOR ECONOMICS II (2 Units)

Government revenue and expenditure analysis; Causes of growth of government expenditure; Taxation: effects and optimal tax policy. Public debt and fiscal policy. Analysis of the roles of governments under various fiscal systems of free, mixed and centrally planned economies; Taxation and public expenditure; Management of the public firm and business activity of the public sector. Financing the social security system. Fiscal federalism.

ECO 363: ECONOMIC GROWTH AND DEVELOPMENT (2 Units)

Definitions and characteristics of concepts, Growth models and theories of underdevelopment, Classical theories, Rostow's stages of growth, Neoclassical theories: Solow, H-D Models, Balanced and unbalanced growth, Endogenous growth models, Three-gap model, Labour surplus models; Resources for development, Multinational corporations and industrialization in developing countries, Comparative cost doctrines, Trade and development. Application of growth theories to developing nations

ECO 364: PROJECT EVALUATION I (2 Units)

Definition and classification of projects. Private, commercial, and social projects Stages and cycle of project. Location and size of projects. Data requirements Project evaluation techniques, Assessment of profitability private, commercial and social perspective. Cash flow analysis, Analysis of risk and uncertainty, Project evaluation and review techniques (PERT). Environmental impact assessment. (EIA).

ECO 365: COMPARATIVE ECONOMIC SYSTEMS (2 Units)

Economic systems: Communalism, slavery, feudalism, communism, socialism, capitalism. Comparative institutional analysis: coordination mechanisms, Comparative legal systems, Role of culture, Capitalism under democracy and dictatorship. Comparative analysis of democracies: political regimes and electoral systems. Measuring the Effect of Institutions on Economic Growth Comparative Financial Systems Advanced market capitalist, former socialist and East Asian economies, Systems in transition, Reform and the flexibility of China's administrative organization Meritocracy and yardstick competition in the Chinese administration

ECO 366: RESEARCH METHODS IN ECONOMICS (2Units)

Definition of research, the role of research in development, developments in research methodology, essential features of research work, procedures and stages involved in research proposal and report writing in economics. New developments in research methods in social sciences. Uses of statistical and Econometric methods in research.

ECO 367: MATHEMATICAL ECONOMICS (2Units)

Calculus**,** calculus of many variables; Review of differential equation. Difference equations and economic theory applications. Vector and sequences. Markov chains, McLaurin Series, Microeconomics models of consumption and production, macroeconomic models of money and growth. Functions and diagrams in economic theory, Linear and non-linear economic models and relationships; iterative processes, difference equations and linear programming, theory of games, general equilibrium theory and applications.

ECO 368: COMPUTER SOFTWARE FOR ECONOMIC ANALYSIS (2 Units)

Introduction to basic application of computer software for economists, introduction to operating systems, word processing, spread sheets, database, and web based software packages. Introduction to the use of microcomputers, to solve business problems, including e-commerce. Introduction to existing Computer software in economic analysis e.g. SPSS. STATA and E- View. Definition and characteristics of the software; Introduction to practical training skills for the use of the software in economics: coding and data conditioning, analysis of the data generating process and standard practical econometric modeling.

ECO 369: NATURAL RESOURCE ECONOMICS (2Units)

Concepts and natural resources classifications, Resource Scarcity and Economic Growth, Population growth and natural resources, Renewable resource allocation – forests, fisheries and wildlife, Willingness to pay and marginal analysis. Optimisation of Resource Use Level, Principles of optimal depletion and use. Optimal control theory and constrained optimization techniques on capital constraints, exploration activity and environmental regulations. ; Efficiency, Benefit Cost Analysis, Nonrenewable Resources: Types and Management. Renewable Resources: Types and Management, Markets and Efficiency, Externalities, Public Policy for Natural Resources, land degradation and pollution, Nonexclusive Resources, Irreversibility, Sustainability, Applied Natural Resource Analysis: Mineral Economics, Energy, Depletable natural resources – energy resource allocation, Forest Economics, Marine Resources, Land Economics, Land use – agriculture, urban sprawl, cumulative effects and land resources, Water Resources. Economics of Agriculture, Economics of Outdoor Recreation, Economics of Wildlife Management, Economics of Biodiversity Preservation

ECO 370: TRANSPORT ECONOMICS (2Units)

Transport economics as a specialty, Characteristics of the transport infrastructures; Demand for transport, Transport Costs, Transport pricing. Economic coordination of transport modes, the theory of transport and development, Nature and implications of urban transport problems. Empirical relevance of the role of transport, Goals of investment policy in transport; Transport planning and development in Nigeria.

ECO 371: INDUSTRIAL ECONOMICS (2Units)

Industrial structure and market conduct, Growth diversification, innovation and merger activity; Pricing and marketing in investment decisions, Determinants and measures of business and industrial sector performance, Location of industry. Theoretical basis for government intervention in the industrial sector. The industrial environment of Nigeria, the growth and structural changes in manufacturing industry, Private and public enterprises in industrial development, The financing and ownership of industrial projects, Location of industry and distribution of industries.

ECO 372: ENVIRONMENTAL ECONOMICS (2 Units)

Nature and scope of Economics, Development and the Environment, Economics of Environmental Pollution, Environmental degradation, Macroeconomic policies and Environmental Problems, Cost and Benefit Analysis of Environmental Issues. Industrial Developments, Education, Social Attitude, and Poverty. International agencies on mitigation and adaptation to the environment.

ECO 373: BUSINESS ECONOMICS (2Units)

Definition and Scope of Business Economics; Decision making under risk and uncertainty; Decision tree analysis; Demand estimation and forecasting; The attribute approach to consumer choice; Alternative business objectives; The internal organization of firms; Portfolio matrices and corporate strategy. Pricing and pricing policies; Investment and Financing decisions; Demand Analysis; Business Risk and Forecasting; International business; Multinational Corporations; Business enterprise and Economic Development.

ECO 374: FINANCIAL ECONOMICS (2Units)

Investment and financing. Financial markets. Financial institutions. Risk and profitability. Portfolio decisions and diversification. Private equity funds, Private wealth managers. Financial statements. Investment opportunities. International financing instruments. Risk of exchange. Forward rates. Hedging. Forecast future exchange rates. Purchasing power parity. Covered and uncovered interest rate parity. Capital exchange and flow relations. Problems of debt. International financial institutions.

ECO 375: MONETARY ECONOMICS (2 Units)

Demand for money, Baumol-Tobin model and the Tobin's model of portfolio selection, Money supply, Classical theory of money. Money, Inflation and Welfare, Classical models and monetary policy, Monetary policy in Keynesian models, Conduct of monetary policy in a closed economy, The term structure of interest rates, Balance of payments, nominal and real exchange rates, Prices and exchange rates, Money, interest rates and exchange Rates, Monetary policy and output in an open economy

ECO 376: INFORMATION ECONOMICS (2 Units)

Economics of information and knowledge. Unique economic features of information. Information as a resource. Type of information. Technology as a special type of information. Impacts of information & communication technologies. Determining the necessary information for decision making. Sources of information used by the company to get familiar with its markets. Measures of risk. Models of asymmetric information. Adverse selection. Moral risk. Public policy issues and applications.

ECO 377: POLITICAL ECONOMY (2 Units)

Basic distinguishing features of bourgeois methods of analysis and of dialectical methods. Historical materialism. Classification of social systems, theory of social classes. Marxist theory of capital accumulation. Surplus value. Stages of Capitalist Development, emergence and advancement of capitalism. Metropolitan and satellite economic relations. The struggle against colonialism and neo-colonialism. Stages of socialist development, emergence and advancement of socialism. Economics of

corruption. Governance and national value.

ECO 451:ADVANCED MICROECONOMIC THEORY I (2Units)

Fundamental quantitative relationships and review of mathematical techniques of analysis. Theory of consumer behavior, Theory of Producer behaviour (cost and production), Uncertainty and Risk. Theory of the firm: Perfect and monopolistic competitions

ECO 452: ADVANCED MICROECONOMIC THEORY II (2Units)

Monopoly and monopsony, duopoly and oligopoly. Cartel. Theory of distribution: determination of wages, rent, interest and profit. General equilibrium theory. Existence, stability and uniqueness of equilibrium. Game theory. Economic efficiency. Welfare economics.

ECO 453: ADVANCED MACROECONOMIC THEORY I (2Units)

National income model with extensions using advance approach Determination of output and employment under classical and Keynesian assumption, Classical Keynesian controversies, Theories of money, interest rate and inflation, Effectiveness of monetary and fiscal policies. Aggregate demand management.

ECO 454: ADVANCED MACROECONOMIC THEORY II (2 Units)

Endogenous Growth models. Solow models. Ramsey Models. Overlapping generations models Industrialization and development. Economic cycles.

DEPARTMENT OF ENTREPRENEURIAL STUDIES

Philosophy

The philosophy of the programme is development of innovative minds, creative and entrepreneurial personalities who are prepared for leadership responsibilities in industry, government and non-profit organizations; and who are developed to established new ventures create new jobs, add social and economic value and reinvent existing organizations.

Objectives

The major objectives of Degree Programme in Entrepreneurship are to:

a. To develop entrepreneurial zeal among the new generation of students with the hope of creating new / greater social and economic value to the society;
b. To nurture entrepreneurship knowledge among students through entrepreneurship studies and education;
c. To provide students with the required skill to developing viable enterprises that are capable of competing in the global environment;
d. Enable student's identify and exploit opportunities locally and globally
e. To equip student's with tools to grow new and existing ventures thereby regenerating economic growth and development
f. To stimulate students interest in fostering productive culture in the larger society through teaching, advisory and consultancy services, mentoring and active engagements;
g. To equip students with analytical skills in problem solving, negotiations, conflict resolution, marketing, leadership, interpersonal relations and financial management
h. To develop in students, the desire to excel and live a meaningful life through self discovery
i. To instil in students the need for independent thinking, economic freedom and respect for talents
j. To prepare graduates for higher studies in the field.

Academic Staff

Name	Qualification	Specialization	Designation
P. I. Ojeaga	B.Sc (Ibadan), M.Phil (Sweden), Ph.D (Italy),	Economics of Innovation and Entrepreneurship Management	Senior lecturer and Ag. Head of Department
S. T. Akinyele	B.Sc, M.Sc. (Ilorin), Ph.D. (Ota)	Marketing and Entrepreneurship Management	Senior Lecturer
F. A. Ajagbe	B.Sc (Ife), MBA, M.Tech. Ph.D. (Ogbomoso)	Business Administration and Entrepreneurship Management	Lecturer I
D. A. Oladejo	B.Sc.(ED) (Ogun), MBA, M.Phil, Ph.D(Ife)	Business Entrepreneurship and Human Resource Management	Lecturer II
O. O. Oyedele	B.Sc., M.Sc. (Ojoo)	Human Resources Management and Entrepreneurship	Lecturer II

100 Level: First Semester

Course Code	Course Title	U	L	T	P
ECO 101	Introduction to Microeconomics	3	2	1	-
CMS 101	Mathematics for Management Sciences I	3	2	-	-
ACC 101	Principles of Accounting and Reporting I	3	2	1	-
ETS 101	Entrepreneurial Studies	2	2	-	-
GNS 101	Use of English	2	2	-	-
BAM 101	Introduction to Business I	3	3	-	-
GNS 105	Introduction to Logic and Philosophy	2	2	-	-
BFN 101	Introduction to Finance	3	2	-	-
	TOTAL	**21**	**19**	**2**	

100 Level: Second Semester

Course Code	Course Title	U	L	T	P
ECO 102	Introduction to Macroeconomics	3	2	1	-
CMS 102	Mathematics for Management Sciences II	3	2	1	-
GNS 102	Introduction to Nigerian History	1	1	-	-
ACC 102	Principles of Accounting and Reporting II	3	2	1	-
BAM 102	Introduction to Business II	3	3	-	-
BFN 102	Introduction to Money and Banking	3	3	-	-
GNS 104	History & Philosophy of Science	2	2	-	-
GNS 106	Introduction to Sociology	2	2	-	-
CMS 104	Introduction to Computer Science	3	2	1	-
	Total	**23**	**19**	**4**	-

200 Level: First Semester

Course Code	Course Title	U	L	T	P
BAM 215	Business Communication Skills	2	2	-	-
ECO 251	Principles of Microeconomics I	2	2	-	-
ECO 253	Principles of Macroeconomics I	2	2	-	-
CMS 201	Statistics for Management Sciences I	3	2	1	
ETS 205	Entrepreneurial Marketing	2	2	-	-
ACC 203	Cost Accounting 1	3	2	1	-
GNS 203	Use of Library	1	1	-	-
GNS 201	Writing and Literary Appreciation	1	1	-	-
ETS 207	Start-up Funding & Basic Financial Literacy	2	2	-	-
BAM 213	Commercial Law	3	2	1	-
ETS 209	Theories of Entrepreneurship	2	2	-	-
	TOTAL	**23**	**20**	**3**	**-**

200 Level: Second Semester

Course Code	Course Title	U	L	T	P
ETS 202	Introduction to Entrepreneurial Ventures	2	2	-	-
ETS 212	Bibliographical Studies of Entrepreneurial Thinkers & Giants	2	2	-	-
CMS 202	Statistics for Management Sciences II	3	2	1	-
ETS 208	Consumer Behaviour and Customer Relationship Management	3	2	1	-
ETS 206	Entrepreneurship and Change Management	2	2	-	-
CMS 204	Application of Computer	3	2	1	-
GNS 202	Elements of Government	3	2	1	
ETS 210	Practice of Management	2	2	-	-
	ELECTIVE	2	2	-	-
	Total	**22**	**18**	**4**	**-**
(2 Credit Units)					
ETS 214	Introduction to Entrepreneurial Financing	2	2	-	1
ETS 216	Rural Entrepreneurship	2	2	-	1

300 Level: First Semester

Course Code	Course Title	U	L	T	P
ETS 301	Marketing for Entrepreneurs I	2	2	-	-
ETS 303	Entrepreneurial Human Resource Management	2	2	-	-
ETS 305	International Entrepreneurship	2	2	-	-
ETS 307	Business Opportunity, Scouting and Evaluation	2	2	-	-
ECO 311	International Economics I	3	2	1	-
ETS 313	Events & Natural Resource Management	2	2	-	-
ETS 315	Entrepreneurial Internship Programme	2	-	-	2
BAM 303	Introduction to Management Science Techniques I	3	2	1	-
ETS 309	Measuring Organization Success	2	2	-	-
ETS 311	Entrepreneurial Financial Management	3	2	1	-
	TOTAL	**23**	**18**	**3**	**2**

300 Level: Second Semester

Course Code	Course Title	U	L	T	P
ETS 304	Leadership & Corporate Governance	2	2	-	-
ETS 308	Cultural Change & Sociology of Entrepreneurship	2	2	-	
ETS 310	Family Business & Succession Plan	2	2	-	-
ETS 312	Industrial Learning & Tours	2	-	-	2
ETS 314	Entrepreneurial Research Methods	3	2	1	-
ETS 318	Marketing for Entrepreneurs II	2	2	-	-
ETS 306	Feasibility and Business Planning	2	2	-	-
BAM 304	Introduction to Management Science Techniques II	3	2	1	-
	ELECTIVE	2	2	-	-
	Total	**20**	**16**	**2**	**2**
	(2 Credit Units)				
ETS 316	Minority Entrepreneurship	2	2	-	-
ETS 320	Creative Entrepreneurship	2	2	-	-

400 Level: First Semester

Course Code	Course Title	U	L	T	P
BAM 403	Analysis for Business Decisions I	3	3	-	-
ETS 413	Entrepreneurship Policy & Strategy I	2	2	-	-
ETS 497	Research Seminar I	1	-	-	1
ETS 403	Rethinking Traditional Occupations	2	2	-	-
ETS 407	Strategic Thinking, Problem Solving & Negotiation Skills	2	2	-	-
ETS 401	Management of Creativity & Innovation	2	2	-	-
ETS 409	Social Entrepreneurship. & Community Dev.	2	2	-	-
ETS 411	Technology Entr epreneurship& Intellectual Property Rights	2	2	-	-
ETS 405	Human and Organizational Behaviour	2	2	-	-
	ELECTIVE	2	-	-	-
	Total	20	19	-	1
	(2 Credit Units)				
HSM 405	Weaving Techniques	2	1	-	1
HSM 443	Fashion Drawing & Design	2	1	-	-
FMW 411	Harvesting, Processing & Wood Utilization	2	1	-	1
ETS 417	Youth Entrepreneurship s	2	1	-	-

400 Level: Second Semester

Course Code	Course Title	U	L	T	P
ETS 402	Corporate Development: Mergers & Acquisitions	2	2	-	
ETS 406	Venture/ Wealth Creation & Growth	2	2	-	-
ETS 414	Entrepreneurship Policy & Strategy II	2	2	-	-
ETS 408	Entrepreneurial & Gender Issues	2	2	-	-
ETS 410	Globalization & National Policies	2	2	-	-
ETS 412	E- Business	2	2	1	-
ETS 498	Research Seminar II	1	-	-	1
ETS 499	Research Project	4	-	-	4
BAM 406	Management Information System	3	3	1	-
	ELECTIVE	2	-	-	-
	Total	**22**	**15**	**2**	**5**
	(2Credit Units)				
FWM 408	Wildlife Production Techniques	2	1	-	1
HSM 404	Nigerian Cottage Industries	2	2	-	1
ETS 416	Risk Management & Insurance	2	-	-	-

COURSE SYNOPSES

ECO 101: INTRODUCTION TO MICROECONOMICS (3 Units)

This is essential an introductory course which focuses on microeconomic theory. Topic covered include the theory of production, factors of production and theories of demand, supply and price, theories of consumer behavior, theory of the firm, cost of production, pricing and output under perfect competition, monopoly, monopolistic competition and Oligopoly. It includes the theory of distribution.

ETS 101: ENTREPRENEURIAL STUDIES (2 Units)

Historical background of Entrepreneurship, vis-à-vis earlier period, Middle East, 17th and up to the 21st century. Different view of Entrepreneurship, who is an entrepreneur? What it takes to be an entrepreneur, choosing the business venture, goal setting. Theories of Entrepreneurship, vis-à-vis psychological, sociological, anthropological, ecological and innovation. Contribution of some theorists to Entrepreneurship development (Max Weber, Mc Chelland, Schumpeter e.t.c).

Classification of entrepreneur based on the opinion of different disciplines, based on self-definition of roles. Characteristics of entrepreneurs, small business entrepreneur, Characteristics of entrepreneurship, rewards, entrepreneurship and environment and classification of business environment.

ECO 102: INTRODUCTION TO MACROECONOMICS (3 Unis)

This is an introductory course on the macroeconomic aspects of economic theory. Topic covered include the subject matter of economics and basic economic problems: national income accounting including elementary models of income and employment; money and banking; employment and unemployment; public finance including government budgets; international trade; balance of payments and commercial policies; development planning.

ETS 205: ENTREPRENEURIAL MARKETING (2 Units)

Teaches students to do rigorous, explicit, customer-based marketing analysis, which is most appropriate for new ventures. This topic also discusses ways to implement marketing strategies when resources are very limited. The practical aspect would relate to develop and market various forms of business and social organizations.

ETS 207: START-UP FUNDING & BASIC FINANCIAL LITERACY (2 Units)

Prepares students to optimize the use of outside advisors and to negotiate effective long-term relationships with sources of funding, including, but not limited to, venture capital. Students would interact with founders, angels, venture capitalists and other professionals throughout semester.

The nature and scope of basic personal cash build up (savings) understanding how to create cash flow, types of nature of investment-venture creation, portfolio, commodities, properties, intellectual property and royalties, how to invest

intelligently in the stock market, basic difference between capital gains and continuous cash flow, understanding financial market instrument, commodity market instrument and their deliveries, insurance and risk, hedging, using debt and other people's money to create wealth, understanding tax issues.

ETS 209: THEORIES OF ENTREPRENEURSHIP (2 Units)

The study of entrepreneurship is based on different theories and the contributions made by different theorists to entrepreneurship development. This topic is aimed at exploring these theories from multidisciplinary perspectives and help students to have proper understanding of the different contributions made by these theorists to entrepreneurship development.

ETS 202: INTRODUCTION TO ENTREPRENEURIAL VENTURES (2 Units)

The scope of business/social venture; the character of venture from social, legal and economic perspectives. Forms of ownership, organization and management. Marketing, production, finance and accounting functions, government and business. The social responsibility of business, international business, problems of Nigerian enterprises. The concept of social good, the creation of social networks, NGOs and practice in evolving non-profit organizations.

ETS 212: BIOGRAPHICAL STUDIES OF ENTREPRENEURIAL GIANTS AND THINKERS (2 Units)

Students will be made of study the lives and characters world class entrepreneurs, this will enable them to know the secret behind their success and why some of them failed. Special attention will be given to indigenous entrepreneurs.

ETS 208: CONSUMER BEHAVIOR AND CUSTOMERS RELATIONSHIP MANAGEMENT (3 Units)

This course is aimed at developing students' marketing talents through understanding consumer behavior. Topics will cover introduction, theory/concept of consumer behavior, social and political influence (cultural background, group membership etc) and process of diffusion of innovations buyers' psychology and decision making process.

Meaning of customer services and ways to create customers loyalty; reasons for seeking customers' satisfaction and ways of ensuring customers satisfaction are all areas of importance that would be considered in this course.

ETS 206: ENTREPRENEURSHIP AND CHANGE MANAGEMENT (2 Units)

This course exposes students to the need for organizational transformation required for value creation and competitiveness in the changing world of business. Topic will cover new management challenges and poor corporate outlook in Nigeria; models of change; phases of change, resistance to change and overcoming or managing

resistance to change.

ETS 210: THE PRACTICE OF MANAGEMENT (2 Units)

Basic concepts in Management: Management principles, functions of the manager; planning nature and purpose of the origination function, department, line and staff authority, staffing and directing: Selection of employees and managers, appraisal of managers, management development, nature of directing, motivation leadership control. The Control Process, control technique, recent developments in the control function. The Nigerian environment: management problems in Nigeria, challenges of indigenization, transferability of Management system.

ETS 214: INTRODUCTION TO ENTREPRENEURIAL FINANCING (2 Units)

Cost of and Leverage: Cost of capital and Investment Analysis, Measuring cost of Capital in practice, Leverage – Operating leverage, Financial leverage, degree of financial leverage, degree of operating leverage, Dividend Policy of Corporate Firms, Introductory issues and Financial ratio analysis, Dividend Policy – Dividend payout ratio, factors affecting Dividend decision, forms of dividend payment, relevancy theory, irrelevancy theory, dividend payment procedure, financial Ratio Analysis – Nature and content of financial statement, Users of financial ratios, types of financial ratio, definition and uses of financial ratio, classification of financial of financial ratio, limitation of ratio, Working Capital Management, Mergers and Acquisition, Working Capital Management – Cash management, stock management (EOQ, JIT, TQM), Debtors Management, Creditors Management, sources of working capital finance. Mergers and Acquisition – Synergy, forms of combination, reasons for merger, factors to be considered for merger, legal requirement, prevention of merger, minimum and maximum sums.

ETS 216: RURAL ENTREPRENEURSHIP (2 Units)

This course focuses on the definition, concepts, history and building blocks of rural entrepreneurship. Reasons and benefits for rural entrepreneurship, environmental factors that can promote and hinder rural entrepreneurship, developmental programmes, institutions and agencies for promoting of rural entrepreneurship**.** Theoriesand models for rural entrepreneurshipdevelopment.

ETS 301: MARKETING FOR ENTREPRENEURS I (2 Units)

Nature and Scope of Marketing, Marketing Concepts and Philosophies, Marketing Environment, Market Segmentation And Target Market Selection, Product Concept, Branding and Packaging: Basic Concepts, Developing and Managing Products, Marketing Communication: Basic Concepts, Advertising: Basic Concepts, Channels of Distribution, Channel Conflict, Pricing: Basic Concept.

ETS 303: ENTREPRENEURIAL HUMAN RESOURCES MANAGEMENT (2Units)
This course is designed to enable students appreciate the importance of human capital and how to develop people's capacity to achieve results. Topics will cover the structure and programme for managing human resources, manpower and appraisal, wage and salary administration, job evaluation, incentives and benefits.

ETS 305: INTERNATIONAL ENTREPRENEURSHIP (2 UNITS)
This course examines a typology of international opportunities that are created on account of historical, economic, political, social and cultural differences among national contexts: arbitrage, mission products and services, unique products and services and missing institutions. The course also examines global ventures, which have customers and suppliers spread across multiple countries across the globe. The key success factors and challenges of each type of opportunity will be studied. We will also understand how to execute successfully on each of these opportunities. Since international opportunities often involve the creation of a market for new products and services, the course examine how new markets can be created in various contexts and provides students with a guiding framework for market-creation.

ETS 307: BUSINESS OPPORTUNITY, SCOUTING AND EVALUATION (2 Units)
This course will consider sources of business opportunities and the difference between ideas and opportunities. It will also consider strategies for scanning and evaluation business opportunities. It challenged students to think beyond family, government, national borders in the search for social or economic opportunities.

ETS 313: EVENTS AND NATURAL RESOURCE MANAGEMENT (2 Units)
This course will undertake the understanding of event management using project management concept. Topic will cover an overview of what an event is, the need for the event, the parties involved. Also to be discussed are the roles of stakeholder such as the sponsor, the team leader, team members and the client/market.
This course is designed to enable students to appreciate the resource endowments of Nigeria and how mineral resources could be netter managed to achieve growth and human and economic development. Topics shall cover an overview of Nigeria's resources, mining and oil gas exploration, socio-cultural issues in mineral exploration, resource allocation and misapplication of resources.

ETS 315: ENTREPRENEURIAL INTERNSHIP PROGRAMME (2 Units)
The course is divided into two segments: Analytical skill development (50%) and industrial exposure (50%). The first segment (i.e. analytical skill development) is designed to enable the student develop the analytical skills needed to make sound decision in managing business operations and appreciate the complexities and uncertainties surrounding most practical business. And decisions involving marketing

operations are particularly complex, since a host of extraneous variables are usually at work. The second segment (i.e industrial exposure) is intended to expose the students to real world experiences in organizations. After such exposure, the student will be required to raise a report of their experiences.

ETS 309: MEASURING ORGANIZATION SUCCESS (2 Units)

This course is designed to enable students appreciate first hand basic organizational success factors through attachment and placement under industry and faculty supervision. The student or team of students is expected to focus on problem areas and design/proffer solutions which are sent back to the industry for implementation. The result of this case study is discussed as college/department seminars for peer review.

ETS 311: ENTREPRENEURIAL FINANCIAL MANAGEMENT (3 Units)

Financial decision of the firm; sources of finance and raising of new finance by business enterprise. Investment decision of a firm under conditions of certainty and uncertainty, problem of mutually exclusive projects, capital rationing and inflation; cost of capital as a decision and relevance of dividend decision for the firm; Concepts of capital market efficiency and pricing of capital assets.

Working capital management, Lease Financing; Merger and acquisitions; Techniques of financial planning and control; Interpretation and analysis of financial statements; problems relating to the financing of unincorporated business, small scale business and agricultural financing in Nigeria.

ETS 304: LEADERSHIP AND CORPORATE GOVERNANCE (2 Units)

This course exposes students to the leadership question. It is also covers issues related to good governance. Topics will include and overview of leadership, theories of leadership, the concept of the servant leader, leaders as change agents and problems of leadership in Nigeria. The course will also cover issues on transparency, accountability, due process and global perspectives of good governance.

ETS 308: CULTURAL CHANGE AND SOCIOLOGY OF ENTREPRENEURSHIP (2 Units)

This course will identify and discuss how changes in the experience of people, entity or society impact on their entrepreneurial orientation. The course is designed to enable students appreciate their culture and learn from other cultures. Reference will be made to particular experiences that have affected entrepreneurial practices of groups in the Nigerian Society.

This course will explore the dimensions of culture to the practice of entrepreneurship. Attention will be given to the works of theorists and sociologists who have made contributions in this field. A comparison of supply and demand perspectives will be undertaken to appraise how they contributed to the emergence of entrepreneurs in

the society with particular reference to the Nigeria society.

ETS 310: FAMILY BUSINESS AND SUCCESSION PLAN (2 Units)

Family controlled businesses are characterized by challenges that threaten their continuity and distinct core competencies that can result in unique competitive advantages. The course will examine family business continuity challenges and best management and governance practices of leading family-owned businesses.

ETS 312: INDUSTRIAL LEARNING AND TOURS (2 Units)

This course unit is expected to expose students to the practical aspect of Entrepreneurship and Management. The course involves two facts: Industry training and foreign study tours. Students are expected to participate in any of the two facts. In industrial training, students will be grouped and assigned to a specific trade based on their preferences. The group would spend at least two hours weekly in the workshop or business premises. The course facilitator provides general guidance while the industry practitioners render skills acquisition and mentoring. A group paper will be submitted at the end of the course. Students who attend a foreign business study tour will be required to present a detailed report of their experience.

ETS 314: ENTREPRENEURIAL RESEARCH METHODS (3 Units)

Skills of Scientific investigations, information gathering, analysis and interpretation in dealing with business and organizational behavior problems in Nigeria, the art of problem identification and analysis, data gathering analysis and report writing; the problems and prospects of business research in a seller's market like Nigeria.

ETS 318: MARKETING FOR ENTREPRENEURS II (2 Units)

This is the second segment of a two semester course designed to introduce the undergraduate students to the basic concepts and principles involves in initiating and executing the marketing process in a business firm. Emphasis will be on the marketing functions and abilities of private profit oriented business. Students will be exposed to pricing policies, personal selling techniques and public relations practice. It will entail new-product adoption process, consumerbehavior and marking process. Students would be taught basic steps in marketing research, measurement and forecasting techniques. The course will take students through basic concept in global/international marketing consumerism as well as contemporary marketing issues.

ETS 306: FEASIBILITY AND BUSINESS PLANNING (2 Units)

This topic deals with business plan within task groups from the concept to all elements of a professionally written plan. This topic affords students high interaction with businesses and entrepreneurs to further refine and improve their plans and

competitions. This competitions also consists in practical evaluation of students dream businesses and career life, exposition on how best to prepare feasibility report and appraisal of projects before investment; and project evaluation techniques; traditional methods such as Accounting Rate of Return (ARR), Pay Back Period (PBP) Net Present Value (NPV), Internal Rate of Return (IRR) and Profitability Index (PI).

BAM 304: INTRODUCTION TO MANAGEMENT SCIENCE TECHNIQUES II (3 Units)
Critical path Analysis (CPA); Project and Evaluation Techniques (PERT); Overview of inventory models, General coverage of other O.R, models like game theory, Markov chain, queuing theory and simulation.

ETS 316: MINORITY ENTREPRENEURSHIP (2 Units)
This course focuses largely on the strategies for exploring untapped resources in the economy. It has to do with factors that can enhance their performance, growth and the challenges that hinder their survival. It also include economic indicators that portray their existence, layers of social, political and cultural perceptions, strategies for strengthening the infrastructures and networks that will help minority entrepreneurs be successful, initiatives: private government, CSOs and other institutions involved in the promotion of minority entrepreneurship

ETS 320: CREATIVE ENTREPRENEURSHIP (2 Units)
This course focuses on definition, historical background, nature, concepts and factors that facilitate development of creative entrepreneurship. Impart of knowledge and information to the development of creative industries, Contemporary issues on creative entrepreneurship, studies and theories on creative entrepreneurship, economic/bedrock properties that distinguish creative from other sectors of the economy. Institutions and agencies involvement and developmental issues.

ETS 413: ENTREPRENEURSHIP POLICY AND STRATEGY I (3 Units)
The course divided into lecture series covering the wide scope of the nature and classification of Business management with peculiar emphasis on the vision, mission, objectives and goals in business policy analysis with specific reference to the concept of strategy management. Each lecture is presented in a form that allows for a theoretical study of the principles, theories and concepts underlining the practice of business policy and strategic management which may include; Nature and classification of business policy, Introduction to business policy: characteristics and principles, Vision, Mission, Objectives and Goals in business policy analysis, The concept of strategic management, Strategic management, Issues and structure of strategic management, Environmental Analysis, Strategic Management and competitors, Analysis of organizational resources and business system.

ETS 497: RESEARCH SEMINAR I (1 Unit)
Students are present a seminar paper on a small business venture that they

established in the course of their study.

ETS 403: RETHINKING TRADITIONAL OCCUPATIONS (2 Units)

The aim of this course is to examine the various occupations engaged by ordinary people within a specified locality. This will entail identifying local talents, skills and competencies required for the production of goods and services. The aim is to explore ways of developing such competencies into formal ventures capable of achieving sustainable growth and competiveness. It is expected that students would use insight form this course to convert local knowledge and expertise into a prosperous business venture. Equally, they would be equipped with various tools of promotion local businesses required for policy measures aimed economic transformation.

ETS 407: STRATEGIC THINKING, PROBLEM SOLVING AND NEGOTIATION SKILLS (2 Units)

This course is designed to develop the right mindset in student to challenge the status quo and develop the right attitude to build innovative organizations. Topic will cover an overview of the traditional thinking process (horizontal), its strengths and weakness, lateral thinking perspective, analysis of the different views about thinking; the interface among thinking, problem solving and negotiation skills.

ETS 401: MANAGEMENT OF CREATIVITY AND INNOVATIONS (2 Units)

This course will define innovation, nature and types of innovation and strategies for financing innovation. Different samples of innovative products, services and ideas would be examined in this course. Some personalities profile with innovative and creative ideas would be examined in this course which includes the strategies that they used achieve their successes and their failure which is the dark side of entrepreneurial concept would still be considered in this course.

ETS 409: SOCIAL ENTREPRENEURSHIP AND COMMUNITY DEVELOPMENT (2 Units)

This course explores the innovative concepts, practices and strategies related to social entrepreneurship. It attempts to instill social entrepreneurial attitude by challenging students' current thinking and assumptions about what works and why and how to fix identified needs in the community. The essence is to enable students' think of ways of creating social ventures and organizations that will address environmental issues, politics, crime, poverty, diseases and violence in the society.

ETS 411: TECHNOLOGY ENTREPRENEURSHIP AND INTELLECTUAL PROPERTY RIGHTS (2 Units)

This course seeks to demystify technology entrepreneurship by dwelling on the creative process essential for developing high-tech venture. An overview of the field of entrepreneurial theory and practice for development and growth of technology-based new enterprises will be undertaken.

ETS 405: HUMAN AND ORGANIZATIONAL BEHAVIOR (2 Units)

This course seeks the examine organizations as week as describe ways that human factors can be managed to increase organizational effectiveness. Topic will include an overview of organizational behavior, a consideration of contributions of behavioural sciences to the field of organization behavior, personality theories, communication, power and control.

ETS 417: YOUTH ENTREPRENEURSHIP (2 Units)

Youth entrepreneurship Defined, Characteristics of Young Entrepreneurs, Challenges of young entrepreneurs, Requirements for success in youth entrepreneurship, Youth and money management, investment, theories, examples and case studies.

ETS 402: CORPORATE DEVELOPMENT: MERGERS AND ACQUISITIONS (2 Units)

This course addresses the need for cooperation and understating growth and expansion strategy, consolidation of core corporate activities, streamlining of input and output sources through merger acquisition, exploring competitive advantage in process and products development.

ETS 406: VENTURE/WEALTH CREATION AND GROWTH (2 Units)

This course introduces students to the basics ideas of starting a business and how to use value chain analysis to discover a profitable venture. It also introduces students to the need to become self-employed, how to generate business ideas, how to overcome environmental challenges and how to source funds. Topic will cover business location, marketing record keeping and financial discipline, business registration, and how to grow modern businesses. At the end of this course, student will be able to conceptualize a business idea and prepare a good feasibility study.

ETS 408: ENTREPRENEURSHIP AND GENDER ISSUES (2 Units)

This course is aimed at helping students to understand gender as a factor in entrepreneurship discourse. Gender theories will be considered and the place of women in entrepreneurship will be discussed. The course will focus on women empowerment using tested tools.

ETS 410: GLOBALIZATION AND NATIONAL POLICIES (2 Units)

This course will consider opportunities and risks firms face in today's global world. Also to be considered are conceptual tools for analyzing how government and social institutions influence economic completing among firms in difference national settings; and public policies and institutions in developed and emerging markets. This will challenge students to conceptualize how to change public policies in line with global trend.

ETS 412: E-BUSINESS (2 Units)

This course is intended to equip students with the broad knowledge of electronic commerce. Topic will cover concept definition, an overview of internet and mobile telecommunication, importance of e-business, website design, internet advertisement, achieving competitive advantages using E-adverts; online sales, E-payments, ATM, Debit and credit cards. Students are expected to be exposed to practical applications.

ETS 498: RESEARCH SEMINAR II (1Unit)

Students are to present a seminar paper on the areas that they are writing their research project on.

ETS 499: RESEARCH PROJECT (4 Units)

The research project provides the opportunity for an individual, extended, in-depth study of a selected aspect of those disciplines covered by the programme, and may address one or more of the Division's research objective, lecture, workshop and tutorial sessions (which may be grouped and or individual) provide support for the students, and students are allocated a university supervisor. The work may involve fieldwork, laboratory work, questionnaire surveys, or many other research procedure.

ETS 414: ENTREPRENEURSHIP POLICY AND STRATEGY II (2 Units)

Develops concepts and techniques critical for formulation competitive strategy in a variety of entrepreneurship environments. It focuses on analyzing the structure of industries, the evolution of this structure, the pattern of interaction among competitors and the competitive position and advantage of firms in the industry. Strategic Management and Decision Process, Strategic Analysis choice and process of strategic choice, Corporate level – Strategic level, business level and small business analysis. Subjective factors in strategic choice contingency strategies, strategic plan, SWOT Analysis, Strategic Implementation (a). Process of Activating strategies (b). Structural Implementation (c). Strategic Implementation and behavior implantation, Strategic Change Management, Evaluation and Control, Assessment of Companies strategies, etc., Forecasting Change in the Environment, Case Study and Methods.

ETS 416: RISK MANAGEMENT AND INSURANCE (2 Units)

This course focuses on definition, concept, nature components of risks, its evaluation and management process. Qualitative analysis and calculation of investment, risks and returns. Policy framework, structure and institution and contemporary issues on insurance firms. Law rules and regulations guiding the establishment and running of insurance companies.

COLLEGE OF PLANT SCIENCE AND CROP PRODUCTION

Introduction

The College of Plant Science and Crop Production (COLPLANT) was established on October 1, 1989 as a logical development from the erstwhile College of Agricultural Production and Technology, Abeokuta. Since then the College has grown in terms of Departments, Staff and Students. Presently the College has five academic Departments, namely:

1. Department of Crop Protection
2. Department of Horticulture
3. Department of Plant Breeding and Seed Technology
4. Department of Plant Physiology and Crop Production, and
5. Department of Soil Science and Land Management

Philosophy, Aims and Objectives

The Departments aim at training skilled manpower for sustainable food production and natural resource management. The human resources and facilities in the departments make the development of these experts possible through the undergraduate programme of the departments. The primary philosophy guiding the training of students in the College is the production of skilled manpower that is adequately furnished with the comprehensive information required for economic agricultural production in an environment characterised by rural setting and adequate land endowment.

Such knowledgeable professional manpower has to have adequate exposure with the widest possible human and material resources. The training programmes are mounted through classroom instruction, laboratory practical, field demonstration, and workshop practices. Consequently, there are opportunities for formal training at the Undergraduate and Postgraduate levels for the acquisition of appropriate Qualification.

Deriving from the foregoing philosophy, the major objectives of the College, among others are to:

1. assist in the attainment of self-sufficiency in the production of basic food;
2. contribute to the achievement of the goal of marked increase in the production of agricultural raw materials to support the growth of our several industries;
3. enhance the production and processing of export produce with emphasis on relevant, appropriate and manageable technology to modernize agricultural production, processing, storage, preservation and distribution;
4. enhance the rural employment opportunities and the attendant improvement of the quality of rural life;
5. evolve effective ways of protecting agricultural land resources from ecological degradation such as erosion, pollution;
6. develop new patterns of agricultural management through increase in Agricultural leadership willing to innovate and show spirit of adventure, increase reliance on the use of business techniques and banking facilities in the production and marketing processes; and
7. create a new cadre of farmers who can influence agricultural structures and government policies which clearly demonstrate that agriculture as an enterprise, is an important part of our national economy.

Dean's Office

Name	Qualification	Designation
M. O. Atayese	B.Sc. (Lagos), M.Sc., Ph.D. (Ibadan)	Professor & Dean
B. A. Senjobi	B. Agric. (Ogun), M.Sc., Ph.D. (Ibadan)	Professor & Deputy Dean

DEPARTMENT OF CROP PROTECTION

Preamble

The Department of Crop Protection was carved out of the former Department of Crop Production and Crop Protection through the Senate approved restructuring of the Departments of Crop Production and Crop Protection and Plant Physiology and Crop Ecology. The former Department of Crop Production and Crop Protection existed as a unit of the Department of Agricultural Management of the former Federal University of Technology, Abeokuta (FUTAB) that became COSTAB and later University of Agriculture, Abeokuta (UNAAB) in 1988.

There are five academic disciplines in the Department, namely, Entomology, Virology, Myco-pathology, Phyto-nematology, and Phyto-bacteriology. Courses in these different areas are taught in the B. Agric. programmes for Undergraduate students while the disciplines are major areas of specialization in the Postgraduate programme in the Department.

Till date, the Department had been under the academic leadership of Heads of Departments; Dr. G. O. Olatunde (2002 – 2005); Dr. O. A. Enikuomehin (2005 – 2007); Prof. A. Y. A. Adeoti (2007-2010); Dr. O. R. Pitan (2010 - 2012) and Dr. A. R. Popoola (2012 -2016) and Prof. J. J. Atungwu (2016), Dr. Emily, Ayo-John (2016-2018), and currently Dr. A. A. Osipitan.

Vision

To be a leading centre of excellence for training, research, development and dissemination of knowledge in all major areas of crop protection in Nigeria.

Mission

To provide a conducive learning environment for quality education and training that promotes scholarship, stimulates innovative research and technology development, consultancy and community service for improved livelihoods and sustainable development, especially in our immediate locality.

Objectives

The department shall aspire individually and collectively to:

i. Uphold excellence, academic freedom, and professionalism.

ii. Create and maintain a sense of belonging, project a positive image of the department and maintain collective responsibility.
iii. Strive to uphold the virtues of integrity, honesty, meritocracy and fair play in all our activities and in development of morally and ethically upright graduates.
iv. Commit ourselves to teamwork and seek to build strong partnerships with all stakeholders.
v. Uphold and respect the rights, beliefs and values of others.
vi. Embrace innovativeness, independence of mind and pro-activeness among staff and students in the resolution of challenges.
vii. Believe in and strive to practice participatory management.
viii. Endeavour to effectively and efficiently utilize all resources entrusted to the department.
ix. Respect for and protection of the environment in all research activities

Academic Staff

Name	Qualification	Specialization	Designation
A. A. Osipitan	B.Sc. (Ife), M.Sc., Ph.D. (Ibadan)	Entomology	Reader and Ag. Head of Department
S. O. Afolami	B.Sc., Ph.D. (Ibadan)	Plant Nematology	Professor
O. A. Enikuomehin	B.Sc. (Ekpoma); M.Sc., Ph.D., Ibadan.	Plant Pathology	Professor
J. J. Atungwu	B. Agric., M. Agric., Ph.D. (Abeokuta)	Plant Nematology	Professor
O. R. Pitan	B.Sc. (Lagos);M.Sc., Ph.D.(Ibadan).	Entomology	Professor
A. R. Popoola	B.Sc. (Ife); M.Sc. (Ibadan); Ph.D.(Jos).	Plant Pathology	Professor
Emily I. Ayo-John	B.Sc. (Benin); M.Sc., Ph.D. (Ibadan).	Plant Virology	Reader
C. G. Afolabi	B.Sc., M.Sc., Ph.D. (Ibadan)	Plant Pathology	Senior Lecturer
I. S. Odeyemi	B. Agric. M. Agric., Ph.D. (Abeokuta)	Plant Nematology	Senior Lecturer
Caroline Filani	B. Agric., M. Agric.(Abeokuta)	Entomology	Lecturer II

B.AGRIC. (CROP PROTECTION)

In addition to the general 100 – 400 level courses, the following courses must be taken and passed at 40% or higher grade by students in 500 level of ***Crop Protection*** option of the B.Agric. Programme.

500 Level: First Semester

Course Code	Course Title	U	L	T	P
CPT 501	Insect Pests of Tropical Crops	2	1	-	1
CPT 503	Principles of Nematology	2	1	-	1
CPT 505	Plant Disease Diagnosis and Management	2	1	-	1
CPT 507	Plant Protection	2	1	-	1
CPT 509	Micro-Propagation in Crop Protection	2	1	-	1
PCP 501	Methods of Field Experimentation	2	1	-	1
HRT 501	Crop Husbandry (Vegetable Crop Production)	2	1	-	1
SOS 511	Soil Fertility and Plant Nutrition	2	1	-	1
AGS 597	Seminar I	1	-	-	1
	Elective	2	1	-	1
	Total	**19**	**9**	**-**	**10**
Electives					
HRT 503	Post-Harvest Physiology and Product Storage	2	1	-	1
SOS 513	Soil Physics	2	1	-	1
SOS 515	Soil and Plant Analysis	2	1	-	1
PCP 505	Crop Husbandry (Arable Crops)	2	1	-	1

500 Level: Second Semester

Course Code	Course Title	U	L	T	P
CPT 502	International Trade and Phytosanitation	2	1	-	1
PCP 504	Plant Growth and Development	2	1	-	1
PCP 506	Weed Science and Control	2	1	-	1
CPT 508	Vertebrate Pests in Agriculture	2	1	-	1
CPT 510	Pesticides in Agriculture	2	1	-	1
AGP 599	Project	4	-	-	4
HRT 502	Crop Husbandry (Plantation Crops)	2	1	-	1
AGS 598	Seminar II	1	-	-	1
	Elective	2	1	-	1
	Total	**19**	**7**	**-**	**12**
Electives					
CPT 504	Crop Protection in Organic Agriculture	2	1	-	1
PBS 504	Plant Breeding	2	1	-	1
SOS 518	Soil Survey and Land Use Planning	2	1	-	1
CPT 506	Biotechnology in Crop Protection	2	1	-	1

COURSE SYNOPSES

CPT 304: BASIC DIAGNOSTIC TECHNIQUES FOR PLANT PESTS AND DISEASES (2 Units) (1H L; 3H Practical)

Plant Disease and Pest Diagnostic Technology. Hands on training on laboratory and off-station (distance) distance diagnosis. Use of microscopy, imaging, culturing, taxonomic keys, internet resources. Determinative tests, serology, end-point and quantitative PCR. Isothermal and DNA amplification. Diagnosis of diseases caused by viruses, bacteria, phytoplasmas, fungi, fungal-like pathogens, nematodes. Identification of the major groups of insect pests. In depth case studies of critical pathogen and insect pest groups, e.g. Ralstonia solanacearum (bacterial wilt), Lepidoptera: Pyralidae and Noctuidae. Pest Diagnostic Data Management. Standard forms and databases. Monitoring, sampling/sample submission. Communication protocols, writing SOPs for high risk pest and pathogen diagnosis.

CPT 306: AGRICULTURAL PESTICIDES AND ENVIRONMENTAL POLLUTION (2 Units) (1H L; 3H Practical)

Agricultural pesticide and its classification; Environmental pollution of pesticides: pest resistance, enhanced degradation, damage to biological control organisms, damage to pollinating insects, phytotoxicity, hazard to wildlife and endangered species, pesticide drift, air pollution, pollution of water sources , and soil pollution; Health impacts of pesticides: pesticide toxicity to humans- acute and chronic toxicities, human health hazards (Cancer, birth defects neurodiseases, immune system disorder, infertility); Pesticide management: role of stakeholders (manufacturers, distributors or suppliers, users government, Development and Donor Agencies).

CPT 501: INSECT PEST OF TROPICAL CROPS (2 Units)

Principles and methods of insect pest control: Biological control, Genetic control, Host plant resistance, Chemical control, Environmental control, Mechanical and physical control, Regulatory control and Integrated Pest management (IPM) - ConCEBt and basic principles, advantages of IPM over other control methods. Practicals: Chemical control of pests on agricultural crops, Pesticide application equipment, dosage calculations.

CPT 502: INTERNATIONAL TRADE AND PHYTOSANITATION (2 Units)

An overview of international trade, barriers to trade e.g. SPS issues, regulations and standards, Institutional support: Role of WTO, IPPC, USDA, APHIS, PPQ, and Nigeria's PQS, in promoting import/export, pest risk assessment (PRA); qualitative and quantitative, pest surveillance, systems approach in PRA, plant inspection operations, pest mitigation measures; pest surveillance. Post-harvest culling and disposal; seed and other plant materials certification.

CPT 503: PRINCIPLES OF NEMATOLOGY (2 Units)

Introduction, History of nematology Terminologies in nematology, Life cycle of plant-parasitic nematodes, Economic importance of plant-parasitic nematodes of arable and permanent crops, Symptomatology and etiology of nematode diseases (RKN, RLN,, stem and seed nematodes), Host-nematode interactions and density dependent factors, Predisposition and disease interactions. Practicals: Extraction and identification of nematodes from soil under bush fallow arid from different monocrops and crop mixtures, Estimating nematode populations from the soil sample, Symptom expression by nematode infected crops.

CPT 504: CROP PROTECTION IN ORGANIC AGRICULTURE (2 Units)

Principles and practices of organic pest management, Companion planting, Organic pesticides, garlic, tobacco, neem extracts, etc., Beneficial organisms, Ecosystem processes and biological functioning, Foundational preventive measures to keep pests away. Practicals; Identification and testing of efficacies of plants with pesticidal properties, Chemical analysis of biocide preparations (for determination of active ingredient)

CPT 505: PLANT DISEASE DIAGNOSIS AND MANAGEMENT (2 Units)

Description of plant diseases under three major sections – bacterial, viral and mycological plant diseases. Development of plant diseases in relation to such factors in the environment-temperature, soil, relative humidity and moisture. Basic methods for isolation of the various pathogens causing diseases-bacteria, virus and fungi. The ecology of various pathogens and their severity. Identification of various symptoms and organisms causing fungal, bacterial and viral diseases of arable and tree crops. Isolation of the various pathogens that could cause a disease. Determination of minimum inoculum load of the pathogens. Determination of various factors favouring disease development. Field and Laboratory diagnosis. Management Option.

CPT 506: BIOTECHNOLOGY IN CROP PROTECTION (2 Units)

Common molecular techniques used in Crop Protection, DNA/RNA isolation, hybridization, sequence analyses, various PCR reactions, library construction and screening, protein isolation, and plant transformation. Basic principles and applied aspects of molecular studies recent advances in genomics and proteomics techniques Basic molecular biology and tools in genetic engineering, Potential of molecular biology, genetics and immunology for crop protection, Potential of biotechnology in crop protection. Practicals: Genomic DNA extraction, purification and quantification. Amplification of pure DNA sample from plant material. Gel electrophoresis and gel documentation.

CPT 507: PLANT PROTECTION (3 Units)

Major pests of tropical agriculture (insect, fungi, bacteria, viruses, nematodes, weeds and other diseases of tropical crops and stored products. Definition of pests. Study of insect pests of major local crops, their significance and principles of control. Study of the effects of diseases caused by virus, bacteria, fungi and nematodes. Control of these diseases, Effect of weeds on crops and livestock and the principles and methods of controlling weeds, Brief outline, advantages and shortcomings of different pest assessment and control methods. Strategies of integrated pest management. Practicals: Collection/isolation and identification of pests and disease organisms (insects, nematodes, fungi, bacteria, viruses, weeds), Identification and dosage calculation of pest control chemicals, Chemical application equipment and usage/functions, Identification of symptoms/signs of pest damage/attack.

CPT 508: VERTEBRATE PESTS IN AGRICULTURE (2 Units)

Distribution and abundance of vertebrate pest in Nigeria; Factors predisposing Crops and stored produce to vertebrate pest attacks; Assessments of vertebrate pest damage; Management and Control of vertebrate pests. Laboratory Practical: Identification of vertebrate pest activities and damage on arable and permanent crops in tropics. Assessment of vertebrate control methods in the field.

CPT 509: MICROPROPAGATION IN CROP PROTECTION (2 Units)

Definition of terms – plant tissue culture, in-vitro plant cultures, micro-propagation, explants, organogenesis, somatic embryogenesis. Methods and approaches: surface sterilization, culture media and their preparation. Growth hormones–auxins, cytokinins, etc. Stages of micro-propagation: Establishment of axenic cultures, Multiplication - shoot proliferation and multiple shoot production, Root formation – shoot elongation and rooting. Techniques of micro-propagation, culture of apical and axillary buds, Explant selection and sterilization, Establishment of cultures, shoot multiplication, rooting of regenerated shoots, Propagation by meristem and nodal cultures. Adventitious shoot formation. Trouble shooting.

CPT 510: PESTICIDES IN AGRICULTURE (2 Units)

Theory: Chemistry and actions of Insecticides, fungicides, bactericides, nematicides, acaricides, herbicides, rodenticides, etc. Classification, formulations, applications, toxicological residues, environmental degradation. Pesticides residue problems in developing countries. Health and safety precautions. Uses and abuses. Pesticides: Hazards and Alternatives. **Practicals**: Pesticide application, crop protection equipment, usage and maintenance. Practical health and safety precautions in pesticide application, protective clothing. Systematic movement of pesticides in plants/insects. Degradation of pesticides in soil and water.

DEPARTMENT OF HORTICULTURE

Introduction

Established in 1992, the Department of Horticulture remains the only full-fledged Department of Horticulture in Higher Education Institutions in the country to date. It was established to train both undergraduate and postgraduate students in the production, improvement, storage, handling and marketing of fruits, vegetables and ornamentals in addition to landscape gardening.

The establishment of the Department is in the recognition of the significant role horticultural crops play in agricultural and economic growth in Nigeria. Horticulture is a wide field, running parallel with agriculture. Postgraduate training in Horticulture began in the 1993/94 session.

Vision

The Department of Horticulture aspires to be the Centre of Excellence in Horticultural Sciences among the Higher Educational Institutions in the West African sub-region; the cynosure of the Federal University of Agriculture Abeokuta and the choice of applicants seeking professional training in Horticulture at the Postgraduate level. The Department aspires to be the most sought after Department in public-private partnerships which optimize the potentials of the diverse spheres of Horticulture in the West African sub-region (food and nutritional security, health and recreation, mitigation of climate change and environmental beautification).

Mission

Working in partnership with other stakeholders, the Department of Horticulture will increase employability of its graduates by imparting knowledge and cutting-edge market-driven skills.

Philosophy

Horticulture can make significant contributions to national development and accelerate the attainment of the Sustainable Developmental Goals (SDGs). To optimize this potential and enhance its competitiveness globally, the Department reiteratively reconfigures its training curriculum to effectively respond to emerging demands of the markets and industries. The Department is set to produce graduates who blend cutting-edge science with entrepreneurial skills to make them outstanding in service delivery. Our graduates shall be Employers and job-creators rather than job-seekers.

Objectives of the Programme

The objectives of the Horticulture programme in FUNAAB include:

1. To improve the public perception of horticulture as a profession to be desired

than despised.

2. To produce proficient graduates who are employable and able to create jobs in all specializations of Horticulture: Pomology (Fruit Science), Olericulture (Vegetable Science) and Ornamental Horticulture (floriculture, landscaping and landscape architecture).
3. To generate demand-driven adoptable technologies that create more jobs, add value to horticultural produce and enhance the development of the horticultural industry.
4. To expand the frontiers of knowledge in cross-border applications of horticulture in food nutrition and health, climate change, sports and environmental beautification.
5. Through ad hoc training locally and overseas, the Department of Horticulture is determined to improve the capacity of teaching and support staff to deliver the objectives above.
6. Besides, the postgraduate programmes in the Department is to provide an advanced training / knowledge in the areas of theories, practical and research, and in modern application of Horticulture to resource utilization and development in Nigeria in particular, and the whole world in general.
7. Students shall become professionals in the chosen discipline of Horticultural Sciences: **Olericulture** (vegetable and spice crops production and processing), **Pomology** (fruit and industrial tree-crops production and processing), **Floriculture** (cultivation and management of ornamentals, flowering and shade plants) and **Landscape Horticulture** (design and management of ornamental gardens, turf grounds, tourist centres, recreational centres, fishponds, round-about, lawns, etc.).
8. The Department shall train the students against future challenges in the areas of all Horticultural Sciences.
9. In addition, soft and hard landscape architecture is offered to students who are particularly interested in beautification of indoor and out-door environments.
10. Career opportunities in Horticulture shall include protected cultivation, handling and processing technology of Horticultural crops and extension aspects of Horticulture.

Academic Staff

Name	Qualification	Specialisation	Designation
A. W. Salau	B. Agric., M. Agric., Ph.D. (Abeokuta)	Olericulture / Cropping Systems	Reader & Ag. Head
F. O. Olasantan	B.Sc., M.Sc., Ph.D. (Ibadan), PGDE (Ilorin)	Cropping Systems /Olericulture	Professor
J. G. Bodunde	B.Sc. (Ibadan), M.Sc., Ph.D. (Zaria)	Environmental Physiology/Horticulture	Professor
I. O. O. Aiyelaagbe	B.Sc., M.Sc. , Ph.D. (Ibadan)	Cropping Systems /Pomology	Professor
E. A. Makinde	B.Sc., M.Sc. ,Ph.D (Ibadan)	Olericulture /Cropping Systems	Professor
O. O. Olubode	B.Sc., M.Sc., (Ibadan), Ph.D (Abeokuta)	Pomology / Cropping Systems	Reader
L. A. Hammed	B.Sc., M.Sc., Ph.D (Ibadan)	Pomology/Tree crops	Reader
O. M. Olosunde	B.Agric., M. Agric., Ph.D. (Abeokuta)	Ornamental Horticulture	Senior Lecturer
Tunrayo T. Joseph-Adekunle	B. Agric. (Abeokuta), M.Sc., M. Phil(Ibadan)	Pomology	Lecturer I
Olubukonla M. Odeyemi	B. Agric. (Abeokuta), M.Sc., M. Phil (Coventry, UK), Ph.D. (Abeokuta)	Post-harvest handling Technology / Pomology	Lecturer I

B. AGRIC. (HORTICULTURE)

In addition to the general 100 – 400 level courses, the following courses must be taken and passed at 40% or higher grade by students in 500 level of ***Horticulture*** option of the B. Agric. programme.

500 Level: First Semester

Course code	Course Titles	U	L	T	P
PCP 501	Methods of Field Experimentation	2	1	-	1
HRT 501	Crop Husbandry (Vegetable Crop Production)	2	1	-	1
PCP 505	Crop Husbandry (Arable Crops)	2	1	-	1
CPT 507	Plant Protection	2	1	-	1
SOS 513	Soil Physics	2	1	-	1
SOS 515	Soil and Plant Analysis	2	1	-	1
HRT 503	Post-Harvest Physiology and Produce Storage	2	1	-	1
SOS 511	Soil Fertility and Plant Nutrition	2	1	-	1
AGS 597	Seminar I	1	-	-	1
	Electives (2)	4	2	-	2
	Total	**21**	**10**	**-**	**11**
Electives					
SOS 520	Soil and water conservation	2	2	-	1
HRT 507	Ornamental Horticulture	2	2	-	1
HRT 509	Landscape Horticulture	2	2	-	1

500 Level: Second Semester

Course Code	Course Title	U	L	T	P
SOS 518	Soil Survey and Land Use Planning	2	1	-	1
HRT 502	Crop Husbandry (Plantation Crops)	2	1	-	1
PCP 504	Plant Growth and Development	2	1	-	1
PBS 504	Plant Breeding and Seed Production	2	1	-	1
PCP 506	Weed Science and Control	2	1	-	1
SOS 522	Soil Chemistry	2	1	-	1
AGS 598	Seminar II	1	-	-	1
AGP 599	Project	4	-	-	4
	Electives (2)	4	2	-	2
	Total	**21**	**8**	**-**	**13**
Electives					
HRT 504	Micro-propagation	2	1	-	1
HRT 506	Parks and Garden design and Management	2	1	-	1
HRT 508	Organic and Urban Farming	2	1	-	1

COURSE SYNOPSES

HRT 202: INTRODUCTION TO LANDSCAPING (2 Units)

Definition of landscaping: - Natural versus man-made landscape. Scope and historical sketches of landscaping: to enhance property beauty and value; to provide screening – effect from security and privacy, etc. Types of landscaping, institutional, private property, parks, and recreational area landscaping – e.g. sporting arena. Elements of landscaping colour, texture, etc., Principles of landscaping design, selection criteria for plants and paving. Review of soft and hard landscaping.

Practical: Identification of tropical and subtropical ornamental plants. Visits to places of interest. Plan reading and translation.

HRT 501: VEGETABLE CROPS PRODUCTION (OLERICULTURE) (2 Units)

Principles and practice of vegetable crops production, major classes of vegetables – indigenous, exotic and wild vegetables; Factors influencing site selection – climatic and soil requirements; Field establishment, management, cultural practices, processing, storage and marketing, problems of vegetable production.

Practical: Raising vegetable transplants in the nursery, seed identification, fresh produce identification. Visit to appropriate establishments for some few vegetables grown in Nigeria.

HRT 502: CROP HUSBANDRY (PLANTATION CROPS) (2 Units)

Climatic and soil requirements; Fruit tree propagation, selection and preparation of nursery site of cacao, kola, oil palm, citrus, cashew, coffee and rubber, etc.;

plantation/orchard establishment: site selection, layout, and land preparation, planning. Crop management/improvement practices. Chemical weed and pest control. Harvesting: seed control, preservation, storage, packaging, processing and marketing.

HRT 503: POST HARVEST PHYSIOLOGY AND PRODUCE STORAGE (2 Units)

Seed storage and factors affecting storage of seedlings, grain fruits, roots, tuber and vegetables; Effect of environment on maturity and senescence; Factors affecting plant nutrition as related to production of vegetable parts, seeds, grain, fruits, tubers, physical and chemical factors influencing produce quality; Storage of fruits and vegetables, low temperature storage; Locally fabricated low temperature storage structure, e.g. portable evaporative coolant structure. Controlled atmosphere storage, field storage environment; Post-harvest losses and prevention, economic, quantitative, qualitative, nutritional and germination losses.

Practical: training in handling, harvesting and storage of produce to minimize loses; Traditional methods of produce storage; Visits to Nigerian Stored Products research Institute and Processing Companies; Seed Storage Environment Structure and Maintenance; Disease and Pest control in storage; Environmental Control Storage.

HRT 504: PROPAGATION OF HORTICULTURAL CROPS (2 Units)

Propagation defined, major types of propagation – sexual and vegetative; Definition and importance of nursery; Nursery management techniques and implication for horticultural crops; Factors of nursery establishment, fruit tree propagation, selection and preparation of nursery site, propagation structures and techniques, seed tissue culture, stem cutting, laying grafting, budding etc.; micro and macro propagation definition and importance. Introduction to biotechnology; Physiological basis of plant culture at cellular level; Potting media; Nutrient basis in tissue culture. Environmental control in tissue culture; Influence of pathogens n cultures propagates.

Practical: Identification of suitable plants and plant parts for tissue culture; Identification, preparation utilization and maintenance of culture media; Identification of propagation equipment.

HRT 505: DESSERT FRUIT CROPS (2 Units)

Definition of dessert fruit crops; Major classes of dessert fruit crops, indigenous, wild and exotic fruits; Economic importance; Factors affecting their cultivation; Climatic and soil requirements; Distribution of dessert fruit crops, mango, plantain, banana, pawpaw, guava, pineapple, apple, passion fruit, viticulture, date pal, etc.; site selection, layout, land preparation, planting; Crop improvement practices; Orchard maintenance; Harvesting, grading, storage, packaging, processing and marketing.

Practical: land preparation techniques, nurseries and management, visit to orchards of the crops named above; Seed and fresh fruit identification; Grape vine pruning training; Grape and resin processing.

HRT 506: PARKS AND GARDEN DESIGN AND MANAGEMENT (2 Units)

History of gardens; Garden types; Architectural design for local modern parks and gardens; Functional designs for parks and gardens, e.g. parks for family relaxation, parks for holidaying; Concept of national parks and gardens, botanical gardens, horticulture garden, estate gardens, etc. contracts and contractual agreements; Establishment and management of park and garden; Garden and park facilities and maintenance.

Practical: Design of parks and gardens; Howe to prepare contract documents; Visit to notable parks and gardens.

HRT 507: ORNAMENTAL HORTICULTURE (2 Units)

Identification of tropical ornament plants; Culture of trees, shrubs and flowers; Shade trees, ground covers, annual flowers, perennials shrubs and hedge plants, bedding and foundation flowers plants, lawn grasses, nursery management, palms as ornamental plants, rock gardens, aquatic plants, forms orchids.

Practical: Field work – to identify various species of trees, shrubs, hedge plant propagation, cutting and seeds, etc.; potting media, flower show; Flower arrangement; Pot flower production; Home beautification – interior and external decoration.

HRT 508: ORGANIC FARMING (2 Units)

Definition of organic farming; Major types of horticultural crops grown under organic; Organic farming production system; Importance of organic farming; Peculiarities of organic farming; Certification of organic horticultural products. Materials used in organic crops production; Sources of organic fertilizer materials; Environmental and earthy implication of organic farming; Problems of organic farming; Maintenance of soil fertility and crop protection, irrigation; Prospects of organic/dry season horticultural farming.

Practical: Compost preparation and preservation; Green manures/farmyard manure identification; Land preparation, appropriate establishments, particularly on techniques, establishment; Visit to organic farming.

HRT 510: URBAN FARMING (2 Units)

Definition of urban farming; Major types of horticultural crops grown under urban farming; Urban farming production system; Protected crops cultivation; Peculiarities of urban farming; Concepts of home gardening, market gardening and commercial gardening; Environmental and earthy implication of urban farming; Influence of urbanization and environmental factors; Problems of urban/dry season horticultural farming; Maintenance of soil fertility and crop protection, irrigation; Prospects of urban/dry season horticultural farming.

Practical: Green manures/farmyard manure identification; Land preparation, appropriate establishments, particularly on techniques, establishment; Visit to protected farming and urban farming of interest.

AGS 597: SEMINAR I (1 Unit)

How to use library – Review of literature on special topics and proposal presentation.

AGS 598: SEMINAR II (1 Unit)

Presentation of project report post – data seminar.

AGS 599: PROJECT (4 Units)

Special project submitted to the Department in partial fulfilment of the requirements for award of B. Agric. in Horticulture.

DEPARTMENT OF PLANT BREEDING AND SEED TECHNOLOGY

Preamble

The Department of Plant Breeding and Seed Technology (PBST) is one of the five Departments in the College of Plant Science and Crop Production (COLPLANT) of the Federal University of Agriculture, Abeokuta. It is the only Department of such in a Nigerian University. Its establishment is in acknowledgement of the pivotal position of plant breeding and seed production in a developing economy.

The Department offers degree programmes leading to the award of Bachelors, Postgraduate Diploma, Masters, and Doctoral degrees. The Department has two academic units, namely:

i. Plant Breeding and Genetics Unit and
ii. Seed Technology and Biotechnology Unit

Philosophy and Objectives

The academic programme of the Department is in furtherance of the general philosophy and objectives of the University. The expression "Plant Breeding" implies the conscious human effort aimed at improving old and developing new varieties of crops in order to satisfy the demands for human food and animal feed. What is being improved or changed is the heredity of the plants. Before the potential benefits from an improved variety can be realized, the variety must be distributed widely, and sufficient seeds must be produced so that the variety can be grown on the farms in the areas to which it is adapted.

Seed scientists handle the systematic increase, rapid distribution and certification of pure seeds of the new improved variety most expeditiously. Therefore, the concept, scope and vision of the Department basically reinforce efforts towards increasing food production through development of improved breeding lines and seeds of high agronomic values. Consequently, the Department offers opportunities for formal training at the undergraduate and postgraduate levels for the acquisition of basic and higher degrees necessary in these specialized areas of plant breeding and genetics, seed technology and biotechnology.

The Department is committed to achieving the following goals:

i. To make the Department a centre of excellence in the training of plant geneticists/ breeders and seed scientists.
ii. To focus research efforts on solving problems of our immediate environment and the local and global food security.

iii. To encourage every staff and student in the Department to achieve his or her optimum in research activities.
iv. To encourage and facilitate inter-disciplinary cooperation in research among staff and other external affiliations.

Academic Staff

Name	Qualification	Specialization	Designation
M. A. Adebisi	B. Agric., M. Agric., Ph.D. (Abeokuta)	Seed Technology	Professor & Head of Department
O. J. Ariyo	B. Agric. (Nigeria), M.Sc., Ph.D. (Ibadan)	Plant Breeding	Professor
D. K. Ojo	B.Sc. (Ile-Ife), M.Sc. (Ibadan), Ph.D.(Abeokuta)	Plant Breeding	Professor
F. A. Sowemimo	B.Sc., M.Sc., Ph.D. (Zaria)	Plant Breeding	Professor
O. B. Kehinde	M.Sc., Ph.D. (Ibadan)	Plant Genetics/ Breeding	Professor
M. O. Ajala	B.Sc. (Ile-Ife), M.Sc. (Edinburgh), Ph.D. (Ibadan)	Seed Technology	Professor
Dupe C. Akintobi	B.Sc. (Ile-Ife), M.Sc. (California), Ph.D.(Ibadan)	Seed Technology	Professor
I. O. Daniel	B.Sc., M.Sc., Ph.D. (Ibadan)	Seed Technology	Professor
Moninuola A. Ayo-Vaughan	B.Sc. (Ile-Ife), M.Sc. (Ibadan), Ph.D.(Abeokuta)	Plant Genetics/ Breeding	Reader
C. O. Alake	B. Agric. (Abeokuta), M.Sc. (Ado-Ekiti), Ph.D. (Abeokuta)	Plant Breeding	Reader
Justina B. O. Porbeni	B.Sc., M.Sc., Ph.D. (Ibadan)	Plant Genetics/ Breeding	Senior Lecturer
E. O. Idehen	B. Agric., M. Agric., Ph.D. (Abeokuta)	Plant Breeding	Senior Lecturer
O. A. Oduwaye	B. Tech. (Ogbomosho) M. Agric., Ph.D. (Abeokuta)	Plant Breeding	Senior Lecturer
O. O. Ajani	B. Agric., M. Agric. (Abeokuta)	Seed Technology	Lecturer I
Tolulope O. Kehinde	B. Agric., M. Agric., Ph.D. (Abeokuta)	Seed Technology	Lecturer I

B.AGRIC. (PLANT BREEDING AND SEED TECHNOLOGY)

In addition to the general 100 – 400 level courses, the following courses must be taken and passed at 40% or higher grade by students in 500 level of ***Plant Breeding and Seeding Technology*** option of the B. Agric. programme.

500 Level: First Semester

Course Code	Course Titles	U	L	T	P
PBS 501	Principles of Seed Technology	2	1	-	1
PBS 503	Crop Evolution and Taxonomy	2	1	-	1
PBS 505	Genetic Methods in Plant Breeding	2	1	-	1
PBS 507	Introductory Crop Biotechnology	2	1	-	1
PBS 509	Seed Processing	2	1	-	1
PCP 501	Methods of Field Experimentation	2	1	-	1
HRT 501	Crop Husbandry (Vegetable Crop Production	2	1	-	1
SOS 511	Soil Fertility and Plant Nutrition	2	1	-	1
AGS 597	Seminar I	1	-	-	1
	Elective	2	1	-	1
	Total	**19**	**9**		**10**
Electives					
CPT 507	Plant Protection	2	1	-	1
HRT 503	Post-Harvest Physiology and Product Storage	2	1	-	1
PCP 505	Crop Husbandry (Arable Crops)	2	1	-	1
SOS 515	Soil and Plant Analysis	2	1	-	1

500 Level: Second Semester

Course Code	Course Titles	U	L	T	P
PBS 502	Seed Production	2	1	-	1
PBS 504	Plant Breeding	2	1	-	1
PBS 506	Seed Preservation	2	1	-	1
HRT 502	Crop Husbandry (Plantation Crops)	2	1	-	1
PCP 506	Weed Science and Control	2	1	-	1
PCP 504	Plant Growth & Development	2	1	-	1
AGS 598	Seminar II	1	-	-	1
AGP 599	Project	4	-	-	4
	Elective	2	1	-	1
	Total	**19**	**7**	**-**	**12**
Electives					
SOS 518	Soil Survey & Land Use Planning	2	1	-	1
HRT 508	Organic and Urban Farming	2	1	-	1

COURSE SYNOPSES

PBS 401: INTRODUCTORY GENETICS AND PLANT BREEDING (3 Units)

Cell division – Mitosis, Meiosis and Gametogenesis. Mendelian Genetics – concept of dominant/ recessive characters, the significant of hybrid ratios, Mendelian laws. Linkage and crossing-over, coupling and repulsion phases of linkage and effects on genotypic expectations; linkage maps. Gene expression and interaction. Pleiotropism, additive genes, epistatic genes, complementary genes, duplicate genes

etc. Polygenic inheritance. Definition of Plant Breeding. Methods of reproduction in plants. Principles of selection. Genetic basis of breeding self and cross-pollinated crops. Concept of genetic gain. Concepts of disease/insect resistance/tolerance.

Practicals: slide presentation of stages in cell division. Demonstration of dominance/recessive characters. Selfing and cross-pollination in plant species and hybrid ratios.

PBS 501: PRINCIPLES OF SEED TECHNOLOGY (2 Units)

Elements of seed industry. Seed programme development, Purity analysis, seed viability and vigour. Seed storage principles. Seed conservation and germplasm. Seed packaging purposes, types and cost implications. Seed marketing; principles and objectives. Marketing organisation and management. Seed sampling methods - types and techniques. Seed blending – procedures and calculation. Seed laws. Plant Breeders' rights – implementation and evaluation. Synthetic seed: Somatic embryogenesis.

Practicals: Purity analysis, seed viability and vigour. Sampling technique – primary, composite, submitted and working samples. Seed health testing. Seed packaging – types and differential permeability to moisture. *In-vitro* culture.

PBS 502: SEED PRODUCTION (3 Units)

Environment and other factors affecting seed multiplication. Pollination – wind and insect. Pollination of F_1 hybrid plants for seed production. Controlled multiplication. Cultural practices: plant protection, chemical application. Crop maturity and time of harvest. Seed certification. Protection against foreign pollen. Isolation distance. Deterioration of seed stocks. Contact growing-philosophy, principles and applications.

Practicals: Dormancy breaking techniques. Application of pesticides and visit to commercial seed processing companies: National Seed Service and Ministry of Agriculture and Natural Resources (MANR), Asero, Abeokuta to familiarize students with seed processing, packaging and storage principles.

PBS 503: CROP EVOLUTION AND TAXONOMY (2 Units)

Theory of evolution. Mechanics of crop evolution, Roles of hybridization recombination and natural selection in crop evolution. Isolating mechanism. Modes of specialization. Concepts of primary and secondary centres of origin. Origin of commonly cultivated crops. Genetic variation in populations. Genetic drift. An introduction to the principles of taxonomy, plant nomenclature, succession, mechanisms for survival.

Practicals: A survey of crop species and their wild relatives. Consideration of crop varieties and how they fit into a species. Collection of various species within a genus and see how they relate to each other.

PBS 504: PLANT BREEDING (2 Units)

Definition of Plant Breeding. Role of plant breeding in increasing global food supply. Quantitative characters in plant breeding. Role of environment in plant breeding. Self-incompatibility system. Methods of breeding self-pollinated crops: Pedigree breeding, Pure line breeding. Mass selection, Bulk-population breeding. Backcross breeding. Methods of breeding cross-pollinated crops: Mass selection, Re-current selection, Reciprocal recurrent selection, Synthetic varieties, Hybrid varieties. Methods of breeding Asexually propagated crops. Breeding for diseases resistance, germplasm conservation and evaluation. Tissue culture in plant breeding.

Practicals: Identification of crop varieties on the field. Emasculation. Selfing and crossing techniques in pollination. Mechanism for preventing contamination after pollination. Collection of types of flowers and how each type affects breeding. Cloning and its effects in genetic variability. Field layout in varietal trials. Excursion to research institutes engaged in plant breeding.

PBS 505: GENETIC METHODS IN PLANT BREEDING (2 Units)

Management of variability in plants. Metrical characters, inbreeding and outbreeding. Heterosis, concepts of heritability; Genetic advance. Methods of selection. Evaluation of inbred line for specific and general combining abilities. Di-allele analysis. Gene juggling, chromosome engineering Gene transfer and genome reconstruction.

Practical: Genetic analysis of variation in plants. Calculations involving heterosis, heritability, genetic advance and combining abilities. Practical examples of di-allele analysis.

PBS 506: SEED PRESERVATION (2 Units)

Seed conservation and germplasms. Aims and objectives. Germination capacity and storage life. Sigmoid curve. Ecological habitat. Seed moisture relations. Temperature-moisture relationship. Harrington's Rule of Thumb. Absorption-desorption isotherms. Gases and seed longevity. Biotic factors - insects, mites, rodents and birds. Storage conditions. Sealed storage. Seed treatment. Storage of treated seeds.

Practicals: Principles of moisture reduction and/or adjustments. Seed moisture determination using standard oven method. Other methods of determining seed

moisture. Moisture meters. Seed desiccation and experimental use of desiccators. Moisture vapour – proof packages – tin cans, aluminium foils, heat-sealable pouches, polyethylene films practical demonstration.

PBS 507: INTRODUCTORY CROP BIOTECHNOLOGY (3 Units)

Definition of biotechnology, its branches and its relationship to basic sciences. Importance of biotechnology in crop improvement and production. Nucleic acid hybridization, function of endonuclease; polymerase and other enzymes. Role of southern blot, restriction fragment length, polymorphism and other techniques in gene mapping. Transformation and production of transgenic crops. Protoplast, cell, tissue and organ culture, in-vitro pollen germination and fertilization, protoplasm and cell fusion, crop propagation and somatic embryogenesis in rapid multiplication of agriculture and rural development in the developing countries.

Practicals: Preparation of media, aseptic transfer of explants, micro-propagation of plants.

DEPARTMENT OF PLANT PHYSIOLOGY AND CROP PRODUCTION

Preamble

The Department of Plant Physiology and Crop Production (PPCP) is one of the five Departments in the College of Plant Science and Crop Production (COLPLANT) of the University of Agriculture, Abeokuta (ABEOKUTA). It was created out of the former Department of Crop Production and Crop Protection and the former Department of Plant Physiology and Crop Ecology through a Senate approved re-structuring. There are three academic disciplines in the Department, namely: Crop Physiology, Crop Production and Weed Science. Courses in these different areas are taught in the B.Agric. programme.

Philosophy

The philosophy recognises science discipline as the bedrock of agricultural and technological developments and consequently natural growth. Crop Production is the foundation of agriculture since crops are the primary sources of energy and growth in the agricultural food chain.

Objectives

The objectives of the Department are to:

i. enable agricultural problems be resolved through the scientific manipulation of crops and their environment for enhanced productivity with the aim of attaining food security;
ii. ensure thorough training of students in the application of crop physiology for enhanced productivity through the deployment of improved production practices as well as the management and manipulation of the crop environment, including weed control;
iii. inculcate in our graduates an entrepreneurial culture, communication skill, computer literacy, problem-solving behaviour, life-long learning and subject matter intellect to ensure employment opportunities; and
iv. make the graduates to be creative, innovative and full of initiatives for self-employment.

Academic Staff

Name	Qualification	Specialization	Designation
A. A. Oyekanmi	OND (Akure), M.Sc. (Tashkent), Ph.D. (Krasnodar)	Agronomy/Rice Physiology	Professor and Head of Department
K. A. Okeleye	B.Sc. (Ibadan), M.Sc., Ph.D. (Ile-Ife)	Agronomy/Plant Physiology	Professor
P. O. Adetiloye	B.Sc., Ph.D. (Nigeria)	Cropping Systems Agronomy	Professor
J. A. Adigun	B.Sc., M.Sc., Ph.D. (Zaria)	Weed Science	Professor
V. I. O. Olowe	M.Sc. (Krasnodar), Ph.D. (Ile-Ife)	Agronomy	Professor
K. A. Elemo	B.Sc. (Ibadan), M.Sc., Ph.D. (Philippines)	Agronomy/Cropping Systems	Professor
M. O. Atayese	B.Sc. (Lagos), M.Sc., Ph.D. (Ibadan)	Plant Physiology	Professor
S. O. Adigbo	OND (Asaba), B. Agric., M. Agric., Ph.D. (Abeokuta).	Agronomy	Professor
O. R. Adeyemi	B.Sc., M.Sc. (Ibadan), Ph.D. (Akure)	Weed Science	Reader
P. O. Akintokun	B.Sc., M.Sc., Ph.D. (Ibadan)	Agronomy (Plant Nutritionist)	Reader
A. A. Olaiya	B. Tech. (Akure), M.Sc., Ph.D. (Ibadan)	Agronomist/Crop Production	Reader
T. O. Fabunmi	B.Sc. (Zaria); M.Sc. (Ibadan); Ph.D. (Abeokuta)	Agronomy/Cropping System	Reader
O. I. Lawal	B. Agric., M. Agric. (Ilorin); Ph.D. (Ibadan)	Agronomy/Plant Nutrition	Senior Lecturer
O. S. Sakariyawo	B.Sc., M.Sc. (Krasnodar), Ph.D. (Moscow)	Agronomy / Ecophysiology	Senior Lecturer
S. G. Aderibigbe	B.Sc., M.Sc. (Zaria), Ph.D. (Abeokuta)	Crop Production	Senior Lecturer
Patience M. Olorunmaiye	B.Sc., M.Sc. (Ibadan); Ph.D. (Ilorin)	Agronomy/Weed Science	Senior Lecturer

Name	Qualification	Specialization	Designation
Joy N. Odedina	B.Sc. (RSUST);M.Agric. Tech.,Ph.D. (Akure)	Agronomy/Crop Nutrition	Senior Lecturer
P. A. S. Soremi	NCE (Abeokuta); B.Agric., M. Agric.(Abeokuta)	Agronomy	Assistant Lecturer
N. O. Adeyemi	B. Agric., M. Agric. (Abeokuta)	Crop Physiology	Assistant Lecturer

B.AGRIC. (PLANT PHYSIOLOGY AND CROP PRODUCTION)

In addition to the general 100 – 400 level courses, the following courses must be taken and passed at 40% or higher grade by students in 500 level of ***Plant Physiology and Crop Production*** option of the B. Agric. programme.

500 Level: First Semester

Course code	Course Title	U	L	T	P
PCP 501	Methods of Field Experimentation	2	1	-	1
HRT 501	Crop Husbandry (Vegetable and Fruit Crop Production)	2	1	-	1
HRT 503	Post-Harvest Physiology and Product Storage	2	1	-	1
PCP 505	Crop Husbandry (Arable Crops)	2	1	-	1
PCP 507	Crop Husbandry (Tubers and Fiber Crops)	2	1	-	1
CPT 507	Plant Protection	2	1	-	1
SOS 515	Soil and Plant Analysis	2	1	-	1
SOS 511	Soil Fertility and Plant Nutrition	2	1	-	1
AGS 597	Seminar I	1	-	-	1
	Electives (2)	4	2	-	2
	Total	**21**	**10**	**-**	**11**
Electives					
PCP 503	Farming Systems	2	1	-	1
HRT 509	Landscape Horticulture	2	1	-	1
SOS 513	Soil Physics	2	1	-	1

500 Level: Second Semester

Course code	Course Title	U	L	T	P
HRT 502	Crop Husbandry (Plantation Crops)	2	1	-	1
PBS 504	Plant Breeding	2	1	-	1
PCP 504	Plant Growth and Development	2	1	-	1
PCP 506	Weed Science	2	1	-	1
SOS 518	Soil Survey and Land Use Planning	2	1	-	1
PRM 502	Forage Conservation and Quality	3	2	-	1
AGS 598	Seminar II	1	-	-	1
AGP 599	Project	4	-	-	4
	Electives (2)	4	2	-	2
	Total	**22**	**9**	**-**	**13**
Electives					
PCP 508	Plant Nutrition and Water Relation	2	1	-	1
PCP 510	Physiology of Crop Yield	2	1	-	1
PBS 502	Seed Production	2	1	-	1

COURSE SYNOPSES

PCP 101: INTRODUCTORY PLANT PHYSIOLOGY (2 Units)

Nature of living organisms; Plant nutrition, elements and their functions; Uptake of nutrients; Sources of metabolites; Chemosynthesis and photosynthesis; Cycles of raw materials (nitrogen cycles); Respiration; Method of elimination of waste material of production in plants; Plant hormones; homeostasis, osmoregulation in plants; Reproduction (sexual and asexual); Growth and development, patterns of growth, factors affecting growth, flowering and fruit growth; Enzymes (properties/characteristics, composition, types, mechanism of action, estimates of rates, inhibitors).

PCP 191: BASIC PLANT PHYSIOLOGY PRACTICAL (1 Unit)

Use and handling of the compound microscope (examination of the microscope, setting up of the lower and higher power, using the microscope, depth of the field and optical section, examination of objects under the microscope); Plant cell: basic cell structure, plant anatomy and morphology, Cell division: mitosis and meiosis; Plant growth analysis: hormones and growth regulators, Bacteria, Fungi, algae, bryophytes, pteridophytes, angiosperms, Movement of ions and molecules into and out of cells, Stomata, Enzymes, Test for carbohydrates, proteins, and lipids; determination of water potential, detection of starch in leaves.

PCP 201: PRINCIPLES OF CROP PRODUCTION (3 Units)

History of agriculture and its relationships with other sciences. Agricultural ecology: ecosystem and distribution of vegetation and animals. Cropping systems, tillage practices – conventional, minimum, no-tillage. Farm tools and machinery, farm buildings and structures. General production practices of field crops. Derivation and characteristics of the common varieties of cereals, grain legumes and pulses, roots and tuber species, plantains and bananas. Insect orders and diseases of economic importance in crop production in the tropics. Seed viability, dormancy, germination testing. Crop propagation: seed and vegetative. General role of extension in crop production.

Practicals: Identification, usage and maintenance of farm tools and machinery. Identification of seeding materials of arable crops propagated by seed, sett, stem, vine, root, sucker corms and cormel and rhizomes etc. Methods of seed viability testing. Dormancy: causes and how to overcome them. Identification/collection of weed, insects and plant diseases of economic importance. Field practices on various cultural management practices: land preparation, seeding, weeding, insect control fertilization, harvesting etc.

PCP 202: ANATOMY, TAXONOMY AND PHYSIOLOGY OF AGRICULTURAL PLANTS (2 Units)

Classification of Agricultural Plants, Divisions: Phyla, class, order, family, genus, species. Microscope and its use; plant cell structures and organelles. Development of cells and tissues; comparative anatomy of major plant organs. Enzymes. Seed germination and dormancy. Respiration and energy balance of crops. Photosynthesis, translocation and assimilate distribution in relation to yield determination. Water relations. Plant growth substances and their role in crop production.

Practicals: Use of microscope: plant cell structure and organelles. Root, stem, leaf, anatomy of dicots and monocots. Growth curve and growth analysis. Data analysis and interpretation.

PCP 302 : PRINCIPLES OF CROP PRODUCTION II (2 Units)

Crop as a whole living/working/efficient and productive system, Impact of soil physical, biological and chemical properties on crops, Impact of environmental factors on crop biology/expression and productivity, Properties of solar energy, incident solar radiation, etc

PCP 304: WEED BIOLOGY AND ECOLOGY (2 Units)

Weed biology- definition of weeds, weed biology - characteristics of weeds, economic importance of weeds –harmful and beneficial effects of weeds ; classification of weeds based on : origin, life cycle, habitat, growth habit, association (crop mimicry), nature of stem, morphorlogy, binomial nomenclature .

Weed reproduction – process of reproduction – weed seed production, seed dissemination, seed germination, vegetative reproduction. Parasitic weeds- total parasitic weeds, partial parasitic weeds. Aquatic weeds: common and types of aquatic weeds and their control.

Weed ecology – definition of weed ecology, persistence of weeds - factors affecting crop persistence , (climatic, edaphic and biotic), Crop-weed association- crop weed competition, principles and factors, critical period of weed competition in crop, allelopathy.

Problematic weeds: examples of problematic weeds and their possible control – Cyperus spp. Imperata cylindrica, Cynodon dactylon , Chomolaena odorata, Tithonia diversifolia.

PCP 311: CROP PRODUCTION I (2 UNITS)

Manures and fertilizers. Fertilizer usage. Mineral nutrition of crop plants and deficiency symptoms. Maintenance of soil fertility. Agronomic groupings of crop plants and their characteristics: cereals, legumes, root crops, tuber crops, forage crops, oil crops, fibre crops, beverage crops, sugar crops, fruit and vegetable crops, rubber, cover

crops and stimulants. Crop management practices: site selection, land preparation, seeding, fertilizer application, weed, insect and disease management, harvesting, processing, utilization and produce storage for arable and plantation crops. Ecological distribution of crops in Nigeria. Farming system, cropping systems and cropping patterns. World, African and Nigerian food production problems and potential solutions. Climatic, economic and social conditions affecting crop distribution and growth. Water requirement of crop plants: hydrophytes, mesophytes, xerophytes. Irrigation: types, purposes, methods and problems.
Practicals: Fertilizer identification and calculation. Crop seed identification. Seed structure and vegetative morphology of cereals, legumes, fibres, root and tuber crops. Identification of some diseases, weeds and insect pests of some crops. Effects of light on plant growth. Effects of varying moisture levels on plant growth.

PCP 501: METHODS OF FIELD EXPERIMENTATION (2 UNITS)
Logic, scientific methods, deductive and inductive reasoning. Essential steps in experimentation: definition of problem, objectives, treatments, experimental material selection. Guides in outlining a proposal on applied research project. Title, problem definition, objectives, materials and methods, plot layout diagram, work schedule, data sheet, yield sample diagram. Log frame. Sources of variation in field experiment. Experimental designs: Completely Randomized, Randomized Complete Block, Latin square, split plot designs. Single and factorial experiments. Analysis of variance from such designs. Data interpretation and conclusions based on the F-Test on data analyzed. Mean and standard deviation, standard error, Least significant difference, Duncan multiple range test, Correlation and Regression, Non-parametric statistics and their applications: Chi-square, normal curves and T-test. Writing reports of experiments (project report and journal articles)
Practicals: Visit to selected farms and cropping system experiments. Identification of different cropping patterns. Interactions with selected farmers.

PCP 503: FARMING SYSTEMS (2 UNITS)
Concepts, definition and classification of farming systems. Factors determining farming systems: physical, biological and socioeconomic. Characteristics of the small-scale tropical farming systems. Nomadic, shifting cultivation, fallow rotation, permanent cultivation, ley farming, etc. Intercropping, mono-cropping, sole cropping, sequential cropping, relay cropping, strip cropping. Important crop based farming systems: lowland rice-based, upland cereal-based, root crop-based, small – scale mixed farming, irrigated small-holder farming, small holder farming with plantation (perennial) crop – based, and agroforestry. Farming systems research: descriptive and prescriptive.

PCP 504: PLANT GROWTH AND DEVELOPMENT (2 UNITS)

Seed germination and dormancy. Juvenility and senescence. Translocation and respiration in crops; role of environmental resources. Water and water stress in plants. Light and solar radiation, role of plant nutrients. Photosynthesis, plant growth and partitioning of assimilate. Yield limiting factors and yield components. Growth regulators – auxin, gibberellins, cytokinins etc. Plant growth and measurements. Growth analysis: relative growth rate, net assimilation rate, leaf area index. Plant development: roles of plant organs like leaf, stem roots, flower, fruits and seeds.

PCP 505: CROP HUSBANDRY (ARABLE CROPS) (2 Units)

Botany of arable crops. Crop cycle, crop culture (propagation, climatic and soil requirements, fertilizer, pests, diseases, cultivars): handling, utilization, storage, economic importance and distribution of specific crops;, maize, sorghum, millet, rice, wheat, cowpea, soybean, groundnut Bambara groundnut. Factors affecting yield. Pests, diseases and weed control. Crop improvement practices for the listed crops.
Practicals: Propagation methods, cultivation practices

PCP 506: WEED SCIENCE AND CONTROL (2 Units)

Definitions of a weed. Weed Biology: (i) Characteristics of weeds ii. Economic importance of weeds – harmful and beneficial effects of weeds iii. Classification of weeds based on: origin, life cycle, habitat, growth habit, association (crop mimicry), nature of stem, morphology, binomial nomenclature. iv. Weed reproduction: Process of weed reproduction – weed seed production, seed dissemination, seed germination, vegetative reproduction v. Parasitic weeds – total parasitic weeds partial parasitic weeds, vi. Aquatic weeds: Common and types of aquatic weeds and their control. Weed Ecology – Definition of weed ecology. Persistence of weeds, factors affecting persistence of weeds (climatic, edaphic, biotic). Crop –weed association. Crop-weed competition – principles and factors, critical period of weed competition in crops, allelopathy. Problematic weeds: Examples of problematic weeds and their possible control – *Cyperus* spp, *Imperata cylindrica, Cynodon dactylon* etc. Weed control methods: i. Cultural control – hand weeding, tillage, mulching, crop rotation, Intercropping, fertilization etc. ii. Biological control – microbial weed control, mycoherbicides, live mulch. iii. Chemical weed control – use of selective and non-selective herbicides, systemic and contact herbicides. iv. Integrated weed control.
Practical: Weed collection and identification, preparation of weed album, weed seed types and population in soil (weed seedbank)

PCP 507: CROP HUSBANDRY (TUBER AND FIBRE CROPS) (2 Units)

Botany of arable crops. Crop cycle, crop culture (propagation, climatic and soil requirements, fertilizer, pests, diseases, cultivars): handling, utilization, storage, economic importance and distribution of specific crops; cassava, yam, cocoyam, Irish and Sweet potato, cotton, jute, Kenaf, Sisal. Factors affecting yield. Pests, diseases and

DEPARTMENT OF SOIL SCIENCE AND LAND MANAGEMENT

PREAMBLE

The Department was established as the Department of Soil Science and Agricultural Mechanisation (SSAM) under the then College of Applied Science and Technology (CAPT). In 1989, the Department was placed under the College of Plant Science and Crop Production (COLPLANT). The University Senate at its 131st meeting on April 28, 2004 approved the change of name of the Department of Soil Science and Agricultural Mechanization to the Department of Soil Science and Land Management (SSLM).

The Department started with six academic staff in 1988 but only two of these pioneer lecturers remained by 2005. In 2004, three academic staff of the Department who were teaching the Agricultural Mechanisation aspect of the discipline were transferred to the newly established Department of Agricultural Engineering and this informed the need for a review of the curriculum of the programme and change of name.

Currently, there are 15 academic staff in various sub-disciplines of Soil Science, namely, Pedology/Soil Survey and Classification, Soil Fertility and Plant Nutrition, Soil Physics/Soil and Water Conservation, Soil Chemistry, Soil Microbiology and Biochemistry. Courses in these sub-disciplines are taught at both undergraduate and postgraduate levels. The University Senate at its 153rd meeting in October 2005 approved additional courses to be taught as electives in order to improve the curriculum of the undergraduate programme to conform to global trend and enhance entrepreneurial skill. These courses were (i) Soil Biology and Ecology, (ii) Land-Use Management and (iii) Soil Pollution Management. Standard laboratory and field equipment are available to support teaching, research and consultancy in these sub-disciplines. In this regard, the Department has senior non-academic staff coordinating the laboratory and field/farm activities.

Since inception the Department has produced graduates in various classes of B. Agric. degree including many in first class. Staff-student relationship is very cordial, with staff providing necessary guidance for students to achieve excellence in their academic career.

PHILOSOPHY AND OBJECTIVES

Soil Science evolved as an agricultural and a natural science with the focus on agriculture in view of the need to provide food security for mankind. Although this need has been met by many industrialized nations, it is yet to be met in many countries of the world, particularly in Africa. For Nigeria, therefore, soil science has a major role

to play in ensuring adequate food production, just as it did with the phenomenon of "green revolution" which included the use of fertilizer to boost food production. As food production is boosted, environmental problems also arise, which are tackled by expertise from the field of soil science. Furthermore, soil science has a role to play in tackling environmental problems arising from industrial and domestic activities. This necessitated the inclusion of land management for an appropriate focus on environmental soil science.

The major objectives of the Department are to:

i. develop soil management technologies which will guide in the use of soil resources for sustainable food production;
ii. develop technologies for the prevention or reversal of soil degradation and environment pollution arising from agricultural and non-agricultural land uses;
iii. assist in the attainment of sustainable production of food and raw materials for the growth of agricultural and allied industries in the bid to ensuring food security and alleviate poverty; and
iv. support the B. Agric. Programme in the production of manpower and entrepreneurial skills for either self-or paid-employment.

Academic Staff

Names	Qualification	Specialization	Designation
C. O. Adejuyigbe	B. Agric.(Ile-Ife), M.Sc., Ph.D. (Ibadan)	Soil Biology/ Fertility	Professor & Head of Department
F. K. Salako	B. Agric., M.Sc. (Nigeria),	Soil Physics / Soil Conservation	Professor
Oluwatoyin A. Babalola	B.Sc., M.Sc., Ph.D. (Ilorin) Ph.D. (Ibadan)	Soil Microbiology / Biochemistry	Professor
J. K. Adesodun	M.Sc., Ph.D. (Nigeria)	Soil Physics / Micromorphology	Professor
B. A. Senjobi	B. Agric. (Ogun)M.Sc., Ph.D. (Ibadan)	Pedology/Soil Survey & Land Use	Professor
J. O. Azeez	B. Agric., M. Agric., Ph.D (Abeokuta).	Soil Chemistry	Reader
A. A. Soretire	B.Agric., M.Agric. (Abeokuta), Ph.D. (Ife)	Soil Microbiology / Biochemistry	Reader
Florence A. Olowokere	B. Agric. (Ife); M.Sc., Ph.D. (Ibadan)	Soil Fertility	Senior Lecturer
G. A. Ajiboye	B.Sc. (Ibadan); M.Sc., Ph.D. (Ilorin)	Pedology	Senior Lecturer
M. A. Busari	NCE (Ila-Orangun); B. Agric., M. Agric., Ph.D. (Abeokuta)	Soil Physics	Senior Lecturer
Clara O. Oyegoke	B.Sc., M.Sc. (Ife); Ph.D. (Abeokuta)	Applied Geology/ Pedology	Lecturer I

Names	Qualification	Specialization	Designation
Olabisi O. Onasanya	B.Agric., M.Agric.(Abeokuta)	Soil Physics	Lecturer II
Adebanke A. Olubode	NCE (Oyo SP), B. Agric., M. Agric. (Abeokuta)	Soil Microbiology	Assistant Lecturer
Bolaji M. Thanni	ND(Ilaro), B.Tech.(FUT Minna), M.Agric.(Abeokuta)	Soil Microbiology	Assistant Lecturer

B.AGRIC. (SOIL SCIENCE AND LAND MANAGEMENT)

In addition to the general 100 – 400 level courses, the following courses must be taken and passed at 40% or higher grade by students in 500 level of ***Soil Science and Land Management*** option of the B. Agric. programme.

500 Level: First Semester

Course Code	Course Title	U	L	T	P
PCP 501	Methods of field Experimentation	2	1	-	1
HRT 501	Crop Husbandry (Vegetable Crop Production)	2	1	-	1
PCP 505	Crop Husbandry (Arable Crops)	2	1	-	1
CPT 507	Plant Protection	2	1	-	1
SOS 513	Soil Physics	2	1	-	1
SOS 515	Soil and Plant Analysis	2	1	-	1
SOS 511	Soil Fertility and Plant Nutrition	2	1	-	1
HRT 503	Post- Harvest Physiology and Produce Storage	2	1	-	1
AGS 597	Seminar I	1	-	-	1
	Elective	2	1	-	1
	Total	**19**	**9**	**-**	**10**
Electives					
SOS 517	Analytical Techniques in Soil Science	2	1	-	1
SOS 519	Soil Biology and Ecology	2	1	-	1

500 Level: Second Semester

Course Code	Course Title	U	L	T	P
SOS 518	Soil Survey and Land use Planning	2	1	-	1
HRT 502	Crop Husbandry (Plantation Crops)	2	1	-	1
PCP 504	Plant Growth and Development	2	1	-	1
PCP 506	Weed Science and Control	2	1	-	1
SOS 520	Soil and Water Conservation Management	2	1	-	1
SOS 522	Soil Chemistry	2	1	-	1
AGP 599	Project	4	-	-	4
AGS 598	Seminar II	1	-	-	1
	Elective	2	1	-	1
	Total	**19**	**7**	**-**	**12**
Electives					
SOS 514	Land use Management	2	1	-	1
SOS 516	Soil Pollution Management	2	1	-	1
PBS 504	Plant Breeding and Seed Production	2	1	-	1

COURSE SYNOPSES

SOS 211: PRINCIPLES OF SOIL SCIENCE (2 Units)

Definition of soil; soil genesis and formation. History of Soil Science. Basic principles of soil survey and classification. Soil survey information and land-use planning. Soil colloids and soil reaction; Soil nutrients and mineral nutrition of plants. Soil organic matter; types and activities of soil organisms. Organic and Inorganic fertilizers; nutrient management. Soil texture and soil structure. Soil management; tillage practices; soil water management; irrigation; drainage and soil erosion control

Practical: Identification of different rocks and minerals; Soil profile description and classification using monoliths; Identification of basic soil fertilizer. Textural classification by feel.

SOS 312: SOIL CHEMISTRY AND MICROBIOLOGY (3 Units)

Introduction to soil chemistry; chemical composition of soils. Soil colloids; silicate clay chemistry. Soil chemical processes: solubility, adsorption/desorption, ion exchange, oxidation/reduction, acidity, alkalinity. Active acidity; Buffering capacity and liming. Environmental effects of fertilizer use. Structure of soil organic matter; its importance in tropical soils. Soil organisms; classification; distribution and growth requirements. Macro- and micro-fauna; macro- and microflora. Relationships between the rhizosphere and soil organisms; nitrogen fixation. Composting. Biodegradation of pollutants and pesticides

Practical: Particle size analysis; pH determination; cation exchange capacity; organic carbon. Identifying nutrient deficiency symptoms in plants;

SOS 314: INTRODUCTION TO PEDOLOGY AND SOIL PHYSICS (3 Units)

Factors and processes of soil formation; rock weathering and common minerals in soil; soil morphological characteristics and profile descriptions; characterization of soils using diagnostic properties soil survey, mapping and classification. Soil texture and surface area of particles. Volume-mass relationships in soil; bulk density; porosity. Soil water; hydrologic cycle; water balance; water content and water retention; field capacity and permanent wilting point; water flow in soils. Energy balance. Soil erosion and its control; conservation tillage

Practical: Field: Soil profile description: morphology, texture by feel, colour; horizon designations. Sampling soil profile for water content and bulk density determinations. Comparing soil texture by feel with texture by particle size distribution. Soil temperature measurements in the field.

SOS 511: SOIL FERTILITY AND PLANT NUTRITION (2 Units)

General concept of soil fertility. History of Plant Nutrition. Fertility of tropical soils. Soil organic matter. Its properties and maintenance, liming and its soil-plant relationships. Factors affecting the ability of the soil to supply nutrients in available forms. Essential nutrients: source of supply, physiological roles, relative quantitative requirements, availability categories, forms and amounts in soil and plant. Fertilizer and fertilizer management, their manufacture, sources, application, methods, rates and timing, handling and storage. Crop growth and responses to soil nutrients: nutrient absorption, maintenance and loss in soil fertility in extensive and intensive agriculture. Manures and organic wastes. Composition, general properties, use of manure, and management; use of sewage sludge and waste water.

SOS 513: SOIL PHYSICS (2 Units)

Soil physics as a basic and an applied science. Soil phases: sold, liquid and air; volume-mass relationship. Soil solid: texture; colloids and surface area of soil particles; bulk density and porosity; soil consistency; soil strength; stress-strain relationships. Soil compaction, hardsetting and surface crusts. Soil water; water content; soil water potential; principles of saturated and unsaturated water flow. Available soil water; Soil hydrology, solute transport and water quality; Soil heat ; energy balance of the earth's surface; soil temperature; modification of soil temperature; Soil air; soil atmosphere composition; gaseous exchange in soils; soil air and plant growth. Relevance of soil physics to soil management: tillage; soil productivity; soil erosion control; irrigation; drainage

Practical: Soil core sampling for bulk density and water content determinations; Penetrometer resistance measurement; Water retention determination at various potentials; Measurement of saturated hydraulic conductivity, soil temperature, etc.

SOS 514: LAND-USE MANAGEMENT (2 Units)

Components of land; soil, vegetation, water, air and animals. Global context of land use and role of soil science. Land use for food production. Other land uses; roads, buildings, forestry and recreation. Soils and planning agricultural land use and management. Spatial distribution of lands. Soils and planning rural land use and management. Urban waste management. Landscape definition. Land-use issues in different Nigerian communities. Morphology, chemistry and hydrology of acid lands, wetlands, drylands, salt and alkali soils with reference to Nigeria. Evaluation and management of problem sites; environmental impact assessment; GIS, remote sensing and geo-statistics.

Practical: Site evaluation; use of maps and aerial photographs. Spatial variability of landscape and sampling. Interpretation of remote sensing imageries and report writing

SOS 515: SOIL AND PLANT ANALYSIS (2 Units)

Collection and preparation of soil and plant samples. The principles of soil testing. Dissolution for total elemental analysis. Testing for available nutrients in soils. Testing soil for pH and lime requirement. Interpretation of analytical results. Principles and practices in plant analysis. Sampling and analyzing tissue samples. Plant analysis as an aid in fertilizing crops. Operation and management of a soil testing and plant analysis laboratory.

Practical: Sampling techniques. Handling of soil and plant samples. Analysis of soil and plant samples for total elements and for available nutrients.

SOS 516: SOIL POLLUTION MANAGEMENT (2 Units)

Major components of the environment; atmosphere, pedosphere, hydrosphere and biosphere. Soil as an integral part of the environment. Soil quality and functions of soils. Impact of soil quality on ecosystem sustainability. Soil and pollution: chemical, physical and biological soil degradation; mechanisms of pollutant transport through soils. Types and sources of soil chemical pollutants; inorganic, organic and radionuclide contaminants. Major consequences of chemically degraded soils. Greenhouse gas emissions and mitigation. Environmental effects of organic and inorganic amendments including agrochemicals. Waste disposal; evaluation and management of contaminated sites. Soil remediation; physical, chemical and biological remediation including phyto-remediation.

Practical: Analyses of soils from industrial, agricultural and forest sites. Water analyses. Solute movement in soils. Analyses of soil gaseous phase.

SOS 517: ANALYTICAL TECHNIQUES IN SOIL SCIENCE (3 Units)

Classical methods of soil analysis. Titrimetric and gravimetric techniques. Separation and extraction techniques. Spectrophotometric techniques. Electro-analytical techniques. Isotope ratio analysis and radio isotopes in soil plant system. Cultural

technique for soil micro-organisms. Techniques in mineral analysis. Soil physical techniques

Practical: Instrument handling, operation, installation and sample maintenance operations. Basic instrumentation.

SOS 518: SOIL SURVEY AND LAND-USE PLANNING (2 Units)

Basic principles of soil classification. Soil morphological characteristics and classification. Soil forming minerals and rocks. Soil survey methodology. Assemblage of maps; use of aerial photographs and topographic maps for soil survey and classification. Type of soil survey, field mapping and soil sampling. Routine laboratory determinations and correlation of soil data. Soil survey report writing and interpretations. Concepts, principles and justification of land-use planning. Historical and present trends in land use. Management problems relating to tropical soils; land-use and soil degradation. Soil and land capability classification

Practical: Soil map reading and aerial photograph interpretation. Field demonstration of soil survey methodology. Routine laboratory analyses and correlation of soil data

SOS 519: SOIL BIOLOGY AND ECOLOGY (2 Units)

Soil microorganisms and macro-organisms; Microorganisms and soil enzymes. Microorganisms and plants. Root-nodule bacteria; Mycorrhizal relationships; Plant regulators and phytotoxins. Soil macrofauna. Agricultural systems and microorganisms; rhizosphere; root exudates and microorganisms; plant residue quality, organic farming; composting. Biological transformations; N, P and S. Soil biotechnology: bio-fertilization by rhizobial and mycorrhizal fungal inoculation; genetically modified plants and microbes and their ecological effects. Biodegradation of pesticides**.**

Practical: Culturing microorganisms; Root samples and preparation for mycorrhizal studies; Root nodules; identification and analysis of N. Micro-arthropods in soil and litter; extraction methods, classification and population dynamics. Earthworm; extraction methods, classification and population

SOS 520: CONSERVATION AND MANAGEMENT (3 Units)

Concept of soil conservation and management; soil degradation and rehabilitation. Accelerated soil erosion by water and wind; processes and factors of soil erosion; Measurements: quantitative evaluation of soil erosion using factor and process based models, e.g., Revised Universal Equation (RUSLE) , Wind Erosion Equation (WEQ), Water Prediction Erosion Project (WPEP) etc., field measurements. Cultivation and tillage; conservation tillage; crop residue management; cover crops and agroforestry. Irrigation and drainage; Soil salinity and alkalinity management. Nutrient management; macronutrients and micronutrients. Pollution and waste management

SOS 522: SOIL CHEMISTRY (2 Units)

Soil Chemistry (concepts and importance in Agriculture and Environment); Basic chemistry concepts (atomic structure and atomic bonding) and terminologies; Principles and processes involved in cation exchange and Nutrient Availability; Soil pH and its effects on nutrient availability; Inorganic and mineral components of soils; Chemistry of soil organic matter; Soil acidity and alkalinity; Soils and Pollution

AGS 597: SEMINAR I (1 Unit)

Literature review and pre-project data seminar

AGS 598: SEMINAR II (1 Unit)

Post-data seminar: Project reports

AGP 599: PROJECT (4 Units)

Special project submitted to the Department in partial fulfilment of the requirements for B.Agric.