



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

M. Sc. (Ag.) in Agricultural Extension and Communication

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 entrepreneurships holistically as a joint venture.

Programme Specific Objectives:

This course is intended to prepare the students for future role in advisory services, agricultural sales, agricultural media, agri-tech companies, consultancy and education delivery as well as providing opportunities for continuous professional development in areas of knowledge transfer with farmers. Also, to develop scientific and research minded human resource, who will face new challenges of using information communication and technologies in agricultural development, while working in the Department of Agriculture, Krishi Vigyan Kendra, NGOs and SAUs in India.

Programme Specific Outcome (PSO)-

- Develop fundamental understanding of extension principles and their application to agricultural resource and rural related issues
- Develop appropriate level of problem identification and conceptualization skills to focus on realistic and relevant research problems.

- Capability to integrate theory, technical information and appropriate methods in effectively analyzing and solving agricultural and rural related problems
- Apply appropriate level of communication skills to effectively disseminate research and technical information, including practical implications of research analyses
- Demonstrate an ability to conduct independent research
- Develop competencies in analysis of the context of agricultural change, design and development of appropriate advisory strategies to support agricultural development

Ext 501* DEVELOPMENT PERSPECTIVES OF EXTENSION EDUCATION 1+1

Objectives

The course is intended to orient the students with the concept of extension education and its importance in Agriculture development and also to expose the students with various rural development programmes aimed at poverty alleviation and to increase employment opportunities and their analysis.

Course Outcomes

- Concept of extension education and its importance in Agriculture development,
- On going Rural development programmes,
- New innovations being brought into the Agricultural extension in India.
- Poverty alleviation programmes
- Current approaches in extension (ATIC, KCC, NAIP)

Ext 502*. DEVELOPMENT COMMUNICATION AND INFORMATION MANAGEMENT 2+1

Objectives:

In this course, students will learn about the concept, meaning and process of communication and various methods and modern media of communication. Besides, the students will also learn the information management and journalistic writing of various information materials and also study their readability.

Outcome

- Understand the concept, meaning and process of communication, modern media of communication, information management and journalistic writing of various information.
- They will be able to write news for farm news paper/magazines/ articles

- Preparing and delivering effective speech.
- Handling of communication and recording equipments.
- They can learn about various computer applications, modern communication media and its applications

Ext 503* DIFFUSION AND ADOPTION OF INNOVATIONS 2+1

Objectives

The students will learn how the agricultural innovations spread among the farmers in the society by getting into the insights of diffusion concept and adoption process, stages of adoption and innovation decision process, adopter categories and their characteristics, opinion leaders and their characteristics, attributes of innovations, and factors influencing adoption. In addition, the students would be learning various concepts related to diffusion and adoption of innovations.

Outcome

By the end of this course students will be able to learn about-

- Agricultural innovations, its diffusion and adoption and innovation decision process
- Attributes of current farm technologies,
- Techniques to identify opinion leaders and can develop decision making capacity

Ext 504* RESEARCH METHODS IN BEHAVIOURAL SCIENCE 2+1

Objectives

This course is designed with a view to provide knowledge and skills in methods of behavioural sciences research and student will learn the appropriate statistics for data analysis.

Outcome

- Get better understanding, knowledge and skills in methods of behavioural science research.
- Learn about various statistical packages for social sciences.
- Selection and formulation of research problem and research articles
- Learn about presentation of reports, report writing, thesis writing and scientific article writing.

Ext 505* e- EXTENSION 2+1

Objectives

Students will gain knowledge and skills in understanding the concepts of Information and communication technologies and how these ICT tools can be used for Agricultural Extension.

Besides, he studies various ICT projects which are successful in delivering the services to the clientele fulfilling the objective of Transfer of Technology i.e. Reaching the unreached.

Outcome

- Students will develop skills in agricultural content analysis of ICT projects,
- Handling of ICT tools
- E-learning approaches
- Creation of extension blogs.

Ext 506* ENTREPRENEURSHIP DEVELOPMENT AND MANAGEMENT IN EXTENSION 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

- 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

Ext 507* HUMAN RESOURCE DEVELOPMENT (HRD) 2+1

Objective

To orient the students about key concepts importance, scope & conceptual frame work, growth & development of Human Resource Development, Subsystems of Human Resource Development for extension organization and process of HRD.

Outcome

On completion of this course, the students will be able

- To develop the understanding of the concept of human resource management & its relevance in organization,
- To develop necessary skill set for application of various HR issues,

- To analyse the strategic issues and strategies required to select and develop manpower resources, to integrate the knowledge of HR concepts to take correct business decision.
- To prepare themselves for better career planning
- Students will be able to develop counseling and mentoring capability

Ext 508 VISUAL COMMUNICATION

2+1

Objective

This course is intended to give a clear perspective about the importance of visuals and graphics in communication. The course starts with the delineating about the characteristics of visuals and graphics followed by its main functions, theories of visual perception and its classification and selection. Further, the course deals with the designing the message, graphic formats and devices and presentation of data.

Outcomes

- Gain knowledge on importance of visuals and graphics in communication.
- Understand visual perception and classification, designing message for visuals, graphic formats and devices
- Understand, prepare and present the scientific data effectively by using low cost visuals.
- The course also exposes the students to various Digitized video material in multimedia and also enable to design visuals for print, TV and know-how about scanning of visuals.

Ext 509 PARTICIPATORY METHODS FOR TECHNOLOGY DEVELOPMENT AND TRANSFER 1+1

Objective

This course is intended to orient the students with the key concepts, principles process of different participatory approaches for technology development and transfer and also to expose the students with various participatory tools and techniques like space related, time related, relation oriented methods. Besides the students will be learning the preparation of action plans participatory monitoring and evaluation.

Outcomes

By the end of this course students will-

- Learn about key concepts, principles, process of different participatory approaches for technology development and transfer
- They will learn about various participatory tools and techniques, participatory monitoring and evaluation.
- They can learn simulated exercises on space, time, flow & decision related methods.

Ext 510 GENDER SENSITIZATION FOR DEVELOPMENT**1+1****Objective**

In this course the students will learn about an overview of the concept of gender and gender balance on development and develop skills of identifying gender roles, rights, responsibilities and relationships on development. Besides the students will also learn the attitudinal change to internalize gender equity concerns as fundamental human rights and also enhance the capability for identifying and analyzing gender issues in agriculture and allied sectors.

Outcomes

- Develop a better understanding on concept of gender and gender balance, gender analysis tools and techniques
- Know about various policies and developmental programmes for women and how gender mainstreaming and budgeting will help them to know its importance in agriculture and allied sectors
- Familiarize with various women empowerment approaches like forming SHGs , PPP for economic empowerment and various women entrepreneurship approaches.

Ext 511 PERSPECTIVES OF DISTANCE EDUCATION**1+1****Objective**

The course is intended to orient the students with the concept of Distance Education, Characteristics of Distance Education, Evolution, Methods of Distance Education, Different Approaches in Planning Distance Education, Educational Technology in Distance Education, Management of Resources for distance education, Strategies for maximizing the reach and programme evaluation and quality assessment.

Outcomes

On the completion of this course students will learn the

- Concept of distance education, characteristics, evolution methods, approaches, educational technologies
- Strategies for maximizing the reach and programme evaluation and quality assessment. Curriculum development and evaluation and assessment
- Students will also learn about how using distance education system they can develop course for farming community

Ext 512 MARKET LED EXTENSION MANAGEMENT**2+0****. Objective**

The student will learn the significance of post harvest management & value addition in present market environment and the challenges and future strategy for market led extension management. Also identifies the information sources and develop strategy for market intelligence and the marketing infrastructure, multilevel marketing and linkages for market led extension. In addition the students would be learning the public private partnerships for market led extension management, the features of contract farming, WTO its implications on agriculture and Understanding the role of IT for market intelligence.

Outcomes

On the completion of this course students will learn

- Market led extension and its need in current agriculture scenario
- Post harvest management & value addition, strategy for market-led-extension, market intelligence,
- They will also learn about multi level marketing and linkages for MLE, Market led extension on PPP mode, Contract farming

Ag Econ 511 AGRICULTURAL MARKETING AND PRICE ANALYSIS 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 503 AGRICULTURAL FINANCE AND PROJECT MANAGEMENT 2+1

Objective

The Objective of the course is to impart knowledge on issues related to lending top 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.

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

Objective

- This course is meant for students who do not have sufficient background of Statistical Methods.
- The students would be exposed to concepts of statistical methods and statistical inference that would help them in understanding the importance of statistics.
- It would also help them in understanding the concepts involved in data presentation, analysis and interpretation.
- The students would get an exposure to presentation of data, probability distributions, parameter estimation and tests of significance, regression and multivariate analytical techniques.

Outcome

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

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:

- 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.
- Identify keywords, synonyms and related terms in order to flexibly search information resources including: Internet, electronic library catalogs, and print materials
- Identify the range of information source types available (such as peer-reviewed journals, newspaper articles, books, reference sources, etc.), their distinguishing characteristics and intended audiences, in order to select those appropriate based on the information need.
- Identify the features and content of different research tools (such as databases, 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+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 (e-Course) 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	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
Development Perspectives of Extension Education	EXT- 501	CO1		✓			✓					
		CO2					✓			.		
		CO3				✓	✓		✓	.		
		CO4					.		✓	✓	.	✓
Development communication and information management	EXT 502	CO1					.			✓	.	
		CO2		✓			✓				.	
		CO3					.			✓	.	
		CO4					.			✓	.	
		CO5					.				.	
		CO6				✓		.	.			

Diffusion and adoption of innovations	EXT 503	CO1				✓	.						
		CO2				✓	.				.		
		CO3		✓				.		✓			
		CO4		✓				.		✓		.	
Research methods in Behavioural Sciences	EXT 504	CO1		✓						.			
		CO2		✓			.	✓			✓		
		CO3						.				.	
		CO4		✓				.			✓	.	
		CO5		✓				.				✓	
		CO6						.			✓	.	
		CO7						.			.		
E- Extension	EXT 505	CO1			✓	✓	.		✓		.	✓	
		CO2					.				.	✓	
		CO3					.			✓	.	✓	
		CO4			✓		.				.		
		CO5				✓	.			✓		✓	
Entrepreneurship Development and management in extension	EXT 506	CO1					✓						
		CO2		✓			.	.	.	✓	.		
		CO3				✓	.	.	✓		.		
		CO4				✓	.	✓	✓	✓	.		
		CO5		✓			.	✓	✓	✓	.	✓	
	EXT 507	CO1		✓			✓				✓		

Human Resource Development		CO2		✓	✓		.		✓	✓	.	✓
		CO3		.	✓	✓	.		✓	✓	.	✓
		CO4			✓	.	.				.	
		CO5			✓		.	✓	✓	✓	.	✓
Visual Communication	EXT 508	CO1			✓		.					✓
		CO2				✓	.	.			.	✓
		CO3					.	.	✓	✓	.	
		CO4			✓		.			✓	.	✓
Participatory Methods for Technology Development and Transfer	EXT 509	CO1			✓		✓	✓	✓	✓	.	✓
		CO2		✓			.	✓	✓	✓	.	✓
		CO3			✓		.	✓	✓	✓	.	✓
Gender Sensitization for Development	EXT 510	CO1		✓			✓				.	
		CO2			✓		.	✓	✓		.	
		CO3				✓	.	✓	✓		.	✓
Perspectives of Distance Education	EXT 511	CO1					.		✓		.	
		CO2			✓		.			✓	.	✓
		CO3			✓		.			✓	.	✓
Market Led Extension Management	EXT 512	CO1			✓		.		✓	✓	.	✓
		CO2		✓	✓		.	✓	✓	✓	.	✓
		CO3				✓	✓		✓	✓	.	
		CO4			✓		✓	✓	✓	✓	✓	.

Master's Seminar	EXT 591	CO1		✓			✓	✓	✓	✓	✓	
		CO2		✓	✓		.	✓	✓	✓	✓	✓
Master's Research	EXT 599	CO1		✓			✓	✓	✓	✓	.	
		CO2		✓	✓		.	✓	✓	✓	✓	✓
		CO3		✓	✓		.	✓	✓	✓	.	✓
		CO4		✓	✓		.	.	✓	✓	✓	✓
Agricultural finance and project management	Ag Econ 503	CO1		✓			.	.	.	.	.
		CO2		✓	.		.	.	✓	.	.	.
		CO3		✓	.	✓	.	.	✓	.	.	.
		CO4		✓	.	✓	.	.	✓	.	.	✓
Agricultural marketing and price analysis	Ag Econ 511	CO1		✓			.	✓	✓	.	.	
		CO2		✓	.		.	.	✓	.	.	✓
		CO3		✓	✓		.	✓	✓	.	.	✓
Statistical methods for applied sciences	STAT-509	CO1		✓			.	✓	.	✓	✓	✓
		CO2		✓	.		.	.	.	✓	.	✓
		CO3		✓	✓		.	.	.	✓	.	✓
Library and information services	PGS 501	CO1		.			.	.	.	✓	.	.
		CO2		.	.		.	.	.	.	.	.
		CO3		✓	.		.	.	.	✓	.	.
		CO4		✓	.		.	.	.	✓	.	.
Technical writing and	PGS 502	CO1		✓			.	.	.	✓	.	.
		CO2		✓	.		.	.	✓	✓	.	.

communications skills		CO3	.	✓	.	.	.	✓	.	.
		CO4	✓	✓	.	.	.	✓	.	✓
Intellectual property and its management in agriculture	PGS 503	CO1	.	.	.	.	.	.	.	.
		CO2	.	.	.	.	✓	.	.	.
		CO3	.	.	✓	.	.	.	.	✓
Basic concepts in laboratory techniques	PGS 504	CO1	✓	.	.	.	.	.	.	.
		CO2	✓	✓	.	.	✓	✓	.	✓
		CO3	.	✓	.	.	.	.	.	.
Agricultural research, research ethics and rural development programmes	PGS 505	CO1	✓	.	✓	✓	✓	.	✓	.
		CO2	✓	.	.	.	✓	.	.	.
		CO3	✓	✓	.	✓	✓	✓	✓	.
Disaster management	PGS 506	CO1	.	.	.	.	✓	.	.	✓
		CO2	.	.	.	.	.	.	.	✓
		CO3	.	.	.	.	.	.	.	✓

Mapping of COs vs. Employability/ Entrepreneurship/ Skill development				
Name of the Course	Course Code	Employability	Entrepreneurship	Skill development
Development perspectives of extension education	EXT-501	Y	Y	Y
Development communication and information management	EXT 502	Y		Y
Diffusion and adoption of innovations	EXT 503		Y	Y
Research methods in behavioural science	EXT 504			Y
e- EXTENSION	EXT 505	Y	Y	Y
Entrepreneurship development and management in extension	EXT 506		Y	Y
Human resource development	EXT 507	Y		Y

Visual communication	EXT 508			Y
Participatory methods for technology development and transfer	EXT 509			Y
Gender sensitization for development	EXT 510	Y	Y	Y
Perspectives of distance education	EXT 511			Y
Market led extension management	EXT 512	Y		Y
Master's seminar	EXT 591			Y
Master's research	EXT 599	Y		Y
Agricultural finance and project management	Ag Econ 503	Y		Y
Agricultural marketing and price analysis	Ag Econ 511	Y		Y
Statistical methods for applied sciences	STAT-509	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 programme	PGS 505			Y
Disaster management	PGS 506			Y