



**Faculty of Agricultural Sciences (IAS)
Siksha 'O' Anusandhan, Deemed to be University**

M. Sc. (Ag.) in Agricultural Economics

Programme Outcome:

- Enriched knowledge on recent developments in soil and crop management with respect to improvement and productivity, water and nutrient management and their interaction with integrated approach and the disease and pest management in integrated manner. The economic indices on package of practices develop and their transfer to farmers makes the students eligible for advanced studies at doctoral level.
- With specialized knowledge in a particular discipline of agricultural sciences, the students are worth to be absorbed in different fields of academics, research and extension under different organizations.
- Agriculture being the applied science, the skills as developed in the fields of crop improvement, crop production, crop protection and social science fields makes the students an asset for taking up the assignments both at organizational and field level.
- The knowledge, skill and expertise gained during the `study of course curriculum provides an opportunity to take up entrepreneurship holistically as a joint venture.

Programme Specific Objectives:

The main objective is to Prepare our students for policy driven Agro-economic research based upon the economic experiences and applications thereof and to foster the growth of Agricultural sector at national level in general and the state in particular through its research and development towards the policy support.

Programme Specific Outcome (PSO):

1. Students gain first hand experience in applied research enabling them to pursue careers in academia.
2. The students shall learn the art of farm management and Project development at the field level.
3. Learning the Farm planning and farm budgeting operations to optimise the accounting at the farm level.
4. Learning to deal with the direct and indirect market failures creating stress on the farming and providing possible solutions to bridge the gap.
5. Learning to explore the novel areas for research and development to meet the current agrarian distress.

Objectives:

1. This course is intended to provide an overview of microeconomic theory and its applications.
2. The course starts with the theory of consumer behaviour consisting of consumer's utility maximization problem and demand theory. It intends to provide fundamental concepts and models in the theory of production and costs and sets out to provide a basic understanding of price and / or output determination under different types of market structures including factor markets.
3. This course will also expose the students to the theory of general equilibrium and welfare economics.

Outcomes:

1. Basic fundamental of microeconomic theories will be learned.
2. Understanding of price and or output determination under different types of market structures including factor markets with regard to agriculture.
3. Application of microeconomics theory and social welfare concepts in agrarian economy.

**Ag Econ 502 RESEARCH METHODOLOGY FOR SOCIAL SCIENCES
2(1+1)**

Objective

To expose the students to research methodology used in social sciences. The focus will be on providing knowledge related to research process, data collection and data analysis etc.

Outcomes

1. Understand the research process – identification of research problems.
2. Formulation of objectives, construction of hypotheses, sampling techniques.
3. Research design, data collection and data analysis, hypothesis testing, interpretation of results, report writing.
4. Project evaluation and appraisal techniques for agriculture.

Ag Econ 503 AGRICULTURAL FINANCE AND PROJECT MANAGEMENT

3(2+1)

Objective

The Objective of the course is to impart knowledge on issues related to lending to priority sector credit management and financial risk management. The course would bring in the various appraisal techniques in project - investment of agricultural projects.

Outcomes

1. Basic understanding of the financial sector of India.
2. Gain knowledge relating to disbursement of institutional finance to priority sector.
3. Credit and financial risk management appraisal techniques.
4. Acquire the basic knowledge on various appraisal techniques in investment of agricultural projects.

Ag Econ 504 RURAL MARKETING

2(2+0)

Objective

To provide understanding regarding issues in rural markets like marketing environment, consumer behaviour, distribution channels, marketing strategies, etc.

Outcomes

1. Understanding the rural marketing practices in India.
2. Formulating the strategies to overcome the challenges of rural markets.
3. Effective product promotion and distribution in rural markets.

Ag Econ 505 MACRO ECONOMICS AND POLICY

2(2+0)

Objective

Macroeconomics and Policy course is intended to expose the students to macroeconomic concepts and theory, the application of the macro economic theory, and implication of the macroeconomic policies.

Outcomes

1. Understand the basics of macroeconomics with the help of established theories.
2. Analyze the implication of the macroeconomic policies with special reference to agriculture and allied sciences.

3. Understand the implication of fiscal, monetary policies along with balance of payment issue.

Ag Econ 506 AGRICULTURAL PRODUCTION ECONOMICS 2(1+1)

Objective

To expose the students to the concept, significance and uses of agricultural production economics.

Outcomes

1. Expose the students to production economics principles and their applications.
2. Use of tools of optimization in farm planning in agriculture sector.
3. Use of technology and efficiency measures for effective evaluation and project appraisals of farm business.

Ag Econ 507 ECONOMETRICS 3(2+1)

Objective

The Course Objective of the course is to impart knowledge on econometric tools to the students of agricultural economics. Training in econometrics will help the student to analyze the economic problem by applying quantitative techniques.

Outcomes

1. Basic understanding of the econometric techniques for measuring and mapping economic theories and problems.
2. Application of econometric techniques to solve problems in agrarian economy.
3. Development of general models to measure the economic problems of agrarian economy.

Ag Econ 508 NATURAL RESOURCE AND ENVIRONMENTAL ECONOMICS

1+1

Objectives

1. To introduce economics principles related to natural resource and environmental economics
2. To explore the concept of efficiency and the efficient allocation of natural resources
3. To understand the economics of why environmental problems occur.

4. To explore the concept of efficiency and the efficient allocation of pollution control and pollution prevention decisions.
5. To understand the environmental policy issues and alternative instruments of environmental policies

Outcome

1. Basic understanding of economics principles related to natural resources and environmental economics.
2. Gain practical knowledge on efficient allocation and extraction of natural resources with natural resource accounting.
3. Learn about the laws regarding pollution control, waste management, and other environmental issues.

Ag Econ 509 INSTITUTIONAL ECONOMICS

1(1+0)

Objective

The course exposes the students to the institutional problems and remedies of the economy.

Outcomes

1. Basic understanding of concepts and theories of institutional economics.
2. Knowledge Institutional problems and remedies and understanding economic performance.
3. Application of institutional economics concepts in agricultural institutions.

Ag Econ 510 EVOLUTION OF ECONOMIC THOUGHT

1(1+0)

Objective

To introduce the students to the evolution of economic thought over a period of time, the background of emanation of thoughts and approaches, as acts of balancing and counter balancing events and criticisms. The course will also in a comprehensive way help the students to know and appreciate the contributions of the Galaxy of Economists.

Outcome

1. Understanding of the economics theories and their historical development perspectives.
2. Develop insights into economic history of India and the world.
3. Application and analysis of current economic problems in retrospective.

Ag Econ 511 AGRICULTURAL MARKETING AND PRICE ANALYSIS 3(2+1)

Objective

To impart adequate knowledge and analytical skills in the field of agricultural marketing issues and enhance expertise in improving the performance of the marketing institutions and the players in marketing of agricultural commodities.

Outcome

1. Gaining knowledge of agricultural marketing and price policy in India.
2. Enhancing expertise in improving the performance of the marketing institutions and the players in marketing of agricultural commodities.
3. Acquiring skills for technical analysis of price movements and its applications in risk management in agriculture.

Ag Econ 512 COMMODITY FUTURES TRADING

2(2+0)

Objective

This course is aimed at providing the basic understanding and the mechanics and value of futures markets for speculators and hedgers who in turn will serve as price risk management activities of agribusiness firms.

Outcomes

1. Gaining knowledge about the commodity markets and their development in India and world.
2. Understanding, the role, mechanism and value of commodity futures markets for price risk management and price discovery in the Indian commodity markets.
3. Acquiring technical skills required to practically operate in a commodity market.

Ag Econ 513 INTERNATIONAL ECONOMICS

2(1+1)

Objective

The expected outcome of this course will be creating awareness among the students about the role of International Economics on National welfare.

Outcomes

1. Understanding the basics of the international economics and its application in finance and trading.
2. Knowledge and application of international economics in the agriculture sector.

3. Technical skills regarding trade analysis.

Ag Econ 514 AGRICULTURAL DEVELOPMENT AND POLICIES 2(2+0)

Objectives

To provide orientation to the students regarding the concepts and measures of economic development

To provide orientation on theories of economic growth and relevance of theories in developing countries.

Outcomes

1. Knowledge about measures of economic growth and development.
2. Gaining knowledge on theories and models related to development of an economy.
3. Understanding the agricultural policies and its effect on sustainable agricultural development and the globalization and its impact on agricultural development.

Master's seminar AGECON 591 1(1+0)

Objectives

To train the students fit for position in various organizations also it will help them to acquire professional competencies for their future activities. It helps students develop research skills and analytical skills and prepare for writing the term paper and master's thesis.

Outcomes

By the end of this course students will be able to

- Refine their skills of research, text processing, searching scholarly information and presenting their work.
- It will also help in improving their understanding of study designs.

Master's research AGECON 599 20(0+20)

Objectives

To enable students to develop deeper knowledge, understanding, capabilities and attitudes in the context of the programme of the study.

Outcomes

By the end of the thesis

- Students will have more in-depth knowledge of the field of the study including deeper understanding into current research and development work.
- They can contribute to research and development work,
- Students will be able to formulate and deal with complex issues also capability to systematically integrate knowledge, identify issues that must be addressed within the framework of the specific thesis

EXT 506* ENTREPRENEURSHIP DEVELOPMENT AND MANAGEMENT IN EXTENSION 3(2+1)

Objective

The first part of the course is intended to provide overall picture of planning and development of enterprises for extending sustainable livelihoods for rural people. The second part of the course is structured to help the students to gain knowledge and skills in different concepts and techniques of management in extension organizations

Outcome

By the end of this course students will be-

- Motivate for entrepreneurial career and it will make them capable of perceiving successful opportunities for enterprises,
- Motivate to start their own enterprise and approach various institutions for financing, helps in develop entrepreneurial project & their successful management.
- Able to utilize the available resources for different entrepreneurial activities.
- Able to learn about different management approaches, decision making and organization control mechanisms

STAT-509: STATISTICAL METHODS FOR APPLIED SCIENCES 3+1

Objective

- I. This course is meant for students who do not have sufficient background of Statistical Methods.
- II. The students would be exposed to concepts of statistical methods and statistical inference that would help them in understanding the importance of statistics.
- III. It would also help them in understanding the concepts involved in data presentation, analysis and interpretation.

- IV. The students would get an exposure to presentation of data, probability distributions, parameter estimation and tests of significance, regression and multivariate analytical techniques.

Outcome

- I. Expertise in statistical knowledge will lead for good decisions in research.
- II. Inference about certain experiment will come very exact.
- III. Practical data analysis techniques will empower students to work as analyst in different firms.

STAT-513: DATA ANALYSIS USING STATISTICAL PACKAGES. (2+1)

Objective

- I. This course is meant for exposing the students in the usage of various statistical packages for analysis of data.
- II. It would provide the students an hands on experience in the analysis of their research data. This course is useful to all disciplines.

Outcome

- I. Analysis of research data using statistical software.
- II. Opting a career as analyst.
- III. Development of consultancy firms and project formulation.

PGS 501 LIBRARY AND INFORMATION SERVICES 0+1

Objective

To equip the library users with skills to trace information from libraries efficiently, to apprise them of information and knowledge resources, to carry out literature survey, to formulate information search strategies, and to use modern tools (Internet, OPAC, search engines etc.) of information search.

Outcome:

1. Identify library services and availability of resources in order to develop a realistic overall plan for research to achieve a manageable focus appropriate to the assignment criteria, available resources, and evidence needed to support thesis.
2. Identify keywords, synonyms and related terms in order to flexible search information resources including: Internet, electronic library catalogs and print materials.

3. Identify the range of information source types available (such as peer-reviewed journals), newspaper articles, books, reference sources, etc) their distinguishing characteristics and intended audience, in order to select those appropriate based on the information need.
4. Identify the features and content of different research tools (such as database, catalogs and websites) in order to search those most appropriate to the information need.

PGS 502 TECHNICAL WRITING AND COMMUNICATIONS SKILLS 1(0+1)

Objective

To equip the students/scholars with skills to write dissertations, research papers, etc.

To equip the students/scholars with skills to communicate and articulate in English (verbal as well as writing). While the emphasis will be on writing, oral communication of scientific and technical information will form an important component of the course, as well.

Outcomes

By the end of this course students will be able to

- Develop skills that will enable to produce clear and effective scientific and technical documents.
- Use visual items in effectively constructing meaning in communication situations.
- Create clear, concise technical documents that effectively use style and grammar and information structure in ways that create meaning with the reader.
- Collaborate effectively in various writing situations, including planning, creating, and managing, evaluating, editing and revising document production

PGS 503 INTELLECTUAL PROPERTY AND ITS MANAGEMENT IN AGRICULTURE 1(1+0)

Objective:

The main objective of this course is to equip students and stakeholders with knowledge of intellectual property rights (IPR) related protection systems, their significance and use of IPR as a tool for wealth and value creation in a knowledge-based economy.

Outcome:

- 1) Exposure to various types intellectual property rights.
- 2) Idea on various acts and agreements related to IPR.
- 3) Knowledge on protection of plant varieties under UPOV and PPV&FR Act of India, Plant breeders rights, and farmers rights.

PGS 504 BASIC CONCEPTS IN LABORATORY TECHNIQUES 0+1

Objective

To acquaint the students about the basics of commonly used techniques in laboratory.

Outcome

- A brief knowledge on the safety protocols to be followed in a laboratory and handling of various equipments present in the laboratory.
- Knowledge on preparations of several standard solutions, agro-chemical doses, buffers, etc for laboratory and field purposes.
- Testing the seed viability, pollen viability and description of flowering plants.

PGS 505 (e-Course) AGRICULTURAL RESEARCH, RESEARCH ETHICS AND RURAL DEVELOPMENT PROGRAMMES 1(1+0)

Objective

To enlighten the students about the organization and functioning of agricultural research systems at national and international levels, research ethics, and rural development programmes and policies of Government.

Outcomes

- By the end of this course scholars will be sensitized about the basic issues related with agricultural research, ethics in research as well as rural development.
- The scholars will be also educated about principles and philosophy of rural development and various ongoing rural and community development programmes and policies.
- Students will also be motivated towards practising and promoting ethics in research and developmental endeavours.

PGS 506 DISASTER MANAGEMENT 1+0

Objectives

To introduce learners to the key concepts and practices of natural disaster management; to equip them to conduct thorough assessment of hazards, and risks vulnerability; and capacity building.

Outcome

- A brief knowledge on nature and effects of different natural disasters and their management
- Knowledge on different types of man-made disasters and their management
- Appraisal on different organizations involved in disaster management at national and global level

Name of the Course	Course Code	Course Outcomes	PROGRAMME OUTCOMES				PROGRAMME SPECIFIC OUTCOMES				
			PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5
Micro Economic Theory and Application	Ag Econ-501	CO1		✓	✓		✓				
		CO2		✓	✓		✓			✓	
		CO3		✓	✓		✓				✓
Research Methodology for Social Sciences	Ag Econ-502	CO1		✓	✓		✓				✓
		CO2		✓			✓				✓
		CO3		✓	✓		✓				✓
		CO4				✓		✓	✓		
Agricultural Finance and Project Management	Ag Econ-503	CO1		✓			✓				
		CO2		✓			✓				✓
		CO3		✓			✓		✓		
		CO4				✓		✓	✓		✓
Rural Marketing	Ag Econ-504	CO1		✓						✓	
		CO2		✓	✓		✓				✓
		CO3		✓		✓	✓			✓	
Macroeconomics and Policy	Ag Econ-505	CO1		✓			✓				✓
		CO2		✓	✓		✓				✓
		CO3		✓	✓		✓			✓	
	Ag Econ-506	CO1	✓	✓	✓		✓				
		CO2		✓	✓		✓	✓	✓		✓

Agricultural Production Economics		CO3	✓	✓	✓		✓	✓	✓		✓
Econometrics	Ag Econ-507	CO1		✓	✓		✓				✓
		CO2		✓	✓	✓	✓				✓
		CO3		✓	✓		✓				✓
Natural Resource and Environmental Economics	Ag Econ-508	CO1		✓	.		✓				
		CO2		✓	✓	✓	✓	✓			✓
		CO3		✓	✓		✓			✓	✓
Institutional Economics	Ag Econ-509	CO1		✓			✓				✓
		CO2		✓			✓				✓
		CO3		✓	✓		✓				✓
Evolution of Economic Thought	Ag Econ-510	CO1		✓			✓				✓
		CO2		✓			✓				✓
		CO3		✓	✓		✓				✓
Agricultural Marketing and Price Analysis	Ag Econ-511	CO1		✓			✓				✓
		CO2		✓	✓	✓	✓			✓	✓
		CO3		✓	✓	✓	✓			✓	✓
Commodity Futures trading	Ag Econ-512	CO1		✓			✓				✓
		CO2		✓	✓	✓	✓			✓	✓
		CO3		✓	✓	✓	✓			✓	✓
International Economics	Ag Econ-513	CO1		✓			✓				✓
		CO2		✓	✓		✓			✓	✓
		CO3		✓	✓	✓	✓				✓
Agricultural Development and Policy Analysis	Ag Econ-514	CO1		✓			✓				✓
		CO2		✓			✓			✓	✓
		CO3		✓	✓		✓				✓

Entrepreneurship Development and Management in Extension	EXT-506	CO1		✓		✓					
		CO2		✓		✓		✓	✓		
		CO3		✓		✓		✓		✓	
		CO4		✓		✓					
Statistical Method for Applied Sciences	STAT-509	CO1	✓	✓	✓		✓				
		CO2		✓	✓		✓				
		CO3		✓	✓		✓				✓
Data Analysis Using Statistical Packages	STAT-513	CO1		✓	✓		✓		✓		
		CO2		✓	✓						
		CO3				✓		✓	✓		✓
Library and Information Services	PGS-501	CO1		✓	✓		✓				
		CO2		✓	✓						
		CO3		✓	✓				.		
		CO4		✓	✓				.		
Technical Writing and Communication Skills	PGS-502	CO1		✓	✓		✓				
		CO2		✓	✓		✓				
		CO3		✓	✓		✓				
		CO4		✓	✓		✓				
Intellectual Property and its Management in Agriculture	PGS-503	CO1		✓	✓						✓
		CO2		✓	✓		✓		✓		✓
		CO3		✓	✓				.		✓
Basic Concepts in Laboratory Techniques	PGS-504	CO1		✓	✓						
		CO2		✓	✓						
		CO3		✓	✓				.		
	PGS-505	CO1		✓	✓		✓				✓

Agricultural Research, Research Ethics and Rural Development Programmes		CO2		✓	✓						✓
		CO3		✓	✓		✓				
Disaster Management	PGS-506	CO1		✓	✓					✓	✓
		CO2		✓	✓					✓	✓
		CO3		✓	✓						
Master's Seminar	Ag Econ-591	CO1	.	✓	✓	.	✓	.			✓
		CO2		✓	✓						✓
Master's Research	Ag Econ-599	CO1	✓	✓	✓		✓	.			
		CO2	✓	✓	✓		✓				✓
		CO3	✓	✓	✓		✓				✓

Mapping of COs vs. Employability/ Entrepreneurship/ Skill development

Name of the Course	Course Code	Employability	Entrepreneurship	Skill development
Micro Economic Theory and Application	Ag Econ-501	Y		Y
Research Methodology for Social Sciences	Ag Econ-502	Y		Y
Agricultural Finance and Project Management	Ag Econ-503	Y		Y
Rural Marketing	Ag Econ-504	Y	Y	Y
Macro Economics and Policy	Ag Econ-505	Y		Y
Agricultural Production Economics	Ag Econ-506	Y		Y
Econometrics	Ag Econ-507	Y		Y
Natural Resource and Environmental Economics	Ag Econ-508	Y		Y
Institutional Economics	Ag Econ-509	Y		Y
Evolution of Economic thought	Ag Econ-510			Y
Agricultural Marketing and Price Analysis	Ag Econ-511	Y		Y
Commodity Futures Trading	Ag Econ-512	Y		Y
International Economics	Ag Econ-513	Y		Y

Agricultural Development and Policy Analysis	Ag Econ-514			Y
Statistical methods for applied sciences	Stat- 509	Y		Y
Data analysis using statistical packages	Stat - 513	Y	Y	Y
Library and information services	PGS – 501			Y
Technical writing and communications skills	PGS – 502			Y
Intellectual property and its management in agriculture	PGS – 503	Y		Y
Basic concepts in laboratory techniques	PGS – 504	Y		Y
Agricultural research, research ethics and rural development programmes	PGS – 505	Y		Y
Disaster management	PGS – 506	Y		Y
Master's Research	Ag Econ-599	Y		Y
Master's Seminar	Ag Econ-591			Y