ADEYEMI COLLEGE OF EDUCATION
ONDO, ONDO STATE

DEPARTMENT OF AGRICULTURAL SCIENCE
DEGREE COURSE OUTLINE

Course Code: **ASE101**
Course Title: **Introductory Agriculture**
Credit Unit: **3**
Course Outline:

The agricultural systems of the world, problems of generating agricultural typologies-arable land, cash crops, permanent crops etc. Factors that affect agriculture and environment. Meterological studies and instrument used. Solar, chemical, physical and mechanical energies required in plant food production. Food, farms and factories technology in agriculture. Optional use of plants, plant parts, animals, animal parts and animal products, forest resources, wildlife-wood pulp, paper products, building and wood furniture. Forestation and erosion control. Fish, fisheries, fish breeding, Rabbits kind of fish and fish products. Trends and problems in agricultural developments, possible solutions.

DEGREE II

Course Code: **ASE101**
Course Title: **Introductory Agriculture**
Credit Unit: **3**
Course Outline:

The agricultural systems of the world, problems of generating agricultural typologies-arable land, cash crops, permanent crops etc. Factors that affect agriculture and environment. Meterological studies and instrument used. Solar, chemical, physical and mechanical energies required in plant food production. Food, farms and factories technology in agriculture. Optional use of plants, plant parts, animals, animal parts and animal products, forest resources, wildlife-wood pulp, paper products, building and wood furniture. Forestation and erosion control. Fish, fisheries, fish breeding, Rabbits kind of fish and fish products. Trends and problems in agricultural developments, possible solutions.

Course Code: **ASE 201**
Course Title: **Practical Agriculture 1**
Credit Unit: **1**
Course Outline:

Individual work on permanent plots for crop production and permanent routine duties in the livestock unit for animal production. Each student will write a report on his/her practical experience at the end of each semester. Both practical work and written report will be assessed by course supervisors.

Course Code: **ASE 213**
Course Title: **Principles of Field Crop Production**
Credit Unit: **2**
Course Outline:

Production, improvement, storage, processing, marketing and utilization of field crops belonging to these groups: Cereals-maize, rice, guinea corn, and millet. Grain legumes-cowpea, groundnut and soya beans. Tuber crops-yam, cassava and cocoyams. Fibre crops-cotton, kenaf. Pasture and forage crops-types of pasture, characteristics of a pasture and establishment of a pasture.

Course Code: **ASE 241**
Course Title: **Principles of Economics**
Credit Unit: **2**
Course Outline:

Introduction to economics theory. Supply and demand for goods and services, elasticity, theory of production, the distribution of income-wages, rent, interest and profits. Market Structure-Pure competition, monopolistic competition and Oligopoly. Concept of macro-economics.

Course Code: **ASE 251**
Course Title: **Introduction to Rural Sociology**

Credit Unit: **2**

Course Outline:

Sociology as a science, social organization and social institutions, social processes, their nature and characteristics, characteristics of rural organizations, Social Norms, values and belief, Ethnocentrism-mores, folkways. Rural-urban differentials.

DEGREE III

Course Code: **ASE301**
Course Title: **Practical Agriculture III**
Credit Unit: **1**
Course Outline:

Individual work on permanent plots for crop production and permanent routine duties in the livestock unit for animal production. Each student will write a report on his/her practical experience at the end of each semester. Both practical work and written report will be assessed by course supervisors.

Course Code: **ASE311**
Course Title: **Principles of Tree Crop Production**
Credit Unit: **2**
Course Outline:

Meaning and scope of tree crop. Problems and prospects of tree crop production. Ecological adaptation for tree crop production. Production of major tree crops. Establishment, maintenance, improvement, processing, marketing and utilization of permanent crops: cocoa, oil palm, kola, Rubber, coffee, shea butter.

Course Code: **ASE313**
Course Title: **Genetics and Breeding**
Credit Unit: **2**

Mendelian genetics and concepts. Chemicals basis of hereditary, Linkage, crossing over and chromosome mapping. Heritability. Population genetics. Breeding methods- Introduction, selection, Hybrdiization (cross breeding). Heterosis and hybrid production. Genetic/engineering in agriculture.

Course Code: **ASE321**
Course Title: **Soil Fertility Management and Conservation**
Credit Unit: **2**
Course Outline

Soil Fertility in the tropics- Nature of tropical soils, roles of environmental factors on soil fertility in the tropics and problems of soil fertility in the tropics. Soil physical and chemical properties and their management-soil texture, structure, soil acidity, alkalinity, salinity causes and management. Cation Exchange capacity and nutrient fixation of soils. Soil fertility evaluation – soil testing, plant analysis, missing element techniques, simple fertilizer trials. Fertilizers and fertilizer management – fertilizer blending, fertilizer recommendation, calculation and method of fertilizer application. Soil organic matter-sources, importance, decomposition and maintenance. Soil organisms in relation to soil fertility. Soil conservation measures- soil erosion and control, drainage, concepts of new farming techniques.

Course Code: **ASE331**
Course Title: **Agricultural Bio Chemistry**
Credit Unit: **2**
Course Outline

An introductory course in the general structures and compositions of carbohydrates, lipids and proteins. Enzyme catalysed reactions. Chemistry and metabolism of carbohydrate, potein and lipids. Some important properties of water and other compounds.

Course Code: **ASE341:**
Course Title: **Principles of Agricultural Economics**
Credit Unit: **2**
Course Outline

Role of Agriculture in economic development. Pricing in a free enterprises system. The concepts of production function and cost functions. Market demand for farm products. Population and economic growth. Circular flow of money, unemployment. Land tenure arrangement.

Course Code: **SEC327**
Course Title: **Agricultural Science Methods II**
Credit Unit: **2**
Course Outline

Recent curriculum trends in secondary school agriculture with special reference to NPE- Meaning of curriculum, History of curriculum development, NPE, Definition and broad aim of secondary education. Agricultural curriculum, Junior and Senior Secondary class expectation. Assessment of student achievements in agricultural science- meaning of assessment, continuous assessment, instruments needed for effective assessment, characteristics of continuous assessment, assessment of students practical skills. Laboratory experiences in analyzing and observing teacher performance and effectiveness. Laboratory management, hazards and safety precautions in the teaching and learning of agriculture in schools.

DEGREE IV

Course Code: **ASE413**
Course Title: **Advanced Crop Protection**
Credit Unit:
Course Outline:

Meaning and scope of crop protection, origin and importance of pests, concept of economic threshold, classification of plant pathogens. Effect of environment on the distribution of pests and diseases. Examples of diseases of tropical crops. Principles of pests and diseases control. Storage pests, diseases and their control. Meaning and scope of integrated pest management, principles and philosophy of IPM. Insecticides-classification, mode of action and insect resistance, sprayer calibrations and equipment. Safety precautions to the use of pesticides. Weed – definition, importance in agriculture, weed control methods including integrated weed control. Herbicides-classification, mode of action and basis for selectivity. Herbicides formulation and calculations.

Course Code: **ASE421**
Course Title: **Soil Morphology and Classification**
Credit Unit: **2**
Course Outline:

Morphological features of soils- soil colour, soil consistence, soil structure, Neoformation, soil texture and soil inclusions. Identification of minerals, rock forming minerals, soil mineralogy, classification of minerals. Introduction to clay and clay minerals. Soil profile description and developments, microbiological and enzymatic activities on soil profile development. Soil-structure relationships, Texture, soil porosity, Bulk density. Meaning and significance of soil classification, soil classification systems, USDA system of soil classification, soil orders of the world, other classification systems (FAO/UNESCO), French classification system, Brazillian classification system. Major Nigerian soil groups- soil resources of Northern Nigerian savanna, south-eastern Nigeria and south-west Nigeria.

Course Code: **ASE431**
Course Title: **Fishery and Pond Management**
Credit Unit: **2**
Course Outline:

Meaning and scope of fish farming. Classification, morphology, development and distribution of main group of fishes; feed and feeding habits, breeding and migrations of fresh-water fishes; History of fisheries development, major fisheries of Nigeria and Africa; Impact of man-made lakes on fishery development in Nigeria and Africa; Fish farming and fishing methods with reference to Nigeria; Pond and lake management; Importance of fisheries in developing economy.

Course Code: **ASE433**
Course Title: **Principles of Livestock Management (Non-Ruminants)**
Credit Unit: **2**
Course Outline:

Study of importance, planning of enterprise, breeds, breeding and selection, housing, nutrition (principles and application) carcass quality, economics and marketing of: Monogastric- Pigs and Poultry. Herbivores- rabbits and guinea pigs.

Course Code: **ASE441**
Course Title: **Principles of Farm Management**
Credit Unit:
Course Outline:

Role and scope of formal farm management. Economic and management principles in decision making. Farm profits, profit budget and financial statements. Nature and need for farm business records and analysis and interpretation of essential farm records.

Course Code: **ASE443**
Course Title: **Agricultural Statistics**
Credit Unit:
Course Outline:

Introduction to statistical methods. The need for statistical evaluation in Agriculture. Data presentation frequency table, graphic presentation- Histogram, frequency polygon, bar chart. Regression Analysis, Analysis of covariance, simple elementary design of experiments, survey in Agriculture- method of data collection, organization of survey, sampling techniques, measures of central tendency, measures of dispersion. T-test, Analysis of variance.

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REFERENCE FOR LABORATORY MANUAL

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2. Ibitoye A.A. (2005) Laboratory Manual on basic methods in Analytical Chemistry, Published by Concept + IT& Educational Consults.