GURU KASHI UNIVERSITY

Doctor of Philosophy

Session: 2024-25

Faculty of Education and Information Science

Program Structure						
Course Code	**Course Title**	**Type of Course**	**L**	**T**	**P**	**Total Credits**
PPH105	Research Methodology	Core	4	0	0	4
PPH102	Research and Publication Ethics	Core	2	0	0	2
PPH108	Advanced Pedagogical Practices	Core	3	0	2	4
PPH104	Computer Applications in Research	Skill Based	1	0	2	2
Total Credits						**12**

Course Title: Research Methodology

Course Code: PPH105

L	T	P	Credits
4	0	0	4

Total hours: 60

Course Learning Outcomes

After completion of the course the research scholar will be able to;

- Explore the different approaches to Research
- Review the related literature
- Select appropriate sampling design for different types of research study
- Construct tools for different types of research
- Document and disseminate research findings in education
- Develop competence of analysis through various statistical measures

Course Content

Unit-I **13 Hours**

1. Research in Social Sciences: Meaning, Nature and Problems.
2. Research approaches: Logical positivism, Constructivism
3. Quantitative and qualitative types of research: their applications according to purpose and method
4. Descriptive Research: Assessment studies, evaluation studies, ex-post facto studies, replication and meta-analysis.
5. Experimental research: Developing different Types of experimental research designs. Internal validity and external validity of research

Unit-II **17 Hours**

1. Process to select a problem, Formulating research questions, Hypotheses and review of related literature.
2. Sampling design: Selecting appropriate probability and non-probability sampling techniques for qualitative and quantitative research problems.

Unit-III **16 Hours**

1. Quantitative research methods and tools: Selection, types and application Qualitative research methods and tools: Selection, types and application
2. Mixed Method: Meaning and characteristics, designs and their application
3. Triangulation in research: Meaning, designs and their application

Unit-IV **14 Hours**

1. Quantitative Data Analysis: t-test, F-test, chi square test, ANOVA, correlation, factor analysis, regression and prediction
2. Qualitative Data Analysis: Data Reduction, Data Display and Reaching at Conclusions, Content analysis
3. Research and Academic Integrity: Copyright issues, Objectivity and Plagiarism in research
4. Report writing and Thesis Writing.

Transaction Mode

Group Discussion, Quiz, Open Talk, One minute presentation, Assignment

Suggested Readings

- *Adams, K. A., & Lawrence, E. K. (2015). Research methods, statistics and applications. Sage Publications.*
- *Agarwal, Y. P. (2004). Statistical methods: Concepts, application and computation. Sterling Publishers.*
- *Aiken, L. R., & Marnat, G. G. (2009). Psychological testing and assessment. Pearson.*
- *Anastasi, A., & Urbina, S. (2014). Psychological testing. PHI Learning Private Limited.*
- *Best, J. W. (1999). Research in education. Prentice Hall of India Pvt. Ltd.*
- *Best, J. W., & Kahn, J. W. (2006). Research in education. PHI Learning Private Ltd.*
- *Bogdon, R., & Biklen, S. K. (2008). Qualitative research for education: An introduction to theories and practice. PHI Learning.*
- *Borg, W. R., & Gall, M. D. (1983). Educational research – An introduction. Longman, Inc.*
- *Check, J., & Jurs, S. G. (2009). Research methods in education. Pearson Publications.*
- *Creswell, J. W. (2015). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. Pearson Publications.*
- *Curtis, W., Murphy, M., & Shields, S. (2013). Research and education. Routledge.*
- *Efrat Efron, S., & Ravid, R. (2013). Action research in education: A practical guide. Routledge.*
- *Egbert, J., & Sanden, S. (2013). Foundations of education research: Understanding theoretical components. Routledge.*

- *Fraenkel, J. R., & Wallen, N. E. (1996). How to design and evaluate research in education. McGraw Hill.*
- *Gall, M. D., Gall, J. P., & Berg, W. R. (2007). Educational research: An introduction. Pearson Publications.*
- *Gordon, P. (1996). A guide to educational research. Routledge.*
- *Gregory, R. J. (2014). Psychological testing: History, principles, and applications. Pearson.*
- *Gupta, S. (2010). Research methodology and statistical techniques. Deep & Deep Publications Pvt. Ltd.*
- *Kilkapatrick, D. L. (2005). Evaluating training programmes: The four levels. Brrett-Kochler.*
- *Koul, L. (1984). Methodology of educational research. Vikas Publications.*
- *Koul, L. (2009). Methodology of educational research. Vikas Publishing House Pvt. Ltd.*
- *Kress, T. (2013). Using critical research for educational and social change. Routledge.*
- *Lauren, B., Little, T. D., & Card, N. A. (2012). Developmental research methods. The Guilford Press.*
- *Martella, R. C., Nelson, J. R., Morgan, R. L., & Martella, N. E. (2013). Understanding and interpreting educational research. Routledge.*
- *Maykut, P., & Morehouse, R. (1994). Beginning qualitative research: A philosophic and practical guide. The Falmer Press.*
- *Miller, S. A. (2007). Developmental research methods. Sage Publications.*
- *Patton, M. Q. (2002). Qualitative research and evaluation methods. Sage Publications.*
- *Reynolds, C. R., Livingston, R. B., & Willson, V. (2009). Measurement and assessment in education. PHI Learning Private Limited.*
- *Montgomery, D. C., & Kowalski, S. M. (2007). Design and analysis of experiments. John Wiley and Son.*
- *Kothari, C. K. (2004). Research methodology: Methods and techniques. New Age International Publication.*
- *Krishnaswamy, K. N., Sivakumar, A. I., & Mathirajan, M. (2005). Research methodology: Integration of principles, methods and techniques. Pearson Education.*
- *Chawla, D., & Sondhi, N. (2002). Research methodology: Concepts and cases. Vikas Publishing House Pvt Ltd.*

- *Panneerselvam, R. (1998). Research methodology. PHI Publication.*
- *Cooper, D. R., & Schindler, P. S. (2016). Business research methods. Tata McGraw Hill.*
- *Gupta, S. P. (2021). Statistical methods (46th revised ed.). Sultan Chand & Sons Publication.*
- *Bryman, A. (2012). Social research methods (4th ed.). Oxford University Press.*
- *Bryman, A. (2018). Social research methods (5th ed.). Oxford University Press.*
- *Della Porta, D., & Keating, M. (2008). How many approaches in the social sciences? An epistemological introduction. In D. Della Porta & M. Keating (Eds.), Approaches and methodologies in the social sciences. Cambridge University Press.*
- *Denzin, N., & Lincoln, Y. (2013). Introduction: The discipline and practice of qualitative research. In N. Denzin & Y. Lincoln (Eds.), Collecting and interpreting qualitative materials. Sage.*
- *Giri, A., & Biswas, D. (2019). Research methodology for social sciences. Sage Publications India Pvt Ltd.*
- *Kumar, R. (2019). Research methodology: A step-by-step guide for beginners (5th ed.). Sage Publications Asia-Pacific Ltd.*
- *Lune, H., & Berg, B. L. (2017). Qualitative research methods for social sciences (9th ed.). Pearson India.*
- *Neuman, W. L. (2014). Social research methods: Qualitative and quantitative approaches (7th ed.). Pearson Education Limited.*
- *Gupta, S. C., & Kumar, V. (2020). Fundamentals of mathematical statistics. Sultan Chand and Sons.*

Course Title: Research and Publication Ethics

Course Code: PPH102

L	T	P	Credits
1	0	2	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

- **RPE 03: 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 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
4. 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 3 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.Retrievedfromhttps://www.niehs.nih.gov/resources/biothics/whatis/index.cfm*
- *Beall, J. (2012). Predatory publishers are corrupting open access. Nature, 489(7415), 179-179. https://doi.org/10.1038/489179a*

Course Title: Advanced Pedagogical Practices
Course Code: PPH108

L	T	P	Credits
3	0	2	4

Total Hours: 60

Learning Outcomes

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

1. Evaluate various pedagogical theories, such as critical pedagogy, sociocultural theories of learning, postmodern approaches, and transformative pedagogy.
2. Design differentiated instruction to meet the diverse needs of learners.
3. Implement active learning approaches and strategies to promote student engagement and participation.
4. Apply discipline-specific instructional strategies to enhance student learning outcomes.
5. Evaluate critical pedagogical approaches and their application in addressing systemic inequalities.
6. Investigate cross-cultural pedagogical practices and their implications for teaching and learning.
7. Develop leadership skills in pedagogy and educational change management.
8. Analyze the principles and bases of curriculum design and development.
9. Examine the processes involved in curriculum development.
10. Develop skills in adopting innovative pedagogies and conducting student assessments.
11. Develop the curriculum for a specific course or program.

Course Content

UNIT-I **15 Hours**

1. Historical overview of pedagogical theories and approaches - The role of pedagogy in education.
2. In-depth exploration of pedagogical theories - critical pedagogy, sociocultural theories of learning, postmodern approaches, and transformative pedagogy
3. Analyzing and critiquing the theoretical frameworks and their applications in educational contexts. - Different Instructional Design ((e.g., ADDIE, SAM, Dick and Carey).
4. Teaching Methods and Strategies - Effective instructional strategies and techniques - Active learning approaches and student engagement - Differentiated instruction to meet diverse learner needs
5. Pedagogy, Cybergogy and Heutagogy with special emphasis on Blended learning, Flipped learning, Project-based learning,

gamification, and online learning, Peer teaching, Dialogue, cooperative and collaborative learning. Three e- techniques: Moodle, Edmodo, Google classroom.

6. Examining the impact of emerging technologies, such as artificial intelligence, virtual reality, and adaptive learning, on pedagogy - Assessing the potential benefits and challenges of integrating new pedagogical approaches and technologies

UNIT-II **15 Hours**

1. Subject-specific pedagogy for different disciplines, such as humanities, sciences, engineering, social sciences, or professional programs. Addressing the unique pedagogical challenges and opportunities in each discipline.
2. Examining discipline-specific instructional strategies and learning outcomes.
3. Investigating the role of pedagogy in promoting social justice, equity, and inclusivity in education.
4. Examining critical pedagogical approaches and their application to address systemic inequalities.
5. Encouraging critical reflection and dialogue on issues of power, privilege, and marginalization in educational settings.

UNIT-III **15 Hours**

1. Exploring educational systems and pedagogical approaches from different countries and cultures.
2. Analyzing the impact of cultural, social, and political factors on pedagogy.
3. Investigating cross-cultural pedagogical practices and their implications for teaching and learning.
4. Encouraging educators to engage in self-reflection and critical analysis of their teaching practices.
5. Using self-evaluation tools and techniques to assess and improve one's pedagogical effectiveness.
6. Promoting the development of a personal teaching philosophy and pedagogical identity.

UNIT-IV **15 Hours**

1. Advanced assessment techniques, including authentic assessment, performance-based assessment, and portfolio assessment.
2. Analyzing and interpreting assessment data to inform instructional decision- making and improve student learning outcomes.

3. Providing effective feedback to promote student growth and development.
4. Developing leadership skills in pedagogy and educational change management.
5. Exploring strategies for mentoring and supporting new and early-career faculty.
6. Designing and facilitating faculty development programs focused on pedagogy.

TRANSACTION MODE

Inquiry-Based Learning, Collaborative Learning, Techno integration, Reflective Practice, Socratic Questioning and Dialogue, Research-Based Learning, Action Research

PRACTICAL ACTIVITY

1. Develop the instructional plan based on instructional design
2. Develop the Rubrics as part of assessment technique
3. Demonstrate the different pedagogical approaches

Suggested Readings

- *Joyce, B. R., & Weil, M. (1985). Models of teaching. Prentice Hall of India Pvt Ltd.*
- *Gage, N. L. (1968). Handbook of research on teaching. Rand McNally and Co.*
- *Nicholls, H., & Nicholls, A. (1975). Creative teaching: An approach to the achievement of educational objectives. George Allen and Unwin.*
- *Mursell, J. L. (1954). Successful teaching: Its psychological principles. McGraw Hill Book Co., Inc.*
- *Lawmen, J. (1985). Mastering the techniques of teaching. Jossey-Bass.*
- *Sharma, R. A. (1991). Technology of teaching (5th ed.). Loyal Book Depot.*
- *Siddiqui, M. S., & Khan, M. S. (1991). Models of teaching: Theory and research. Manas Publications.*
- *Louit, T. C. (1978). Tactics for teaching. Charles E. Merrill Publishing Company.*

Course Title: Computer Applications in Research	**L**	**T**	**P**	**Credits**
Course Code: PPH104	**1**	**0**	**2**	**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**

Mendeley Software: Mendley software concept, features and uses- Installation of Mendeley software in your system Creating account. Installing as Plugin in Browser. Various third party Plugin for Mendeley.

Creating your library: Add PDFS to Mendeley-Import/export EndNote, BibTeX and RIS libraries- Document details lookup (CrossRef, PubMed, and Arxiv) -Google Scholar Search -One-click Web Importer -Watch folders to automatically add PDFs to Mendeley Desktop-Synchronize PDFs with your Mendeley Web account**.**

Unit-II **8 Hours**

Managing your documents and references: Merge duplicate author names, tags, or publications- Documents can be marked read/unread- Search as you type - Annotate PDFS-Multiple level undo in document details -Tag and edit multiple documents at once-File Organizer.

Citing references: Word and Open Office plug-in-Cite in Google documents (and other editors) -Cite using BibTeX.

Sharing Documents and References: How to Create a Group Adding members and documents Using Group.

Unit III **8 Hours**

Chat GPT: Working of ChatGPT, Role of ChatGPT in research, Advantages of ChatGPT, Query ChatGPT, Paraphrasing, Summarization, Table to Text and Text to Table, Translation to other language, Programming Code Generation and Explanation, Data Object Conversion (JSON to XML to CSV and Vice-versa).

Creating Heading and Subheading. Writing and Blogging, Analtzing Data, Working with Email (creating, replying and improving).

LinkedIn: Introduction of Linkedin, Creating the Profile, Role of Linkedin in Research, Searching for Jobs, Applying for Jobs.

Research Gate: Introduction of Research Gate, Creating the Profile, Role of Researchgate in Research, Adding your research Article, Searching and sending request for research.

Unit IV **8 Hours**

Google Classroom: Introduction of Google Education Tools, Features of Google Class room.

Teacher Role: Creating Class or Group, Uploading Lecture/Documents, Creating and Grading Assignment, Creating and Grading Quizes, Communication with Students and Parents, Creating Survey, Collecting Feedback, Post Announcements, Group Discussion

Supervisor/Leader Role: Create and Manage Class and Grade, Manage co-teacher and Roaster of Teacher, Group Discussion, Post Announcements.

Admin Role: Data Protection, Create Classes and Roaster, Adding and removing Students.

Scopus: Introduction of Scopus, Role of Scopus in Research, Understanding different Metrics of Scopus (SJR, Cite Score, H-index, Citation etc.)

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/