



UNIVERSITY OF SARGODHA
OFFICE OF THE REGISTRAR
(ACAD BRANCH)

NOTIFICATION

On the recommendations of Academic Council made in its 21st (2/2024) meeting held on 07.06.2024, the Syndicate in its 67th (3/2024) meeting held on 12.07.2024 approved the revised curricula of the following programs for implementation w.e.f. Fall 2024:

- | | |
|---|-----------|
| I. M.Sc (Hons.) in Agricultural Extension | Annex-'A' |
| II. Ph.D in Agricultural Extension | Annex-'B' |


(WAQAR AHMAD)
Additional Registrar (General)

Dated: 03.02.2025

No. SU/Acad/25/ 122

Distribution:

- Chairman, Department of Agricultural Extension and Rural Studies
- Controller of Examinations
- Director Academics

C.C:

- Dean, Faculty of Agriculture
- Principal College of Agriculture
- Director, QEC
- Additional Registrar (Affiliation & Registration)
- Secretary to the Vice-Chancellor
- PA to Registrar
- Notification File

M.Sc. (Hons.) Agricultural Extension

Vision of the Department:

The vision of the Department of Agriculture Extension & Rural Studies is to become a leading development center at national and international level. The department also seeks to strengthen the linkages/collaborations with multiple national and international development and outreach organizations and farming community

Mission of the Department:

Mission of the Department of Agriculture Extension & Rural Studies is to improve agriculture productivity, rural economy and livelihoods of the rural communities by addressing socio-economic problems and preparing professionals in the field of agriculture extension and rural development. The Department is also producing trained manpower for technology dissemination and its effective utilization by various stakeholders for sustainable agriculture and rural development.

Program Educational Objectives (PEOs) of the Department

After graduation the graduates will be able to:

- Plan, conduct, monitor and evaluate extension programs successfully as professional extension workers.
- Identify the problems, plan and conduct extension strategies and suggest innovative technologies for the farmer's communities.
- Prepare and deliver effective message with the help of traditional and modern ICTs tools and blended/integrated teaching strategies.

Program Learning Outcomes (PLOs) of the Department

After graduation the graduates will demonstrate:

Knowledge: Knowledge and understanding of major extension concepts.

Problem Analysis: Ability to identify, design and analyze real word problems for getting desired outcome conclusion using extension principles.

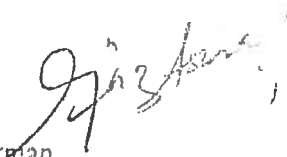
Investigation: Ability to investigate farming problems using appropriate methodology to infer valid conclusions.

Modern Tool Usage: Ability to choosing latest extension techniques and tools for the solution of farming problems.

Ethics: Ethical principal for fulfilling responsibilities and cultural norms needed to be practiced while working with community.

Individual and Team Work: Ability to work efficiently as an individual or in a team, on multifaceted and /or multidisciplinary settings.

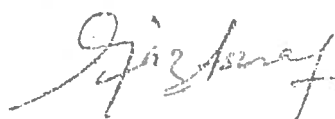
Communication: Ability to have effective oral and written communication about extension outreach concepts.


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1. Program Structure- M.Sc. (Hons.) Agricultural Extension

Duration	Minimum 1.5-Years (3-Semesters), Maximum 4-Years (8-Semesters)
Entry Requirements:	Candidates having minimum CGPA 2.50/4.00 in BS/B.Sc. (Hons.) or equivalent degree program (16 years of education) in any discipline/major of Agriculture from HEC recognized Institutions.
Intra-disciplinary fields allowed for admission*	Candidates having minimum CGPA 2.0/4.0 in BS/B.Sc. (Hons.) or equivalent degree program (16 years of Education) in Continuing Education, Rural Development, Community Development, Development Studies
Degree Completion Requirements:	<p><u>For Disciplinary Admission:</u></p> <p>Total Credit Hours of Course Work (Compulsory + Elective) 26</p> <p>Total Credit Hours of Thesis 06</p> <p>Total Credit Hours of Program: 32</p> <p><u>For Intra-disciplinary Admission:</u></p> <p>Total Credit Hours of Course Work (Compulsory + Elective) 26</p> <p>Total Credit Hours of Deficiency Courses 09</p> <p>Total Credit Hours of Thesis 06</p> <p>Total Credit Hours of Program: 41</p>
Program Mode (select one)	Thesis Track Only
Specialization (if any)	Not Applicable

* In case of admission on intra-disciplinary basis the candidate will be required to pass a separate GRE-Subject/ equivalent test (at least 50% marks) in addition to University Entry Test.



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2. List of Mandatory/Compulsory/Core Courses:

Sr. No.	Course Code	Course Title	Credit Hours	Prerequisite
1.	AEXT-7101	Agricultural Extension Methods	3(2+1)	Nil
2.	AEXT-7102	Program Planning	3(2+1)	Nil
3.	AEXT-7103	Preparation of Research Project & Scientific Writing	3(2+1)	Nil
4.	STAT-7152	Statistical Methods for Social Research	3(2+1)	Nil
5.	AEXT-7113	Special Problem	1(1+0)	Nil
6.	AEXT-7114	Seminar	1(1+0)	Nil

3. List of Deficiency Courses of Level-6:(for intra-disciplinary admissions only)

Sr. No.	Course Code	Course Title	Credit Hours	Prerequisite
1.	AEXT-6401	Extension Program Development	3(2+1)	Nil
2.	AEXT-6403	Rural Development Programs in Pakistan	3(2+1)	Nil
3.	AEXT-6406	Community Development Issues & Strategies	3(3+0)	Nil
4.	AEXT-6420	Program Evaluation in Agricultural Extension	3(2+1)	Nil

* Deficiency courses will be offered from B.Sc. (Hons.) Agricultural Extension scheme of studies

4. List of Elective Courses:

Sr. No.	Course Code	Course Title	Credit Hours	Prerequisite
1.	AEXT-7104	Human Resource Development	3(3+0)	Nil
3.	AEXT-7105	Monitoring and Evaluation in Agricultural Extension	3(2+1)	AEXT-6420 for intra-disciplinary
4.	AEXT-7106	Communication Strategies in Agricultural Extension	3(2+1)	Nil
5.	AEXT-7107	Application of ICTs in Agricultural Extension	3(3+0)	Nil
6.	AEXT-7108	Psychology of Adult Learning	3(3+0)	Nil
7.	AEXT-7109	Gender Studies in Agricultural Extension	3(3+0)	Nil
8.	AEXT-7110	Participatory Approaches to Agricultural Extension & Rural Development	3(2+1)	Nil
9.	AEXT-7111	Agricultural Technology Transfer	3(2+1)	Nil
10.	AEXT-7112	Advanced Research Methodologies in Agricultural Extension & Rural Development	3(2+1)	Nil

5. Thesis:

1.	AEXT-7115	Thesis	6	
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6. Program Summary:

Category	Minimum No of Courses	Minimum No of Credit Hours
Deficiency Courses (for intra-disciplinary admissions only)	03	09
Compulsory Courses	06	14
Elective Courses	04	12
Thesis	-	06

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SEMESTER WISE BREAKUP**Semester-I**

Category	Course Code	Course Title	Credit Hours	Pre-requisite
*Deficiency-1	AEXT-6XXX	<i>To be selected from the list</i>	3(2+1)/ 3(3+0)	--
*Deficiency-2	AEXT-6XXX	<i>To be selected from the list</i>	3(2+1)/ 3(3+0)	--
Compulsory-1	AEXT-7101	Agricultural Extension Methods	3(2+1)	--
Compulsory-2	AEXT-7102	Program Planning	3(2+1)	--
Compulsory-3	AEXT-7103	Preparation of Research Project & Scientific Writing	3(2+1)	--
Elective-1	AEXT-7XXX	<i>To be selected from the list</i>	3(2+1)/ 3(3+0)	--
Total			12-15*	--

*For intra-disciplinary admitted candidates only.

Semester-II

Category	Course Code	Course Title	Credit Hours	Pre-requisite
Compulsory-4	STAT-7152	Statistical Methods for Social Research	3(2+1)	--
Elective-2	AEXT-7XXX	<i>To be selected from the list</i>	3(2+1)/ 3(3+0)	--
Elective-3	AEXT-7XXX	<i>To be selected from the list</i>	3(2+1)/ 3(3+0)	--
Elective-4	AEXT-7XXX	<i>To be selected from the list</i>	3(2+1)/ 3(3+0)	--
*Deficiency-3	AEXT-6XXX	<i>To be selected from the list</i>	3(2+1)/ 3(3+0)	--
Total			12-15*	

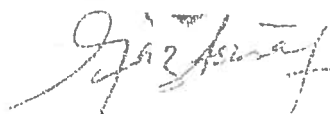
*For intra-disciplinary admitted candidates only.

Semester-III

Category	Course Code	Course Title	Credit Hours	Pre-requisite
Compulsory-5	AEXT-7113	Special Problem	1(0+1)	--
Compulsory-6	AEXT-7114	Seminar	1(0+1)	--
Total			02	

Semester-IV

Category	Course Code	Course Title	Credit Hours
Compulsory-7	AEXT-7115	Thesis	6(0-6)
Total			06



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AEXT-7101

Agricultural Extension Methods

3(2+1)

Extension methods are the devices used to create the situations in which meaningful communication takes place between the instructor and the learners. The primary purpose of extension methods is to provide communication so that the learner may see, hear and do the things to be learnt. Another purpose is to provide stimulation that causes the desired mental and or physical action on the part of the learner. The purpose of this course is to study, analyze and criticize and develop various extension teaching methods for adult learners in the field. At the completion of this course, the students will be able to identify specific extension-teaching method for specific group of respondents, SWOT analysis of extension teaching methodologies and programs, analyze the strengths and weakness of various extension-teaching methods to practice teaching methods in the field, and to identify ways of coordinating with local institutions in delivery of extension teaching programs.

Contents

1. Extension teaching methods
2. The merits and demerits of teaching methods
3. Applications of teaching methods as per needs of the clients
4. Teaching and learning styles of the stakeholders
5. Effects of various extension teaching methods
6. Different stages of adoption and diffusion process for farm and home practices
7. Demonstration method
8. Personal versus impersonal extension teaching methods
9. Significance of personal & impersonal extension methods
10. Critical analysis of alternative extension methods
11. Use of ICTs and advanced instructional technologies in agricultural extension methods

Practical

1. Students will plan any extension method
2. Analyze the situation for extension method
3. Apply given extension teaching method(s) in the simulated/real situation

Recommended Texts

1. Jalihal, K.A. & Vecrabhadraiah, V. (2007). *Fundamentals of Extension Education and Management in Extension*; Concept Publisher, India
2. Dubey, V.K. (2008). *Extension education and communication*; New Age Publishers.
3. Ray, G.L. (2006). *Extension Communication and Management*; Kalyani Publishers.

Suggested Readings

1. Bashir, E. (1997). *Extension Methods* (2nded.); National Book Foundation, Islamabad.
2. Mathialagan P. (2005). *Animal Husbandry and Livestock Extension*; International Book Distributing Co.



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AEXT-7102

Program Planning

3(2+1)

A successful program plan begins with a strong logic model that connects program goals to expected outcomes. Also, including stakeholders in the process—both local organizations and community leaders interested in the goals of the program—is a key to develop buy-in at the beginning of program development. This course has been designed so that students will be able to learn the concepts of program development, program planning, why planning is important for professionals and difference between planned and unplanned activities. The course also describes why all stakeholders need to participate in the planning process. At the completion of this course, the students will be able to analyze and synthesize the concepts, scope and role of program planning, analyze the role of change agents in program planning, differentiate between the long term and short-term program planning and to describe various program planning models in used in Agricultural Extension.

Contents

1. Planning for social change
2. Planned versus un-planned change
3. Democratic versus autocratic program planning
4. Planning Extension Education Programs
5. Steps in program planning
6. Need assessment and its approaches
7. Involving grass-roots in the planning process
8. Role of change agents (Extension workers) in program planning
9. Identifying the gaps between planning theories and practices
10. Long-term, short-term, tactical, and strategic planning
11. Program planning models: review, analysis, and application

Practical

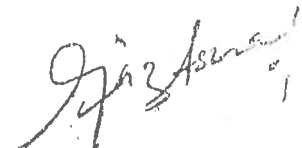
1. The students will plan and develop any program
2. Students will evaluate an agricultural extension education program for a typical Pakistani village/farming community and will make presentation.

Recommended Texts

1. Caffarella, R.S., Daffron, S.R. & Cervero, R.M. (2013). *Planning of Programs for adult learners* (3rded.); Wiley Publishers.
2. Ray, G.L. (2006). *Extension Communication and Management*; Kalyani Publishers.

Suggested Readings

1. Jalihal, K.A. & Veerabhadraiah, V. (2007). *Fundamentals of Extension Education and Management*; Concept Publisher, India
2. Timmreck, T.C. (2003). *Planning, Program Development, and Evaluation: A Handbook for Health Promotion, Aging, and Health Services*; Jones & Bartlett Learning Publishers, UK


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AEXT-7103

Preparation of Research project & Scientific writing

3(2+1)

The research process allows you to gain expertise on a topic of your choice, and the writing process helps you remember what you have learned and understand it on a deeper level. Knowing how to write a good research proposal, paper, thesis or dissertation is a valuable skill that will serve the students well throughout their career. Whether you are developing a new product, studying the best way to perform a procedure, or learning about challenges and opportunities in the field of employment, the one will use research techniques to guide his or her exploration. The students may even need to create a written report of the research findings. The purpose of this course is to develop technical writing ethics and skills in students in the field of agriculture. Students will learn different writing styles and they will prepare research synopsis, research proposals and thesis in given writing style. At the completion of this course, the students will be able to develop research project, write and develop scientific articles, papers & reports and cite and quote references in proper writing style.

Contents

1. Concepts of Research, reviewing of related literature, conducting literature searches
2. Selecting a research problem, identification and classification of variables
3. Developing research hypothesis
4. Use of Scientific Quotations, Illustrations, Statistics and Abbreviations
5. Different writing styles (APA)
6. Quantitative and qualitative data collection, Use of SPSS software for data analysis
7. Conducting qualitative research and citing references
8. Project formulation process, Project cost & financing, Preparing PC-I
9. Scientific Report writing, parts of a scientific manuscript
10. Editing and proofreading of manuscripts

Practical

Each student will develop a research project and will prepare research proposal or synopsis for the same. He/ She will be required to write a scientific article on a given topic related to agricultural extension.

Recommended Texts

1. APA (2006). *Publication Manual of the American Psychological Association* (6thed.). Washington DC, USA.
2. Awan, J. A. (2003). *Scientific Presentations: Thesis, Synopsis, Seminar*; Unitech Communications, Faisalabad.
3. UNE (1999). *Style Guide*; The Teaching and Learning Center. NSW, Australia.

Suggested Readings

1. Forsyth. (2010). *A Guide for students preparing written thesis, research papers, or planning projects: working with a forsyth* (3rd ed.); SAGE Publications
2. Booth, W., Gregory G. C. & Joseph M. W. (2008). *The craft of research* (3rd ed.); Chicago: University of Chicago Press.

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STAT-7152 Statistical Methods for Social Research**3(3+0)**

The purpose of this course is to impart knowledge of statistical techniques and software used to analyze the data. This course has been designed to improve the skills of the students for selecting appropriate tools for analysis of research data in social sciences and educational research. Statistics is an integral part of research not only in agricultural sciences but also in other disciplines of sciences, arts and social sciences. There is increasing demand of skillful human resources to tackle statistical datasets in all walks of life. At the end of this course, students will be able to learn the basics of descriptive and inferential statistics and the most commonly used statistical techniques in agricultural and extension educational research. The course is designed to give students an in-depth understanding of how these statistical techniques work. The focus will be on the applications of statistical analysis with the help of statistical softwares such as Excel, SPSS, R, SAS etc. Moreover, the focus will also be on learning interpretation of statistical results obtained from the computer softwares. So these activities will improve the analytical and research skills of the students in the disciplines of agricultural and extension education.

Contents

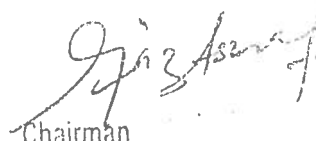
1. Basics of Statistics, Importance of Statistics in Social Research
2. Scale of measurements; Graphical representation of data
3. Some descriptive measures: Mean, median, mode, Variance, Standard deviation, CV, Quartiles, Quartile Deviation
4. Sampling and its types
5. Testing of Hypothesis about mean with Normal, t and F Distribution
6. Basic principles of experimental design, CRD, RCBD, and Latin Square Design used in educational research
7. Non-parametric Methods for testing of hypotheses
8. Correlation Analysis: Simple correlation, Multiple Correlation, Partial Correlation, Rank Correlation, Simple and Multiple regressions, Logistic Regression and Odd Ratios
9. Chi-Square test: Analysis of Count and Frequency data, Contingency Tables, Test of Independence

Recommended Texts

1. Mead, R. (1995). *The Design of Experiments*; Cambridge University Press, Cambridge
2. Steel, R.G. D., Torrie, J.H. & Dicky, D.A. (1983). *Principles and Procedures of Statistics: A Biometrical Approach*. (3rded.); McGraw Hill, New York, USA.
3. Box, G.E.P. & Hunter, J.S. (1978). *Statistics for Experimenters*; New York: Wiley
4. Tabachnick, B. G., & Fidell, L. S. (1996). *Using Multivariate Statistics*; New York: HarperCollins College Publishers.
5. Agresti, A. (2002). *An Introduction to Categorical Data Analysis*; New York: Wiley
6. Chatterjee, S.; & Ali, S.H. (2004). *Regression Analysis by Examples*. (4thed.); New York, Wiley

Suggested Readings

1. Jerrold H. Z. (2009). *Biostatistical Analysis*, (4thed.); Dorling Kindersley India.
2. Cox D.R. (2000). *The Theory of the Design of Experiments*; Chapman and Hall, USA
3. Gomez, K.A, & Gomez A.A. (1976). *Statistical procedures for agricultural research*; The international Rice Research Institute.
4. Richard A. J., & Wichern, D.W. (2007). *Applied multivariate statistical analysis*. (6thed.); Pearson Education International.



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AEXT-7113

Special Problem

1(1+0)

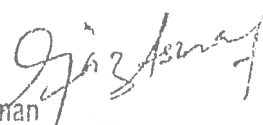
The special problem is intended to instruct students on proper techniques for scientific research and methodologies. The students are expected to prepare directed assignment and collect information and material related to current research interest. Special problem means an assignment that is expected to be temporary and is designated as a special assignment by the academic supervisor in its sole discretion. The main purpose of special problem is to increase the learning capabilities of students. The more we use our brains, the more they develop. Students learn a lot more when they read or practice something by themselves. Similarly, the purpose of assignments is to increase the practical skills of students. The main objectives of special problem assigned to students are: to enhance the knowledge of a subject helps to develop writing skills and to enhance time management and organizing skills. It enhances your planning and organizing skills: The special problem makes you do your work by prioritizing the needs and time frames. It helps you in completing all your tasks very peacefully instead of creating any panic. Scopes for improvement: Special problem writing work gives students a lot of scopes to improve themselves.

AEXT-7114

Seminar

1(1+0)

The seminar is intended to instruct students on proper techniques for presentation of scientific material. Each student is expected to prepare and present a scientific seminar and to submit written documentation supporting that seminar. A seminar is a form of academic instruction, either at an academic institution or offered by a commercial or professional organization. It has the function of bringing together small groups for recurring meetings, focusing each time on some particular subject, in which everyone present is requested to participate. Seminars provide a chance to interact with experts from the specific field. Discussing about the relevant topics of the particular subject, students tend to learn about the latest information and new skills related to the concerned subject. Seminars are important and beneficial for those who have difficulty learning in a typical classroom setting where reading and writing are required. There is often a sense of friendship associated with seminar attendance, because everyone is attending with a like interest in learning about a subject important to them. Attending a seminar has numerous benefits, including improving communication skills, gaining expert knowledge, networking with others and renewing motivation and confidence.


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Deficiency courses of Level-6: (For Intra-disciplinary admissions only)

AEXT-6401

Extension Program Development

3(2+1)

This course has been designed so that students will be able to learn the concepts of program development, program planning, why planning is important for professionals and difference between planned and unplanned activities. The course also describes why all stakeholders need to participate in the planning process. The students will learn the principles of effective program development, program monitoring and evaluation, analysis of various program development tools and models. A successful program plan begins with a strong logic model that connects program goals to expected outcomes. ... Also, including stakeholders in the process—both local organizations and community leaders interested in the goals of the program—is a key to develop buy-in at the beginning of program development. Finally, the students will be able to develop an effective extension program for respondents.

Contents

1. Program development; purpose, concept, scope, significance and assumptions
2. Characteristics and principles of program planning and development
3. Program development approaches and models
4. Steps in program development: Situation analysis and needs assessment, statements of Mission, vision, core values and objectives of any organization, and plan of work. Planning, implementing, monitoring and evaluating the programs

Practical


1. The students will conduct situation analysis and needs assessment.
2. They will plan extension programs based on prioritized needs of extension clientele.
3. They are required to submit a written report

Recommended Texts

1. Ray, G.L. (2006) *Extension Communication and Management*. Kalyani Publishers.
2. Santha G. (2010). *Extension Education and Rural Development*. Delhi, India.

Suggested Readings

1. Caffarella, R. S. (2001). *Planning programs for adult learners. A practical guide for educators, Trainers, and staff developers*. (2nd ed.). Jossey-Bass Publishers.
2. Dasgupta, D. (2008). *Extension Education; Core Contents & Emerging Areas*, India
3. Singh, D. (2012). *Agriculture Extension and Rural Development*, India.


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AEXT-6403

Rural Development Programs in Pakistan**3(2+1)**

Rural development is a complex phenomenon and despite a long history of efforts claimed by a number of government and related agencies, visible changes in rural scene are far too meager and fragmentary to present a total impact. Attempts for rural development have been going on for the last four decades in the country. The primary purpose of this course is to point out the functions of rural development programs, objectives, problems, scope, and teaching system of rural development. The main focus of this course is to assess the rural development concepts and its relationship with extension education. Further to describe important programs those were designed for local and rural development during the past seven decades since independence. At the completion of this course, the students will be able to describe the philosophy of rural development programs, identify the key rural development programs and evaluate critically Government plans and policies related to rural development.

Contents

1. Concept, Philosophy, importance and objectives of rural development.
2. Main approaches/programs of rural development in Pakistan i.e. V-AID, Basic Democracies, rural works program, IRDP, social action program, village cooperatives, supervised credit schemes
3. Participatory rural development projects, community-based organizations.
4. Current rural development programs; rural support programs and rural development programs of NGO's. A critical analysis of current government plans and policies for rural development.
5. Emerging trends of rural development in Pakistan

Practical

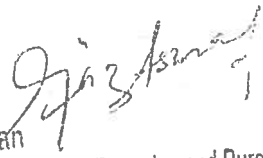
1. Each student will be assigned a project related to any important aspect of rural development.
2. After completing the project, each student will write, submit, and present a comprehensive report on the given problem.

Recommended Texts

1. Bapatla, A.P, (2001). Extension Education; Adivi Reddy Sri Lakshmi press.
2. Narasaiah, M.L. (2003). Approaches to Rural Development; Discovery Publishing House New Delhi (India).

Suggested Readings

1. Ison, R. & Russell, D. (2004). Agricultural Extension and Rural Development: Breaking out of Knowledge Transfer Traditions; Cambridge University Press.
2. Singh, D. (2012). Agriculture Extension and Rural Development; Discovery Publishing House New Delhi (India).


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AEXT-6406

Community Development Issues and Strategies**3(3+0)****Contents:**

Concept and definition of community, types of communities, working with community, community development characteristics and its approaches, knowing your community, group formation, community self-reliance and sustainability, participatory community learning techniques, community mapping, community social structure, economic features of a community, methods/ techniques and strategies of community development, principles of community development, community development framework, community development process (organize, analyze, communicate, plan, implement, evaluate and celebrate), factors which sustain community development, developing community based organizations, directive and community driven approaches, Community-based participatory research (CBPR): Rapid Rural Appraisal (RRA), Participatory Learning and Action (PLA), Participatory Action Research (PAR), Participatory Rural Appraisal (PRA); Community capacity building; social capital development. civil society-based community development; community assessment and mobilization; communication of innovation; community dialogue.

Suggested books:

1. Green, G., & Haines, A. (2016). *The Community Development Process*. SAGE Publications, Inc, <https://doi.org/10.4135/9781483398631>
2. Ohmer, M. L., & DeMasi, K. (2009). *Consensus organizing: A community development workbook: A comprehensive guide to designing, implementing, and evaluating community change initiatives*. SAGE Publications, Inc., <https://doi.org/10.4135/9781452274744>
3. Ziakas, V. (2016). Fostering the social utility of events: An integrative framework for the strategic use of events in community development. *Current Issues in Tourism*, 19(11), 1136-1157.
4. Herbert-Cheshire, L. (2000). Contemporary strategies for rural community development in Australia: a governmentality perspective. *Journal of rural studies*, 16(2), 203-215.
5. Ledwith, M. (2020). *Community development: A critical approach*. Policy Press.
6. Phillips, R., & Pittman, R. (2008). *An introduction to community development*. Routledge.
7. Lemann, N. (1994). The myth of community development. *New York Times Magazine*, 9(1), 27-31.



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AEXT-6420

Program Evaluation in Agricultural Extension

3(2+1)

The main purpose of this course is to study the concepts of evaluation in agricultural extension programs. Evaluation is considered as standard of performance in any organization. There is always a room to evaluate the performance of any program or organization to validate that the program going well as it was planned initially and the goals, objectives, mission and vision of the program or organization have been accomplished. If the designed goals and objectives of the program do not achieved; then the program need to be reviewed and evaluation will tell the stakeholders whether the program will continue or may be shutdown. At the completion of this course, the students will be able to define basic concepts of evaluation, identify the types and forms of evaluation, analyze various evaluation techniques and develop plan of evaluation for a program or organization.

Contents

1. Concept, purposes, uses, and philosophy behind program evaluation
2. Evaluation process and its steps
3. Importance of evaluation
4. Types of evaluation
5. Qualitative v/s Quantitative evaluation
6. Developing a plan for evaluation
7. Evaluation techniques
8. Reporting evaluation results

Practical


1. The student(s) is required to submit an evaluation plan of any social/development program. The plan will then be presented before the class for critical analysis.

Recommended Texts

1. Wholey, J. S. Harty, H. P., & Newcomer, K. E. (2004). *Handbook of Practical Program Evaluation*; Jossey-Bass Publishers, USA.
2. Worthen, B. R., Sanders, J. R., & Fitzpatrick, J. L. (2003). *Program Evaluation: Alternative approaches and practical guidelines* (3rded.); Allyn & Bacon, USA.

Suggested Readings

1. David, R.; Bruce, T & Deborah, P. (2013). *Program Evaluation: An introduction* (5thed.); Wads Worth publishers: USA.
2. Mertens, D. M. & Wilson, T. (2012). *Program Evaluation Theory and Practice*; Guilford Publications, New York.


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List of Elective Courses

AEXT-7104

Human Resource Development**3(3+0)**

Development of human resources is essential for any organization that would like to be dynamic and growth-oriented. Unlike other resources, human resources have rather unlimited potential capabilities. The potential can be used only by creating a climate that can continuously identify, bring to surface, nurture and use the capabilities of people. Human Resources Development (HRD) system aims at creating such a climate. A number of HRD techniques have been developed in recent years to perform the above task based on certain principles. Trained, organized and develop human resources is the basic need for the success of any organization at present time of competition across the world. Every organization seeks the services of highly qualified professionals. The purpose of this course is to emphasize on human growth and development for sustainable agricultural development. At the completion of this course, the students will be able to discuss concept and role of human resource development, organize training programs, manage training sessions evaluate training activities for development of human resources in agricultural extension system.

Contents

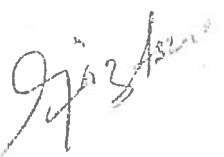
1. Concept of Human Resource Development (HRD)
2. Purpose of training
3. Types of training i.e. pre-service, in-service, and follow-up
4. Determining training needs
5. Organizing, supervising and managing training programs
6. Human relations training; identifying requirements
7. Training of Trainers
8. Selecting, planning, and implementing training programs
9. Duties and responsibilities of trainers
10. Evaluating the training programs
11. Performance appraisal
12. Job satisfaction
13. Career planning
14. Conflict management and resolution

Recommended Texts

1. Swanson, R. A. & Holton, E. F. (2009). *Foundations of Human Resource Development* (2nd ed.); Berrett-Koehler Publishers, UK
2. Keith D. (2004). *Human Behaviour*. (8th ed.); McGraw Hill Publishers.
Werner, J. M. & DeSimone, R. L. (2008). *Human Resource Development* (5th ed.); South-Western College Publications

Suggested Readings

1. Wilson, J. P. (2005). *Human Resource development: Learning and Training for Individuals and Organizations*; Kpgan Page Publishers.
2. McGoldrick, J.; Stewart, J.; Watson, S. (2002). *Understanding Human Resource Development: A Research-Based Approach*; Routledge Publishers, USA


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AEXT-7105 Monitoring and Evaluation in Agricultural Extension 3(2+1)

The main purpose of this course is to study the concepts of evaluation in agricultural extension programs. Evaluation is considered as standard of performance in any organization. There is always a room to evaluate the performance of any program or organization to validate that the program going well as it was planned initially and the goals, objectives, mission and vision of the program or organization have been accomplished. If the designed goals and objectives of the program do not achieved; then the program need to be reviewed and evaluation will tell the stakeholders whether the program will continue or may be shutdown. The focus of this course is to highlight the evaluation practices in the world. At the completion of this course, the students will be able to synthesize and criticize the concepts, scope and role of monitoring and evaluation. To analyze the importance of evaluation for future programs and to develop data collection and analysis procedures for program evaluation

Contents

1. Basic principles and role of monitoring and evaluation
2. Evaluation standards
3. Concept, objectives, and types of monitoring and evaluation (formative and summative) Difference between outcome monitoring and outcome evaluation
4. Evaluation principles and frameworks, Evaluation process
5. Case studies & steps in conducting case studies
6. Multisite evaluation, its advantages and disadvantages
7. Participatory Monitoring and Evaluation
8. Determining the type and the sources of data to be collected for an evaluation study
9. Data collection methods
10. Designing instruments (evaluation questions), interview techniques
11. Testing reliability and validity of the instruments
12. Practical problems in data collection, Data analysis and interpretation
13. Writing monitoring and evaluation report
14. Utilization of evaluation results

Practical

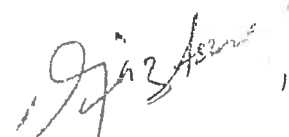
1. The students will be required to review critically monitoring and evaluation reports.
2. They have to identify strengths and weaknesses of the report(s).
3. Each student will select an extension program/project/activity for evaluation.
4. The student(s) will plan and conduct evaluation
5. The student (s) will submit the report to the concerned teacher.

Recommended Texts

1. Gudda, P. (2011). *A guide to project monitoring and evaluation*; Author House Publishers.
2. Wholey, J.S.; Hatry, H. P. & Newcomer, K.E. (2010). *Handbook of Practical Program Evaluation*; Jossey-Bass Publishers, USA

Suggested Readings

1. Wholey, J. S. Harty, H. P., & Newcomer, K. E. (2004) *Handbook of Practical Program Evaluation*; Jossey-Bass publishers, USA.
2. Worthen, B. R.; Sanders, J. R.; & Fitzpatrick, J. L. (2003). *Program Evaluation; Alternative approaches and practical guidelines* (3rded.); Allyn & Bacon, USA.


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AEXT-7107

Application of ICTs in Agricultural Extension

3(2+1)

Like in other disciplines, computer applications in agriculture have also increased so fast and the need is to develop computer skills among future agriculturists and academicians. Computer also provides modern communications tools at mass level. The purpose of this course is to introduce advanced communication and decision making tools used in agriculture for sustainable development. At the end of this course, the students will be able to compare various ICTs methods for applying in agricultural teaching and research, to determine role of GPS, remotely sensed data and other precision data tools for decision making for farm management, Introduction to artificial intelligence in agriculture system

Contents

1. Overview of technology used in extension programs, Teaching Aids like multimedia projects, computers and internet
2. Use of data bases for agriculture products,
3. Computerized weather forecasting, using computerized map reading and interpretation
4. Color coding, spectroscopic study, satellite image reading
5. Introduction to remote sensing and geographical information systems (GIS) for agricultural extension education.
6. Role of remote sensing, GPS, GIS and other softwares and tools for agricultural resource management, decision making at farm level
7. Theories related to communication technologies
8. Computerized mass media applications in agricultural extension education
9. Teleconferencing, e-conferencing, knowledge portal, e-office, e-agriculture, e-business etc.
10. Use of mobile cell communication for agricultural development and business
11. Recent trends in ICT and use of artificial intelligence in agriculture
12. Future of ICT and precise decision making in Pakistan

Practical

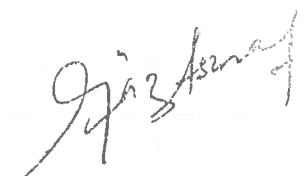
Students will be given hands-on experience in above mentioned technologies. Visit to various ICT based agricultural organizations.

Recommended Texts

1. Longley, P.A.; Goochild, M.; Maguire, D. & Rhind, D. W. (2005). *Geographical Information Systems Principles, Techniques, Applications and Management* (2nd ed.); John Whiler and Sons Publisher.
2. Heywood, I.; Cornelis, S. & Carver, S. (2011). *An Introduction to Geographical Information Systems*; Addison Wesley longman Limited Publisher, New York.
3. World wide web.

Suggested Readings

1. Grimshaw, D. J. & Kala. S. (2011). *Strengthening Rural Livelihoods: The impact of information and communication technologies in Asia*; Practical Application Publishing Ltd. India.
2. Mildorf ,T. & Charvatjr, K. (2012). *ICT for agriculture, rural development and environment*; Czech Centre for Science and Society, Wirelessinfo.


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AEXT-7108

Psychology of Adult learning

3(3+0)

Adult education psychology is the systematic side of the development of the individual within educational settings. It helps the volunteer to foster harmonious development of the learners into a responsible and a participating citizen, a sensitive and a reflective human being and a productive and creative person. The purpose of this course is to apply psychological techniques for adult learning at farm level during outreach extension activities. Before using any particular teaching method in extension education, to study the psychic of the specific group of farmers is important. At the completion of this course, the students will be able to describe the Psychology and discuss its applications in Agricultural Extension, differentiate between active and passive learners, demonstrate the working knowledge of theories of learning and evaluate the learners' achievements, teaching styles of the educator and learning styles of learners.

Contents

1. Definition of psychology and relate concepts.
2. Application of educational psychology in Agricultural Extension Education
3. Domains of Learning: cognitive, psychomotor and effective.
4. Levels of learning
5. Teaching styles of the educator and learning styles of the learner
6. Comparative analysis of active learners with passive learners
7. Farmers as adult learners; implications of physical, mental, emotional and social aspects for learning; personality types and their effect on learning and human relationship
8. Information processing models. Sensory input.
9. Pattern recognition and various theories of pattern recognition
10. Theories of attention and motivation
11. Problems of adjustment and understanding human behavior according to the changed conditions
12. Problem-solving and decision-making strategies. Evaluation of learners' achievements

Recommended Texts

1. Jarvis, P. (2004). *Adult Education and Lifelong Learning: Theory and Practice*; New York NY: Routledge Falmer.
2. Tennant, M. (2005). *Psychology and Adult Learning*; Routledge Publishers.

Suggested Readings

1. Elias, J. & Merriam, S. B. (2005). *Philosophical Foundations of Adult Education* (3rd ed.); Malabar; FL: Krieger.
2. Knowles, M. S. & Elwood F. H. (2011). *The Adult Learner, The definitive classic in adult education and human resource development* (7th ed.); Burlington MA: Elsevier; Inc. USA.

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AEXT-7109

Gender studies in Agricultural Extension

3(3+0)

Agriculture and Gender come together as a unique course on the role of women have played in agriculture, food production and food resiliency throughout human history. This course at the will examine this history and current global scope of women's involvement from interdisciplinary lenses, including social sciences, women's studies and agricultural sciences. At the completion of this course, the students will be able to know more about the men and women contribution in agricultural development, health, education etc. Describe the status of women and men in relation to income generation and welfare of rural society. Concepts of Gerontology and its role/application in Agricultural Extension and Rural Development is another area to study the demographic structure of gender based distribution of the population with respect to age and time periods in the history.

Contents

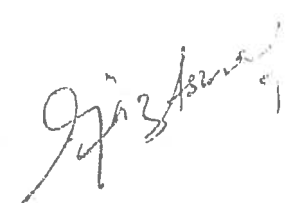
1. Women role in the development of agriculture
2. Issues related to women's health and education
3. Gender discrimination in Agricultural Extension and Rural Development with special reference to Pakistan
4. Rural economics and small businesses for rural women
5. Gerontology in relation to Agricultural Extension and Rural Development
6. Gender Mainstreaming in Agricultural Extension
7. Gender Mainstreaming tools and techniques
8. Status of women and men in connection of income generation for home and for the welfare of rural society

Recommended Texts

1. Lerber, J. (2000). *Paradoxes of Gender*; Yale University Press, New Heaven, USA.
2. Catherine L.M. H. (2003). *Gender-Disaggregated Data for Agriculture and Rural Development Socio-Economic and Gender Analysis Program*; SEAGA. FAO Rome.
3. IFAD (2009). *Gender in Agriculture: A Source book*; IFAD, FAO, The World Bank, Washington DC. USA.

Suggested Readings

1. Pearson, R. (2000). *Rethinking Gender Matters in Development in Poverty and Development into the 21st Century*; Oxford University Press.
2. Dirk, W. V. (2001). *Gender Mainstreaming in Agriculture and Rural Development: A Reference Manual for Governments and Other Stakeholders*; Common Wealth Secretariat.


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AEXT-7110 Participatory Approaches to Agricultural Extension & Rural Development 3(2-1)

After completion of the course, the students will be able to: analyse rural poverty, comprehend the philosophy of self-reliant participatory approach to rural development, learn and apply various participatory techniques and understand how to organize farmers for participatory development

Contents

1. Rural poverty; concepts, causes, biases, problems and opportunities
2. The changing role of the professionals; sitting, asking, listening and learning from the poor
3. Rural development; basic elements of rural development. Self-reliant participatory development: concept, philosophy, objectives and basic principles
4. Participatory rural appraisal (PRA) and rapid rural appraisal (RRA)
5. Participatory tools and techniques. Participatory teaching and learning skills.
6. Community organization. Working with people; organizing farmers' groups.
7. Farmer-professional interaction, barriers to effective interaction.
8. Farmers' participation in technology development. Farmers' experimentation and agricultural development.
9. Nature and level of farmers' participation in agricultural extension and rural development.
10. Model for securing people's participation in rural development.
11. Improving the delivery of extension services to rural people.

Practical

Each student will select a village to practice participatory techniques learnt in the class room. He/she will organize a group of farmers, provide them opportunities for better interaction with each other and with professionals and finally submit a comprehensive report and give presentation in the class.

Suggested Readings

1. Balisacan, A.M. and N. Fuwa. 2007. Reasserting the Rural Development Agenda: Lesson Learned and Emerging Challenges in Asia. ISEAS Publishing Co., Singapur.
2. Bhose, J.S.G.R. 2003. NGOs and Rural Development: Theory and Practice. Ashok Kumar Mittal Concept Publishing Co., India.
3. Burkey, S. 1993. People First: A Guide to Self-reliant, Participatory Rural Development. Zed Books Ltd., London and New Jersey.
4. Dhawan, M.L. 2005. Rural Development Priorities, by Esha Books India.
5. Narayanasamy, N. 2009. Participatory Rural Appraisal: Principles methods and application. SAGE Publication Pvt. Ltd. India.
6. Singh, K. 2009. Rural Development: Principles, Policies and Management. Sage Publication, (Pvt) Ltd. India.

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AEXT-7111

Agricultural Technology Transfer

3(2+1)

Dissemination of advanced technology among end users for sustainable agricultural development is the core issue for Extension field staff. This course will prepare students to analyze the desired technologies required for agricultural development based on the needs of the end users. The technology will be disseminated as per the needs of the farmers and growers. Before dissemination each step has to be critically reviewed and discussed with clients. If required, the advanced technology may be converted to local mode for better adoption among farmers. At the end of this course, the students will be able to describe the scope and importance of technology transfer, criticize technology transfer process, identify barriers to technology transfer and analyze issues in technology transfer.

Contents

1. Definition and importance of technology transfer.
2. Characteristics of promising agricultural technology
3. Barriers to technology transfer
4. Technology and food security
5. Business considerations of farm enterprise and its technological aspects
6. Farm safety measures
7. Preparing feasibility reports of alternative farm enterprises
8. Recent technological developments in agriculture
9. Characteristics of technology generation, transfer and utilization sub-systems in Pakistan with special reference to agricultural development
10. WTO and its implications for Pakistan's agriculture. Corporate farming and its issues

Practical

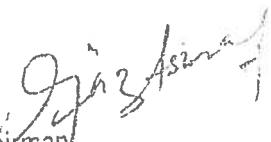
Students will be required to demonstrate/present promising technologies in the class.

Recommended Texts

1. OECD (2012). *Agriculture outlook*; Organization for Economic Co-operation and Development, FAO-Rome, Italy.
2. Janis, T. F. (2003). *Technology transfer emerging issues, High impact trends*; Kluwer Academic Publishers.

Suggested Readings

1. Rogers, E.M. (1995). *Diffusion of Innovations*; The Free press. New York.


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AEXT-7112 Advanced Research Methodologies in Agri. Ext. & Rural Development 3(2+1)

Research is the second pillar of the golden triangle of success. The other two are education and extension. Research has a middle position and provides a linkage between education and extension. The golden triangle of success will not be considered as equilateral unless all three pillars are fulfilled. The purpose of this course is to introduce research concepts. Promotion of research culture and strengthening of research activities are the needs of the hour. Only high standard research will provide answers to the problems of declining agricultural production and yield. The students will learn new and improved techniques of research through different environments. At the completion of this course, the students will be able to identify research problem, analyze, synthesize and interpret research data, critically review the various methods of qualitative and quantitative research and apply different research designs to answer the questions to solve the problems of the stakeholders.

Contents

1. Selecting and defining a research problem, Conducting review of literature and computer search
2. Various types of research, Action research, how to state research problem
3. Introduction to research designs, Defining population and selecting samples
4. Choosing alternative methods for data collection
5. Determining reliability and validity of the research instrument
6. Selecting and applying appropriate statistical techniques for data analysis
7. Planning, developing and critically analyzing research proposals
8. Ethical principles and constraints for planning, conducting and reporting research in Agricultural Extension
9. Qualitative research design, Sampling techniques, Methods of qualitative research
10. Taking field notes for observations and interviews
11. Strategies for analyzing interpreting synthesizing and reporting data, Data analysis on SPSS

Practical

1. The students will be engaged to prepare and present their brief research proposals and plan and conduct pilot studies.

Recommended Texts

1. Creswell, J. W. (2007). *Study Guide for Educational Research. Planning, Conducting and evaluating Qualitative and Quantitative Research*; Prentice Hall, NJ; USA.
2. Bhattacharjee, A. (2012). *Social Science Research: Principles, Methods, and Practices*, (2nded.); University of South Florida, USA.
3. Gall, M.D. & Borg, W. R. (2006). *Educational Research: An Introduction* (8thed.); Longman Inc. New York.

Suggested Readings

1. Best, J.W., & Kahn, V. J. (2009). *Research in Education* (20th edition). PHI Learning Private LTD.
2. Kumar, G.A.K., Mohanty, A.K., & Prasad, A.M. (2013). *Research Methods in Agricultural Extension*, National Institute of Agricultural Extension Management Rajendranagar, Hyderabad – 500 030, Andhra Pradesh, India. www.manage.gov.in
3. Field, A. (2009). *Discovering Statistics Using SPSS* (3rded.); SAGE publications LTD.

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