

BSc. AGRIBUSINESS UNIT COURSE DESCRIPTION

DESCRIPTION OF UNITS

KCU 100: History and Development of East Africa Agriculture

Climate and soils of East Africa; history and development of agriculture in Kenya: agricultural production systems, agriculture and the Kenyan economy; factors limiting crop and animal production in Kenya; agriculture and enterprise development: nature of entrepreneurship development in agriculture, agriculture and wealth creation, characteristics of entrepreneurs; agricultural organization and research.

KCU 101: Fundamentals of Mathematics

Basic concepts and application of algebra; equations and inequalities; functions; matrices; systems of equations; linear programming; differential and integral calculus in agriculture; introduction to probability and agricultural statistics

KBT 101: Introduction to Food Industry

An introduction to the food industry, sources of food, quality; physiological and biochemical characteristics of agricultural food products; post-harvest losses; principles of handling, processing and preservation of food; The international agri-food trade system.; Analysis of global production, marketing and consumption. Global trends and opportunities. Global agrifood firms and markets Emerging issues in global agribusiness industry and markets.

KBT 107: Introduction to Agribusiness

Definition, nature and scope of agribusiness, Management of agribusiness; Structure of agribusiness industry in Kenya; types of agribusiness organizations; policies governing Agribusiness Industry; opportunities and Challenges of agribusiness industry in Kenya. Case studies

BBA 101: Business Law I

Nature and classification of law: public and private, civil and criminal law, substantive and procedural law. Source of Kenyan Law: constitution, legislation, common law and equity, customary law, Islamic and case law. Bill of rights, Law of contract; nature and classification of contracts, essential elements of a contract, termination and breach of contract Administration of Law: Courts and tribunals, their jurisdiction and functions Law of Torts.

BBA 102: Principles of Management

Background to modern management, Nature, scope and importance of management, Growth and need for principles of management, Evolution of management thought, Organizational environment / context. Management process. Functions of management; Planning, Organizing and staffing, Directing, Co-ordinating, Controlling, Management decisions and techniques, Moral and social responsibility in management, Management in the contemporary world – Case studies.

BMS 100: Management mathematics I

Set Theory: types, algebraic operations and application. Equations and Inequalities: Types, formulation and solution. Functions, formulation basics, types; algebraic, logarithmic,

exponential and logarithmic. Limits Theory and continuity. Differential calculus; Average and instantaneous Rates of change, rules, applications; optimization techniques, Partial derivatives; extreme of two variable function, Lagrange multipliers and constrained optimizations. Integral calculus; Antiderivative and Indefinite integrals, rules of integration, definite integrals area under and/or curves. Arithmetic and geometric series, simple and compound interest.

SIT 101: Foundations of Information Technology

Computer applications: (exercises using word processing software and presentation graphics software); Spreadsheets; Introduction to databases and database query language. Web Applications: (exercise in HTML). Machine level representation of data: Bits, bytes, and words; numeric data representation and number bases; alphanumeric characters representation. Overview of operating systems: simple file management. Introduction to net-centric computing: background and networking fundamentals. The Internet: use of networking software including e-mail, telnet, and FTP.

KCU 200: Statistics for Agriculture

Measures of central tendency and measures of dispersion. Probabilities: permutations, combinations, independent events and conditional probability distributions. Random variables . Samples and sampling distribution. Sampling theory Estimation, population means, variance. Confidence intervals for samples. Analysis of variance and covariance. Introduction to experimental designs. Correlation and linear regressions.; Forecasting techniques, presenting qualitative and quantitative data

KCU 201: Principles of Crop Production

Economic importance of crops in Kenya; crop environment and effects on yields, crop propagation methods, crop husbandry, land preparation; examples of annual and perennial crops; cropping systems: monoculture, crop rotation, polyculture etc; importance of crop calendar; fertilizers, manures and plant nutrition; crop-water relations; weeds, crop pests and their control; crop storage.

KCU 202: Principles of Soil Science

Introduction to soil science, soil forming factors and processes; soil components; minerals and organic matter; forms of soil aggregate; peds and pores; chemical reactions on the soil colloidal surfaces; soil aeration; drying and wetting of soil; soil physical properties; water holding capacity, bulk density electrical conductivity and texture; soil chemical properties: pH, cation exchange capacity; bases and soil oxides; plant nutrients; soil organisms.

KBT 203: Agricultural Production Economics

Scope of agricultural production economics; agri-production environment; Nature and characteristics of production; Risk and uncertainty; factors of production; production functions; physical product, average product; marginal physical product, elasticity of production; law of diminishing returns and stages of production; technical and economic efficiency; cost concepts in production, economies and diseconomies of scale; production relationships -; factor-factor, factor-product; product-product; technological change.

KBT 209: Principles of Agriculture Microeconomics

Introduction to Agricultural Economics; The Food and Fiber Industry; Theory of Consumer Behavior; Consumer Equilibrium and Market Demand; Consumer Equilibrium and Market Demand; Measurement and Interpretation of Elasticities; Introduction to Production and

Resource Use; Economics of Input and; Product Substitution; Market Equilibrium: Perfect Competition Market Equilibrium: Imperfect. Competition.

KBT 210: Principles of Agriculture Macroeconomics

The Economy; Scarcity and Choice; Supply and Demand; Introduction to Macroeconomics; Goals of Macroeconomic Policy, Economic Growth; Aggregate Demand; Demand Side Equilibrium; Supply Side Equilibrium; Managing Aggregate Demand; Money and The Banking System; Monetary Policy; The Financial Crisis; Fiscal/Monetary Policy Debate; Budget Deficits
International Trade and Comparative; Advantage; International Monetary System; Exchange Rates.

KBT 211: Agricultural marketing

Introduction, Scope and concept of Agricultural marketing; Agricultural marketing and economic development; Functions and channels of agricultural marketing; supply and demand of agricultural commodities, price discovery; Agricultural marketing environment; Marketing management -marketing mix, new product development and management; Agricultural marketing performance; international agricultural trade; Application of ICT in Agricultural marketing, Contemporary issues in agricultural marketing; Case studies

KBT 212: Agribusiness and economic development

Basic Concepts of economic development, Agriculture and development implications for development of sectoral and economy-wide issues and policies such as growth, savings and political economy. The microeconomic component of the course looks into household behavior in developing countries. Formal and informal financial markets, household savings and investment decisions, education, health and nutrition, technological innovation and project evaluation

KBT 213: Farm business management

The meaning and scope of farm management; Management of land, capital and labour on the farm; Farm layout and planning; Management tools and techniques applied to typical farm business; Farm records and data analysis; Basic economic principles relevant to farm decision-making; Decision making under risk and uncertainty environment and precautions that managers take against them; Farm size and efficiency relationships, economic holdings and problems of land fragmentation. Application of ICT in Farm Business Management

AGD 203: Gender and Agricultural Development

Gender, agriculture, traditional/modern methods of agriculture and development. gender and land tenure relations in agricultural division of labour; Agriculture and industrialization and gender implications. Challenges facing agricultural sector from a gender perspective; Policy issues in agricultural development and gender implications

KRM 203: Principles of Animal Production

Present status, existing potentials and constraints in major agro-ecological regions of Kenya for production and management of livestock, poultry and fish; classification of farm animals, characteristics of different breeds; environmental effects on farm animal production and reproduction; planning and establishing an animal enterprise; farm survey.

ASC 205: Rural Sociology

Emergence and growth of rural sociology as a discipline. Theoretical perspectives and classical approaches to studies of rural communities. Nature and types of rural societies; community leadership. Rural livelihoods; pastoralism and resource management, peasantry, migration and land tenure systems, integration into the informal and global economy. Aspects of rural labour and new technologies, historical rural development; rural transformations. Case studies of rural development and planning: Harambee, Ujamaa, Common man's charter, Special Rural Development Programme, District focus strategy. Redefining rural development: governance, transparency, accountability; participatory rural appraisal. Case studies of social action funds: Constituency Development Fund, rural electrification, educational fund, youth enterprise fund. Challenges in rural development

KCU 301: Research methods For Agribusiness

Introduction to scientific research; Nature, types, the research process; research design, problem definition; setting objectives, sources of information; data collection - primary and secondary data, sampling procedures; hypotheses and research questions; literature review; data analysis – tools and interpretation and presentation of results. Application of research in the identification and evaluation of market opportunities, designing of local and international consumer and businesses products and services; testing of product; Ethical issues in agribusiness research, Proposal and report writing

KBT 302: Quantitative Techniques in Agribusiness

Linear algebra and calculus: Sets and set theory, matrix algebra, Application of matrix algebra to input-output analysis and elementary markovian process. Application of calculus to economic models. Probability: Permutation and combinations, Discrete probability distribution functions, Sampling and estimation. Time series analysis. Linear programming. Decision theory: Risk and uncertainty, valuation criteria, decision tree, game theory. Activities sequencing and Gantt charts, float activities, project crashing, critical path analysis, Cost and resources scheduling.

KBT 308: Food Security and Trade

Food security and trade, an overview: Food security concepts and measurement; link between Trade liberalization and food security: national and household levels; the gains from trade; trade reform and food security; impact of trade reforms on food security; Linking individual food security to national policy; trade policy and agricultural development; agricultural protection; agriculture and food insecurity; Globalization and the traditional role of agriculture; global Competition, globalization and food security; food aid, The role of transnational corporations

KBT 309: Agribusiness strategy and marketing plans

Definition of key concepts (Strategic and Management); Analysis of strategic management issues for agribusiness; Formulation of business strategy and plans integration of operations, marketing, finance and human resource management; Strategic partnerships in agribusiness management; Course includes formation of self-managed student teams to obtain an agribusiness client with a consumer-marketing problem. They develop an agribusiness strategy and marketing plan through the use of primary and secondary consumer data.

KBT 312: Agri-Entreprise Development

Definition, scope and nature of agri-entreprises; role of small agribusinesses; characteristics of agri-entrepreneurs; Decision making in agribusinesses. Managing the expanding small-agribusiness; concept of agri-enterprise development; national institutions facilitating and

supporting Agribusiness and Entrepreneurship Development (AED); developing agri-entrepreneurial skills and capabilities; linking agribusinesses to credit, market and business support service providers; Improving institutional and business environment for agri-business development; customer relations.

KBT 313: Field attachment

A supervised career oriented experience with agro related business organizations or firms in a particular district from where the student is expected to acquire skills in management, accounting, finance, marketing, commodity trading, socio economic research and interpersonal communication. Students are attached to the various agro related industries, exporting companies/firms and agro processing/packaging firms. Using theoretical firm business knowledge gained in class, students are expected to understand the various operations of agribusiness firms and write a comprehensive internship report at the end of the period.

KBT 315: Agribusiness Finance and Credit Management

Role of finance in agribusiness management; External and internal sources of funds. Time value of money, interest rates, cash flows, risk and return.. Capital investment decisions: traditional and discounted cashflow method, internal rate of return, net present value. Valuation of financial assets. Measuring business performance. Working capital management. Government credit policy. Approaches to efficient credit management. Emerging trends in agribusiness finance. Preparation of financial proposals for agribusiness;

KBT 316: Agricultural Market and Price analysis

Price theory and techniques for predicting price behavior of general economy. Price behavior of individual agricultural products: long term, seasonal, cyclical and other price movements. Application of economics and statistics to agricultural price analysis. Sources of information relating to production and demand factors. Methods and problems in price analysis and forecasting; Government activities as they relate to pricing, Application of ICT in market and price analysis

BBA 300: Organization Theory

Evolution of modern organizations; Classification of organizations; Characteristics of organizations. Classical and modern approaches to organizational design; Organizational structures; Impact of technology on the organization; Organizational structure and size. Organizational environment classification and dimensions. Determinants of organizational change. Organizational development and conflict; Management of organizational conflict

BBA 301: Human Resource Management I

Introduction. historical development of human resource management and its growth. Manpower; planning, job analysis and design techniques, recruitment, and selection; Employee development and performance; career development process, induction, staff assessment, and training, performance appraisal; Personnel administration and policies. Merit rating. Wage incentives and Fringe benefits. Moral and industrial psychology; causes and meaning of fatigue, stress, monotony and time and motion study. Human resource management for small business

BAC 300: Management Accounting 1

Nature and scope of management accounting. Cost behaviour decisions. Basic cost – volume – profit (C – V – P) analysis. Relevance and decision making. Budgeting and budgetary

control. Standard costing and basic variance analysis. Inventory control decisions. Capital Budgeting decisions.

EAE 310: Economics of Money and Banking

Evolution of banking: The role of money, money creation and money supply. Theories of money demand. The role of money in an exchange economy. The monetary mechanism and financial institutions. The quantity of money and the price level. Theories and determination of interest rates. Monetary policy instruments and objectives. Theory and problems of international payments and institutions. International financial co-operation.

KCU 400: Research Project

The student is supervised to write viable research proposal during the first semester conduct research aimed at finding possible solutions to problems of the current interest. After collection of data between first and second semester, s/he student is expected to complete the analysis of data and the write-up so as to submit the research report at the end of second semester

KBT 420: International Agricultural Trade

Definition of International Trade; Theories of of international trade, Trade linkages with other sectors of the economy; Quotas, tariffs and other trade restrictions; international movement of material and capital; Trade policies - import substitution; export promotion, fiscal and monetary policies and agricultural trade; Balance of payments; disequilibrium and adjustment; world and regional trade organizations; structure of Kenya's external trade, Inter and Intra-Africa trade;

KBT 426: Agribusiness Risk Management

Nature of risks in agribusiness, types and sources of risk, natural, market, legal, Introduction to insurance, ion insurance, property and pecuniary insurance, motor insurance, underwriting and claims. Insurance broking, re-insurance and marketing of insurance services

KBT 427: Agricultural Project Management

Agricultural projects- Characterization, Financial & Economic Analysis of agricultural Development Projects; Identification and Valuation of benefits and costs, Cash flows, Project Appraisal Techniques; measures of project worth, BCR, IRR NPV, Other investment criteria; Sensitivity analysis, Project Planning and Implementation: Establish performance standards and control, Negotiations; Resolving conflicts; Monitoring performance, Methods of impact assessment, evaluation Techniques: PERT, CPM; Gant charts, Project Planning Matrix

KBT 428: Agri- supply Chain Management

Agro-chains and supply chains; types of commodity value chains; Concept of value adding in agro supply chains; post harvest activities; Backward and forward linkages between agro industries and agricultural production; linkages between consumers and supply services; vertical integration and alliances; Support services in agro chains; Risk mitigation and management strategies; Strategic issues in agribusiness supply chain management; Emerging issues in modern agro chain management;

KBT 429: Agricultural Policy and Law

Definitions of policy and Law, Need for Public Policy in Agriculture, Key Characteristics of Policies, Components of a Policy Framework, Models of Policy Process, Process, Policy Cycle, Policy evaluation criteria, Levels of policies (International, Regional, National and Local)

guiding Agribusiness, Laws and Statutes governing Agribusiness, Policy failure and possible remedies, Emerging issues and trends in Agribusiness Policy and Law.

KBT 430: Management of Agricultural Institutions

Evolution of agricultural administration in Kenya; the role of government in agricultural management, types and administrative structure of agricultural institutions in Kenya - productive, facilitative, regulatory; – Key ministries in agriculture, regional development authorities, cooperatives, Public-Private Partnerships and NGOs in agricultural sector, coordination of players and institutions in the sector

KBT 431: Food marketing and Retail Sales Management

Food industry organizations; role of key players -processors, wholesalers, retailers. Food Consumption trends, responding to consumer and changes in customer needs. Distribution and merchandising systems in domestic and international contexts. Domestic and international retailing structure, environment, and development. Trends in agribusiness and food industry sales Retail sales management strategies -Locational, purchasing, organizational, personnel and promotional techniques. Retail budgeting and control. Social and ethical considerations.

KBT 432: Corporate Finance in agribusiness

Capital structure theories, planning and structure; debt and dividend policies, obtaining finance to expand a business,demand and cost estimation for the firm; efficient asset selection, growth policy, financial policy and corporate strategy, valuation of companies, mergers and acquisition,financial distress, corporate restructuring and corporate control.

KBT 433: Financial Management for Agribusiness

Theory of choice. Capital budgeting. Capital rationing. Valuation models and application in agribusiness. Short, medium and long-term financing decisions in agribusiness. Cost of capital. Analysis and financing of agribusiness projects. National and International financial markets and credit institutions affecting agriculture and food, Foreign exchange trading and risk hedging, Use of financial research in agribusiness. Operations and policies of international financial institutions and capital flows.

KST 408: Agriculture and Rural Development

Meaning of rural development and rural poverty; gender and poverty; development theories and strategies in rural development; nature and scope of agricultural development; role of agriculture in socio economic development; theories of agricultural development; approaches and strategies to rural development, e.g Millennium Development Goals, decentralization, community development, integrated rural development, gender approaches to development etc. rural project planning, identification, design, monitoring and evaluation.