School of Agriculture
Ph.D. in Agri-Business Management

Detailed syllabus

Course Code	Course Name	Credit Hour (T+P)
Major Courses		
ABM 601*	Econometrics for Agri-Business	2+1
ABM 602*	Research Methods-I	2+1
ABM 603*	Agri Input and Output Marketing	2+1
ABM 604	Research Method-II	2+1
Minor Courses		
ABM 605	Natural Resource Management	2+0
ABM 606	Knowledge Management	2+0
ABM 607	Value-Chain Management in Agribusiness	2+0
Supporting Courses		
ABM 608	Agri Entrepreneurship and Corporate Governance	1+0
ABM 609	International Food and Agri Business	2+0
ABM 610	Communication for Management Teachers	0+2
Seminars		
ABM 691	Doctoral Seminar I	1+0
ABM 692	Doctoral Seminar II	1+0
ABM 699	Doctoral Research	**75**
Total Credits		**100**

Detailed Syllabus
Ph.D. in Agri-Business Management

Course Title : Econometrics for Agri-Business
Course Code : ABM 601
Credit Hours : (2+1)

Aim of the course
The course is mainly designed to provide a solid database analysis of market and policy variables to back up their business strategies. The emphasis will be given on application rather than theoretical details.

Theory

Block 1: Formulation and Specification of Econometric Models

Unit I: Introduction to Regression Analysis

Correlation theory; basic concepts of regression analysis; assumptions of the regression model; theory of Ordinary Least Squares (OLS); properties of least square estimates; maximum likelihood estimation; prediction in the linear regression model.

Unit II: Multiple Regression and Hypothesis Testing

Simple and multiple regression analysis; properties of regression coefficients; hypothesis testing; interval estimation; selection of regressors; specification of regression models; dummy variables and measurement errors.

Unit III: Econometric Problems and Simultaneous Equations

Heteroscedasticity; autocorrelation; multicollinearity; stochastic regressors; specification errors; set of regression equations; causality and simultaneity; simultaneous equations estimation and its applications.

Block 2: Estimation and Testing of Econometric Models

Unit IV: Dynamic Processes and Time Series Econometrics

Modelling dynamic processes; stationarity; unit roots and cointegration; error correction models; autoregressive and distributed lag models; AR, MA, ARMA and ARIMA processes.

Unit V: Qualitative Dependent Variable Models

Qualitative dependent variables; Linear Probability Model (LPM); Logit and Probit models; binary choice models and their applications in agri-business research.

Learning outcome
After successful completion of this course, the students are expected to be able to:
- Acquire the basic knowledge of econometrics.
- Learn the basics of econometric models and test their application in the agri-business environment.

Suggested Reading

- Gujarati, Damodar. Basic Econometrics. McGraw-Hill Company.
- Stock, James H. and Mark W. Watson. Introduction to Econometrics. Pearson Education.

Course Title : Research Methods-I
Course Code : ABM 602
Credit Hours : (2+1)

Aim of the course
The objective of the course is to enable research scholars in developing the knowledge and skills required to specify, evaluate and utilise different types of unstructured and semi-structured information. They are required to develop competence in problem formulation, hypothesis generation and method of carrying scientific research in situations where research work plays a critical role. The course is practical in nature and students are expected to learn by doing live projects and studying the latest researches in different fields related to agri-business.

Theory

Block 1: Overview of Research Methodology
Unit I: Research Process
Translating problems to research issues; selection of qualitative versus quantitative research; definitions, objectives and rationale of research methodologies; sample and sources of data; data collection techniques; questionnaire designing; use of measurement and scaling techniques; reliability testing.
Unit II: Problems and Hypotheses
Fieldwork: data collection, gaining access and entry, ethical considerations, identifying key informants, validation and evaluation of fieldwork, data preparation, field notes and recording; hypothesis development and theoretical modelling.
Unit III: Processing and Analysis of Data
Business analytics and business intelligence.

Block 2: Introduction to Business Analytics
Unit IV: Types of Business Analytics
Types of business analytics; introduction to predictive modelling/analytics; linear programming; contemporary applications of marketing research.

Learning outcome
After successful completion of this course, the students are expected to be able to:
- Learn about the basics of research methodology.
- Understand the application of research for problem solving related to the agri-business environment.

Suggested Reading

- Kothari, C. R. and Garg, G. Research Methodology: Methods and Techniques. New Age International.
- Sekaran, U. and Bougie, R. Research Methods for Business: A Skill-Building Approach. Wiley.
- Saunders, M., Lewis, P. and Thornhill, A. Research Methods for Business Students. Pearson.

Course Title : Agri Input and Output Marketing
Course Code : ABM-603
Credit Hours : (2+1)

Aim of the course
Agricultural input and output marketing is a dynamic and competitive field where much remains to be done considering the gap between existing and possible technologies. Changes are taking place in many areas, ranging from farming practices to trading in domestic and international markets. The presence of private players, infrastructure development, impact on prices and the concept of e-mandi are becoming more important to understand in the current scenario. Scholars will also study research and articles to understand the changes taking place in this field.

Theory

Block 1: Introduction to agri input and output marketing environment

Unit I: Current Status of Agri Input and Output Markets in India

Agricultural input and output marketing environment—current status, trends, market structure, infrastructure, competition and government intervention in agricultural inputs and outputs marketing.

Unit II: Marketing Mix for Agri Input and Output Marketing

Buyers/users behaviour; market segmentation; product and pricing; promotion and advancement in promotional strategies; marketing channels for different agri inputs and outputs.

Block 2: Evaluation of marketing costs and efficiencies

Unit III: Assessment of Different Cost Components

Evaluation of marketing costs and efficiencies; WTO and Indian agriculture; case studies on competitive marketing strategies and advancements in agricultural marketing; international agri-marketing practices.

Learning outcome

After successful completion of this course, the students are expected to be able to:

- Develop an understanding of the existing practices of agri input and output marketing in India.
- Acquire a deeper understanding of assessing marketing costs and related efficiencies to make agricultural marketing profitable.

Suggested Reading (Supplementary)

- Acharya, S. S. and Agarwal, N. L. Agricultural Marketing in India. Oxford & IBH Publishing.
- Kohls, R. L. and Uhl, J. N. Marketing of Agricultural Products. Pearson.
- Ramaswamy, V. S. and Namakumari, S. Marketing Management: Indian Context with Global Perspective. McGraw Hill.

Course Title : Research Method-II
Course Code : ABM 604
Credit Hours : (2+1)

Aim of the course

Once the students are equipped with the information required for interpretive research, Research Methods II will train the students in advanced analytical tools and their uses.

Theory

Block 1: Hypothesis testing

Unit I: Analysis of Variance and Covariance

Hypothesis testing; analysis of variance and covariance; correlation and regression; discriminant and Logit analysis; factor analysis; cluster analysis; multidimensional scaling and conjoint analysis.

Block 2: Data Mining

Unit II: Data Mining Methods

Data mining methods—data dredging, data fishing, data snooping and process mining; business process discovery, conformance checking and model enhancement; Arena modelling.

Block 3: Applications of Statistical Software

Unit III: Modelling with Statistical Software, Report Preparation and Presentation

Applications of statistical software such as SAS; modelling with statistical software; report preparation and presentation; international marketing research.

Learning outcome

After successful completion of this course, the students are expected to be able to:

- Understand the concepts of hypothesis testing.
- Learn the application of statistical analysis software through hands-on experience in agri-business problem-solving methods.

Suggested Reading

- Cohen, L., Lawrence, M. and Morrison, K. (2005). Research Methods in Education (5th edition). Oxford University Press.
- Denscombe, M. (2010). The Good Research Guide: For Small-Scale Social Research Projects. Open University Press.
- Dörnyei, Z. (2007). Research Methods in Applied Linguistics. Oxford University Press.
- Kothari, C. R. (1980). Research Methodology: Research and Techniques. New Age International Publishers.
- Kumar, R. (2011). Research Methodology: A Step-by-Step Guide for Beginners (3rd edition).
- Singh, Y. K. (2006). Fundamental of Research Methodology and Statistics. New International (P) Limited, Publishers.

Course Title : Natural Resource Management
Course Code : ABM 605
Credit Hours : (2+0)

Aim of the course

The course on Natural Resource Management will provide in-depth knowledge to the participants to look for ways to make responsible natural resource management decisions which will have an impact on all stakeholders.

Theory

Block 1: Introduction to natural resources

Unit I: Types and Classification of Natural Resources

Natural resources: types and classification of natural resources; concept of economic value; relevance of environmental economics; ecosystem services; direct and indirect economic benefits from forest ecosystems, mountain ecosystems, mineral and water resources, and ecotourism. Valuation and accounting: supply and demand, conservation and management, cost-benefit analysis, methods of costing, cost criteria, evaluating alternative projects, operational versus total costs, determining benefiting versus comprehensive stakeholders; application of resource accounting; methods of pricing resources, for example forest and mineral resources.

Unit II: Economic Resource Theory and Applications

Concept of CPR and open access; ecological economics and its methodology; economic valuation of non-market benefits; environmental accounting; population, resources and the environment; command and control versus emission trading; emission trading versus exposure trading; Hotelling principle; future strategies for mineral resources.

Block 2: Overview of Natural Resource Management

Unit III: NRM Sectors, Products, Marketing and Their Roles

Initial concept of market and marketing; NRM sectors, product marketing and their roles; promoting NRM products—NTFPs, livestock, watershed, fisheries, agriculture, medicinal plants and ecotourism; role of national and international organizations in the promotion of sustainable natural resource use and management.

Unit IV: Concept of Environmental Services

Definitions; ecotourism and alternative examples; development of ecotourism in India and outside; threats due to large-scale ecotourism; Payment for Ecosystem Services; ecotourism dilemmas; high value may also be high impact; bulk ecotourism and problems; stakeholder challenges; tourist carrying capacity; ecotourism policy and practices; national policy framework; Madhya Pradesh and Uttarakhand state cases; successful ecotourism initiatives; criteria and indicators for sustainable ecotourism.

Suggested Reading

- Barber, E. (1989). Economics: Natural Resources Scarcity and Development. Earthscan.

- Harris, J. M. (2006). Environmental and Natural Resource Economics: A Contemporary Approach (2nd edition). Houghton Mifflin.
- Field, Barry C. (2008). Natural Resource Economics: An Introduction. Waveland Press.
- Honey, Martha. (2008). Ecotourism and Sustainable Development: Who Owns Paradise? (2nd edition). Island Press.
- Bhat, Seema and Liyakhat, Syed. (2008). Ecotourism Development in India: Communities, Capital and Conservation. CEE, Ahmedabad.

Course Title : Knowledge Management
Course Code : ABM 606
Credit Hours : (2+0)

Aim of the course
The objective of the course is to provide the basics of the emerging area of Knowledge Management to students. This course throws light on important concepts such as Knowledge Management and Information Technology, and the knowledge process.

Theory

Block 1: Introduction to knowledge management
Unit I: The Knowledge Economy
Leveraging knowledge; data-information-knowledge-wisdom relationship; organizational knowledge; characteristics and components of organizational knowledge; building knowledge societies; measures for meeting the challenges of implementing KM programmes.
Unit II: Knowledge Management and Information Technology
Role of information technology in Knowledge Management Systems; Knowledge Management tools; creating effective Knowledge Management Systems through information technology; ERP and BPR; data warehousing and data mining.

Block 2: Future of Knowledge Management and Industry Perspective
Unit III: Knowledge Process and Industry Perspective
Companies on the road to Knowledge Management; Knowledge Management in manufacturing and service industry; challenges and future of Knowledge Management.
Unit IV: The Knowledge Process
Universal appeal; stages of KM process; knowledge capital versus physical capital; Customer Relationship Management; business ethics and KM; the promise of the Internet and the imperatives of the new age.
Unit V: Implementation of Knowledge Management
Discussion on roadblocks to success; Business Intelligence and Internet platforms; web portals; information architecture: a three-way balancing act; KM, the Indian experience, Net Banking in India; role of Knowledge Management in organisational restructuring; the mystique of a learning organisation.

Suggested Reading

- Mattison. Web Warehousing and Knowledge Management. Tata McGraw-Hill, 2009.
- Becerra-Fernandez. Knowledge Management: An Evolutionary View. PHI, 2009.
- Fernando. Knowledge Management. Pearson, 2009.
- B. Rathan Reddy. Knowledge Management. Himalaya, 2009.
- Tapan K. Panda. Knowledge Management. Excel, 2009.
- Barnes. Knowledge Management Systems. Cengage, 2009.
- Tiwana. The Knowledge Management Tool Kit (2nd edition). Pearson Education, 2009.
- Warier. Knowledge Management. Vikas Publishing House, 2009.
- Sislop. Knowledge Management. Oxford University Press, New Delhi, 2009.
- Debowski. Knowledge Management. Wiley Student Edition, Wiley India, 2007.

Course Title : Value-Chain Management in Agribusiness
Course Code : ABM 607
Credit Hours : (2+0)

Aim of the course

To recognize the characteristics of Global Food Systems and the multiple variables impacting Global Food Systems; to identify value chain thinking and how it differs from supply chain thinking; to understand the characteristics of agri-food markets, what influences their supply and demand, and what sets them apart from other markets; to recognize the role played by external factors such as population and income growth, globalisation, climate change, technology and international trade in global food systems, agribusiness and value chains; and to recognize the role the consumer plays in the food system, markets and value chains.

Theory

Theory

Unit I: Global Food Systems and Value-Chains

Characteristics of global food systems; identify the variables impacting global food systems; identify value chain thinking and how it differs from supply chain thinking; identify the role that external factors (for example, population and income growth, globalisation, climate change, technology and international trade) play in global food systems, agribusiness and value chains; and identify the actors in, and characteristics of, value chains, demonstrated with the building of a value chain model.

Unit II: Agribusiness Market Dynamics

Characteristics of agri-food markets, what influences their supply and demand, and what sets them apart from other markets; identify the role that external factors, such as population and income growth, globalisation, climate change, technology and international trade, play on agri-food markets; interpret the key elements of supply and demand; and recognise the basic characteristics of supply and demand curves.

Unit III: The Role of the Consumer

Role the consumer plays in the food system, markets and value chains; recognise the consumer characteristics, trends and behaviours that influence value chains; and recognise some of the techniques used in market and consumer research to better understand consumer behaviour.

Suggested Reading

- Acharya, S. S. and Agarwal, N. L. (2011). Agricultural Marketing in India. Oxford and IBH.
- Altekar, R. V. (2006). Supply Chain Management: Concepts and Cases. PHI.
- Chopra, S., Meindl, P. and Kalra, D. V. (2016). Supply Chain Management: Strategy, Planning, and Operation. Pearson Education India.
- Mohanty, R. P. (2010). Indian Case Studies in Supply Chain Management and Other Learning Resources. Oxford.
- Chandrasekaran, N. (2010). Supply Chain Management: Process, System and Practice. Oxford.
- Singh, Sukhpal. Organic Produce Supply Chains in India—Organisation and Governance. Allied Publishers.

Course Title : Agri Entrepreneurship and Corporate Governance
Course Code : ABM 608
Credit Hours : (1+0)

Aim of the course

The course aims to make students understand the nature of entrepreneurship, acquaint the students with challenges of starting new ventures and enable them to investigate, understand and internalize the process of setting up a business. The objective is also to enlighten them with the importance of Corporate Governance and Business Ethics.

Theory

Block 1: Agri Entrepreneurship and Feasibility Studies
Unit I: Nature of Entrepreneurship

Concept, knowledge, skills requirement and functions; characteristics of successful entrepreneurs; scenario in India and abroad; entrepreneurship process; factors impacting emergence of entrepreneurship; managerial versus entrepreneurial approach and emergence of entrepreneurship; risk reduction strategies.

Unit II: Starting the Venture

Generating business ideas—sources of new ideas and methods of generating ideas; SWOT analysis; environmental scanning; competitor and industry analysis; feasibility study—market feasibility, technical/operational feasibility and financial feasibility; drawing a business plan; preparing a project report; presenting a business plan to investors.

Unit III: Functional Plans and Sources of Finance

Marketing plan—marketing research for the new venture, steps in preparing a marketing plan and contingency planning; organizational plan—form of ownership, designing organization structure, job design and manpower planning; financial plan—cash budget, working capital, pro forma income statement, pro forma cash flow, pro forma balance sheet and break-even analysis. Sources of finance: debt or equity financing, commercial banks, venture capital; financial institutions supporting entrepreneurs; government grants and subsidies; Entrepreneurship Promotion Schemes of DIC, KVIC, SIDBI, NABARD, NSIC, APSFC, IFCI and IDBI; legal issues; intellectual property rights—patents, trademarks, copyrights, trade secrets and licensing; franchising.

Block 2: Introduction to Business Ethics and Corporate Governance

Unit IV: Business Ethics and Corporate Governance

Necessity for business ethics; salient issues in ethics and commerce; shadow economy; basic principles in ethics; corporate climate and corporate climate audits; political issues; nature and theory of ethics; corporate governance—historical perspective and issues; corporate governance mechanisms and models; the Confederation of Indian Industry's initiative; Corporate Social Responsibility.

Learning outcome

After successful completion of this course, the students are expected to be able to:

- Understand the concept of agripreneurship and its application for starting a new venture.
- Learn the basics of making functional plans like marketing, production and financial plans.
- Acquire knowledge about business ethics and corporate governance.

Suggested Reading

- Robert Hisrich, Michael Peters and Dean Shepherd. Entrepreneurship (10th edition), 2016. McGraw Hill Education.
- Vasanth Desai. Entrepreneurship. HPH, 2011.
- David Martin. Corporate Governance. Viva, 2010.
- Nandan, H. Fundamentals of Entrepreneurship. PHI, 2013.
- Barringer. Entrepreneurship. Pearson, 2015.
- R. K. Mishra and Gitarani. Corporate Governance. Excel, 2012.
- V. Balachandran and V. Chandrasekaran. Corporate Governance & Social Responsibility. PHI, 2009.
- A. C. Fernando. Business Ethics. Pearson, 2009.
- Laura P. Hartman and Abha Chatterjee. Business Ethics. TMH, 2009.
- Tripat Kaur. Values and Ethics in Management (2nd edition). Paragon International, 2009.

Course Title : International Food and Agri Business
Course Code : ABM 609
Credit Hours : (2+0)

Aim of the course

The objective of the paper is to acquaint the students with the fundamentals of international business, its environment and complexities. The paper provides exposure to multiple dimensions of the field and imparts an international perspective to business decisions.

Theory

Block 1: Global trends in international trade

Unit I: Structure of International Business Environment

Global trends in international trade and finance; dimensions and modes of international business; structure of the international business environment; risk in international business; organizational structure for international business; world trading system and impact of WTO; exchange rate systems; global financial system; barriers to international business; international business information and communication.

Unit II: Global Financial System and Foreign Market Entry

Foreign market entry strategies; country evaluation and selection; factors affecting foreign investment decisions; impact of FDI on home and host countries; types and motives for foreign collaboration; control mechanisms in international business.

Block 2: Global manufacturing and material management

Unit III: International Product Life Cycle, Product and Branding Decisions; Export Assistance and Incentives in India

Decisions concerning global manufacturing and material management; outsourcing factors; managing global supply chain; international product life cycle; product and branding decisions; managing distribution channels; international promotion mix and pricing decisions; counter-trade practices; mechanism of international trade transactions; EXIM policy of India; export costing and pricing; export procedures and export documentation; export assistance and incentives in India.

Unit IV: Harmonizing Accounting Differences Across Countries; Ethical Dilemmas and Social Responsibility Issues

Harmonizing accounting differences across countries; currency translation methods for consolidating financial statements; the Lessard-Lorange Model; cross-cultural challenges in international business; international staffing decisions; compensation and performance appraisal of expatriate staff; ethical dilemmas and social responsibility issues.

Suggested Reading Hill, C. W. L. International Business: Competing in the Global Marketplace. McGraw Hill.

- Daniels, J. D., Radebaugh, L. H. and Sullivan, D. P. International Business: Environments and Operations. Pearson.
- Czinkota, M. R., Ronkainen, I. A. and Moffett, M. H. International Business. Wiley.

Course Title : Communication for Management Teachers
Course Code : ABM 610
Credit Hours : (0+2)

Aim of the course

Communication in management education is not limited to classroom teaching. There are many innovative techniques to make teaching and learning interesting, practical and effective. Research has been conducted on methodological and effectiveness aspects. This course deals with understanding methods of communication for management teaching through a learning-by-doing method and presenting the various research studies conducted in this field.

Theory

Block 1: Management education

Unit I: Management Education

Action gaps in education; latest developments; and required skills.

Block 2: Theory and techniques of communication in management

Unit II: Communication

Active listening; group communication; language process; presentations on readings—recorded and graded; oral presentations and computer-assisted presentations.

Unit III: Theory and Techniques

Didacticism; group work and discussion method; simulation; facilitation skills and styles for experiential learning; emotional perspective in teaching.

Unit IV: Learning in Management Education

Experiential learning; action learning; group learning; simulation and games; role play; teaching and learning through electronic media.

Block 3: Case teaching and writing

Unit V: Case Method of Teaching

Writing a case and teaching note; critiquing a research article.

Suggested Reading (Supplementary)

- Rizvi, M. Ashraf. Effective Technical Communication. McGraw Hill.
- Lesikar, R. V., Flatley, M. E. and Rentz, K. Business Communication: Making Connections in a Digital World. McGraw Hill.
- Mohan, Krishna and Banerji, Meera. Developing Communication Skills. Macmillan.