Scheme of Studies

For

BBA (AGRIBUSINESS) JOINTLY OFFERED BY
IBMS-UAF & SUKKUR-IBA

SEMESTER-WISE BREAKUP OF COURSES
The following is the semester-wise breakup of courses.

| SEMESTER – WISE BREAKUP FOR BBA AGRI-BUSINESS JOINT DEGREE PROGRAM |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| Course No.      | Course Title    | Credit Hours    | Course No.      | Course Title    |
| BBAA-101        | Functional English | 3(3-0)          | BBAA-102        | General Plant Protection | 3(2-1)          |
| BBAA-103        | Basics of Agriculture | 2(1-1)          | BBAA-104        | Natural Resource Management | 3(3-0)          |
| BBAA-105        | Soil Science and Crop Production | 3(2-1) | BBAA-106        | Introduction to Agricultural Economics | 2(2-0)          |
| BBAA-107        | Basics of Horticulture | 3(2-1)          | BBAA-108        | Water Management | 3(2-1)          |
| BBAA-109        | Elementary Mathematics for Business | 3(3-0) | BBAA-110        | Food Service Industry | 3(2-1)          |
| BBAA-111        | Agricultural Knowledge and Information System | 3(2-1) | BBAA-112        | Agribusiness and Food Chain Management | 3(2-1)          |
| Total           | 17              |                 | Total           | 17              |
| Semester 3 (To be offered by UAF) | Semester 4 (To be offered by UAF) (Students shall opt 14+ credit hours as elective courses) |
| BBAA-201        | Food Engineering and Processing | 3(2-1)          | BBAA-202        | Energy Resources and Utilization | 3(2-1)          |
| BBAA-203        | Livestock Business Management | 3(2-1)          |                  |                 |                 |
| BBAA-205        | Farm Mechanization | 3(2-1)          |                  |                 |                 |
| BBAA-207        | Poultry Business Management | 3(2-1)          |                  |                 |                 |
| BBAA-209        | Cotton Production and its Value Chain | 3(2-1)          |                  |                 |                 |
| BBAA-211        | Animal Health Business Management | 2(1-1)          |                  |                 |                 |
| Total           | 17              |                 | Total           | 17              |
| Semester 5 (To be offered by Sukkur IBA) | Semester 6 (To be offered by Sukkur IBA) |
| BBAA-301        | Principles of Microeconomics | 3(3-0)          | BBAA-302        | Principles of Macroeconomics | 3(3-0)          |
| BBAA-303        | Social Psychology and Self-Development | 3(3-0)          | BBAA-304        | Principles of Management | 3(3-0)          |
| BBAA-305        | Financial Accounting | 3(3-0)          | BBAA-306        | Business Communication & Presentation Skills | 3(3-0)          |
| BBAA-307        | Business Mathematics & Statistics | 3(3-0)          | BBAA-308        | Managerial Accounting | 3(3-0)          |
| BBAA-309        | Computer Applications to Business | 3(2-1)          | BBAA-310        | Pakistan & Islamic Studies/Ethics (for Non-Muslims) | 3(3-0)          |
| Total           | 15              |                 | Total           | 15              |
| Semester 7 (To be offered by Sukkur IBA) | Semester 8 (To be offered by Sukkur IBA) |
| BBAA-401        | Principles of Agricultural Marketing | 3(3-0)          | BBAA-402        | Agribusiness Entrepreneurship | 3(3-0)          |
| BBAA-403        | Agricultural Finance | 3(3-0)          | BBAA-404        | Corporate Strategy | 3(3-0)          |
| BBAA-405        | Business Research Methods | 3(3-0)          | BBAA-406        | Organizational Behavior | 3(3-0)          |
| BBAA-407        | Human Resource Management in Agriculture | 3(3-0)          | BBAA-408        | Managing Agricultural Supply Chain | 3(3-0)          |
| BBAA-409        | Project | 5(0-5) | BBAA-410        | Project | 5(0-5) |
| Total           | 17              |                 | Total           | 17              |

Other Requirements:
Internship (Six weeks) Compulsory after 6th semester.

APPROVED SCHEME OF STUDIES OF BBA (AGRIBUSINESS) JOINTLY OFFERED BY
IBMS-UAF and IBA-SUKKUR

(Semester 1 to 4 to be offered by UAF)

SEMINAR -I

BBAA-101 FUNCTIONAL ENGLISH 3(3-0)

Learning Objectives
After the completing the course, students will be able to:

• Develop the four language skills of English.
• Develop listening skills by attending to lectures and talks and to be able to extract relevant and useful information.
• Listen to news bulletins and to develop the ability to discuss informally on a wide ranging issues like current national and international affairs, sports, business etc.
• Write on various issues and situations

Contents:

Suggested Readings:

BBAA-103 BASICS OF AGRICULTURE 2(1-1)

Learning Objectives
After studying this course, the students will be able to:

• understand the basics of agriculture
• Know the principles of crop production,
• Identify the problems of Pakistan agriculture.

Contents:
THEORY
Agriculture-history, importance, branches and allied disciplines; Climate of Pakistan, its major characteristics and impact on crop production. Land resources and their utilization in Pakistan. Problems of Pakistan agriculture and different measures to enhance the productivity of agriculture inputs. Principles of crop production. Tillage: its Objectives and types; Use of quality seed, seed multiplication and distribution systems; Crop nutrition, manures and fertilizers, their classification, composition, sources and methods of application; Green manuring; Irrigation management, irrigation methods, water use efficiency; Plant protection; Crop rotations; principles and types; Harvesting and storage of farm produce.

PRACTICAL
Measurement of land, conventional and metric system; Identification and use of hand tools and implements; Recording weather data and information about data recording instruments; Identification of various soil types; Determination of soil moisture contents, saturation percentage, field capacity and wilting point; Demonstration and use of tillage implements; Seed identification and purity analysis; Identification of organic and inorganic fertilizers and manures, Calculation of nutrient cum fertilizer unit value; Demonstration and layout of various irrigation methods; Major pests of field crops, their identification and demonstration of their control methods; Visits to grain stores and University Farms.

Suggested Readings:
• Abbas, M. A. 2006. General Agriculture. Emporium Urdu Bazar, Lahore
• Qureshi, M.A., M.A. Zia and M.S. Qureshi. 2006. Pakistan Agriculture Management and Development. A-One Publisher, Urdu Bazar, Lahore.
Learning Objectives
After studying this course, students will be able to:

- Understand the formation and development of soil in relation to environment
- Know the soil properties for sustainable crop production

Contents

THEORY
Introduction; Disciplines of Soil Science; Soil formation and development: factors and processes; Soil Orders found in Pakistan and land use pattern; Physical and chemical properties of soil; Soil Resources of Pakistan and factors affecting soil productivity: Soil organic matter and environmental factors; Essential plant nutrients and their sources; Soil textural classes and nutrient behavior; Soil Problems: Salt-affected and waterlogged soils; Bio-saline agriculture for crop production on degraded soils; Environmental impact of agricultural, industrial and municipal wastes; Role of microbes to convert wastes into value added compost; Integrated soil fertility management for value added crop production; Conservation of soil, water and environment.

PRACTICAL
Soil sampling; Water sampling; Determination of soil saturation percentage; Measurement of soil pH and its effect on nutrient availability; Determination of electrical conductivity (EC); Calculation of total soluble salts (TSS) in irrigation water; Soil textural analysis: (Feel method); Identification and composition of commercial fertilizer.

Suggested Readings

Suggested Readings:
After the completing the course, students will be able to:

- Understand basic concept of mathematics and their application in agribusiness

**Contents:**
- Variable and function with their types, basic algebraic expressions, solutions of linear and quadratic equation in one variable with application to business problems. Solution of system of linear equations by using graphical and analytical methods. Application of system of homogenous and non-homogenous equations. Linear programming; basic assumption of linear programming problems, graphical solution of LP problems, Iso profit and iso cost linear methods, no feasible solution, unboundedness, alternate optimal solutions. Matrices and determinants; introduction to basic concepts of matrices, algebra of matrices, determinants, solution of system of equations by matrix inverse method. Sequence of series; application of arithmetic and geometric progression to problems related to business. Mathematics for finance; problems related to simple and compound interest, concept of annuity. Differentiation; basic definitions, rules of differentiation of constant, power, product, quotient and logarithmic function, application of derivatives for finding optimal solution.

**Suggested Readings:**
- Margaret, L.L, T.W. Hungeford and C.D. Miller 2001  Mathematics with applications in the management, natural and social sciences. 10th edition , Harpercollins College Division,

**BBA-111 AGRICULTURAL KNOWLEDGE AND INFORMATION SYSTEM**

**Learning Objectives**
After studying this subject, students will be able to:

- Demonstrate the concepts of agricultural extension, agricultural innovations and technology transfer
- Compare and contrast recent technology transfer techniques particularly ICT based extension
- Plan and implement agricultural technology transfer and knowledge dissemination strategy

**Contents:**

**THEORY**

**PRACTICAL**
Each student will be assigned a topic related to agricultural innovation. He/She will go through the relevant literature, prepare extension/technology transfer strategy and present in the class. Role playing / simulated situation

**Suggested reading**
- Ahmad, W. 2000  Agricultural Knowledge and Information System (AKIS) in Pakistan, Lahore, Pakistan
- FAO 2001  Agricultural and rural extension worldwide: Options for institutional reforms in the developing countries, Rome Italy.
SEMESTER-2

BBAA-102 GENERAL PLANT PROTECTION 3(2-1)

Learning Objectives
After studying this course, students will be able to:

- Identify the insect pests and their control measures
- Apply different chemicals for the control of insect/pests

Contents:
THEORY

Economic threshold and injury levels; Principles of insect pest control; Control methods (natural/applied control, cultural, mechanical, physical, biological, legislative, reproductive and chemical); Integrated pest management. Importance of herbicides in crop production; Nomenclature, classification, formulations of herbicides; Herbicides for different crops and application equipment; Hazards, toxicity, storage, transportation, and disposal; Legislation and registration (Pesticide Control Act); Pesticides companies in Pakistan. Different groups of pathocides and methods of their application; Assessment of the efficiency of the pathocides; Development, formulation and evaluation of pathocides. Vertebrate pests (birds, mammals and reptiles), their biology and control measures; Potential insectivorous birds and their role in biological control of insect pests and rodents.

PRACTICAL
Collection and identification of pests of agricultural importance and their damage; demonstration of control measures. Identification of economically important weeds, demonstration of herbicide application and evaluation of herbicides in the field. Preparation and application of pathocides; Spray, seed-dressing and soil fumigant equipment and their working knowledge; Phytopathometry. Identification of different vertebrate pests and their management in the field and storage.

Suggested Readings

BBAA-104 NATURAL RESOURCES MANAGEMENT 3(3-0)

Learning Objectives
After studying this subject, students will be able to:

- Identify the challenges to natural resources in the country
- Gain skills to design sustainable solutions to address natural resource conservation and management problems.

Contents:
Module I. (To be taught by ISES)
Natural resources of Pakistan: land, water, energy, forests and biological resources; Value of natural resources: economic, legal, esthetic; Type of natural resources: biotic, abiotic and other renewable; Uses of natural resources; Threat to natural resources; Major problems with natural resources; Land, water and air pollution; Natural resource management: basic concept and strategies; Land, water and watershed, air, wildlife and landscape management; Efficient use of natural resources; Policy gap; role of EPA and NGO’s in resource conservation; National conservation policies, legislation, law and acts;

Module II. (To be taught by I&D)
Water Resources Potential: Rainfall, Surface water; Groundwater; Surface water; History of development of irrigation system; potential in the Indus Basin; surface water potential outside Indus Basin; groundwater development potential; potential water savings from irrigation system; skimming well technology; sustainable development of surface and groundwater; Rainwater and flood water harvesting, Climatology; deforestation, climate change impact, mitigation and adaptation, Renewable Energy Resources; solar energy, wind energy, biogas, geothermal energy, Environmental Management; Introduction to hazardous waste management, cleaner production techniques, Environmental laws, Policy and Planning; Impact assessment methods.

Suggested Readings


**BBAA-106 INTRODUCTION TO AGRICULTURAL ECONOMICS 2(2-0)**

**Learning Objectives**

After studying this subject, students will be able to:

- Understand the basic concepts of economics
- Apply the basic concepts in agriculture

**Contents:**

Definition /overview of economics / agricultural economics and related terms, Subject matter and scope, Demand and supply analysis, Elasticity of demand and supply, Production, factors of production, costs, revenue, laws of return and their significance in agriculture, Market equilibrium, Benefit cost analysis, Introduction to farm management: book keeping, inventory maintenance, manual and computerized record keeping, business accounts (balance sheets, profit and loss statements, net cash flows etc.) Key concepts related to Agri. economy of Pakistan, Land reforms and land tenure system in Pakistan, Agricultural credit, its significance, sources, constraints and possible solutions.

**Suggested Readings**

- Naqvi, S.N.H., Khan, M.H. and Chaudhry, M.G. (1989) Structural Change in Pakistan’s Agriculture. PIDE Islamabad, Pakistan

**BBAA-108 WATER MANAGEMENT 3(2-1)**

**Learning Objectives**

After studying this subject, students will be able to:

- Understand the reasons and background of signing Treaties and Accords and their consequences on the irrigation system at national and International levels.
- Learn about water measurement in water course, and canals
- Create awareness among stake holders, including policy makers, irrigation managers and farmers about permissible rules of the system.

**Contents:**

**THEORY**


**PRACTICAL**

The students will be involved in water measurement in water course and canal using different methods, Soil moisture measurement by different methods, Determining the application efficiency and conveyance efficiency from water course to field, Determining the water allowance of different areas of Punjab, Visualizing the different components of sprinkler and drip irrigation system, A visit to market for economically feasible pipe selection

**Suggested Readings**

- Burton, M.A. 2010. Irrigation Management. CABI, Publisher UK.
• Government of Pakistan (1960), The Indus Water Treaty.
• Ahmad, N. (1993), Water Resources of Pakistan, Miraj uddin Press, Lahore.
• Briscoe, J., U. Qamar. (2005), Pakistan’s Water Economy Running Dry, Oxford University Press, UK.

BBAA-110 FOOD SERVICE INDUSTRY 3(2-1)

Learning Objectives
After studying this subject, students will be able to understand:
• Food services, cultures, operations and quality management in food service industry
• The organization and structure of food service industry in order to develop managerial competencies in food services
• Various issues and challenges in the foodservice industry, and exposing them to different case studies

Contents:
THEORY
Introduction to food services; Food service operations; Management and planning of food services; Feasibility and design for food service; Growth, development, organization and structure of the food service industry; Food and culture; Food acceptance and rejection; Emerging issues in food service industry; Changing demographic, consumers lifestyles and eating habits; Eating out trends; Restaurant ideas and concepts; Fast food; Slow food/sustaining food; Turnover in the hospitality; Managing diversity at the workplace; Franchising; Entrepreneurship; Senior care facilities; Current diet practices; Customer service satisfaction; Emerging marketing techniques; Ethnic foods; Restaurant designs.

PRACTICAL
Designing of food service; Planning food service operations—catering, restaurants, hospitals, hostels, tourism, etc.; Designing of healthy recipes; Identification of the critical safety issues in handling, preparation and serving of food; Case studies related to food services.

Suggested Readings
• Dennis, N. 2007. Human Resource Management for Hospitality and Tourism Industries

BBAA-112 AGRIBUSINESS AND FOOD CHAIN MANAGEMENT 3(2-1)

Learning Objectives
After studying this subject, students will be able to understand:
• Basic concepts and importance of agribusiness
• Approaches to agricultural marketing and value chain management

Contents:
Theory:
Basic concept relating to agribusiness: Scope and importance of agribusiness, Agribusiness versus business; Agribusiness Management: Planning, organizing, Leading and Controlling; Different forms of agribusiness organization: Production sector, Processing sector, Services sector; Changing dimension of Agribusiness; understanding the concept of agricultural markets and marketing, role of agricultural marketing in national development of Pakistan, approaches to agricultural marketing system (institutional approach, commodity approach, value chain approach) Principles of agribusiness value chain management: Product flow from farm to market, Information flow, value flow, governance of food chain; Case studies of sugar value chain, rice value chain, fruit and vegetable value chain, poultry value chain, meat value chain, grain value chain;

Practical
Practical demonstration of marketing channels and value chains for major agricultural commodities; visit to wholesale markets (fruit and vegetables, food grains, livestock, poultry, agriculture input; Industry visits and orientation of leading agribusiness firms and institutions (Sugar industry, Fertilizer industry, Rice Industry, Flour industry, Processed food industry, PHDEC, PIAM)

Suggested Readings:

SEMESTER-3

BBAA-201 FOOD ENGINEERING AND PROCESSING 3(2-1)

Learning Objectives
After studying this subject, students will be able to understand:
- Fundamentals of food engineering and processing
- Major unit operations of food processes,
- Relevant processing conditions necessary to make a number of food products

Contents:
**THEORY**
Fundamentals of food engineering; units and dimensions, physical properties of food materials, Fluid flow in food processing; types of fluids, liquid transport system, fluid handling systems, Preparatory operations in food processing; cleaning, sorting and grading, peeling, size reduction, mixing, filtration, blanching, and sulphiting Food engineering operations; thermal processing, dehydration/drying, evaporation, refrigeration and freezing, extraction, centrifugation, fermentation, Flow diagrams of major food processing industries, Repair, maintenance, and safety measures of food processing plants, Food packaging; packaging materials for foods, mechanical properties, active packaging, and environmental issues.

**PRACTICAL**
Equipment and instruments used in food processing Basic food processes: blanching, sulphiting, canning/bottling, refrigeration and freezing, dehydration/drying of fruits and vegetables and their products, Processing of fruits and vegetables by using food additives and fermentation technology, Separation using extraction and centrifugation, Product development activity, Visits of different food industries.

Suggested Readings
- Awan, J.A. 2005 Food processing and preservation, Unitech Communications, Faisalabad

BBAA-203 LIVESTOCK BUSINESS MANAGEMENT 3(2-1)

Learning Objectives
After studying this subject, students will be able to understand:
- Basic knowledge on dairy business as livelihood enterprise.
- Basic aspects of livestock sector as business entity.

Contents:
**THEORY**
An overview of livestock industry; livestock as livelihood; breeds of small ruminant, equine and camel; farming systems; ecological zones of Pakistan; introduction to rangelands; grazing management systems; draught animals of Pakistan and their contribution to national economy; draught power versus mechanization. Gender role in livestock production; establishing a profitable modern livestock enterprise; planning business to meet future trends; record keeping for business analysis; manure handling and biogas production; marketing channels of livestock and their products; role of information technology in efficient management of livestock enterprises; supply chain and value addition of livestock products; problems of livestock sector and their possible solutions, Role and development of dairy Industry; present scenario of dairy industry and its future prospects; basic terminology; dairy breeds of cattle and buffalo (indigenous and exotic); livestock population and their products; housing of dairy animals; management of dairy animals at various phases of life; milking methods; reproductive management of dairy animals; feeds and feeding management; fodder preservation; effect of climate on production and reproduction; health and prophylaxis; converting small holders to market oriented; gender role in dairy production; transportation of dairy animals; welfare of animals; record keeping; assessment of performance; dairy business financial opportunities; forage conservation and scope for marketing conserved forages; supply chain and value addition of dairy products; constraints of dairy sector.

**PRACTICAL**
Identification of dairy breeds; various managerial practices at dairy farms; diary housing plans; milking techniques; clean milk production; milk quality analyses; ration formulation; heat detection;
computerized farm records keeping and analysis; fodder preservation techniques; feasibilities to establish dairy farms; visit to dairy farms. Various managerial practices at livestock farms; exercises to prepare feasibility to establish beef, sheep/goat and camel farms; computerized farm records keeping and analysis; role of ICTs in animal management; comparative studies for small and commercial enterprises; animal units and stocking rates; determining, carrying capacity and forage production; recreational sports (horse riding, tent pegging) visit of farms and livestock industry.

**Suggested Readings:**

**BBAA-205 FARM MECHANIZATION 3(2-1)**

**Learning Objectives**
After studying this subject, students will be able to:
- Recognize farm machinery, their parts and their function
- Use farm machinery for the appropriate tasks in the field;
- Supervise the maintenance and the repair of the machines and apply the principles of precision agriculture.

**Contents:**
**THEORY**
Objectives of farm mechanization; Scope of farm mechanization in Pakistan. Machinery for farm mechanization. Farm tractors: Technical specifications, internal combustion engines; parts and their function. Farm tractor systems: Power transmission chain: clutch, gear box, differential, final transmissions. Farm tractor systems: Electrical, Hydraulic, traction development and use. Conventional methods of soil preparation and crop sowing. Introduction to Precision agriculture Technologies, Interpretation of the precision agriculture maps, delineation of management zones, variable rate technologies. Soil tillage and tillage machinery: Primary and secondary tillage machinery. Seeding, planting and transplanting machinery. Chemical application machinery; fertilizer applicators, dusters, and sprayers. Harvesting and threshing machinery; reaper, combine harvester, root harvester etc. Estimate the losses during mechanical harvesting. Haulage machinery; trailers, loaders etc. Storage machinery; storage structures, loading and unloading augers. To select the appropriate machinery and size for the farm Value added machinery; cleaners, graders, sorters etc. Estimate the timeliness cost. Estimate the cost of using farm machinery

**PRACTICAL**

**Suggested Readings:**
- Kumar, E.S. 2010. Principles and Application of Technologies in Agricultural Farm Machinery. Pak Book limited, Lahore.

**BBAA-207 POULTRY BUSINESS MANAGEMENT 3(2-1)**

**Learning Objectives**
After studying this subject, students will be able to understand:
Basic knowledge on commercial aspects of poultry farming mainly broilers, layers and other aspects of poultry farming.

**Business aspects of poultry farming and supply chain management of poultry and poultry products.**

**Contents:**

**THEORY**

- History and development of poultry industry.
- Components of poultry industry and their business integration.
- Current status and future potentials of poultry industry.
- Broiler farm management.
- Layer farm management.
- Bio-security of poultry enterprises.
- Poultry welfare issues.
- Record keeping in poultry industry.
- Computerized record keeping of poultry enterprises.
- Marketing of poultry and poultry products.
- Supply chain and value addition of poultry and poultry products.
- Export issues for poultry and poultry products.
- Introduction to HACCP, Global-GAP and IFS.

**PRACTICAL**

- Demonstration of different breeds.
- Selection of hatching eggs.
- Handling of incubators and brooders.
- Handling of various farm equipment.
- Various managemental practices at poultry farms.
- Performance assessment of broiler, layer and breeder flocks.
- Economics of disease control.
- Record keeping and analysis of different poultry enterprises.
- Feasibility reports for broiler, layer and breeder farms.

**Suggested Readings**


**BBAA-209 COTTON PRODUCTION AND ITS VALUE CHAIN 3(2-1)**

**Learning Outcomes:**

After studying this subject, students will be able to understand:

- Cotton production and cotton varieties
- The cotton plant, cotton variety development procedure and fibre quality traits of cotton
- All the processes involved in conversion of cotton fibres to fabrics.
- The apparel production system.

**Contents:**

**THEORY:**

- Historical development and economic importance of cotton, production technology of cotton. Present scenario and future prospect of cotton production.
- Introduction of cotton species.
- Variety development in cotton.
- Hybrid cotton production.
- Development of transgenic cotton.
- Cotton quality trait improvement i.e. oil, protein, and fibre traits.
- Introduction of cotton quality parameters, influence of cotton fibre characteristics on market value of cotton.
- Introduction to ginning, types of ginning.
- History and scope of textile sector around the globe, textile sector of Pakistan.
- Introduction to Spinning. Objectives of spinning.
- Process flow of yarn manufacturing.
- Spinning sector of Pakistan.
- Fabric Manufacturing (weaving and knitting).
- Fabric Manufacturing departments.
- Introduction to textile designing. Elements and principles of design.
- Message of color.
- Color schemes.
- Status of fashion industry in Pakistan.
- Introduction to Garment manufacturing. Garment-sample development, designer’s worksheet, pattern making, spreading and cutting, assembling, labeling and finishing.
- Fabrics and clothing care; routine care, care labels, dry cleaning and laundering.
- A visit to textile and apparel industry.

**PRACTICAL**

- Students shall work both in the field and Lab. for hands on training.
- Students shall also be assigned individual projects and shall also pay visits to textile sector.

**Suggested Readings:**

Learning Objectives
After studying this subject, students will be able to understand:

- The animal health problems and the prevailing business milieu in Pakistan
- The challenges and business management opportunities in the area of animal health

Contents:

THEORY
Basic statistics of current animal population in Pakistan, quantum of their production and contribution to GDP, GNP, Livestock and poultry production systems in Pakistan, Future outlook of production of animal origin food, Economic losses and human health cost of animal diseases, Etiological classification of animal diseases (infectious, non-infectious, metabolic, parasitic, nutritional deficiencies and imbalances, toxicities, environmental rigors), Potential channels of business actions in the area of animal health in Pakistan, Categories of commercial products available in Pakistan for animal health management and their manufacturers, Climate change in relation to animal health, ways to mitigate its effects and its potential impact on animal health related businesses, Conventional and organic animal farming, Corporate and small businesses in the area of animal health in Pakistan, Value addition in livestock and poultry products, Animal health related products development and their marketing Government support (macro and micro financing etc.) for animal health related business, Models for new business ventures in the area of animal health, Establishing a consultancy service for dairy, poultry, small ruminants, quail and aviary farms, Employee management in animal health related businesses, Ethics related to animal health businesses, Local and international laws in relation to animal health management products, WTO Accord in relation to animal health

PRACTICAL
Designing feasibility plans of dairy farm/halal meat production unit /slaughter house/ small and large animal clinic, drug manufacturing unit etc., Perspectives of Pakistani tycoons in the field of animal health related businesses, Visits to the drug manufacturing units, veterinary clinics, diagnostic laboratories, halal meat production units etc.

Suggested Readings
• Erlich, H. 2006. Wind Turbines Fundamental, Technologies, Applications and Economics. 2nd Ed. New York, USA.

ELECTIVE COURSES
(Students shall opt 14+ credit hours as elective courses)

BBAA-204 VEGETABLE AND ORNAMENTAL HORTICULTURE 3(2-1)

Learning Objectives
After studying this subject, students will be able to:
• Provide information about vegetables, herbs and ornamentals of Pakistan.
• Understand climate and cultural practices of vegetables and ornamentals.
• Know the value addition and supply chain management.

Contents:
THEORY:
Introduction and importance; Classification of vegetables, medicinal herbs and ornamentals, cultivation, climate, soil, cultivars, nursery raising, cultural practices, important weeds, pests, diseases and their management, harvesting, processing, value addition and supply chain management; Protected cultivation; Economics of vegetable, herbs and ornamentals.

PRACTICAL:
Identification of important vegetables, medicinal herbs and ornamentals; sowing and nursery raising practices, layout and field sowing, identification of important pests and diseases of herbs and field visits, harvesting and handling. Case study.

Suggested Readings:
• Evans, C. W and W. Trease 2009 Pharmacognosy Saunders Publishers USA.
• Remington, J. 2005 The Science and Practice of Pharmacy (21st Ed.) Philadelphia Publisher USA.

BBAA-206 GENERAL FIELD CROP PRODUCTION 3(2-1)

Learning Objectives
After studying this course, students will be able to:
• Understand the production technology of cereals, fibre, sugar, oil seed, grain legume, forage and miscellaneous crops.

Contents:
THEORY
Concept and Classification of field crops. Farming and Cropping systems of Pakistan; Cropping intensity, cropping schemes and cropping patterns. Cropping systems in different ecological zones. Factors affecting cropping pattern. Mono versus multiple cropping. Production technology of cereals-crops (Wheat, barley, Oats, Rice, Maize, Sorghum and Millets), Fibre Crops (Cotton, Jute, Sunhemp, Deccan-hemp, Sugar crops ( Sugarcane and Sugarbeet), Production technology of oilseed-crops (Toria, Raya, Sarsoon, Canola, Taramira, Castor bean, Sunflower, Safflower, Sesame, Linseed, Groundnut, Soybean), grain legume crops (Chickpea, Lentil, Mungbean, Mashbean, Cowpea, Pigeonpea), forage crops (Berseem, Shaflal, Lucerne, Oats, Maize, Sorghum, Millets, Mottgrass), and miscellaneous crops (Potato, Sweet Potato, Tobacco, Tea, Medicinal crops), Techniques and practices for enhancing crop productivity

PRACTICAL

Suggested Readings

BBAA-208 SEED TECHNOLOGY AND INDUSTRY 3(2-1)
Learning Objectives
After studying this subject, students will be able to understand:

- The importance of seed and seed production practices for various crops.
- Seed quality standards and determination.
- Seed storage systems and management.

Contents:

THEORY
Importance of seed for better crop yield; Production of quality seed in sexually and asexually propagated crops; production practices and maintenance of pre-basic, basic, certified and registered seed; Seed quality: importance and standards in different crops; Seed grading: principles and instruments; principles of seed purity, moisture seed viability and vigor tests, Seed conditioning and handling; Seed dormancy and methods of breaking dormancy; Seed storage systems and infrastructures, methods of maintaining safe seed moisture content for storage, Seed storage management; Seed certification and legislation; Introduction to the seed industry and business.

PRACTICAL
Introduction to the seed testing organizations; Collection and identification of seeds; Seed sampling methods; Seed moisture determination; Seed quality testing; Visit to seed processing plants.

Suggested Readings

BBAA--210 BIOTECHNOLOGY AND BIOSAFETY 3(2-1)

Learning Objectives
After studying this subject, students will be able to understand:

- Biotechnology and its applications in various disciplines
- GMOs and biosafety rules, regulating the research and products developed thereafter.

Contents:

THEORY
Basic concepts of biotechnology and its applications in agriculture, health, environment, industry and trade; composition of a cell, distribution of genetic material in a cell, introducing genome, DNA, genes, and how genes function in an organism; what are GMOs and how genome is manipulated? Pre-requisites of developing GMOs – tissue culture, genes and regulatory sequences; biosafety rules and guidelines; an overview of Intellectual Property Rights and Patent Ordinance 2000; introduction to bioethics, public acceptance of biotechnology, impact of biotechnology in improving livelihood

PRACTICAL
Orientation of laboratory; bio-safety protocols; handling of equipments and hazardous material including chemicals, plastic ware and bacterial cultures; preparation of media for bacterial and plant cell cultures; Polymerase Chain Reaction (PCR) and GMOs testing.

Suggested Readings

BBAA--212 FUNDAMENTALS OF FORESTRY, RANGE AND WILDLIFE MANAGEMENT 3(2-1)

Learning Objectives
After studying this subject, students will be able to understand:

- The criteria for selection of suitable and compatible tree species for different kinds of soil and climate (Agro-ecozones).
- The establishment of various tree species at nursery level and their planting in field/farmland.
- The role of sustainable forest/farm productivity for economic and environmental stability.
- The range productivity potential to boost up socioeconomic conditions of range land dwellers.
- The earning the ways and methods for conservation of various wildlife species.

Contents:

THEORY

PRACTICAL
Identification of important tree species. Practice of various nursery and field operations. Various types of planting material and their methods of planting. Maintenance of tree inventory. Silvicultural operations of some commercial/farm trees. Visits to various Agro-Forests. Study of various urban afforestation projects, afforestation working plan for particular areas. Morphology of range grasses. Identification and preservation of important range forage species. Visits to various range types and Livestock farms. Visits to National Parks, Museums and Zoological Gardens/Zoo.

Suggested Reading:

BBAA-213 FISHERIES AND AQUACULTURE 3(2-1)

Learning Objectives
After studying this subject, students will be able to:

- Disseminate the significance of fish as food and introduce various sources of fish production both from freshwater and marine.
- Impart knowledge about fish production systems and technology involved.
- Elaborate various approaches regarding post-harvest handling, processing and marketing fish at par with international standards
- Analyze the economics of fisheries and fishing industry and relate it to the socio-economics of people involved in this business.

Contents:

THEORY

PRACTICAL
Identification of different fish species, Analysis of water quality parameters, Post-harvest analysis of fish for freshness and diseases, Demonstration of feed formulation and feeding techniques, Demonstration of fish harvesting and processing techniques

Suggested Readings:
Learning Objectives
After studying this subject, students will be able to:
- Identify different plant diseases
- Apply different methods for the control of plant diseases

Contents:
THEORY
Introduction, history and economic importance of plant diseases, major groups of plant diseases (fungal, viral, bacterial and nematode); Symptoms, transmission/dissemination, disease cycle and management of diseases of economic importance; Post-harvest pathological problems of fruits and vegetables and their management.

PRACTICAL
Stereomicroscopy of diseased plants; Field identification and diagnosis of important plant diseases.

Suggested Readings:

Learning Objectives
After studying this course, students will be able to:
- Understand the insects in ecosystem function and process
- Realize the importance of insects in agriculture production
- Identify and control insect pests of stored grain

Contents:
THEORY
Introduction to the importance of insects in ecosystem function and process (as indicators of ecological change, degradation, and the efficacy of ecological restoration efforts) Economic importance of insects (beneficial and harmful aspects) in fruits, vegetables and other major crops, loss assessment, Role of insects in crop pollination, Effects of climate change and biological invasions in the context of both pest and beneficial insect species, Impact of Pesticide industry on crop protection/production, environment and human health (health hazard effects, manufacture, distribution, use; safety procedures including handling, storage and application equipment including types, calibration, use and maintenance), Urban Entomology; Household insect pest management, Insect vector/carrier management, Medical entomology; Identification, Biology, Significance and Management of insects and other arthropods that attack people and animals, particularly those that are vectors of different diseases, Cottage industries, Role of biotechnology in entomology, Stored grain insect pests and their management, Future prospects of Entomology

PRACTICAL
Identification of insects: Pollinators, climate change indicators, household insects pests, stored grain insect pests, Disease vectors/carriers; Practical demonstration of effective pesticide application methods, equipment, safety measures. Visit to different pesticide industries.

Suggested Readings:

Learning Objectives
After studying this subject, students will be able to understand:
- Rural society and cultural aspects of rural life with managing their economic business
- marketing issues for rural development

Contents:
Rural sociology, The field of rural sociology, Culture, Social systems, Social grouping and farmers agriculture activities, Rural social institutions, Social change and rural development, Introduction of rural sociology and innovation and commercialization Scope and significance of rural sociology in relation to agri. business management, The field of rural sociology, Rural sociology as a science of rural development, Relation with other social sciences especially business and public administration, Definition, types of culture, to create a culture of agri. production and marketing issues, characteristics of rural culture/society and their implications for agri. business management, Social structure, social interaction, social system in village life and introducing the concept of entrepreneurship, Social group definitions, types of groups, social structure, farmers round of activities, rural vs urban social groups and social vs commercial entrepreneurship.

Suggested Readings:
- Desai, A.R. 2009. Rural Sociology in India. Popular Parkashan (pvt) Ltd. India
- Jaypalan. N. 2002. Rural Sociology. Atlantic Publishers and Distributors, New Delhi, India

BBAA--217 WATER QUALITY 2(1-1)

Learning Objectives
After studying this subject, students will be able to:
- Have basic understanding of irrigation and drinking water quality standards
- Understand the causes of soil and water hazards
- Realize safe use and limits of good quality of water
- Know the reasons of soil salinity and sodicity development in Pakistan

Contents:

THEORY
Introduction: Properties of water and its use, Pakistan water resources, water movement in the environment, water quality concerns, classes of agricultural pollutants, description of water quality, water quality in global perspective.
Agricultural Water Problems: Non-point source pollution, classes of non-point sources, sediment pollution problems, plant nutrients and pollution problems: nitrogen fertilizers, phosphorus fertilizers, plant nutrient pollution problems, chemical usage in agriculture: pesticides pollution problems, biological water quality problems.
Irrigation Water Quality and Salinity Management: Classification of salts in irrigation water and its related problems, classification of salt affected soils, water quality effects on plants and crop yield, Salinity management: Leaching, subsurface drainage, other salinity management techniques.

PRACTICAL
Sampling of water for water quality analysis Determination of pH, EC, TDS using pH meter and EC meter Determination of carbonates and bicarbonates, chlorides by titration method Determination of sodium, potassium, lithium, and barium by using flame photometer Determination of threshold values of SAR (sodium adsorption ratio) of irrigation water and ESP of soil

Suggested Readings

BBAA--218 POST HARVEST TECHNOLOGY 2(2-0)

Learning Objectives
After studying this subject, students will be able to understand:
- Postharvest management strategies to curtail losses and maintain high quality food commodities
- Measures required for supply of safe and wholesome food to the consumers
- Technical and economic principles involved in the handling and storage of both perishable and non-perishable foods
Contents:

Suggested Readings

BBAA--219 SOIL FERTILITY MANAGEMENT AND CROP QUALITY 2(2-0)

Learning Objectives
After studying this subject, students will be able to:
• Assess soil fertility
• Identify the causes of soil depletion in nutrients
• Identify fertilizer use trend with respect to environment and crop demand in different cropping systems.

Contents:
Concepts of soil fertility and soil productivity with respect to crop production in changing climate; Historical prospects of fertilizer use; Fertilizer: local production and import; Tools of soil fertility evaluation; Nutrients functions and identification of their deficiency symptoms; Soil properties affecting soil fertility: Physical, chemical and biological properties; Impact of balance and imbalance use of nutrients on crop quality: 4R and DRIS concepts; Biofortification concept of nutrients in food crops; Integrated soil fertility; Guidelines for organic soil fertility management; Agronomic practices affecting soil fertility: Tillage, crop rotation, cover crop, green manuring and irrigation etc; Soil fertility management in modern crop production technologies: Raised bed cultivation, plastic mulch, row covers, and tunnel farming; Nutrient supply through soil, fertigation and foliar and their combinations; Role of soil fertility in food safety and security in the changing climate scenario.

Suggested Readings:

BBAA-220 COMMUNICATION SKILLS AND LEADERSHIP DEVELOPMENT 2(1-1)

Learning Objectives
After studying this subject, students will be able to:
• Understand the basic concepts of communication process
• Know the concept of leadership and group dynamics and their application

Contents:
THEORY
Communication; definitions and dimensions, Types and levels of communication; verbal and non-verbal communication, horizontal and vertical communication, interpersonal, dyadic and group communication, Verbal communication skills; preparation and delivery of effective speech and presentation, Better listening, effective reading and technical writing, Non-Verbal communication, Kinesics (gestures and facial expression), Proxemics, Chronemics, Haptics, Silence etc., Communication Barriers and measures to overcome them. Role of communication in business, Leadership; concepts, leadership styles and functions, Qualities of a good leader and development of effective leadership skills. Conflict resolution and decision making.

PRACTICAL
Group discussion on the assigned topics, Role playing on given situation, Verbal description of pictures, Oral presentations on given topics with and without visual aids, Preparation of presentations, Persuasive and informative speech delivery with proper phonetics and clarity.

Suggested Readings
BBAA-221 VARIETY DEVELOPMENT, REGISTRATION AND SEED PRODUCTION  3(2-1)

Learning Objectives
After studying this course, students will be able to:

• Understand Land race, variety and hybrid.
• Know the Variety/hybrid development and procedures for approval.
• Comprehend the seed, seed certification/multiplication process.
• Know the protocols for the use, import, and export of seed/plant material.

Contents:

THEORY
Plant breeding; Objectives of plant breeding; Variety development, evaluation and approval; Crop inspection. Field inspection techniques. Rules and procedures for certification and registration of transgenic and non-transgenic seeds; Role of pollinating agents in seed production; Hybrid Vs open pollinated varieties; Hybrid seed production on commercial scale; Problems in hybrid seed production; seed harvesting and storage requirements; Classes of seed; Pre-basic, basic, certified and registered seed; Need of seed certification and registration, its importance. Distinctive Uniformity Stability (DUS) testing. Release of variety, legislations; Breeding crop plants for biotic and abiotic stress resistance and climate change; Variety Protection and Farmer’s Rights Act, The Biological Diversity Act, Plant Breeder’s rights: background, need, requirements; advantages and disadvantages.

PRACTICAL
Flower structure, Emasculation and pollination techniques to produce variety/hybrid; Rouging practices; Field layout for seed production; Descriptors for various crops, data recording; Preparation of proposals for variety/hybrid approval.

Suggested Readings

BBAA-222 ESSENTIALS OF FOOD SCIENCE AND TECHNOLOGY  3(3-0)

Learning Objectives
After studying this subject, students will be able to understand:

• Food industry, supply chain and food business
• Food composition in relation to human nutrition
• Food spoilage and preservation techniques
• Food safety, hygiene and quality management

Contents
Significance of food science and technology: food supply chain and consumer convenience. World food situation: sources, supply and demand gap, Food and nutrition situation in Pakistan, Innovations in food product design and marketing, Value addition and supply chain management in food businesses, Food composition and food groups, nutritional aspects of various foods, Food preservation: food spoilage agents, principles of food preservation, and preservation techniques – thermal and non-thermal, Food sector in Pakistan: dairy and beverage industry, cereals industry, oils and fat processing units, sugar and confectionary industry, meat technology, fruit and vegetables processing units, Fast food / snack foods, Food safety and hygiene, Control of food borne pathogens, Quality management systems (SPS), Recent advances in food science and technology.

Suggested Readings

Note: Students can also opt any of the elective course from the list available to the students of B.Sc.(Hons.) Agri. Sciences.
(Semester 5 to 8 to be offered by Sukkur-IBA)

**SEMIESTER-5**

**BBAA-301**  
**Principles of Micro Economics**  
3(3-0)

**Learning Objectives**  
After the completing the course, students will be able to:

- Demonstrate the conceptual knowledge about various theories, laws and models of Microeconomics and apply them in various business situations.
- Solve the utility and profit optimization problems graphically and numerically.
- Critically analyze the effects of various Government interventions in competitive market with help of demand and supply curves and concept of elasticity.
- Demonstrate the ability of decision making regarding production level and price setting on the basis of MC and MB under various market structures.

**Contents:**  

**Suggested Readings:**  

**BBAA-303**  
**SOCIAL PSYCHOLOGY AND SELF DEVELOPMENT**  
3(3-0)

**Learning Objectives**  
After the completing the course, students will be able to:

- Understand socio-psychological skills in interpersonal relationship management.
- Organize personal lives better and reduce physical and mental stress in a corporate setting.
- Explicit concepts in speed reading, time management, positive thinking, transactional analysis, personal conduct and behavior are covered in the course contents.

**Contents:**  
Introduction to social psychology, social cognition: thinking about the social world, perceiving & understanding others, the self in a social world, Attitudes, social influence: changing other’s behavior, helping & hurting others and prejudice: disliking others

**Suggested Readings:**  

**BBA-305**  
**FINANCIAL ACCOUNTING**  
3(3-0)

**Learning Objectives:**  
After the completing the course, students will be able to:

- Define the basic principles and concepts as they relate to practical accounting problems.
- Demonstrate an understanding of the concepts of accrual accounting.
- Discuss and identify the three types of business activities and how to account for each.
- Explain how accounting can be used as a tool to assist in making business decisions.
- Analyze a business transaction into its debit and credit elements.

**Contents:**  

**Suggested Readings:**  
Learning Objectives:
After the completing the course, students will be able to:

- Work with linear equations and their applications in various fields.
- Apply Mathematics in various areas of Business and Social Sciences.
- Identify the Random variables and its types.

Contents:
Some preliminaries, Linear Equation, Mathematical Functions, Linear Function and its Application, Quadratic and Polynomial Functions and its application, Exponential and logarithmic Function, Mathematics of Finance, Matrix Algebra, Range, The semi interquartile, The mean or average deviation, The variance and standard deviation, Skewness, Kurtosis, Continuous random, Marginal probability functions and Software Touch

Suggested Readings:

Learning Objectives:
After the completing the course, students will be able to:

- Understand the software approaches to define professional software applications in finance, Accounts and enhance quantitative analysis skills
- Use current software tools such as MS-Excel 2007, MATALB v9.0 & SPSS 16.1
- Document, reading, experiences and idea can be implement better organized way
- Improve creativity, formulating and developing skills
- Design the Quantitative Questionnaire for conduct survey
- Examine the software application principles in real business scenarios

Contents:
MS EXCEL Concept (Part I), SPSS Concepts (Part II) and MATLAB Concepts (Part III)

Suggested Readings:

Learning Objectives:
After the completing the course, students will be able to:

- Learn basic economic principles of the business.
- Study the basic microeconomic concepts such as demand, supply, elasticity’s, production and cost.
- Establish the solid ground of the basics of macroeconomics, including national income accounts, aggregate demand, aggregate supply, concepts of inflation and unemployment, major macroeconomic policy operations

Contents:

Suggested Readings:
Learning Objectives
After the completing the course, students will be able to:

- Understand the relationship between effective management practices and their impact on organizational performance.
- Understand the role and significance of management in contemporary organizations.

Contents:

Suggested Readings:

BBA-306 BUSINESS COMMUNICATION AND PRESENTATION SKILLS 3(3-0)
Learning Objectives
After the completing the course, students will be able to:

- Learn how to assess and engage with audience.
- Develop techniques to align verbals, vocals, and visuals with the message.
- Design compelling presentations through the principles of framing and storytelling.
- Communicate more eloquently, informatively and persuasively in all Academic, professional and business situations.
- Identify “best practice” strategies for using paper and electronic materials to support the message.

Contents:
Introduction to business communication, Communication Perspectives, Communicating Nonverbally, Understanding Interpersonal Relationships, Communication Skills in Interpersonal Relationships: Providing Emotional Support, Managing Privacy, and Negotiating Conflict, Communicating Across Cultures, Communicating in Groups, Speaking in Public, Listening, Delivery, Speaking to Inform, Speaking to Persuade, Analyzing the Audience, Selecting a Topic and a purpose, Ethics and Public Speaking, Beginning and Ending the Speech, Organizing the Body of Speech, Speaking on Special Occasions.

Suggested Readings:

BBA-308 MANAGERIAL ACCOUNTING 3(3-0)
Learning Objectives
After studying this course students will be able to:

- Understand the fundamental differences between management and financial accounting.
- Apply various types of management accounting systems.
- Explain cost volume profit analysis.
- Identify the major components of product costing systems.
- Describe various types of overhead costs and how to allocate overheads to jobs.

Contents:
Suggested Readings:

BBAA-310  PAKISTAN & ISLAMIC STUDIES/ETHICS (FOR NON-MUSLIMS)  3(3-0)

Learning Objectives
After the completing the course, students will be able to:

- Students should demonstrate the higher level of understanding of the significance in the teachings of Islam
- Know about present relevant facts from the main elements of the faith and history of Islam.

Contents:
Pak-Study

Islamiyat
- What is Islam? Who is the Muslim? Basic Beliefs of Islam, Pillars of Islam, Basic sources of Islam and Jihad, Life of Holy Prophet at Makkah, Life of Holy prophet at Madina, Islam is a complete code of Life, Spiritual and Moral system of life, Social system of life, Economic system of Life, Political system of life, Human Rights in Islam, Concept of Halal and Haraam in islam, Comparative analysis of Islam with other religion,

Ethics
- Introduction - What is the study of ethics?, Understand how rational approach to problems in ethics is possible, What is the good life?, Do we have a moral duty to act in certain ways?, Are there such things as natural/universal human rights?, Are some values more compelling than others?, Examination of ethical relativism and its implications., Character & Personality, Self Control, Sense of Responsibility, Courage & Bravery, Patience Tolerance & Forbearance, Forgiving & Forgetting, Grateful & Thankful, Happiness & Contentment, Honesty, Hopeful & Optimistic, Jealousy & Envy, Kind & Helpful, Self respect and Honour, Unbiased & Unprejudiced, Examination of the utilitarianism, Examination of the duty ethics, Development of the ability to formulate the student’s own ethical position on an issue. Extended Discussion: Development of the ability to formulate the student’s own ethical position on an issue.

Suggested Readings:
Pak-Study
- Ikra, T. A. Pakistan Studies, Bhatti Sons Al-Qader center, 1- Mozang Road, Lahore

Islamiyat

Ethics

Semester 7

BBAA-401  PRINCIPLES OF AGRICULTURAL MARKETING  3(3-0)

Learning Objectives:
After the completing the course, students will be able to:

- Understand the significance of marketing in today’s scenario on a broader level and in particular of
agricultural marketing.

- Clarify key agricultural marketing concepts, methods, strategic issues and risks relevant for start-up and early-stage enterprises.
- Identify and critically discuss the key concepts, theories and models of basic agricultural marketing and relate it with agricultural marketing mix.
- Understand and appreciate that how the marketing creates consumer insight and turn this into the creation of agricultural commodities marketing opportunities and markets in today’s unsustainable and changing environment.

**Contents:**

Introduction to course and expectations, Detailed discussion of course Work and polices, What Is Marketing? , List and explain fundamental terms, including market, marketing, agri-marketing, agribusiness marketing, and E-commerce. Describe the meaning and importance of agricultural marketing. Identify the meaning and importance of consumers and consumer choices in agricultural marketing, List career opportunities in agrimarketing in the local community. Examine the relationship of agricultural marketing and international trade. Discuss agrimarketing functions, Discuss alternatives in marketing agricultural products. Article discussion, Guest Speaker Session, Case study, Discuss the meaning and importance of agricultural commodity marketing. Describe the development and operation of futures markets, Discuss the use of futures markets with agricultural commodities, Discuss the meaning and importance of agricultural commodity marketing. Describe the development and operation of futures markets, Discuss the use of futures markets with agricultural commodities, Describe the transfer of risk using futures markets, Guest speaker session on future markets , Group coursework discussion, Discuss the kinds and purposes of marketing plans, Describe the components of a marketing plan and the process of developing such plans, Practice session on marketing plan, Discuss the kinds and purposes of marketing plans, Describe the components of a marketing plan and the process of developing such plans, Practice session on marketing plan, Discuss the supplies and services marketed in an agribusiness, Describe differences and similarities of marketing agricultural inputs and agricultural commodities, Discuss the uncontrollable forces in agribusiness marketing, Discuss the importance and use of promotion in agribusiness, Describe the importance and use of advertising in agribusiness, Importance of trade shows in promoting agricultural commodities, Discuss the importance and use of promotion in agribusiness, Describe the importance and use of advertising in agribusiness, Importance of trade shows in promoting agricultural commodities

**Suggested Readings:**


**BBAA-403 AGRICULTURAL FINANCE 3(3-0)**

**Learning Objective:**

After completing the course, students will be able to:

- Make effective financial decisions.
- Understanding the key concepts of agricultural finance that enables to more effectively analyze situations, evaluate related risks, implement actions and exercise control.
- Interpret financial information, budgeting, investment and finance decisions, and valuation under conditions of incomplete knowledge by using financial tools, risk and uncertainty are central emphasis of the subject.

**Contents:**


**Suggested Readings:**


**BBAA-405 BUSINESS RESEARCH METHODS 3(3-0)**

**Learning Objectives**

After completing the course, students will be able to:

- Understand the framework of the business research process.
- Develop an understanding of research design and techniques.
- Conduct basic qualitative and quantitative research under supervision.
- Appreciate the components of scholarly writing and evaluate its quality.

**Contents:**
Introduction, Definitions, elements of business research, Trends Impacting Business Research, The Manager – Researcher Relationship, Research proposals, Case Study “Samouel’s& Gino’s Restaurants” Variables, How to Use SPSS, How to use EXCEL, Business research process, Theory & Science in Business Research, Basic research design, Planning & Implementing the Research Design, the language of research, Research & Decision Making go Together, nature of decision making, decision making process, Relevance of Business ethics Ethical Obligations of The Researcher, Ethical Obligations of The Decision Maker, Ethical Obligations of The Research Participant, Implications of Unethical Actions, Critically Reviewing the Literature, data Collection methods,what is a concept, Measurement in Business Research,how we measures concept, Practical Decisions When Developing Scales, criteria for accessing measurement scales,how to develop a scale, Initial Considerations, clarification of concepts, typology of questionnaire, pre testing a questionnaire, administering a questionnaire, Sampling process, data preparation, using charts and graphs, normal distribution, measure of central tendency, measure of dispersion, outliers, other diagnostic measures, What Is Hypothesis?, Testing & Analyzing Relationships, Parametric Versus Nonparametric Hypothesis Tests, Testing Differences In Group Means, Types Of Relationships Between Variables, Co-variation & Variable Relationship, Correlation Analysis, Measurement Scales & Correlation, Statistical techniques & Data Analysis, Regression Analysis, Special Topics In Multiple Regression Analysis

BBAA-407 HUMAN RESOURCE MANAGEMENT IN AGRICULTURE 3(3-0)

Learning Objective:
After the completing the course, students will be able to:

- Understand the basic and core human resource management practices in agricultural field.
- Understand and evaluate core significance of human resources in agriculture.
- Develop basic understanding about the reward systems of cultivators, agriculture labors and marginal workers.
- Analyze and evaluate various recruitment and selection practices to attract & select right person for right job.
- Understand the role and significance of human resource management applications in different agri-business firms.

Contents:

Suggested Readings:

BBAA-409 PROJECT 5(0-5)
Students will be assigned individual projects.

Semester 8

BBAA-402 AGRIBUSINESS ENTREPRENEURSHIP 3(3-0)

Learning Objectives:
After the completing the course, students will be able to:

- Acquaint with the virtues of entrepreneurship for the community so as to consider it as one of the early or late career options.
- Appreciate the role of entrepreneurship in economic growth and there by personal career growth of business managers.
- Get knowledge about Entrepreneurial and Intra preneural process business cycle
- Develop and evaluate the feasibility of pursuing the new business opportunity
Contents:

Suggested Readings:
- Bygrave, W.D. 2009 Portable MBA in Entrepreneurship, BYG.

BBAA-404 CORPORATE STRATEGY 3(3-0)
Learning Objective:
After the completing the course, students will be able to:
- Become familiar with the concepts, frameworks and techniques of strategy
- Gain expertise in applying these concepts, frameworks and techniques to:
- Improve their analytical, discussion and presentation skills

Contents:

Suggested Readings:

BBAA-406 ORGANIZATIONAL BEHAVIOR 3(3-0)
Learning Objectives:
After the completing the course, students will be able to:
- Understand various theories and language of major issues in organizational behavior.
- Understand the relevance of the study of behavior in organizations to both researchers and practitioners
- Provide a true insight of organizational social system and organization’s culture.
- Explore communication networks function within an organization.

Contents:
Employee Behaviors and Organization Success, What is organizational behavior, Why to study organizational behavior Challenges and Opportunities for O.B, How does Individual Develops his/her behavior, Learning Theories, Behavioral Management, How individual judgments do impact on job performance and his/her behavior?, Attitude components Does behavior always follow from Attitude Impact of Attitude on Job performance and satisfaction, Case Study, Role Plays and Group Discussion, Motivation: From Concepts to Applications, Motivating by job design, Employee involvement, Using rewards to motivate employees, Videos on motivation techniques and group, How do teams work in organization and its, impact on individual and organization performance, Difference between Teams n Groups, Types of Teams and Groups, How to create effective teams, Turning Individuals into Team Players, Case Discussion, Are power and politics necessary for organization? And its causes and impacts, Bases of power, Dependency; the key to power, Power tactics, Politics: power in Action. Causes of and consequences of Political Behavior, Is conflict good or bad for organization? What are causes of it and how to manage conflicts, Conflict Process, Bargaining strategies, The Negotiation Process. Third Party Negotiations, How does Organizational Culture influence, employees’ behavior and organization performance?, Organizational culture, What do cultures do?, Creating and sustaining culture,How employees learn culture

Suggested Readings:
Learning Objective:

After completing the course, students will be able to:

- Study issues across various spectrums of business and government’s role in the agribusiness supply chain domain.
- Provide a clear, well-structured treatment provides a logical approach to key activities of agribusiness supply chain management.
- Develop best practices for making key marketing decisions and designing efficient and effective supply chains that meet global challenges.
- Use a mix of project, famous cases & articles on agri-supply chain management that span a wide range of issues and industries, the course would enable the participants to sharpen managerial decision making skills.

Contents:

Agribusiness: Nature, Complexity, and Importance of Supply Chain, Role of Supply Chain Drivers for Success of Agribusiness, Agri Inputs: Production Centre to Farm Gate, Agri Farm Output: Farm Gate to Market Supply Chain Network, Agribusiness: Processors Supply Chain Challenges, Retailing of Agricultural Goods both Processed and Farm Fresh, Perishables and Challenges in Managing the Supply Chains, Role of Infrastructure for Managing Agri Supply Chains, Supply Chain Risk Mitigation Strategies in Agribusiness.

Suggested Readings:
