BACHELORS, MASTERS AND PHD.

Agribusiness Curriculum Framework

anafe
African Network for Agriculture, Agroforestry & Natural Resources Education

UniBRAIN
Universities, Business & Research in Agricultural INnovation

FARA

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Preface

The African Network for Agriculture, Agroforestry and Natural Resources Education (ANAFE) has evolved to become the lead organization in championing curriculum review and development for Tertiary Agricultural Education (TAE) in sub-Saharan Africa. ANAFE has developed methodology called DACUM or "Developing A Curriculum" (Temu and Kasolo, 2003) specifically to handle curriculum review. Founded in 1993 by 29 institutions and with a mandate to develop stand-alone agroforestry curricula for all degree levels, ANAFE has supported more than 60 universities and colleges to review and develop Agroforestry curricula, which are still in use within those institutions. ANAFE has also supported the training of lecturers in agroforestry, establishing agroforestry demonstration plots, developing learning materials, supporting students with research grants and supporting staff exchange programs where experienced staff support their peers in delivering agroforestry courses in different institutions.

Twenty years down the line, ANAFE membership, which has grown to over 130 institutions by 2014, continues to receive numerous requests to support development and implementation of agribusiness curricula with a view to produce experts who can adequately manage current opportunities and challenges in agribusiness. Due to its critical role in socio-economic development, agribusiness has generated a lot of interest in academic and business circles. Hence, agribusiness curriculum development is a strong component of two programs that ANAFE has been jointly implementing with partners. These are the DANIDA supported UniBRAIN (Linking Universities, Business and Research in Agribusiness Innovations) program and the Sida supported Strengthening Africa's Strategic Agricultural Capacity for Impact on Development (SASACID).

The curriculum development process was comprehensive and inclusive. It started with a survey of ANAFE member institutions to know what they were offering as agribusiness programs. The results show that it is mainly Economics Departments that offer Business Management programs thus losing out on entrepreneurial components. This realization prompted ANAFE to develop comprehensive agribusiness curricula for Certificate, Diploma, BSc, MSc and PhD degree levels.

The DACUM methodology allowed for a very participatory and inclusive process that took about two years (2012–2014) and involved over 200 stakeholders from colleges, universities, research institutions and the private sector. Students, lecturers, deans and principals from universities and colleges from Kenya, Benin, Ghana, Uganda, Zambia, Senegal, Niger, Botswana, Zimbabwe, Nigeria, Burkina Faso, and South Africa made a special contribution to the development of these curricula. Special support in reviewing the curricula was received from SupAgro University (France) and Cornell University (USA).

This document, therefore, serves as a curriculum guide for colleges and universities wishing to establish a certificate/diploma or degree program in agribusiness. They could use it or take inspiration from it. Feedback from its implementation is useful in identifying areas that require refining in line with emerging trends hence institutions implementing the curricula are advised to be in touch with ANAFE to capture this feedback.

Aissetou Drame Yaye

Executive Secretary of ANAFE

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We owe special thanks to Rongo University College for organizing the launch of the full curricula. In this regard, we are sincerely grateful to the Rongo University College leadership, particularly the Principal, Prof. Samuel Gudu, the Dean of the School of Agriculture and Natural Resources Education, Prof. Peter Kisinyo, the Dean of the School of Sciences Prof. Valerie Palapala and Prof. Daniel Nyamai who facilitated the linkage between ANAFE and Rongo University College. Apart from Rongo University College, other institutional leaders also supported the whole process contributing not only to the development of the curricula, but also engaging their institutions in piloting implementation of the curricula at Certificate/Diploma, BSc, and MSc levels respectively. They include Prof. Christine Onyango, Deputy Principal of Taita-Taveta University College; Prof Olusegun Yerokun, Dean of the Faculty of Agriculture at Mulungushi University of Zambia; Dr George Njenga, Dean Strathmore University Business School and his team composed of Dr Hilda Mogire, Dr Simon Ndiritu and Grace Kariuki.

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The ANAFE Secretariat Team involved composed of Dr Sebastian Chakeredza (Deputy Executive Secretary), James Aucha (Program Officer) and Alfred Ochola (Communication Officer) and this team deserves special congratulations for their hard work.

I thank all ANAFE partners and friends for their continued support.

Aissetou Drame Yaye
Executive Secretary of ANAFE

BSc. COURSES

Career Prospects

A degree holder is expected to be a solid agripreneur capable of starting medium and large agribusiness enterprises. The degree holder should be able to work as a middle-level manager who is a step above the first-level manager serving as an intermediary between lower-level managers and the highest level within the management hierarchy. In the corporate world, the degree holder may still be involved in the daily agribusiness company operations, but he/she often will depend on the input of first-level managers. Mid-level managers are generally operations managers or general managers, but they can also serve as regional managers.

Competencies

A graduate of BSc. in agribusiness must be competent in skills and have understanding of the agricultural business sector to be able to harness the vast agribusiness opportunities in the environment and respond to a range of constraints. Such competencies include, but are not limited to business, marketing, financial management, economics, and computer skills that address agribusiness management and small enterprise development in agriculture. The competencies to create new ventures in agribusiness are also necessary.

Overall Objective

The overall objective is 'to produce a knowledgeable and skilled graduate with the capability to establish and profitably manage an innovative agro-based industry and enterprise and create jobs; as well as apply skills and knowledge in the public, government private and NGO sector'.

Specific Objectives

By the end of this course, the learner should be able to:

Objective 1: Set up and manage agro-based industries and enterprises profitably.

Objective 2: Apply knowledge and skills in the public, government, private and NGO sectors.

Objective 3: Understand and apply agriculture sector policies.

Objective 4: Participate in a compulsory internship program.

Duration of Program: 4 years

Level: Bachelors (BSc).

Courses per Semester

Course No.	Course Name	Credits
Year 1: Semester 1		
1	Communication Skills	3 (45:0)
2	Introduction to Agribusiness Management	3 (30:30)
3	Principles of Management	3 (30:30)
4	Basic Business Mathematics	3 (30:30)
5	Introduction to Microeconomics	3 (30:30)
6	Computer Applications in Agriculture	3 (15:60)
7	Introduction to the Food Industry	3 (30:60)
Year 1: Semester 2		
8	Introduction to Macroeconomics	3 (30:30)
9	Principles of Crop Production	3.5 (30:90)
10	Fundamentals of Environmental Management	3 (30:30)
11	Organizational Theory and Behavior	3 (45:0)

12	Principles of Marketing	3 (30:30)
13	Rural Microfinance	3 (30:30)
Year 2: Semester 1		
14	Introduction to Soil Science	3 (30:60)
15	Leadership in Agribusiness Organizations	3 (45:0)
16	Theory and Practice of Entrepreneurship	3 (30:30)
17	Principles of Animal Production	3 (30:60)
18	Business Statistics	3 (30:30)
19	Agricultural Economics	3 (30:30)
20	Agribusiness Marketing	3 (30:30)
Year 2: Semester 2		
21	Financial Accounting	3 (30:30)
22	Strategic Supply Chain Management	3 (30:30)
23	Production Economics	3 (30:30)
24	Industrial Organization	3 (30:30)
25	Crop, Forest and Horticulture Product Marketing	3 (30:60)

26	Managerial Economics	3 (30:30)
27	Aquaculture and Livestock Product Marketing	3 (30:60)
28	Industrial Attachment/Internship	6 (0:120)
Year 3: Semester 1		
29	Agribusiness Value Chain Analysis	3 (30:30)
30	Human Resource Management	3 (30:30)
31	Financial Management in Agribusiness	3 (30:30)
32	Agricultural and Agribusiness Policies	3 (30:30)
33	Agribusiness Research Methods	3 (30:60)
Year 3: Semester 2		
34	Management Information Systems in Agri-enterprises	3 (30:60)
35	Agribusiness Procurement and Logistics Management	3 (30:30)
36	Agribusiness Risk Management	3 (30:30)
37	Communication and Negotiation Techniques	3 (30:30)
38	Ethics and Behavior Change	3 (30:30)
39	Agricultural Development	3 (45:0)
Year 4: Semester 1		
40	Project Management	3 (30:30)

41	Seminar in Agribusiness Management	2 (0:30)
42	Agricultural Extension Services	3 (30:30)
43	Strategic Agribusiness Management	3 (30:30)
44	Cooperatives Development and Management	3 (45:0)
45	Farm Management	3 (30:30)
46	Agribusiness Management: Special Project 1	2 (15:30)
Year 4: Semester 2		
47	Agribusiness Management: Special Project 2	4 (15:90)
48	Consultancy and Advisory Services for Agribusiness	3.5 (30:60)
49	Social Entrepreneurship	3 (30:30)
50	Agribusiness International Trade	3 (45:0)
51	Operations Research	3 (30:30)
52	Agribusiness Taxation	3 (30:30)

Year 1: Semester 1

Course No. AG-BS 01	Credits: 3 (45:0)
Course Name	Communication Skills

Purpose

To equip the learners with the necessary skills needed for effective communication in today's complex business organizations, both within the organization and the outside world.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Identify effectively the different communication media;
- Select the most appropriate communication method to use in a given circumstance;
- Recognize common barriers to effective communication and be able to deal with them; and
- Describe different communication patterns and techniques.

Content

Introduction to communication: definition, elements that form the communication process, quality/effective communication – characteristics, barriers to effective communication, overcoming barriers to effective communication, levels of communication. Types/forms of communication: oral communication and its forms, written communication and its forms, non-verbal communication – audio, visual, audio-visual and body language – sub-disciplines of body language, advantages and disadvantages of each form of communication, the role of non-verbal communication. Communication patterns: vertical, horizontal/lateral, diagonal, grapevine, advantages and disadvantages. Sources of information: interviews, questionnaires, library, observations, experiments, the Internet. Techniques in communication: listening skills, reading skills, writing skills, presentation skills, interpersonal skills, other basic skill-sets for a manager or communicator. Communication technology: computer-based communication, the role of technology in communication. Ethical issues: communicating decisions ethically.

Teaching Methods

Lectures, group activities, class discussions, demonstrations and illustrations through videos, role plays etc.

Course No. AG-BS 02	Credits: 3 (30:30)
Course Name	Introduction to Agribusiness Management

Purpose

The purpose of this course unit is to introduce learners the concepts of legal forms of business, human resource management and financial management in agribusiness.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the concept of business management;
- Describe the legal forms of business;
- Explain the role and organization of agribusiness;
- Explain financial management and control in agribusiness; and
- Describe marketing, operations and human resource management in agribusiness.

Content

Introduction to agribusiness management, basic concepts of business, management and agribusiness; legal forms of business; the role and organization of agribusiness, financial management and control, marketing, operations, and human resources management: placement to exit. Orientation to the agribusiness sector of agriculture, an overview of the breadth, size, scope and management aspects of the agricultural business complex. Emerging trends in production and changing dimensions of agribusiness.

Teaching Methods

Lectures, and oral discussions supported by power point presentations.

Course No. AG-BS 03	Credits: 3(30:30)
Course Name	Principles of Management

Purpose

The course aims at providing the learners with key management concepts and principles necessary for managing agribusiness enterprises.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the evolution of management thought;
- Apply the various managerial functions and skills relevant to agribusiness enterprises;
- Analyze the management process; and
- Explain the emerging issues in management relevant to agribusiness activities.

Content

Meaning, nature and importance of management; evolution of management thought; management process, functions and skills; communication in organizations; delegation and decentralization of authority and responsibility; decision making; social responsibilities of the manager, and roles and responsibilities of management in an agribusiness set up.

Teaching Methods

Readings, discussions and group work, guest lecturers, lectures, and term papers.

Course No. AG-BS 04	**Credits: 3 (30:30)**
Course Name	**Basic Business Mathematics**

Purpose

The purpose of the course unit is to enable learners understand mathematical concepts and their application to business.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Perform optimization tasks; and
- Understand the theory of the firm.

Content

Set theory; functions and linear algebra; calculus and the theory of the firm; optimization and dynamic analysis; comparative statics and differential calculus; and integral calculus.

Teaching Methods

Participatory lectures, group discussions, group activities, exercises and computer lab work.

Course No. AG-BS 05	Credits: 3 (30:30)
Course Name	Introduction to Microeconomics

Purpose

This course unit introduces the economic analysis of the individual, business, and industry choices in the market economy.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Understand how purchase decisions by consumers and production decisions by producers determine prices and quantities sold;
- Apply microeconomic principles to a wide variety of economic issues and problems; and
- Explain the structure and interaction between markets.

Content

Basic economic concepts: scarcity, choice and opportunity cost; consumer theory: demand, preference, utility and basic concepts of elasticity; theory of production; supply, production, cost, and profit functions; theory of market structure: perfect competition, monopoly, monopsony and oligopoly; theory of distribution and factor markets; introduction to game theory; and the role of government in the economy.

Teaching Methods

Lectures, field visits, class and group discussions.

Course No. AG-BS 06	Credits: 3 (15:60)
Course Name	Computer Applications in Agriculture

Purpose

To help the learners to understand computer hardware and software and their functions in order to utilize them effectively.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Define basic input and out devices for a computer;
- Use various computer softwares; and
- Design and implement argricutural databases.

Content

Fundamentals and classification of computers; information and data; bit and byte; analog and digital. Hardware: input devices, output devices, storage devices, and the Central Processing Unit (CPU) and control devices. Software: system software, operating systems, compiling systems, and utilities. Data files: random and sequential. Disk storage: track, sector, cluster and face. Variable and character codes: American Standard Code for Information Interchange (ASCII). Numbers: fractions, integers, single precision, double precision, binary, octal and hexadecimal numbers; operator and logical operations; errors generated by computers. Introduction to software packages: word processing, spreadsheets, and database management. Database management system: creating a database structure, entering and amending data, retrieval and manipulation of data, report production, database administration and security; project.

Teaching Methods

Lectures and tutorials, practicals and assignments, and presentations.

Course No. AG-BS 07	**Credits: 3 (30:60)**
Course Name	**Introduction to the Food Industry**

Purpose

To introduce learners to the general processes and procedures in the food industry.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Describe the structure of the food industry and the regulatory institutions;
- Explain the fundamentals of food quality and safety;
- Apply the legislations on food production and processing; and
- Explain the role of the food industry in the supply chain and society.

Content

Introduction to the food industry; organization and operation of the agri-food system; world food challenges and opportunities; effect of globalization on the food industry; attributes of food quality and safety; principles of handling, processing, and preservation of food; quality and safety of food products; reducing food production and regulatory costs; relationships in the food industry chain; reduction and management of production waste; food quality assurance and ISO compliance; food laws and regulatory institutions.

Teaching Methods

Lectures, guest lecturers, food industry visits, laboratory practicals, projects, and group work.

Year 1: Semester 2

Course No. AG-BS 08	Credits: 3 (30:30)
Course Name	Introduction to Macroeconomics

Purpose

This course unit introduces learners to the economic analysis of aggregate employment, income, and prices.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the forces determining macroeconomic variables;
- Formulate and assess macroeconomic policy suggestions; and
- Interpret and evaluate media reports on macroeconomics.

Content

Introduction; macro-economic models (classical and Keynesian); measuring macroeconomic variables; flow of income; aggregate supply and national income; production and the labor market; consumption and investment; economic growth; money and banking; inflation, IS-LM and AS-AD models; the classical business cycle; price and wage rigidity; monetary and fiscal policy; current crisis and current policy debates; and global imbalances.

Teaching Methods

Lectures, field visits, and class and group discussions.

Course No. AG-BS 09	Credits: 3.5 (30:90)
Course Name	Principles of Crop Production

Purpose

This course unit is designed to introduce learners to the general principles and practices of crop production.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Identify major cropping systems;
- Explain the ecological factors influencing plant growth and development;
- Explain the general agronomic processes required in crop production; and
- Identify crop weeds, pests, and diseases and control them.

Content

Factors limiting crop production; the distribution of major crops by agro-ecological zones; cropping systems; cultural practices of crop production; crop ecology: ecological factors influencing plant growth and development; land preparation, seedbed preparation, planting and seeding; weeds and their management; harvesting and post-harvest management; crop rotation; manure and fertilizers; crop pests and diseases and their management; agronomy of major crops (perennials, annuals), for both food and commercial purposes, crop processing, and packaging methods.

Teaching Methods

Lectures, discussions, demonstrations, practical exercises, case studies, laboratory practicals, and fieldwork.

Course No. AG-BS 10	Credits 3: (30:30)
Course Name	Fundamentals of Environmental Management

Purpose

The aim of this course unit is to introduce the learners to the discipline of environmental management.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Appreciate the need for general environmental management;
- Apply ISO 140001 standards in agribusiness enterprises; and

- Assess environmental impact.

Content

Introduction; general environmental standards; distinction between the environment and environmental management; reasons why organizations should consider environmental factors in the management process (i.e. ethical, economic, legal and commercial); identification, evaluation and communication of issues related to environmental conditions in the work place and globally; ISO 14001 structure for environmental management; preparing for environmental impact assessment, integrated management systems for the environment; quality, health and safety, and other management functions.

Teaching Methods

Lectures, class discussions and presentations, field trips, and video recordings.

Course No. AG-BS 11	Credits: 3 (45:0)
Course Name	Organizational Theory and Behavior

Purpose

The aim of this course unit is to expose the learners to organizational theory and behavior and their application to agribusiness enterprises.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Use organizational structures and designs;
- Explain the role of groups and individuals in an organization;
- Explain various forces for and against organizational change;
- Use the role of group dynamics in management; and
- Interpret the role of organizational dynamics and their impact on agribusiness operations.

Content

Nature and theories of organizations, organizational behavior; internal components of an agribusiness organization; organizational structure and design; groups and individuals in organizations; organizational change and development; organizational effectiveness; power and politics in organizations; group and group dynamics; leadership and leadership styles; agribusiness leadership.

Teaching Methods

Lectures, class discussions and presentations, field trips, and video recordings.

Course No. AG-BS 12	Credits: 3 (30:30)
Course Name	Principles of Marketing

Purpose

To equip learners with skills to better understand customer preferences, designing appropriate products and services, and determine appropriate methods to communicate, deliver, and to capture value.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the function of marketing;
- Apply the role of product planning in marketing;
- Identify the new product development process and the product life cycle;
- Explain the marketing channels and how they affect the success of a marketing program; and
- Describe the elements of the promotional mix.

Content

The marketing concept; the marketing mix, product planning and development; advertising and public relations; personal selling; channels of physical distribution; marketing of primary produce; problems and opportunities in commodity marketing; identification and branding futures market; the stock exchange and commodity exchange; commodity marketing.

Teaching Methods

Lectures, simulation of real-life situations, and field visits.

Course No. AG-BS 13	Credits: 3 (30:30)
Course Name	Rural Microfinance

Purpose

To introduce learners to key agricultural and rural finance concepts and the application of the concepts in financial markets.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the history of rural finance;
- Evaluate the challenges of rural finance;
- Use financial institutions in agricultural and rural development; and
- Apply key finance concepts in agribusiness and rural markets.

Content

History of rural and agricultural finance; finance and economic development; financing investments; market failure in rural finance; principles and practices employed by agriculture and business lending institutions; instruments used in financing agricultural production and agribusinesses; capital budgeting; financial statements; cash flow analysis; financial institutions: NGOs, state banks and commercial banks; branchless banking; village savings and loan groups; savings and credit cooperatives.

Teaching Methods

Lectures, field visits, class and group discussions.

Year 2: Semester 1

Course No. AG-BS 14	Credits: 3 (30:60)
Course Name	Introduction to Soil Science

Purpose

To introduce learners to the basic concepts of soil formation, soil properties and their effect on plant productivity.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the concepts and processes of soil formation;

- Describe soil properties and their effects on agricultural production;
- Apply soil management principles for sustainable agricultural productivity;
- Classify major soil types; and
- Develop and apply different soil fertility and conservation techniques.

Content

Definitions and concepts of soil science; weathering and soil formation; soil components, soil physical and chemical properties and their effect on agricultural productivity; soil organisms as related to soil ecology and agricultural productivity; soil organic matter and its importance; soil survey and classification; soil degradation and conservation.

Teaching Methods

Lectures, discussions, demonstrations, laboratory and field practicals.

Course No. AG-BS 15	Credits: 3 (45: 0)
Course Name	Leadership in Agribusiness Organizations

Purpose

The course unit aims at providing learners with leadership skills for managing small, medium and large agribusinesses.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Demonstrate leadership;
- Apply leadership skills and styles; and
- Demonstrate the impact of leadership styles in an agribusiness set up.

Content

Theories and models; groups and organizations; principles and styles of leadership; effectiveness in leadership; leadership and change management; theories and concepts; models to create a modern perspective on leadership; nature of agribusiness organizations; and tools for assessing leadership.

Teaching Methods

Lectures, group discussions and presentations, field visits, internships, and projects

Course No. AG-BS 16	Credits: 3 (30:30)
Course Name	Theory and Practice of Entrepreneurship

Purpose

The course unit will equip the learners with knowledge and skills to apply entrepreneurship principles in agribusiness development.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Trace the development of the theory of entrepreneurship;
- Differentiate between entrepreneurship, economics and business/commerce; and
- Apply entrepreneurship principles in agribusiness.

Content

Entrepreneurship and entrepreneurial behavior; entrepreneurship, creativity and innovation; entrepreneurship and economic development; historical perspectives on the theory of entrepreneurship; the practicability of different theories of entrepreneurship in the local environment; entrepreneurship and related disciplines (economics, commerce, business studies, management etc.); entrepreneurship and the economics equilibrium model; entrepreneurship and the concept of market forces; entrepreneurship and the product life cycle concept; entrepreneurship and agribusiness success.

Teaching Methods

Lectures, group discussions, guest speakers, class debates, projects, internships, and business plans' competition for incubation.

Course No. AG-BS 17	Credits: 3 (30:60)
Course Name	Principles of Animal Production

Purpose

To introduce learners to the general principles of animal production, improvements, and factors affecting livestock production.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Classify major types of livestock;
- Evaluate livestock production systems and factors affecting livestock production and their control;
- Understand general livestock reproductive physiology, breeding and improvement; and
- Apply general nutrition, feeding in livestock and major livestock products.

Content

Introduction; classification of livestock; factors limiting livestock production; the distribution of major livestock by agro-ecological zones; cultural practices of livestock production; animal ecology: ecological factors influencing animal growth and development; livestock production systems; reproductive physiology; breeding and improvement; nutrition and feeding; management of livestock; livestock pests and diseases and their management; livestock products.

Teaching Methods

Lectures, discussions, demonstrations, and practical exercises.

Course No. AG-BS 18	**Credits: 3 (30: 30)**
Course Name	**Business Statistics**

Purpose

This course unit enables learners understand and apply statistics to the description and analysis of data.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Apply sound research methods;
- Interpret data and results;
- Conduct hypotheses tests in regression analysis;
- Conduct hypotheses tests in regression analysis; and
- Use statistics for decision making and making recommendations.

Content

Descriptive statistics: frequency distribution, graphical presentation; estimation: point estimation, interval estimation; statistical hypothesis testing; hypothesis testing concerning one parameter, hypothesis testing concerning two parameters: simple linear regression and correlation, fitting a straight line, correlation, hypothesis testing in regression analysis; other tests and analysis of variance (ANOVA), goodness of fit tests; practical exercises in conducting regression analysis using SPSS, and STATA.

Teaching Methods:

Lectures, group discussions, power point presentations, group activities, exercises, and computer lab work.

Course No. AG-BS 19	Credits: 3 (30:30)
Course Name	Agricultural Economics

Purpose

To equip learners on how to use the tools of the economics discipline in order to understand the agricultural sector.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Understand the role of agriculture in rural and general economic development; and
- Understand economic principles and their application to agricultural and resource management.

Content

The definition and scope of agricultural economics; the characteristics of agricultural production; the role of agriculture in economic development; agricultural demand and supply analysis; measurement and interpretation of elasticity; economics of input and product substitution; the environment and agriculture; government intervention in agriculture; impacts of various policy actions on agriculture; agricultural trade.

Teaching Methods

Lectures, field visits, class and group discussions, and projects.

Course No. AG-BS 20	Credits: 3 (30:30)
Course Name	Agribusiness Marketing

Purpose

The course unit will focus on expanding the learners' understanding of the underlying economic theory of agribusiness marketing strategies as well as their application to various agribusiness situations.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Apply marketing and economic principles to decision making in agribusiness firms;
- Apply agribusiness marketing strategic plans
- Conduct market research; and
- Use professional selling skills and knowledge.

Content

Introduction: an overview of the agribusiness sector and agribusiness marketing; economic theory of agribusiness marketing strategies: demand and supply, economic market structures and effect on agribusiness marketing strategies, measuring market concentration, market structure of the agribusiness sector; development of agribusiness marketing strategies: developing an agribusiness marketing plan, understanding consumer behavior, importance of agribusiness product characteristics; agribusiness marketing strategies: agribusiness pricing strategies, monopoly and oligopoly pricing, processor pricing strategies, retail pricing strategies, price discrimination; agribusiness products: product differentiation, research and development; agribusiness packaging/labeling: packaging, branding; agribusiness promotion and advertising; agribusiness pricing strategies; agribusiness merchandizing; agribusiness location/transportation; evaluating the agribusiness marketing program; feasibility analysis; evaluating and projecting performance; marketing audit.

Teaching Methods

Lectures, class discussions, field visits, projects, and guest speakers.

Year 2: Semester 2

Course No. AG-BS 21	Credits: 3 (30:30)
Course Name	Financial Accounting

Purpose

The purpose of this course unit is to impart knowledge on issues related to accounting and financial management.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the purpose of accounting and accounting record books;
- Describe the accounting equation, accounts for sole traders, partnerships, limited companies, depreciation, provision of bad debts, bad debts, accruals, prepayments and statements;
- Explain the accounting for inventories, receivables, cash and short-term investments, plant assets etc.; and
- Carry out financial accounting procedures.

Content

The purpose of accounting; types of record books; accounting conventions; The accounting equation and accounts of sole traders, partnerships, limited companies, depreciation, bad debts, provision for bad debts, accruals, prepayments, and statements; balance sheet.

Teaching Methods

Lectures, oral discussions supported by power point presentations, and demonstrations.

Course No. AG-BS 22	Credits: 3 (30:30)
Course Name	Strategic Supply Chain Management

Purpose

The purpose of this course unit is to expose the learners to the supply chain management.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain strategic supply chain challenges and modes of operation;

- Analyze organizational strategies;
- Facilitate access of small and medium enterprises to supply chains;
- Identify the role of supplies in organizational strategy in agribusiness;
- Advise enterprises on optimizing supply chain strategies; and
- Assess the strategic importance of supply chain management in business sustainability.

Content

Meaning and importance of strategy; strategic importance of the supply chain management in business; elements of the strategic alignment model and application in real-world businesses; challenges faced in implementing a supply chain operating strategy; elements of the supply chain management performance; efficient customer response (ECR), cooperative planning, forecasting and replenishment (CPFR); dynamics of supply chain designs; quality assurance; supply chain logistics and infrastructure, policies and laws governing supply chains; contracts and tenders.

Teaching Methods

Lectures, guest lecturers, class discussions, field visits, and projects.

Course No. AG-BS 23	**Credits: 3 (30:30)**
Course Name	**Production Economics**

Purpose

This course unit introduces learners to the standard theoretical and empirical models used in the investigation of firm-level production decisions.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain agricultural production theories and concepts;
- Make economic decisions on efficient utilization of farm resources to achieve farmers' production objectives; and
- Apply quantitative tools to solving the problems of production economics.

Content

Scope of agricultural production economics; production environment; nature and characteristics of production; factors of production; production functions; concepts of production functions: total physical product, average physical product, marginal physical product; elasticity of production; law of diminishing returns and the three stages of production; technical and economic efficiency; cost concepts in production; economies and diseconomies of scale; production relationships and decision making; factor-factor, factor-product and product-product relationships; technological change.

Teaching Methods

Lectures, class and group discussions, and case studies.

Course No. AG-BS 24	Credits: 3 (30:30)
Course Name	Industrial Organization

Purpose

This course unit will introduce the learners to the economic analysis of imperfectly competitive markets and their relationship to the structure of firms.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Analyze the behavior of business firms and the performance of markets in imperfectly competitive settings; and
- Understand the public policies towards industry and their effect on firm behavior and consumer welfare.

Content

The nature of organizations; the development and theories of organizations; the individual in the organization; groups in the organization; conflict in organizations; the structure of formal organizations; bureaucracy; leadership, communication and motivation in organizations; organizational changes; organizations in developing regions.

Teaching Methods

Lectures, guest lecturers, field visits, and class and group discussions.

Course No. AG-BS 25	Credits: 3 (30:60)
Course Name	Crop, Forestry and Horticulture Product Marketing

Purpose

This course unit introduces the learners to the structure of field crop, horticulture and forestry product markets and explores the stages and strategies associated with marketing field crop, horticulture and forestry products.

Objectives

By the end of the unit, the learner should be able to:

- Understand the structural characteristics of the agri-food marketing system and its linkages to international markets;
- Use the functions and strategies associated with the marketing of field crop, horticulture and forestry products;
- Understand the practical issues and situations involved with the marketing of field crop, horticulture and forestry products; and
- Formulate strategies to deal with particular situations.

Content

The scope of the marketing problem in rural areas; marketing organization and marketing structures; traditional field crop, horticulture and forestry product market systems; small farmers in traditional marketing systems and their problems; marketing alternatives for small-scale farmers in rural Africa; direct farmers' markets (open/closed buildings); price for produce in farmers' markets; characteristics of farmers' markets; pick your own markets (PYO); characteristics of PYO; factors influencing price in PYO; road-side stand kiosks, and their characteristics; factors for marketing horticulture crops; vegetable production; tropical and sub-tropical fruit production; ornamental and landscape horticulture; floriculture, post-harvest of horticultural produce; horticultural crop protection, and breeding. Horticultural policy; marketing/production interfaces; pesticide, usage, pricing and costing; export, handling, credit and finance; marketing mix in horticulture marketing: products, place, promotion and pricing; institutional and functional approaches to horticultural marketing; horticultural marketing management strategies.

Teaching Methods

Lectures, field visits, class and group discussions, and internships.

Course No. AG-BS 26	Credits: 3 (30:30)
Course Name	Managerial Economics

Purpose

To introduce learners to the basic tools and concepts of economics, which are relevant to managers and policy makers in the agribusiness sector.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Analyze challenges faced in decision making in the agribusiness sector;
- Analyze the economic environments in which business entities operate; and
- Analyze the functioning of markets, the economic behavior of firms and other economic agents and their economic/social implications.

Content

The goals of the firm and the scope of managerial economics; constrained and unconstrained optimization; market demand and forecasting techniques; the theory of production and quantitative analyses of costs; the theory of firms and industries under perfect competition; implementation of competitive profit-making decisions; the theory of firms with market power and their implementation of profit maximization decisions; multiple plans; markets and products; the oligopoly theory and practice; decision making over time; the theory of investments; decision theory; game theory.

Teaching Methods

Lectures, guest lecturers, field visits, and class and group discussions.

Course No. AG-BS 27	Credits: 3 (30:60)
Course Name	Aquaculture and Livestock Product Marketing

Purpose

The course unit aims at providing the learners with aquaculture and livestock product marketing competencies, concepts and principles.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Characterize factors necessary for marketing aquaculture and livestock products;
- Interpret aquaculture and livestock policies related to marketing;
- Design the necessary promotion and pricing strategies for marketing aquaculture and livestock products; and
- Advise stakeholders on product development and marketing strategies.

Content

Factors affecting marketing of aquaculture and livestock products; livestock production areas and health services; meat, milk products and marketing; livestock policies and constraints affecting livestock marketing; research training and extension; cattle and beef exports, processing, breeding and AI scheme; price policies; livestock development projects.

Teaching Methods

Lectures, field visits, class and group discussions, and projects.

Course No. AG-BS 28	**Credits: 6 (0:120)**
Course Name	**Industrial Attachment/Internship**

Students will be expected to acquire appropriate practical farming and management skills in farm operations, agro industries and financial and agricultural credit institutions. Hands-on attachment is expected for monitoring and evaluation.

(Duration 8 weeks)

Year 3: Semester 1

Course No. AG-BS 29	Credits: 3 (30:30)
Course Name	Agribusiness Value Chain Analysis

Purpose

To familiarize learners with the concept of the value chain and recognize its importance in the different sectors of agribusiness development.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the concept of the value chain;
- Identify the agribusiness value chain activities; and
- Analyze agribusiness value chain activities.

Content

The concept of the value chain; evolution of the value chain concept; types of models of the value chain; the value creation process, value chain activities and margins, agribusiness value chains, their analysis and management; value chain organizations; value chain actors; value chain markets.

Teaching Methods

Lectures, class discussions, group work, field visits, and projects.

Course No. AG-BS 30	Credits: 3 (30:30)
Course Name	Human Resource Management

Purpose

The aim of this course unit is to expose the learners to the field of human resource management, human resource practices and their application to agribusiness enterprise management.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the key human resource management principles;
- Manage human resources;

- Explain the role of human resource management to an agribusiness unit;
- Implement the human resource planning process;
- Apply the grievance-handling procedure; and
- Handle disputes of an agribusiness set up.

Content

Meaning of human resource management; agribusiness enterprise work organization; the people at work; nature and importance of human resource management in agribusiness; human resource planning: nature and significance of human resources; characteristics and qualities of a human resource manager; objectives of human resource management; functions of human resource management; performance appraisal/management; grievance handling; discipline and disciplinary actions; industrial disputes and dispute handling in agribusiness undertakings; industrial relations and trade unions.

Teaching Methods

Lectures, group discussions and presentations, industrial visits, industrial court session visits, and projects.

Course No. AG-BS 31	**Credits: 3 (30:30)**
Course Name	**Financial Management in Agribusiness**

Purpose

To equip the learners with the knowledge and skills of corporate financial planning, and management.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the basic concepts of corporate financial management;
- Analyze financial management issues; and
- Assess and advise on the financial direction of the company/institution.

Content

Financial management theories; capital budgeting decisions; evaluation methods; duration problems; inflation analysis. Capital structure decisions; net income approach; net operating income approach; M-M approach; operating and financial leverage; insolvency and liquidation; dividend policy. Working capital management; current asset management; short-term sources of funds; financing decisions; major theoretical advances in portfolio theory; capital asset pricing model under uncertainty: extensions, valuation of financial derivatives; mergers and acquisitions;

financial restructuring alternatives; management buy-outs; capital reconstruction schemes; e-commerce and current developments in finance.

Teaching Methods

Lectures, group discussions and class presentations, projects, and guest lectures.

Course No. AG-BS 32	Credits: 3 (30:30)
Course Name	Agricultural and Agribusiness Policies

Purpose

The course unit is intended to provide learners with knowledge in the rules and regulations governing agribusiness development and management.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Provide expertise on agribusiness-related policies; and
- Advise entrepreneurs on agribusiness-related policies.

Content

Principles of agricultural and agribusiness best practices; regulations and rules for planning and establishment processes of agricultural and agribusiness enterprises; policy setting process; the agricultural and agribusiness framework; stakeholders analysis; sustainable natural resource management regulations; food security and nutrition; food safety and food quality standards; compliance with statutory regulations; marketing and trade in agricultural and agribusiness commodities; agricultural and agribusiness credit access and management; and agribusiness ethics.

Teaching Methods

Lectures, group discussions, case studies, guest speakers, student attachments, practicals, and fieldwork.

Methods of Evaluation

Course work; projects, field attachments, assignments, and tests.

Course No. AG-BS 33	Credits: 3 (30:60)
Course Name	Agribusiness Research Methods

Purpose

The purpose of the course unit is to equip learners with in-depth knowledge and skills in conducting sound research in agribusiness.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Identify researchable problems;
- Develop a research project;
- Execute a research project;
- Interpret research results and write a report; and
- Communicate research results to users.

Content

Introduction to research methods; planning and managing research for development; data type and sources; research design; operationalizing and testing hypothesis; key research techniques; sampling; conducting a questionnaire survey; data collection and management; results reporting and interpretation; research tools and data storage and retrieval.

Teaching Methods

Lectures, group discussions, group activities, and practicals.

Year 3: Semester 2

Course No. AG-BS 34	Credits: 3 (30:60)
Course Name	Management Information Systems in Agri-enterprises

Purpose

The purpose of this course unit is to impart MIS skills and techniques to enable their application in the management of agribusiness enterprises.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the types of management information systems;
- Discuss management functions supported by the computer-based information system; and
- Use commonly used managerial and accounting packages.

Content

Information gathering; processing, analysis and design techniques for developing systems responsive to managerial needs; computers and information management; information storage and security; information use in planning, control and operational functions; business data processing systems, their capabilities, usage and limitations; management of internet technology.

Teaching Methods

Lectures, discussions, demonstrations, and practical exercises.

Course No. AG-BS 35	Credits: 3 (30:30)
Course Name	Agribusiness Procurement and Logistics Management

Purpose

To equip learners with knowledge and skills in the area of procurement, stores management, supply chain management, and logistics management.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain procurement and its principles;

- Plan procurement logistics; and
- Manage procurement and logistics activities.

Content

Definition of procurement; basic procurement/purchasing procedures; principles of logistics; logistic information systems; inventory management; materials flow and transport management; warehousing; material handling; organization of logistics; factors to consider in the choice of logistic options for agribusiness.

Teaching Methods

Lectures, field visits, class and group discussions, and internships.

Course No. AG-BS 36	Credits: 3 (30:30)
Course Name	Agribusiness Risk Management

Purpose

This course unit introduces learners to examine and develop applied risk analysis skills useful for agricultural producers, agribusinesses and researchers.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Understand of the methodology of making decisions;
- Understand risk management and analysis of risk management tools;
- Locate data and information from various sources to use in risk analysis and management;
- Apply risk-modeling techniques; and
- Influence decision making through risk analysis.

Content

Risk analysis and forecasting, financial instruments to manage exposure to risk (credit, market risk, financial risk modeling, risk adjustment); return on capital. Nature of risk to business; areas of risk; sources of risk in agribusiness; managing risks in agribusiness; global demands and trends; security and strategic factors. Introduction to insurance; life assurance laws; insurance of the person; marine and aviation insurance; property and pecuniary insurance; motor insurance; underwriting and claims; insurance broking; re-insurance and marketing of insurance services.

Teaching Methods

Lectures, field visits, class and group discussions, and projects.

Course No. AG-BS 37	Credits: 3 (30:30)
Course Name	Communication and Negotiation Techniques

Purpose

To build learners' communication and negotiation skills.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Communicate appropriately in response to clients' needs;
- Negotiate and handle objections of clients effectively; and
- Negotiate good deals.

Content

Communication skills: communication process; barriers to open and closed communication; appropriate responses to ensure open communication; handling the objection process; appropriate responses in the workplace; presentations following the persuasive selling framework. Negotiation skills: principles behind effective negotiation and the tools necessary to achieve a win-win situation with the customer when negotiating; the 7 key steps in successful negotiations.

Teaching Methods

Lecture notes, presentations, debates and role-plays, class discussions, and interviews.

Course No. AG-BS 38	Credits: 3 (30:30)
Course Name	Ethics and Behavior Change

Purpose

To inculcate ethics and behavior change in academic, social and professional life.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Behave ethically at professional, social and personal level;
- Solve real-life problems in relevant communities;

- Apply social, civil responsibilities and human rights in rural development and sustainability; and
- Be a role model for the society.

Content

Distinction between values; ethics and unethical behavior; issues of work and business ethics; organizational cultures and values; ethics in the modern workplace; identify business abuses and what to do to avoid them, the role of managers in setting the ethical behavior in an organization, theories of behavior change, interventions for behavior change, the role of attitudinal change in resolving business, professional and cultural dilemmas.

Teaching Methods

Lectures, discussions, role plays, case studies, and stimulation exercises.

Course No. AG-BS 39	**Credits: 3 (45:0)**
Course Name	**Agricultural Development**

Purpose

This course unit is meant to equip learners with the general knowledge of agricultural growth and development.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain models of agricultural growth and development;
- Analyse the relationship between agricultural and economic growth; and
- Describe the models for analysis of food security and sustainable agriculture.

Content

Agricultural development in historical perspective; models of agricultural growth; determinants of urban-rural disparity, the role of technology in agricultural growth; interdependence between agricultural growth and economic growth; inequality and poverty; models for the analysis of food security, and sustainable agriculture; agricultural development issues in the country.

Teaching Methods

Lectures, discussions, case studies, group tasks, and presentations.

Year 4: Semester I

Course No. AG-BS 40	Credits: 3 (30:30)
Course Name	Project Management

Purpose

This course unit aims at equipping the learners with knowledge and skills on project management.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Differentiate between projects and programs; and
- Manage a project.

Content

Project management; project cycle management; project management tools; projects and project constraints; roles of the project manager and his team; group dynamics; project management styles; project monitoring and evaluation; project report writing.

Teaching Methods

Lectures, guest lecturers, field visits, evaluation of existing projects, and class and group discussions.

Course No. AG-BS 41	Credits: 2 (0:30)
Course Name	Seminar in Agribusiness Management

Purpose

To expose the learners to the actual handling and management of seminars and programs.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Conduct seminars in agribusiness management effectively and efficiently;
- Synthesize and use emerging developments in the agribusiness sector both locally and globally;
- Analyze critically the various agribusiness innovations; and

- Appreciate the importance of the values of resourcefulness, creativity and cooperation in practicing their profession.

Content

Agribusiness seminars shall be conducted following the seminar-type system where invited speakers will talk on topics relevant to agribusiness. Various modules will cover the technicalities in managing agribusiness ventures. The students are expected to be oriented on the recent trends and to gain sufficient exposure to various experts in the field of agribusiness.

Teaching Methods

Lectures, group discussions, assigned readings, individual seatwork (desk research), library/internet research, field visits, and guest speakers.

Course No. AG-BS 42	**Credits: 3 (30:30)**
Course Name	**Agricultural Extension Services**

Purpose

To acquaint the learners with the knowledge and skills required to advise agricultural enterprises.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Advise entrepreneurs on agribusiness development and management;
- Disseminate useful knowledge and information relating to agriculture and agribusiness; and
- Establish the linkage between research outputs, and communities'/industry needs.

Content

Concept and philosophy of extension; genesis of extension education; extension and society; extension methods and approaches; conceptual foundation extension impact; extension policy and organizational issues; linkages in agricultural extension service; gender issues in agricultural extension; strengthening research-extension-farmer linkages; extension role in sustainable agricultural development; NGOs in extension; indigenous knowledge in research and extension; youth and extension.

Teaching Methods

Lectures, discussions, role plays, case studies, guests speakers, internships, and projects.

Course No. AG-BS 43	Credits: 3 (30:30)
Course Name	Strategic Agribusiness Management

Purpose

The purpose of the course unit is to train learners to comprehend what strategic management and business policy are and be able to practise them in agribusiness organizations.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain strategic management and business policy in strategic management;
- Identify the various strategic alternatives available in business organizations and their applicability;
- Set corporate strategy under various business circumstances;
- Scan an agribusiness environmental (SWOT analysis); and
- Discuss the strategic management process in agribusiness enterprises.

Content

Strategic management and business policy: definitions and scope; differences with other aspects of management; E-V-R models; SBUS; dimensions of strategic management; strategic managers; and strategic decisions. Scanning the external and internal environments; SWOT analysis;

corporate strategy: missions, philosophies, objectives; identifying strategic alternatives: strategic directions; strategies for stable, declining and growth industries; corporate collapse and turnaround; entry and exit strategies; multinational alternatives; implementing, evaluating and controlling strategy.

Teaching Methods

Lectures, discussions, demonstrations, group work, practical exercises, and case studies.

Course No. AG-BS 44	Credits: 3 (45:0)
Course Name	Cooperatives Development and Management

Purpose

The course unit is meant to provide the learners with an understanding of agribusiness cooperative organizations' operations and their management.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the meaning, origin, philosophies and theories of the cooperative movement;
- Discuss the contributions of agribusiness cooperatives to the national economy;
- Highlight the role of long-range planning in cooperative expansion and policy making; and
- Evaluate contemporary issues facing cooperatives that compete with investor-oriented firms.

Content

Definition, theories and philosophies of co-operatives; cooperative principles; structure and management of cooperatives; importance of cooperatives in the economy; accounting and accountability of cooperatives; sources and uses of cooperative funds; memberships and public relations in cooperatives; evaluation of cooperative business performance; improvement programs for the cooperative business; management problems and the role of government in cooperative development.

Teaching Methods

Lectures, discussions, case studies, and group discussions.

Course No. AG-BS 45	**Credits: 3 (30:30)**
Course Name	**Farm Management**

Purpose:

The course unit is meant to expose learners to the basic concepts, significance, uses and application of principles of farm management.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Expose the students to the basic concepts, significance, uses and application of principles of farm management;
- Appreciate the various farming systems;
- Explain the need for and use of the various data records and financial statements; and
- Formulate and use the relevant farm records in agribusiness enterprises.

Content

Principles of farm management: the role and functions of management; marginal analysis; enterprise budgeting; partial and complete budgeting; and cash flow budgeting; farm record keeping; farm planning and business techniques; linear programming and further programming techniques; typical farm enterprises; subsistence farming; small-scale market farming and large-scale commercial farming; decision making under risk and uncertainty; economics of land tenure, conservation, mechanization, rotation etc. at the farm level; farm management survey; resources, national resources, labor, capital and management; investment appraisal; case studies and practical exercises.

Teaching Methods

Lectures, case studies, discussions, demonstrations, and group work.

Course No. AG-BS 46	**Credits: 2 (15:30)**
Course Name	**Agribusiness Management: Special Project I**

Purpose

To provide the student with the opportunity to integrate knowledge and skills learned throughout the program.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Develop, design and present a project proposal; and
- Implement a research project in agribusiness.

Content

Project conceptualization out of emerging issues in agribusiness; project planning; project justification; project development; project design; project presentation; project implementation.

Teaching Methods

This is a supervised independent study. Students may work alone or in small groups. The lecturer guides the students to conceptualize a project out of topical and/or emerging issues in agribusiness. Work on the project will begin at the end of the first semester, and the project should be completed by the end of the last semester. Students develop, design and present a project; plan and justify the project; work to satisfy performance, schedule and budget requirements; adjust for unplanned occurrences; and provide status reports

Year 4: Semester 2

Course No. AG-BS 47	Credits: 4 (15:90)
Course Name	Agribusiness Management: Special Project II

Purpose

To provide the learners with the opportunity to integrate knowledge and skills learned throughout the program.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Develop, design and present a project.

Content

Project conceptualization out of emerging issues in agribusiness; project planning; project justification; project development; project design; project presentation.

Teaching Methods

This is a supervised independent study. Students may work alone or in small groups. The lecturer guides the students to conceptualize a project out of topical and/or emerging issues in agribusiness. Work on the project will begin at the end of the first semester, and the project should be completed by the end of the last semester. Students develop, design and present a project; plan and justify the project; work to satisfy performance, schedule and budget requirements; adjust for unplanned occurrences; and provide status reports.

Course No. AG-BS 48	Credits: 3.5 (30:60)
Course Name	Consultancy and Advisory Services for Agribusiness

Purpose

This course unit aims at providing the learners with the ability to understand and apply business management consultancy principles.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Conceptualize and design an agribusiness enterprise;
- Assess the viability of an agribusiness enterprise;

- Plan and manage an agribusiness consulting and advisory assignment; and
- Develop an agribusiness consultancy proposal and report.

Content

Nature and purpose of management consulting; the process of consulting; the dimensions of the consulting process; types of clientele, phases in consulting:

- Initial contact and entry,
- Making first contact,
- Identifying and clarifying the need for change;
- Exploring the readiness for change; and
- Managing consulting organizations, proposal and report writing.

Teaching Methods

Lectures, field visits, evaluation of existing projects, class and group discussions, projects, and internships.

Course No. AG-BS 49	**Credits: 3 (30:30)**
Course Name	**Social Entrepreneurship**

Purpose

To enable learners inculcate the culture of serving the community.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Characterize social entrepreneurship;
- Undertake community support services; and
- Be a role model.

Content

Forms of entrepreneurship and categories of entrepreneurs; social entrepreneurship and entrepreneurs; the role of social entrepreneurship and entrepreneurs in society; the role of social entrepreneurship in social change; social entrepreneurship and agricultural and agribusiness development. Social entrepreneurs in the agriculture sector, role modeling (e.g. KickStart and KACE in Kenya, Anne Githuku-Shongwe, Afroes, South Africa, Njideka U. Harry,

Youth for Technology Foundation (YTF), Nigeria, Chuck Slaughter, Living Goods, Uganda, Andrew Young, One Acre Fund, Kenya, etc.)

Teaching methods

Lectures, guest speakers, role modeling, field visits, videos, group discussions, projects, and internships.

Course No. AG-BS 50	Credits: 3 (45:0)
Course Name	Agribusiness International Trade

Purpose

To understand how international trade theory and policy can impact economic welfare and development.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Understand the historical and future importance of international trade;
- Apply the concepts of international trade theory to assess the efficiency and distributional consequences of trade policy reform;
- Understand the various instruments of protection and the effects of policy liberalization;
- Understand the role of multilateral trade negotiations and the proliferation of regional and bilateral agreements; and
- Apply analytical thinking on trade policy issues.

Content

Definition of international trade; the theory of comparative advantage, quotas, tariffs and other trade restrictions; international movement of material and capital; trade linkages with other sectors of the economy; the importance and structure of external trade, Intra-African trade; trade policies: import substitution, export promotion, fiscal and monetary policies and agricultural trade; balance of payments; disequilibrium and adjustment; world and regional trade organizations.

Teaching Methods

Lectures, guest lecturers, field visits, and class and group discussions.

Course No. AG-BS 51	Credits 3: (30:30)
Course Name	Operations Research

Purpose

To enable learners apply analytical methods for good decision making.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Formulate and solve optimization problems.

Content

Introduction to operations research; operations research definition and origin; linear programming and allocation of resources; linearity requirements; expressing linear programming problems, constraints; maximization and minimization problems; the theory of the simplex method; dualism; game theory; activity analysis; input-output models; decision theory; transport problems; queuing theory; simulation and critical path analysis.

Teaching Methods:

Lectures, group discussions, group activities, exercises, and computer laboratory work.

Course No. AG-BS 52	Credits: 3 (30:30)
Course Name	Agribusiness Taxation

Purpose

The course unit aims at enabling learners understand national taxation regulations and competently apply them in agribusiness enterprises.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain and apply the concepts and policies of taxation;
- Evaluate the various forms of taxes applicable to agribusiness enterprises; and
- Compute taxable income.

Content

Basic concepts and purposes of taxation; principles of an optima tax system; justice in taxation; cost of service or purchase theory; benefit theory; theory of equal sacrifice; ability theory - determination of taxable income gains or profit from agribusiness enterprises: profit, deductions allowed, deductions not allowed, receipts not considered income for tax purposes, capital allowances or capital deductions, investment allowances; taxation of sole proprietorship businesses; partnerships and corporations; economic costs of revenue, excise, equity, and externalities, duties and protection; Value Added Tax.

Teaching Methods

Lectures, case studies, discussions, and group work.

MSc. Courses

Introduction

The MSc. students come from BSc. in Agricultural Economics, BSc. in Agribusiness, BSc. in Agricultural Sciences, BBA or from B.Com or from related programs.

Career prospects

The key difference between a first and second-degree holder is that the latter has more intellectual and managerial skills and may be involved in advancing Research- and Development (R&D) in agribusiness. A master's degree holder will work as an upper-level manager i.e. top executive in an agribusiness company relying on input from mid-level managers to determine what direction the company is heading and if any changes need to be made. Upper-level managers usually include chief executive officers, chief agricultural project officers and other top leaders responsible for developing the company's vision and making the executive decisions that affect the organization's future.

Competencies

Based on the functions and tasks associated with these jobs, the graduates must have skills and understanding of the agricultural business sector to be able to harness the vast agribusiness opportunities in the environment and respond to a range of constraints. Such competencies include, but are not limited to business, marketing, financial management, economics, and computer skills that address agribusiness management and small enterprise development in agriculture. The competencies to create new ventures in agribusiness are also necessary. In addition, they should have competencies for research methodology and business management, statistical analysis, technical and scientific report writing and presentation skills and the ability to develop proposals (research, grants, projects seeking for funding) and implementing them.

Course Schedule

Year 1: Semester 1

Course Title	Credits	Status
1. Project Planning and Management in Agribusiness	3	Core
2. Strategic Management in Agribusiness Firms	3	Core
3. Advanced Computer Applications in Agribusiness	3	Core
4. Managerial and Business Economics	3	Core
5. Mathematics and Statistics for Agribusiness	3	Core
Total Credits (Core Courses)	**15**	
6. Special Problems in Agribusiness	2	Elective
7. Farming Systems	2	Elective
8. The Agro-industry	2	Elective
9. Cooperative Development and Entrepreneurship for Agribusiness	2	
Total Credits (Elective Courses)	**8**	
Total Credits (Semester 1)	**23**	
Requirements		
Students are supposed to take all the core courses and at least two (2) electives	**19**	

Year 1: Semester 2

Course Title	Credits	Status
10. Strategic Human Resource Management for Agribusiness	3	Core
11. Agricultural Marketing: International and Domestic	3	Core
12. Leadership and Governance in Agribusiness Firms	2	Core
13. Quantitative and Econometrics Techniques	3	Core
14. Agribusiness Finance and Risk Management	3	Core
15. Research Methodology	3	Core
Total Credits (Core Courses)	**17**	
16. Agribusiness Policy Analysis	2	Elective
17. Supply Chain Management	2	Elective
18. Monitoring and Evaluation of Agribusiness Projects	2	Elective
Total Credits (Elective Courses)	**6**	
Total Credits (Semester 1)	**23**	
Requirements		
Students are supposed to take all the core courses and at least one (1) elective	**19**	
Total Credits for Year 1	**38**	

Year 2

3 Months	Internship	3 Credits
9 Months	Proposal & Thesis	9 Credits
		12 Credits

Total Credits for Graduation: 38+12 = 50

Course Content

Core Courses

Year 1: Semester 1

Course No. AG-MS 01	Credits: 3
Course Name	Project Planning and Management in Agribusiness

Purpose

To provide advanced exposure to project management to enable the future manager successfully complete sophisticated projects within the constraints of capital, time, and other resources.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Identify an agricultural and agribusiness problem or opportunity that a project can solve or pursue;
- Plan, design and launch a project to address the identified problem or business opportunity;
- Effectively and efficiently manage a project.

Content

Project management; needs identification and analysis; project proposal writing; teamwork for project teams; planning activities; project planning matrix; network diagrams; critical paths; PERT (Program Evaluation Review Technique); GANTT diagrams and work breakdown structures; project appraisal; project plan; project scheduling; budget and scope; monitoring and evaluation techniques; project termination and reporting.

Teaching Methods

Lectures, guest lecturers, capstone projects, group work and discussions, and visits to projects.

Methods of Evaluation

Assignments, term papers, tests, and final exams.

Course No. AG-MS 02	Credits: 3
Course Name	Strategic Management in Agribusiness Firms

Purpose

To stimulate learners' understanding of how strategy influences the economic and financial value of an agribusiness firm.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Define strategy and identify the elements that constitute an excellent vision statement and objectives that are used to reach that vision;
- Define decision and decision management framework;
- Apply prudent decision making techniques;
- Assess agribusiness firms' performance using relevant techniques; and
- Explain the role of ethics in developing a strategy and competing in the food and agribusiness marketplace.

Content

Decision and decision management framework; problem solving and the decision making process; methods of decision making; strategy and strategic management; strategic planning, vision, mission, strategic objectives, strategy formulation process, strategy formulation models e.g. SWOT; Porter's forces etc.; decision management for agribusiness; analysis of the competitive internal and external environment; the role of transaction cost theory and resources-based theory; strategy implementation and control.

Teaching Methods

Lectures, discussions, reports, readings, presentations, field visits, guest speakers, projects, and case studies.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Course No. AG-MS 03	Credits: 3
Course Name	Advanced Computer Applications in Agribusiness

Purpose

To enhance the learners' ability of using ICT infrastructure in solving agribusiness value chain problems.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Effectively use ICT technology in solving value chain problems associated with transactions, logistics and quality assurance;
- Optimize process management in any agribusiness value chain; and
- Use ICT tools for analysis of agribusiness problems.

Content

Agriculture software support and maintenance; agro informatics and decision support systems; agro statistics; development of agro-based simulation models, algorithms for microcomputer control in agribusiness; automated construction data management systems in agribusiness; computer-aided management advice/marketing for agripreneurs, network security issues related to legal, privacy and ethical issues; emerging ICT applications in agribusiness.

Teaching Methods

Lecture notes, practicals, projects, and industry visits.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Course No. AG-MS 04	Credits: 3
Course Name	Managerial and Business Economics

Purpose

To enhance learners' understanding of the economic principles and theories that govern consumer behavior and the behavior of firms.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Describe how demand and supply influence market forces;
- Evaluate and implement profit maximization strategies;
- Describe consumer behavior; and
- Explain decision-making approaches in competitive markets.

Content

Firm and consumer theory; demand, supply, and market equilibrium: interaction of the market forces of demand and supply; factors affecting demand and supply; marginal analysis for optimal decisions; profit maximization: total physical product, input cost and returns, duality, inverse of a production function, supply function, returns to scale, economies and diseconomies of scale and size, elasticity of substitution; understanding consumer behavior; theory of consumer behavior; the economics behind consumer behavior; utility theory; production theory: production functions; production and cost in the short run; production and cost in the long run; technology adoption and efficiency; firm behavior: decisions in competitive markets; decisions for firms with market power; and decision making under risks and uncertainty.

Teaching Methods

Lectures, assignments, term papers, group discussions, presentations, and projects.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Course No. AG-MS 05	**Credits: 3**
Course Name	**Mathematics and Statistics for Agribusiness**

Purpose

The general purpose of the course unit are to enable learners understand mathematical and statistical concepts and their application in agribusiness.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Apply concepts of functions and linear algebra and matrices to economic and agribusiness problems;

- Apply calculus techniques in maximization and minimization problems as well as marginal analysis and elasticity;
- Solve optimization problems for dynamic systems using various optimality criteria;
- Select and apply appropriate estimation methods and evaluate the obtained results; and
- Formulate and test hypotheses.

Content

Set theory; functions and linear algebra and matrices; calculus and the theory of the firm; optimization, dynamic analysis and their applications; comparative statics and differential calculus; integral calculus, simple and multiple linear regression (OLS); Matrix representation of the regression model; statistical inferences (correlation analysis, T-test, F-test, Chi square test, ANOVA), properties of OLS; diagnostics and remedies for multicollinearity and heteroskedasticity; diagnostics for model selection, variable selection, transformations such as log, Box-Cox, etc.); appropriate statistical packages (e.g. STATA) will be used in the course unit to demonstrate how to apply the techniques on real data.

Teaching Methods

Lectures, guest lectures, group discussions, and computer practice.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Elective Courses

Course No. AG-MS 06	Credits: 2
Course Name	Special Problems in Agribusiness

Purpose

To enhance the learners' ability of applying agribusiness theories and concepts in solving existing and emerging agricultural problems.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Prioritize current problems relating to agribusiness and resource management from multiple sources;
- Assess underlying economic drivers affecting agriculture, natural resources, and food industries;

- Think strategically about threats and opportunities presented by emerging issues; and
- Expand his/her ability to think critically and to defend his/her position with relevant evidence, logic and theory.

Content

Adult education in agriculture, advanced issues in extension education, special problems in agriculture and extension education, issues and implications of agricultural biotechnology, experiential learning in agriculture, challenges of applying micro-economic and macroeconomic principles to practical situations.

Teaching Methods

Lectures, class discussions, assigned readings, group projects, and seminars.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Course No. AG-MS 07	Credits: 2
Course Name	**Farming Systems**

Purpose

To enable learners acquire skills and be able to advise on suitable farming systems for various agro-ecologies and management aspects required for maximization of profits.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Advise on suitable system(s) for various agro-ecologies and their management; and
- Design simulation crop productivity models under various crop growth conditions.

Content

Definition and importance; types of farming systems; the concept of sustainability in farming systems; efficient farming systems; natural resources (identification and management); production potential of different components of farming systems; interactions and mechanisms of different production factors; stability in different systems through research; eco-physiological approaches to intercropping; simulation models for intercropping; soil nutrients in intercropping; preparation of different farming system models; evaluation of different farming systems; new concepts and approaches of farming systems, cropping systems, and organic farming; integrated pest management, integrated crop management (taking into account Good Agricultural Practices).

Teaching Methods

Lectures, guest lectures, farm visits, term papers, and case studies.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Course No. AG-MS 08	Credits: 2
Course Name	The Agro-industry

Purpose

The course unit is meant to inculcate into students the knowledge on various agribusiness industries, their significance, performance, and policies that influence them.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Identify the agro-industries in an economy;
- Analyse the policies that govern agro-industries;
- Evaluate the efficiency, productivity and capacity utilization of agro-industries;
- Assess problems of selected local agro-industries and benchmark them with global ones; and
- Critique the role of agro-industries in economies.

Content

The role of industries in economic development; policies and growth of agro-based industries; performance and growth of small- and large-scale industries i.e. sugar, tobacco, fruits and vegetable processing, beverages (tea, coffee), maize mills, wheat mills, rice mills, animal feed mills, forestry mills, etc.; efficiency, productivity and capacity utilization; overview of industrial policies, quantitative and qualitative restrictions, tariffs, protection, industrialization; problems of agro-based industries; emerging issues in agro-industries, case studies of agro-industries.

Teaching Methods

Lectures, discussions, visit to agro-industries, term papers, presentations, and group projects.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Course No. AG-MS 09	Credits: 2
Course Name	Cooperative Development and Entrepreneurship for Agribusiness

Purpose

To provide learners with an understanding of cooperatives as a model of organization that creates both social and economic value through entrepreneurship development.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain why the cooperative model of organization emerged;
- Differentiate between types of cooperatives;
- Explain the value and challenges of democratic control in cooperatives;
- Describe the life cycle of a cooperative and the challenges faced at each level in the cycle;
- Identify the role of cooperatives in agribusiness; and
- Apply entrepreneurship for agribusiness cooperative management.

Content

Introduction to cooperatives: evolutionary and historical considerations; principles of cooperatives; types of cooperatives; agricultural cooperatives; agribusiness cooperatives; management of cooperatives; financial management and funding of cooperatives; the entrepreneurial cooperative.

Teaching Methods

Lectures, discussions, reports, readings, presentations, field visits, guest speakers, projects, and success stories.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Year 1: Semester 2

Core Courses

Course No. AG-MS 10	Credits: 3
Course Name	Strategic Human Resource Management for Agribusiness

Purpose

This course unit is focused on the global perspective of agribusiness human resource management to enable the learners understand the role of human resource management in agribusiness activities.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Discuss the role of strategic human resource management in agribusiness;
- Analyze the strategic human resource needs of an agribusiness enterprise;
- Apply strategic tools in solving the human resource needs of an agribusiness unit; and
- Prepare operational and annual HR plans and budgets.

Content

The concept of strategic management and its application to agribusiness; human resource strategic goals; internal and external situational analysis; agribusiness human resource (HR) SWOT analysis; development of agribusiness human resource strategies, plans and programs; agribusiness organizational culture development; determination of the right number of personnel; development of human resource policies; systems and procedures; development of job descriptions, job performance standards and job competency profiles; determination of the right job grades and salary structures; preparation of agribusiness HR strategic and annual operational plans and budgets; HR performance measures; monitoring and control systems; globalization and its impact on strategic human resource management.

Teaching Methods

Lectures, guest lectures, group discussions, presentations, seminars, and field visits.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Course No. AG-MS 11	Credits: 3
Course Name	Agricultural Marketing: International and Domestic

Purpose

To provide learners with a theoretical and empirical basis for evaluating agricultural marketing organizations and actors for market performance and public policy decisions, and to enable them develop and use the tools of economic theory to analyze issues related to the marketing of agricultural commodities. This course unit also examines global agribusiness product pricing, distribution and promotion.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Apply economic theory to problems of agricultural marketing;
- Design strategies for effective market performance;
- Use marketing concepts for analyzing market structures and performance in agriculture;
- Appreciate organizational forms unique to agricultural industries;
- Understand price discovery mechanisms under different market structures;
- Identify and analyze worldwide agribusiness marketing opportunities; and
- Evaluate the requirements for international agricultural and agribusiness markets.

Content

Review on the economic role of prices and approaches to the study of agricultural market organization and performance; theoretical models of market structures and performance; spatial and temporal analysis of agricultural markets for policy; horizontal and vertical integration of agricultural industries; market organizational forms unique to agriculture. Overview of trends in international agri-food systems; changing conditions in international industries and markets; international agribusiness marketing policies, international agribusiness marketing strategies and plans; the political economy of trade policies; exchange rates and balance of trade; international distribution challenges; models and patterns of international agribusiness marketing; international commodity agreements; multilateral negotiations; preferential trade areas; international finance; emerging issues in international agribusiness marketing; international marketing institutions.

Teaching Methods

Lectures, class discussions, and seminar presentations.

Methods of Evaluation:

Assignments, term papers, tests and final exams.

Course No. AG-MS 12	Credits: 2
Course Name	Leadership and Governance in Agribusiness Firms

Purpose

To develop leadership and managerial capabilities of the learners so as to perform managerial roles effectively.

Learning Outcomes:

By the end of the unit, the learner should be able to:

- Evaluate the various leadership styles and their suitability for smooth running of agribusiness firms;
- Have the exposure to leadership and governance issues relevant to agribusiness firms; and
- Perform consultancy services on leadership and governance to agribusiness firms.

Content

Meaning of leadership; types of leadership; theories of leadership; leadership as a cultural construction; gender and leadership; developing ethical behavior in our leaders, leading individuals and teams: two distinct roles; leadership across the larger agribusiness organizations, leadership development in a fast-changing world; the development of leadership: tools and practices; strategic leadership; leadership and risk; corporate governance issues; concepts and domain; external governance – law and regulation, codes of 'best practice' and norms of behavior; boards of directors: the lynchpin; internal controls and accountability; risk management; external reporting; need vs. delivery; reality in the corporate sector in the face of prescription;the relationship between stakeholders and shareholders; corporate social responsibility (CSR).

Teaching Methods

Lectures, guest lectures, class discussions, assigned readings, projects, case studies, visits, and local success stories.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Course No. AG-MS 13	Credits: 3
Course Name	Quantitative and Econometrics Techniques

Purpose

This course unit aims at equipping students with in-depth regression analysis and related techniques.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Select and apply appropriate estimation methods and evaluate the obtained results;
- Formulate and test hypotheses;
- Understand theoretical and analytical tools for describing and analyzing agribusiness data;
- Perform quantitative techniques to analyze and evaluate the possible effects of policy measures;
- Define and develop models for policy estimation, policy simulation, and forecasting; and
- Do policy optimization and impact assessment.

Content

Simple and multiple linear regressions (OLS); matrix representation of the regression model; statistical inferences (correlation analysis, T-test, F-test Chi2 test, ANOVA); properties of OLS; diagnostics and remedies for multicollinearity and heteroskedasticity; diagnostics for model selection, variable selection, transformations (such as log, Box-Cox, etc.); appropriate statistical packages (e.g STATA) will be used in the course unit to demonstrate how to apply the techniques on real data.

Model specification and data generation: developing a conceptual framework; types and sources of data, data mining, model specification and data generation; the mathematical programming approach to policy analysis: the classical MP models, limitation of MP models and extension to positive mathematical programming, classification of mathematical programming models commonly used in policy analysis, application in hypothesis testing, application in analyzing policy instruments and commodity policy, application in forecasting; econometric approach to policy analysis.

Classification of econometric models, linear and non-linear models, limited and censor-dependent variable approaches (logit, probit, tobit, and their extensions such as multinomial logit and probit etc.), system of equations or simultaneous equations, application in hypothesis testing, application in analyzing policy instruments and commodity policy, application in forecasting, the problem of causality in policy analysis, limitation of econometric models; impact assessment: propensity score matching, regression discontinuity designs, panel data to analyze with staggered entry.

Multivariate analysis and experimental economics (factor analysis, principal component analysis, cluster analysis, discriminant analysis), auctions theory.

Teaching Methods

Lectures, guest lectures, and group discussions.

Methods of Evaluation

Assignments, term papers, tests and final exams.

Course No. AG-MS 14	Credits: 3
Course Name	Agribusiness Finance and Risk Management

Purpose

The course is meant to empower the learners on the field of project planning and management and assessing risks associated with them with a view to encouraging them to start their own ventures in agribusiness.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Assess agribusiness opportunities;
- Design projects to address the opportunities;
- Initiate and manage a project;
- Evaluate project feasibility;
- Carry out impact assessment on projects;
- Assess risks associated with agribusiness projects; and
- Be able to forecast and mitigate risks associated with agribusiness.

Content

Definition of a project; concept and characteristics of projects; types of projects; project identification and initiation; project preparation, analysis and identification; project evaluation and selection; the scope of the project planning process and development; project control systems; negotiation and conflict resolution in projects; project implementation; monitoring and evaluation of projects. Project feasibility- market feasibility, technical feasibility, financial feasibility, and economic feasibility, social cost-benefit analysis, project risk analysis.

The life cycle of a new business; environmental factors affecting the success of a new business; reasons for the failure of a business; developing effective agribusiness plans; procedural steps in setting up of an industry; equity and efficiency considerations of agribusiness projects, impact assessments of NGOs- case studies.

Elements of risk; risk and uncertainty; the scope and essence of risk management; the risk management process; risk management process in agribusiness; the administration of the risk management process; identification of risk; evaluation/measurement of risk and risk control; risk financing; risk retention and transfer; the strategic operations and risk management model.

Teaching Methods

Lectures, assignments and class presentations, discussions, case studies, computer practical group projects, and field visits.

Methods of Evaluation

Assignments, tests, term papers, and final exams.

Course No. AG-MS 15	Credits: 3
Course Name	Research Methodology

Purpose

To provide learners with a background of effective research in agribusiness.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Get the knowledge of different research tools;
- Perform effective qualitative and quantitative research;
- Be familiar with different components of the research management process; and
- Apply the appropriate methods to different research problems.

Content

Research planning, research tools: Qualitative methods (individual survey, focus groups) and quantitative methods, data collection, design of the questionnaire, sampling procedures for data analysis, testing for hypothesis, scientific reports or papers)

Teaching Methods

Lectures, seminars, practicals and field visits, critics of published papers, and term papers.

Methods of Evaluation

Assignments, term papers, and completed proposals.

Elective Courses

Course No. AG-MS 16	Credits: 2
Course Name	Agribusiness Policy Analysis

Purpose

Analyze constraints and opportunities as a basis for agribusiness development.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Analyze constraints and opportunities for agribusiness development;
- Apply policies in agribusiness development; and
- Advise stakeholders in agribusiness policy framework.

Content

PESTLE and SWOT analyses of agribusiness policy framework; design of medium-large agribusiness enterprises; principles and practices of agricultural and agribusiness policy; agricultural and agribusiness value chain policies; agribusiness investment policy; the policy setting process; agribusiness stakeholder analysis; agribusiness research policy; agribusiness and sustainable natural resource management policies; the agricultural and agribusiness trade; food and nutrition policy, food safety and food quality standards.

Teaching Methods

Field research, lectures, group discussions, case studies, seminars/workshops; guest speakers, visits, and practicals/ fieldwork.

Methods of Evaluation

Assignments, term papers, tests and final exams

Course No. AG-MS 17	Credits: 2
Course Name	Supply Chain Management

Purpose

Optimize the supply chain of a firm in order to reduce costs and satisfy the market.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Understand the different components of the supply chain system;
- Understand the role of the supply chain in business performance in terms of costs and delivery time; and
- Appreciate the relationship between different actors in the value chain.

Content

SCM concepts and methods, logistics, value chain, supply chain planning, support services in the supply chain, supply chain risk management; outsourcing, transactions costs and subcontracting; the role of information and IT in the coordination of actors.

Teaching Methods

Lectures, visiting firms and retailers, case studies, and computer practicals.

Methods of Evaluation

Assignments, tests, term papers and final exams.

Course No. AG-MS 18	Credits: 2
Course Name	Monitoring and Evaluation of Agribusiness Projects

Purpose

The course unit aims at equipping learners with the knowledge and expertise to monitor and evaluate agricultural projects.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Discuss the principles of monitoring and evaluation;

- Identify the uniqueness of agricultural projects;
- Monitor and evaluate agribusiness projects; and
- Write monitoring reports.

Content

Definitions and principles of monitoring; evaluation and reporting; uniqueness and challenges of agricultural and agribusiness projects; monitoring and evaluation approaches: traditional, modern, participatory, project effectiveness and efficiency, project quality; performance, measuring results and reporting progress; the MER (monitoring, evaluation, reporting) system; developing an MER system; results-based MER, M&E indicators: identifying, selecting and assessing indicators; monitoring tools, evaluation tools, M&E reporting.

Teaching Methods

Lectures, case studies, and field visits.

Methods of Evaluation

Assignments, term papers, tests and final exams.

PhD COURSES

Career prospects

The main difference between masters and PhD is the scientific intensity. This level should produce full-fledged scientists and expert professional leaders in Agribusiness with superior intellectual and managerial skills.

Competencies

- General competencies include the ability to use management tools and concepts to solve marketing, financial, production, and personal problems of agricultural businesses.
- Besides competencies at MSc. Level, a PhD holder must also possess advanced research methodology and statistical analysis competency; competencies for research management/ supervision, monitoring and evaluation and scientific publication of results in journals; competencies for advocacy, policy development and analysis of agribusiness problems; competencies to use information management tools and methods and agribusiness training and educating competencies.

Semester 1

Course Title	Credits	Status
1. Innovative Agribusiness Enterprise	3	Core
2. Advanced Agricultural Marketing	3	Core
3. Economics of Agribusiness	3	Core
4. Advanced Quantitative and Econometrics Techniques	3	Core
Total credits	**12**	
5. Cooperative Development and Entrepreneurship for Agribusiness	3	Elective
6. Strategic Marketing	3	Elective
7. Advanced Networking	3	Elective
Total Credits	**9**	

Semester 2

Course Number	Course Title	Credits	Status
8	Advanced Leadership and Governance in Agribusiness	3	Core
9	Research Methodology, Statistics and Advanced Scientific Writing	3	Core
10	Computer Applications for Agribusiness Research	3	Core
11	E-Commerce	3	Core
	Total Credits	**12**	
12	Agro-industries	3	Elective
13	Advanced International Trade	3	Elective
14	Policy and Institutional Innovations in Agribusiness	3	Elective
	Total Credits	**9**	

Thesis : 42 Credits

Level: Doctor of Philosophy (PhD)

Semester I

Core Courses

Course No. AG-PS 01	Credits: 3
Course Name	Innovative Agribusiness Enterprise

Purpose

This course unit will provide learners with a theoretical foundation and a set of practical tools for the management of innovation, and the change associated with it in an agribusiness firm.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain the theory of innovation;
- Differentiate an innovative from a non-innovative enterprise;
- Assess the contribution of innovation in firm performance; and
- Identify sources of innovation for an agribusiness enterprise.

Content

The theory and philosophy of innovation; innovation, creativity, invention and discovery; the role of innovation in firm performance; the process of innovation; sources of innovation for agribusiness firms; innovative opportunities for agribusiness firms.

Teaching Methods

Lectures, guest lectures, projects, and presentations.

Course No. AG-PS 02	Credits: 3
Course Name	Advanced Agricultural Marketing

Purpose

To provide learners with a theoretical and empirical basis for evaluating agricultural marketing organization and actors for market performance and public policy decisions, and to enable them develop and use the tools of economic theory to analyze issues related to the marketing of agricultural commodities.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Apply economic theory to problems of agricultural marketing;
- Design strategies for effective market performance;
- Use marketing concepts for analyzing market structures and performance in agriculture;
- Apply theoretical models of imperfect market structures to inform public policy;
- Appreciate organizational forms unique to agricultural industries; and
- Understand price discovery mechanisms under different market structures.

Content

Review on the economic role of prices and approaches to the study of agricultural market organization and performance; theoretical models of market structures and performance; spatial and temporal analysis of agricultural markets for policy; horizontal and vertical integration of agricultural industries; market organizational forms unique to agriculture.

Teaching Methods

Lectures, class discussions, and seminar presentations.

Course No. AG-PS 03	Credits: 3
Course Name	Economics of Agribusiness

Purpose

To help learners gain additional skills in applying the principles of economics to agriculture and agricultural business problems.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Understand the theory of the firm;
- Understand organizational incentives and efficiency; and
- Make decisions under uncertainty.

Content

Economic principles; supply and demand; gains from trade; market demand and equilibrium analysis; analysis of elasticity; efficiency of markets and government; intervention; tax policy; welfare and efficiency; taxes and efficiency; economics of the public sector: externalities; common resources and public goods; international trade; production economics; market organization; enterprise analysis; the macroeconomy.

Teaching Methods

Readings, lectures, class discussions, paper reviews, paper presentations, term projects, lab practicals, and peer reviews.

Course No. AG-PS 04	Credits: 3
Course Name	Advanced Quantitative and Econometrics Techniques

Purpose

This course unit aims at equipping learners with in-depth regression analysis and related techniques.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Select and apply appropriate estimation methods and evaluate the obtained results;
- Formulate and test hypotheses;

- Understand theoretical and analytical tools for describing and analyzing agribusiness data;
- Perform quantitative techniques to analyses and evaluate the possible effects of policy measures;
- Define and develop models for policy estimation, policy simulation, and forecasting; and
- Understand policy optimization and impact assessment.

Content

Simple and multiple linear regressions (OLS); matrix representation of the regression model; statistical inferences (correlation analysis, T-test, F-test Chi2 test, ANOVA)

for regression model; properties of OLS; diagnostics and remedies for multicollinearity and heteroskedasticity; diagnostics for model selection, variable selection, transformations (such as log, Box-Cox, etc.); appropriate Statistical packages (e.g. STATA) will be used in the course unit to demonstrate how to apply the techniques on real data.

Model specification and data generation: developing a conceptual framework; types and sources of data, data mining, model specification and data generation; the mathematical programming approach to policy analysis: the classical MP models, limitation of MP models and extension to positive mathematical programming, classification of mathematical programming models commonly used in policy analysis, application in hypothesis testing, application in analyzing policy instruments and commodity policy, application in forecasting; econometric approach to policy analysis.

Classification of econometric models, linear and non-linear models, limited and censor-dependent variable approaches (logit, probit, tobit, and their extensions such as multinomial logit and probit etc.), system of equations or simultaneous equations, application in hypothesis testing, application in analyzing policy instruments and commodity policy, application in forecasting, the problem of causality in policy analysis, limitation of econometric models; impact assessment: propensity score matching, regression discontinuity designs, panel data to analyze with staggered entry.

Multivariate analysis and experimental economics (factor analysis, principal component analysis, cluster analysis, discriminant analysis), auctions theory.

Teaching Methods

Lectures, guest lectures, and group discussions.

Elective Courses

Course No. AG-PS 05	Credits: 3
Course Name	Cooperative Development and Entrepreneurship for Agribusiness

Purpose

To provide learners with an understanding of cooperatives as models of organizations that create both social and economic value through entrepreneurship development.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Explain why the cooperative model of organization emerged;
- Differentiate between types of cooperatives;
- Explain the value and challenges of democratic control in cooperatives;
- Describe the life cycle of a cooperative and the challenges faced at each level in the cycle;
- Identify the role of cooperatives in agribusiness; and
- Apply entrepreneurship for agribusiness cooperative management.

Content

Introduction to cooperatives: evolutionary and historical considerations; principles of cooperatives; types of cooperatives; agricultural cooperatives; agribusiness cooperatives; management of cooperatives; financial management and funding of cooperatives; entrepreneurial cooperatives.

Teaching Methods

Lectures, discussions, reports, readings, presentations, field visits, guest speakers, projects, and local success stories.

Course No. AG-PS 06	Credits: 3
Course Name	Strategic Marketing

Purpose

To provide learners with solid experience in creating market-driven and market-driving strategies for the future success of a business.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Develop and practice creative problem-solving and decision-making techniques;
- Select and execute successful market-driven and market-driving strategies in a firm;
- Make decisions on which factors in the competitive landscape are most likely to affect a business;
- Gauge the level of impact of competitive factors, and what impact they are likely to have on a business' future.

Content

Industry analyses: internal/external analysis, customer analysis, competitor analysis, market/submarket analysis, comparative strategy assessment, strategy formulation, strategy implementation.

Teaching Methods

Discussions, team breakouts, mini-cases, application papers, in-class exercises, industry analyses and lectures

Course No. AG-PS 07	Credits: 3
Course Name	Advanced Networking

Purpose

To assist learners understand critical aspects of the Internet for purposes of effectively executing advanced researches.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Understand critical aspects of the Internet such as evolution of the Internet, availability, manageability, security and emerging new services and applications;
- Describe the basic architectural principles, fundamental mechanisms and technical challenges arising from Software-Defined Networking (SDN);
- Forecast potential issues in applying SDNs to data centers, network security and other applications and contexts; and
- Apply advanced network techniques for research and other purposes.

Content

Overview of the current Internet architecture: Internet then and now; Internet design principles, issues and limitations of the current Internet architecture; introduction to open flow and SDN; a (de)tour to data centers and distributed systems I: key concepts, techniques and case studies; a (de)tour to data centers and distributed systems II: key concepts, techniques and case studies; Software-Defined Cellular Network architectures; SDN: traffic engineering, load balancing, etc.; scalability of Software-Defined Networks and the SDN control plane, reliability and resilience of the SDN control plane, SDN and security, rule verification and trouble-shooting SDN.

Teaching Methods

Readings, lectures, paper reviews, paper presentations, term projects, laboratory practicals and peer reviews.

Semester 2

Core Courses

Course No. AG-PS 08	Credits: 3
Course Name	Advanced Leadership and Governance in Agribusiness

Purpose

The course unit aims at producing analytical and innovative agribusiness experts and philosophers.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Discuss different leadership paradigms;
- Develop leadership analytical tools;
- Analyze agribusiness leadership and structure;
- Design appropriate agribusiness governance structures; and
- Advise enterprises on firm governance.

Content

The concept of leadership, governance and agribusiness; types of leaders and governance structures; world view and leadership; leadership: traits, attributes, power, authority, styles; the role of public, voluntary and private sectors in the emergence of governance paradigms: from social movements, interest groups and ordinary citizens to the concepts, realities and practices of public leadership with a governance paradigm; leadership and governance tools; personal leadership development plan; strategic governance; leadership challenges.

Teaching Methods

Case studies, projects, lectures, guest speakers, and library studies.

Course No. AG-PS 09	Credits: 3
Course Name	**Research Methodology, Statistics and Advanced Scientific Writing**

Purpose

This course unit will expose learners to advanced research methodology, statistics and scientific writing and scientific presentations at seminars and conferences as well as improve their computing literacy skills in data analysis and presentation.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Have deeper insight into the philosophy of science and research;
- Understand and use the tools of advanced statistical analysis;
- Write scientific papers and present at seminars and international conferences as well publish in international scientific journals; and
- Critique published scientific articles.

Content

Nature of research, methodology, and knowledge; common sense approach to enquiry; history and philosophy of science; pure and applied research; the scientific research process; drafting the research proposal; design of the questionnaire; implementing research proposals; research report writing; scientific writing; dissemination of research results. Nature of statistics; time series; cross-sectional and panel data; sampling techniques; regression and correlation analysis; statistical inference. Single and multivariate continuous and discrete probability density functions; cumulative distribution functions; types of stochastic distributions: joint, marginal and continuous distributions; expectation, variance and moments of stochastic functions; moment generation functions.

Teaching Methods

Lectures, co-lecturing, group discussions, and computer practicals.

Course No. AG-PS 10	Credits: 3
Course Name	Computer Applications for Agribusiness Research

Purpose

To expose learners to computer software for data analysis and research in agribusiness.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Use computers as tools for management of agricultural research;
- Use computers and other ICT tools for increased agribusiness research;
- Analyze data with various computer software; and
- Apply the results to solve agribusiness research problems.

Content

Use of computers in research: project management, data analysis, statistical analysis; the role of ICT technologies in increasing agricultural productivity: predictive modeling, forecasting environmental threats, new techniques/ technologies; increasing access to agricultural information; ICT as a tool for pricing/marketing; creation of e-business: stimulating private sector investment, stimulation of public-private partnerships; use of ICT for creation of jobs and economic growth.

Teaching Methods

Research proposals, presentations, exhibitions and, lectures.

Course No. AG-PS 11	Credits: 3
Course Name	E-Commerce

Purpose

To equip learners with skills to apply e-commerce models, applications, decisions, and issues in agribusiness.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Assess e-commerce strategies and applications, including online marketing, e-government, e-learning and global e-commerce;
- Differentiate electronic market places and give examples of e-tailing products and services;
- Apply e-commerce strategies in agribusiness; and
- Discuss common legal, ethical and tax issues in e-commerce.

Content

Overview of e-commerce: marketplaces (auctions, portals etc.); e-tailing products and services; online marketing and online consumer behavior; business-to-business e-commerce; e-commerce security; payment solutions and order fulfillment; e-commerce strategy and global issues; legal (privacy, trademark and copyright laws); ethical and tax issues; launching an e-commerce business.

Teaching Methods

Projects, lectures, practicals, computer labs, and independent studies.

Elective Courses

Course No. AG-PS 12	Credits: 3
Course Name	Agro-industries

Purpose

The course unit is meant to inculcate into learners the knowledge on various agribusiness industries, their significance, performance and the policies that influence them.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Identify the agro-industries in an economy;
- Analyse the policies that govern agro-industries;
- Evaluate the efficiency, productivity and capacity utilization of agro-industries;
- Assess problems of selected local agro-industries and benchmark them with global ones; and
- Critique the role of agro-industries to economies.

Content

The role of industries in economic development; policies and growth of agro-based industries; performance and growth of small- and large-scale industries i.e. sugar, tobacco, fruits and vegetable processing, beverages (tea, coffee), maize mills, wheat mills, rice mills, animal feed mills, forestry mills, etc.; efficiency, productivity and capacity utilization; overview of the industrial policies; quantitative and qualitative restrictions, tariffs, protection, industrialization; problems of agro-based industries; emerging issues in agro-industries; case studies of agro-industries.

Teaching Methods

Lectures, discussions, visits to agro-industries, term papers, presentations, and group projects.

Course No. AG-PS 13	Credits: 3
Course Name	Advanced International Trade

Purpose

The course unit aims to provide learners with analytical skills in diagnozing, describing and analyzing agricultural trade policy problems.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Appreciate the trade scene for agricultural products;
- Diagnose, describe and analyze agricultural trade policy problems;
- Analyze and evaluate the impacts of trade policy options; and
- Analyze the economic and welfare effects of trade policies.

Content

Current issues in trade policy reform and institutions; theories underlying international trade; world trends in agricultural trade; market access and reciprocity; welfare analysis of trade policies; preferential integration, dispute settlement; institutions and agricultural trade policies; trade and income distribution; trade and the environment.

Teaching Methods

Case studies, projects, lectures, guest speakers, and library studies.

Course No. AG-PS 14	Credits: 3
Course Name	Policy and Institutional Innovations in Agribusiness

Purpose

This course unit aims at training learners to become highly skilled in strategic areas of the agribusiness sector.

Learning Outcomes

By the end of the unit, the learner should be able to:

- Provide intellectual and strategic leadership; and
- Identify researchable and developmental issues that underpin agribusiness development.

Content

Strategic investment policies in agribusiness development; agribusiness value chains; entrepreneurship and corporate governance; international agribusiness; integrated marketing strategy.

Teaching Methods

Remedial lectures, research, seminars/ workshops, projects, group discussions, case studies, guest speakers, visits, practicals, and fieldwork.

Methods of Evaluation

Thesis research, field attachments, and special reports based on assignments.