

GURU KASHI UNIVERSITY



**Doctor of Philosophy
In
Agricultural Economics**

Session: 2025-26

Faculty of Agriculture

Program Structure									
Course Code	Course Title	Type of Course	L	T	P	Total Credits	Int.	Ext.	Total Marks
PPH101	Research Methodology	Core	4	0	0	4	30	70	100
PPH102	Research and Publication Ethics	Core	2	0	0	2	30	70	100
PPH104	Computer Applications in Research	Skill Based	0	0	4	2	30	70	100
PPH111	Recent Advances in Agricultural Economics	Core	4	0	0	4	30	70	100
Total Credits						12	120	280	400

Course Title: Research Methodology

Course Code: PPH101

L	T	P	Credits
4	0	0	4

Total Hours: 60

Learning Outcomes

On the completion of the course the students will be able to

1. Formulate research problems by conducting comprehensive literature reviews utilizing web sources
2. Apply appropriate research design choices based on research questions and objectives.
3. Explore the integration of qualitative and quantitative data and the concept of triangulation and complementarity of data sources.
4. Utilize statistical software packages commonly used in research for importing, managing, cleaning, and analyzing data.
5. Apply different statistical techniques to summarize and analyze data effectively.

Course Content

Unit-I

15 Hours

Introduction to Research

Meaning, Objectives, Characteristics, Significance and Types of Research. Understanding a Research Problem, Literature Review, Methods and Reporting, Selecting the Research Problem, Steps in Formulation of a Research Problem.

Unit-II

15Hours

Research Process and Hypothesis

Constructing Hypotheses; Conceptualizing a Research Design-Meaning and Types of Research Design.

Parametric and Non-Parametric Test, Errors and Level of Significance. Completely randomized design, Random block design, Latin square design, and Statistical analysis. Components of time series, Analysis of time series, Measurement of trend, Measurement of seasonal variations.

Unit-III

15 Hours

Sampling Design and Data Analysis

Sampling Techniques-Probability and Non-Probability, Qualities of a good Sample, Sample Size and its Determination.

Introduction to Qualitative, Quantitative and Mixed Methods, Quantitative Methods- Univariate, Bivariate and Multivariate, Qualitative Methods- Grounded Theory and Triangulations, Mixed Methods- Convergent Parallel, Explanatory Sequential, Exploratory Sequential and Transformative.

Implementation of statistical techniques using statistical packages viz. SPSS R including evaluation of statistical parameters and data interpretation, Regression Analysis, Covariance, analysis of variance.

Unit-IV

15 Hours

Report Writing

Types of Reports- technical and Popular Reports, Significance of Report Writing, Different Steps in Writing Report, Art of Writing Research Proposals, Research Papers, Projects Reports and Thesis; Basics of Citation and Bibliography/Reference Preparation Styles; Report Presentation: Oral and Poster Presentations of Research Reports.

Suggested Reading

- Gupta, S. (2010). *Research Methodology and Statistical Techniques*. Deep & Deep Publications (P) Limited, New Delhi.
- Kothari, C.R., Garg, G. (2019). *Research Methodology: Methods and Techniques*. 4th Edition, New Age International (p) Limited. New Delhi.
- Sahay, Vinaya and Pradumna Singh (2009). *Encyclopedia of Research Methodology in Life Sciences*. Anmol Publications. New Delhi.
- Kauda J. (2012). *Research Methodology: A Project Guide for University Students*. Samfunds literature Publications.
- Dharmapalan B. (2012). *Scientific Research Methodology*. Narosa Publishing

Course Title: Research and Publication Ethics

Course Code: PPH102

L	T	P	Credits
2	0	0	2

Total Hours 30

Learning Outcomes

On the completion of the course the students will be able to

1. To have awareness about the publication ethics and publication misconducts.
2. To understand indexing and citation databases, open access publications, research metrics (citations, h-index, impact factor etc.).
3. Develop hands-on skills to identify research misconduct and predatory publications.

Course Content

• RPE 01: PHILOSOPHY AND ETHICS

3 Hours

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

5 Hours

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

• RPE03: PUBLICATION ETHICS

7 Hours

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 Hours**
 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
- Journal finder / journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.
- **RPE 05: PUBLICATION MISCONDUCT** **4 Hours**
 - 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 **7 Hours**

- A. Databases (4 hrs.)**
 1. Indexing databases
 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

Suggested Readings

- Bird, A. (2006). *Philosophy of Science*. Routledge.
- MacIntyre, A. (1967) *A Short History of Ethics*. London.
- P. Chaddah, (2018) *Ethics in Competitive Research: Do not get scooped; do not get plagiarized*, ISBN:978-9387480865
- National Academy of Sciences, National Academy of Engineering and Institute of Medicine. (2009). *On Being a Scientist: A Guide to Responsible Conduct in Research: Third Edition*. National Academies Press.
- Rensik, D. B. (2011). *What is ethics in research & why is it important*. National Institute of Environmental Health Sciences, 1-10. Retrieved from <https://www.niehs.nih.gov/resources/bioethics/whatis/index.cfm>
- Beall, J. (2012). *Predatory publishers are corrupting open access*. Nature,

Course Title: Computer Applications in Research

Course Code: PPH104

L	T	P	Credits
0	0	4	2

Total Hours 30

Learning Outcomes

On the completion of the course the students will be able to

1. The students will become familiar with the usage of software for managing the reference.
2. To make literature reviews easily.
3. To make reference management by using open software.

Course Content

Unit I

06 Hours

MS Word Essentials-Create a document with styled headings and subheadings, Add headers, footers, and page numbers, Adjust page layout settings (margins, orientation, page size).

Table Creation and Management-Insert, format, and style tables, Adjust cell size, merge/split cells, and sort/filter data.

Working with Graphics-Insert and format images, shapes, SmartArt, and text boxes, Apply text wrapping around objects.

Unit II

08 Hours

Basics of PowerPoint- Slide layouts, themes, and templates, Adding multimedia: Images, audio, and videos.

Advanced Techniques- Animations and transitions for visual effects, Slide master for consistent formatting, Interactive elements: Hyperlinks and action buttons.

Design Best Practices- Typography, color schemes, and visual hierarchy, Tips for engaging presentations.

Unit III

08 Hours

Introduction to Mendeley- Installing and setting up Mendeley Desktop and Web, Importing references from various sources.

Organizing References- Creating folders and tagging references, Annotating and highlighting PDFs.

Citations and Bibliography- Integrating Mendeley with MS Word, using citation styles (APA, MLA, Chicago), Generating a bibliography automatically.

Unit IV

08 Hours

AI Tools for Productivity- Text-Based AI Tools (e.g., ChatGPT) Writing assistance, summarization, and brainstorming, Grammar and style checking, Image and Design Tools, Speech and Audio Tools

Suggested Readings

- *Office 2007 in Simple Steps*, Kogent Solutions, (Wiley Publishers).
- *MS-Office 2007 Training Guide*, S. Jain (BPB Publications).
- *Computer Fundamentals* by P.K. Sinha (BPB Publications).
- <https://www.mendeley.com/reference-management/reference-manager>
- <https://chat.openai.com>
- <https://edu.google.com/workspace-for-education/classroom/>

Course Title: Recent Advances in Agricultural Economics
Course Code: PPH 111

L	T	P	Credits
4	0	0	4

Total Hours 60

Learning Outcomes

On the completion of the course the students will be able to

1. Advances in economic theory, microeconomics and macroeconomics theories and policies.
2. Study the Farm management principles and issues relating to farm efficiency, risk and uncertainty in agriculture.
3. Understand the classification and marketing structure of agricultural commodities and new forms of marketing like e-marketing, retailing and supply chain management.
4. Familiarize with natural resource use and environmental issues along with policies relating to global warming at international level.

Course Contents

Unit I

15 Hours

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

15 Hours

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

15 Hours

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

15 Hours

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.

Suggested Readings:

Samuelson. 2011. Macroeconomics. McGraw Hill Education; 19th Edition.

Dewitt KK. 2002. Modern Economic Theory. Sultan Chand & Co.

Koutsoyiannis A. 2003. Modern Microeconomics. The Macmillan Press.

Ahuja HL. 2007. Macroeconomics: Theory and Policy. S. Chand & Co.

Eugene A Diulio 2006. Macroeconomics. 4th Ed. Schaums' Outlines.

Raju V T & Rao D V S. 2017. Economics of Farm Production and Management. Oxford & IBH Publishing Co.

Heady EO. Economics of Agricultural Production and Resource Use. Prentice- Hall.

Singh Joginder&Lekhi RK. 2018. Agricultural Marketing Trade and Prices. Kalyani Publishers.

Sankhayan PL. 1983. Introduction to Farm Management. Tata McGraw Hill.

Drummond H. & John Goodwin. 2013. Agricultural Economics. Pearson Education; 3ed Edition.

Ferris JN. 1998. Agricultural Prices and Commodity Market Analysis. McGraw-Hill.

Tomek WG & Robinson KL. 2003. Agricultural Product Prices. 4th Ed. Cornell University Press.

Prato T. 1998. Natural Resource and Environmental Economics. Iowa State Univ. Press.

Sterner T. 2003. Policy Instruments for Environmental and Natural Resource Management. Resources for the Future, Washington DC.

Nick Hanley, Jason Shogren& Ben White. 2013. Introduction to Environmental Economics. Oxford University Press; 2nd Edition.