

Program Syllabus Booklet

**Ph.D. Agricultural Economics
(Code:587)**



Session: 2021-22

**University College of Agriculture
Guru Kashi University, Talwandi Sabo**

GURU KASHI UNIVERSITY										
University College of Agriculture										
Ph.D (Agricultural Economics) (Code: 587)										
Course Work										
Study Scheme										
Sr. No.	Subject Code	Subject Name	Type of Subject T/P	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	180101	Research Methodology	T	4	0	0	4	50	50	100
2	180102	Computer Applications in Research	T/P	1	0	2	2	100	NA	100
3	180104	Research and Publication Ethics	T/P	1	0	2	2	50	50	100
4	587101	Recent Advances in Agricultural Economics	T	4	0	0	4	50	50	100
5	587102	Seminar	NA	NA	NA	NA	2	100	NA	100
Total No. of Credits							14			

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University College of Agriculture (Code:5)
Ph.D. Agricultural Economics (Code:587)

Research Methodology (180101)

Course Contents: (Common for Ph.D in Engineering, Education, Applied Science, Management, Computer Application, Commerce, Economics)

Credit: 4

L T P
4 0 0

1) Research

Objectives of Research, Research Types, Research Methodology, Research Process – Flow chart, description of various steps, Selection of research problem.

2) Research Design

Meaning, Objectives and Strategies of research, different research designs, important experimental designs, Completely randomized, Randomized block, Latin Square, Factorial Experimental Design.

3) Methods of Data Collection

Types of data collection and classification, Observation method, Interview Method, Collection of data through Questionnaires, Schedules.

4) Processing and Analysis of Data:

Editing, Coding, Classification of data

Statistical measures and their significance: Central tendencies, Variation, Skewness, Kurtosis.

Correlation and Regression, Multiple Regression, Time Series Analysis,

Parametric tests (t, z and F), Chi Square test.

Analysis of Variance, One - way ANOVA

Factor Analysis, Centroid Method.

Computer simulations using MATLAB/SPSS

5) Probability Distributions

Binomial, Poisson, Exponential, Normal distributions, Frequency distribution, Cumulative Frequency distribution, Relative Frequency distribution.

6) Sampling Methods:

Different methods of Sampling: Probability Sampling methods, Random Sampling, Systematic Sampling, Stratified Sampling, Cluster Sampling and Multistage Sampling. Non Probability Sampling methods, Sample size.

7) Testing of Hypotheses:

Testing of Hypotheses concerning Mean(s), Testing of Hypotheses concerning Proportion (s), Testing of Hypotheses concerning Variance(s)

8) Report Writing and Presentation:

Types of reports, Report Format – Cover page, Introductory page, Text, Bibliography, Appendices, Typing instructions, Oral Presentation.

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Ph.D. Agricultural Economics (Code:587)

References:

1. Montgomery, Douglas C. (2007), 'Design and Analysis of Experiments', (Wiley India)
2. Montgomery, Douglas C. & Runger, George C. , 'Applied Statistics & Probability for Engineers' (Wiley India)
3. Kothari C.K. (2004), 'Research Methodology- Methods and Techniques' (New Age International, New Delhi)
4. Krishnaswamy, K.N., Sivakumar, Appa Iyer and Mathiranjani M. , 'Management Research Methodology; Integration of Principles, Methods and Techniques' (Pearson Education, New Delhi)
5. Chawla ,Deepak ,Sondhi ,Neena, 'Research Methodology Concepts and Cases', Vikas Publishing House Pvt Ltd ,New Delhi.
6. Panneerselvam, R , 'Research Methodology', PHI, New Delhi.
7. Cooper, D.R., Schindler, P.S., 'Business Research Methods,' Tata McGraw Hill
8. Gupta S P, 'Statistical Methods', Sultan Chand & Sons, Delhi
9. Ronald E Walpole, 'Probability and Statistics for Engineers and Scientists' (International Edition) , Pearson Education.
10. Pulak Chakravarty: "Quantitative Techniques for Management and Economics", Himalaya Publishing House.
11. P.C.Tripathi, "A Text Book of Research Methodology in Social Sciences, Sultan Chand & Sons".
12. Bhattacharyya D.K., 'Research Methods', Sage Publications.

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University College of Agriculture (Code:5)
Ph.D. Agricultural Economics (Code:587)

Credit: 2

L T P
1 0 2

Common for all branches except Hindi, Punjabi, English, History and Religious Study.

Unit 1

Generating Charts/Graphs in Microsoft Excel, Power Point Presentation, Web search,
Use of Internet and www. Using search like Google etc.

Unit 2:

SPSS concepts and its use for Statistical Analysis.

Unit 3:

MatLab and its use for Statistical Analysis.

Unit 4:

Introduction to the use of LaTeX, Mendeley, Anti-Plagiarism Softwares .

References:-

- Office 2007 in Simple Steps, Kogent Solutions, (Wiley Publishers).
- MS-Office 2007 Training Guide, S. Jain (BPB Publications).
- Bansal , R. K. and others 'MATLAB and its applications in Engg. Second Edition , Pearson Education, Delhi.
- Sabine handan & Brian S. Everitt, “ A Handbook of Statistical Analysis using SPSS’’,Chapman & Hall / CRC Publication, USA.

Research and Publication Ethics (180104)

Credit: 2

L T P

THEORY

- **RPE 01: PHILOSOPHY AND ETHICS (3 hrs.)**

1. Introduction to philosophy: definition, nature and scope, concept, branches
2. Ethics: definition, moral philosophy, nature of moral judgements and reactions

- **RPE 02: SCIENTIFIC CONDUCT (5hrs.)**

1. Ethics with respect to science and research
2. Intellectual honesty and research integrity
3. Scientific misconducts: Falsification, Fabrication, and Plagiarism (FFP)
4. Redundant publications: duplicate and overlapping publications, salami slicing
5. Selective reporting and misrepresentation of data

- **RPE 03: PUBLICATION ETHICS (7 hrs.)**

1. Publication ethics: definition, introduction and importance
2. Best practices / standards setting initiatives and guidelines: COPE, WAME, etc.
3. Conflicts of interest
4. Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
5. Violation of publication ethics, authorship and contributorship
6. Identification of publication misconduct, complaints and appeals
7. Predatory publishers and journals

PRACTICE

- **RPE 04: OPEN ACCESS PUBLISHING (4 hrs.)**

1. Open access publications and initiatives
2. SHERPA/ROMEO online resource to check publisher copyright & self-archiving policies
3. Software tool to identify predatory publications developed by SPPU
4. Journal finder / journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.

- **RPE 05: PUBLICATION MISCONDUCT (4hrs.)**

- A. Group Discussions (2 hrs.)**

1. Subject specific ethical issues, FFP, authorship
2. Conflicts of interest
3. Complaints and appeals: examples and fraud from India and abroad

- B. Software tools (2 hrs.)**

Use of plagiarism software like Turnitin, Urkund and other open source software tools

- **RPE 06: DATABASES AND RESEARCH METRICS (7hrs.)**

- A. Databases (4 hrs.)**

1. Indexing databases

Guru Kashi University
University College of Agriculture (Code:5)
Ph.D. Agricultural Economics (Code:587)

2. Citation databases: Web of Science, Scopus, etc.

B. Research Metrics (3 hrs.)

1. Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score
2. Metrics: h-index, g-index, i10 index, altmetrics

Recent Advances in Agricultural Economics (587101)

Credit: 4

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Guru Kashi University
University College of Agriculture (Code:5)
Ph.D. Agricultural Economics (Code:587)

Unit I-Economic Theory:Theory of consumer behaviour. Measurement of Income Effect and Substitution Effect. Measurement of Changes in Consumers' Welfare, Consumer's Surplus. Dynamic versions of demand functions. Perfect competition, monopoly, monopolistic competition and oligopoly. General equilibrium theory. Production and Consumption. Market failure - Incomplete markets Externalities. Public goods. Welfare Economics, Pareto conditions of maximum welfare. Social versus Private costs and benefits. Macro Economics concepts-Comparative statistics & Keynesian theory. Consumption Function and Theories of Consumption, Saving and Investment. Monetary Policy, Inflation, Stagflation and Supply side Economics. Theory of Unemployment. Phillips Curve, Inflation, Productivity and distribution. Fiscal policy: Effectiveness and Problems. Foreign Exchange Policy. Foreign sector: Capital and Current Account. Impact of WTO, IMF & IBRD on Indian Economy. Review of Macro Economic Policies in India.

Unit II- Farm Management and Production Economics:Farm management principles, decisions and choices at the farm, sources of finance. Resource allocation and planning. Farm records and budgeting. Agricultural Production process. Relationship between farm planning and production economics. Production functions. Production relations. Economic optimum with constant and varying input and output prices. Multi input, and multi product production decisions. Decision making with no risk. Cost curves. Economic efficiency in agricultural production. Yield gaps analysis. Risk and uncertainty in agriculture. Simulation and programming techniques in agricultural production.

Unit III-Agricultural Policy and Marketing: Policy framework – goals, value, beliefs and welfare maximization. Market – Policy and State. State vs. Market. Rationale for Government Intervention. Policy implications. Price distortions – indicators and impact. Multi market approach to policy analysis. Importance of market analysis in the agricultural system. Role of agricultural prices. Role of various formal institutions in agricultural marketing, public-private partnership. Market integration and price transmission, supply / value chain management. Current trends in information in the changing agri-food system. Agricultural commodity marketing - spot and futures-speculation, hedging, swap, arbitrage etc. Commodity exchanges - price discovery and risk management in commodity markets. Regulatory mechanism of futures trading.

UNIT IV-Natural Resource & Environmental Economics: Natural resources. Renewable and non-renewable resources. The role of time preference in natural resource use. Economics of groundwater use. Optimal inter-temporal allocation of natural resources. Optimal management of natural resources. Property rights in natural resources and their implication for conservation and management. Management of common property natural resources. Resource scarcity and degradation. Poverty and resource degradation. Natural resource accounting. Pricing and valuation of natural resources. Natural resources policy. Environmental pollution. Economics of pollution – Private vs. Social cost. Theory of environmental policy. Environmental cost benefit analysis. Economic growth and environmental cost. Population and environmental quality. Poverty and environmental degradation. Sustainable development & environmental pollution. Urbanization and environment. Basic approaches to environmental policy (Tax, subsidy, pollution permits etc.) Green taxes.

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UNIT V- Recent Problems in Agriculture:Global warming, climate change and emission trading. Environment, international trade and development. Changing food habits and lack of diversification. Farmer suicides and indebtedness. Government policies and agricultural laws. Marketing imperfections. Farmer unrest and economically unviable farming. Small size of holding and fragmentation. Depletion of underground water table. Declining profitability.

Reference Books:

1. Samuelson. 2011. Macroeconomics. McGraw Hill Education; 19th Edition.
2. Dewitt KK. 2002. *Modern Economic Theory*. Sultan Chand & Co.
3. Koutsoyiannis A. 2003. Modern Microeconomics. The Macmillan Press.
4. Ahuja HL. 2007. Macroeconomics: Theory and Policy. S. Chand & Co.
5. Eugene A Diulio 2006. Macroeconomics. 4th Ed. Schaums' Outlines.
6. Raju V T & Rao D V S. 2017. Economics of Farm Production and Management. Oxford & IBH Publishing Co.
7. Heady EO. Economics of Agricultural Production and Resource Use. Prentice- Hall.
8. Singh Joginder & Lekhi RK. 2018. Agricultural Marketing Trade and Prices. Kalyani Publishers.
9. Sankhayan PL. 1983. Introduction to Farm Management. Tata McGraw Hill.
10. Drummond H. & John Goodwin. 2013. Agricultural Economics. Pearson Education; 3ed Edition.
11. Ferris JN. 1998. Agricultural Prices and Commodity Market Analysis. McGraw-Hill.
12. Tomek WG & Robinson KL. 2003. Agricultural Product Prices. 4th Ed. Cornell University Press.
13. Prato T. 1998. Natural Resource and Environmental Economics. Iowa State Univ. Press.
14. Sterner T. 2003. Policy Instruments for Environmental and Natural Resource Management. Resources for the Future, Washington DC.
15. Nick Hanley, Jason Shogren & Ben White. 2013. Introduction to Environmental Economics. Oxford University Press; 2nd Edition.