



**RAJA MAHENDRA PRATAP SINGH UNIVERSITY
ALIGARH**

**Pre- Ph.D. Course Work
Syllabus for Teacher Education**

National Education Policy - 2020

(W.E.F. 2025 -26 Onwards)

Structure Syllabus Developed by

Sl. No.	Name of BOS Convener/ BOS Member	Designation	Department	College/ University
1	Dr. Anjana Kumari Convener	Professor & Head	Department of Teacher Education	D.S. College, Aligarh
2	Dr. Surendra Pal Sing	Assistant Professor	Department of Teacher Education	D.S. College, Aligarh
3	Dr. Jitendra Kumar	Assistant Professor	Department of Teacher Education	D.S. College, Aligarh
4	Dr. Sachin Kumar Verma	Assistant Professor	Department of Teacher Education	D.S. College, Aligarh
5	Dr. Ravindra Rajput	Assistant Professor	Department of Teacher Education	S.V. College, Aligarh
6	Dr. D. K. Dixit	Assistant Professor	Department of Teacher Education	Seth P.C. Baghla PG College Hathras
7	Dr. Vimlesh	Assistant Professor	Department of Teacher Education	Seth P.C. Baghla PG College Hathras

Subject Expert

Sl. No.	Name of BOS Convener/ BOS Member	Designation	Department	College
1	Dr. J. S. Bharadwaj (Member)	Professor	Department of Education	C.C.S. University, Meerut
2	Dr. V. P. Singh	Professor	Education	NCERT, Delhi

Pre-Ph.D. Course Work -Teacher Education

(Semester Wise Syllabus)

Paper 1

Program/Class: Certificate		Year: First	Semester: 1
Subject: Pre-Ph.D. Course Work (Teacher Education)			
Course Code:		Course Title: Research Methodology	
COURSE OBJECTIVES: To apply appropriate qualitative, quantitative and mixed research methodologies to design, conduct, and critically evaluate educational research.			
COURSE OUTCOMES: 1. CO1: Explain quantitative and qualitative approaches in educational research. 2. CO2: Design and implement mixed-methods research with appropriate integration and triangulation strategies. 3. CO3: Apply parametric and non parametric statistical techniques in analyzing the research data. 4. CO4: Comprehend the steps of test construction and standardization process. 5. CO5: Apply quantitative research designs and statistical tools to analyze and interpret data using software like SPSS, AMOS and Smart PLS 6. CO6: Produce academic writing in the form of theses, articles, and conference papers using standard formats and citation styles.			
Credits: 4		Core Compulsory	
Max. Marks:100		Min. Passing Marks:55	
Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P			
Unit	Topics		No. of Lectures 60
I Quantitative & Qualitative Research	1. Quantitative Research : Characteristics, Merits and Demerits 2. Qualitative Research : Characteristics, Merits and Demerits 3. Steps in conducting Qualitative and Quantitative Research 4. Phenomenology, Ethnography, Case studies and Grounded theory: Characteristics and Uses		12
II Mixed Method Research	1. Mixed-Methods Research: Research: Concept, Steps and Ethical Considerations in Mixed-Methods Research 2. Types of Mixed Methods Designs: Convergent Parallel, Explanatory Sequential, Exploratory Sequential, Embedded, Transformative 3. Designing a Mixed Methods Study: Sampling, Data Collection, Analysis, and Integration 4. Data Triangulation and Interpretation Technique		12
III Multilevel Analysis	1. Assumptions of Parametric and Non Parametric Tests 2. Use of t-Test, ANOVA, ANCOVA, Factor Analysis and Chi-Square 3. Types of Correlation: Product Moment , Rank Difference, Multiple Correlation, BiSerial, Point Bi-Serial and Regression Analysis 4. Research Design: Randomized Groups, Matched Groups and Factorial designs		12
IV Selection and Test Construction	1. Characteristics and Types of Research Tools: Standardized and Non-Standardized 2. Steps of Test Construction 3. Item Analysis and Standardization		12

	4. Use of Computer, AMOS, Smart PLS and SPSS Software of a test in data analysis and graphical representation.	
V Research Reporting	1. Steps of Preparation of Research Proposal 2. Writing of Articles / Research Papers 3. Structure and Component of a Research Report 4. Bibliography and Referencing Style (APA)	12

Teaching Learning Process: Class discussions/ demonstrations, Power Point presentations, Class activities/ assignments, Field visits., Internship, etc.

REFERENCES

1. American Psychological Association. (2020). Publication manual of the American Psychological Association (7th ed.). American Psychological Association.
2. Belcher, W. L. (2019). Writing your journal article in twelve weeks: A guide to academic publishing success (2nd ed.). University of Chicago Press.
3. Creswell, J. W. (2013). Qualitative inquiry and research design: Choosing among five approaches (3rd ed.). SAGE Publications.
4. Creswell, J. W. (2015). Educational research: Planning, conducting, and evaluating quantitative and qualitative research (5th ed.). Pearson Education.
5. Creswell, J. W., & Plano Clark, V. L. (2017). Designing and conducting mixed methods research (3rd ed.). SAGE Publications.
6. Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.
7. Flick, U. (2022). An introduction to qualitative research (6th ed.). SAGE Publications.
8. Hart, C. (2005). Doing your master's dissertation. SAGE Publications.
9. Johnson, B., & Christensen, L. (2017). Educational research: Quantitative qualitative, and mixed approaches (6th ed.). SAGE Publications.
10. Lune, H., & Berg, B. L. (2016). Qualitative research methods for the social sciences (9th ed.). Pearson.
11. Machi, L. A., & McEvoy, B. T. (2021). The literature review: Six steps to success (4th ed.). Corwin.
12. Neville, C. (2010). The complete guide to referencing and avoiding plagiarism (2nd ed.). Open University Press.
13. Plano Clark, V. L., & Ivankova, N. V. (2015). Mixed methods research: A guide to the field. SAGE Publications.
14. Silverman, D. (2021). Interpreting qualitative data (6th ed.). SAGE Publications.
15. Swales, J. M., & Feak, C. B. (2012). Academic writing for graduate students: Essential tasks and skills (3rd ed.). University of Michigan Press.
16. Turabian, K. L. (2018). A manual for writers of research papers, theses, and dissertations: Chicago style for students and researchers (9th ed.). University of Chicago Press.
17. Walliman, N. (2018). Your undergraduate dissertation: The essential guide for success (2nd ed.). SAGE Publications.
18. Wiersma, W., & Jurs, S. G. (2009). Research methods in education: An introduction (9th ed.). Pearson

Pre-Ph.D. Course Work
Paper-II
Research and Publication Ethics
Paper 2

Program/Class: Certificate	Year: First	Semester: 1
Subject: Pre-Ph.D. Course Work (Research and Publication Ethics)		
Course Code:	Course Title: Research and Publication Ethics	
COURSE OBJECTIVE: To demonstrate ethical responsibility and integrity in conducting, documenting, and disseminating research, in accordance with national and international standards of scientific and publication ethics.		
Course Outcomes: 1. CO1: Explain key philosophical concepts and ethical principles—including moral philosophy and moral judgment—and analyze their relevance in research and publication contexts. 2. CO2: Demonstrate an understanding of ethical scientific conduct, identify various forms of research misconduct, and evaluate their academic and legal implications. 3. CO3: Apply principles of publication ethics, including authorship criteria, conflict of interest, and misconduct detection, following COPE guidelines and best practices. 4. CO4: Differentiate between genuine and predatory publishing practices and evaluate open access models and initiatives using tools like SHERPA/RoMEO and Think. Check. Submit. 5. CO5: Use indexing and citation databases to track research visibility and analyze journal metrics such as Impact Factor, h-index, and altmetrics. 6. CO6: Employ digital tools and software for reference management, academic writing, and research support, including AI-based tools like Grammarly, ChatGPT, and ResearchRabbit.		
Credits: 4	Core Compulsory	
Max. Marks:100	Min. Passing Marks:55	
Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P		
Unit	Topics	No. of Lectures 60
I Philosophy and Research Ethics	1. Ethics: Concept, Nature and Types (Descriptive, Normative, Meta, Applied), its Importance. 2. Philosophy: Nature, functions and branches, Ethics in Indian and western Philosophies. 3. Moral Philosophy: Meaning and Applications in Research and Publication (Moral Responsibility of researchers towards participants, institutions, collaborators, and society) 4. Ethics in Educational Research: Ethical Code of Conduct, Issues of Objectivity and Ethical considerations, Intellectual Property Rights	12

II Research Integrity And Misconduct	1. <i>Scientific Conduct in Research Standards</i>: Meaning and Attributes of Intellectual Honesty and Research Integrity (transparency, accountability, and fairness) UGC guidelines document. 2. <i>Scientific Misconducts in Research Practices</i>: Fabrication, Falsification, and Plagiarism (FFP) and its types (Direct plagiarism, Self-plagiarism, Mosaic plagiarism, Accidental plagiarism, Data Manipulation; Misrepresentation or exaggeration of findings; Inadequate citation practices and omission of relevant literature etc.) 3. <i>Redundant Publications</i>: Meaning and Types (Duplicate, Overlapping, Salami Slicing) 4. <i>Academic and Legal Consequences of Misconduct</i>: Academic and legal repercussions; Damage to professional reputation; Retraction and loss of credibility.	12
III Publication Ethics	1. <i>Publication Ethics</i>: Concept and Importance for academic credibility, scientific progress, and public trust, Best Practices and Standard-Setting initiatives and guidelines for promoting publication integrity: COPE (Committee on Publication Ethics). 2. <i>Conflict of Interest in Publication</i>: Definition and types of conflicts (personal, financial, academic, and institutional), Ethical obligations of authors, reviewers, and editors, Managing conflict of interest. 3. <i>Authorship and Contributorship Ethics</i>: Criteria for authorship; Difference between authorship and acknowledgement; Ethical issues (Gift authorship, Ghost authorship, Order of authorship); corresponding and first authors 4. <i>Publication Misconduct</i>: Concept and causes of unethical practices, Detection and Handling of unethical practices (Plagiarism Detection Software: Turnitin, iThenticate, Urkund, complaints, and appeals)	12
IV Open Access Publishing	1. <i>Open Access Publishing</i>: Concept, Models, Publisher Copyright and Self-Archiving Policies: SHERPA/RoMEO. Major Open Access Initiatives and Platforms: (a) Budapest Open Access Initiative (BOAI) (b) Berlin Declaration on Open Access (c) DOAJ (Directory of Open Access Journals) (d) Open DOAR (Directory of Open Access Repositories) (e) ROAR (Registry of Open Access Repositories) 2. <i>Predatory Publishers and Journals</i>: Characteristics of predatory journals (Fake editorial boards, Lack of peer review, Unrealistic peer-review timelines, Lack of transparency about APCs, High publication fees without services); Risks to researchers and academic integrity 3. <i>Tools to identify and avoid predatory journals</i>: List of predatory journals developed by SPPU (Savitribai Phule Pune University); Think. Check. Submit. framework 4. <i>Journal finder/journal suggestion tools</i>: JANE (Journal/Author Name Estimator), Elsevier Journal Finder, Springer Journal Suggester; Use of manuscript title/abstract for matching with appropriate journals	12
V Database Research Metrics and Software	1. <i>Indexing and Citation Databases</i>: Web of Science, Scopus, Google Scholar, ResearchGate, Academia, Indian Citation Index (ICI) 2. <i>Impact Factor (IF) of Journals</i>: JCR (Journal Citation Report), SNIP (Source Normalised Impact per Paper), SJR (SCImago Journal Rank), IPP (Impact per Publication), Cite Score 3. <i>Metrics</i>: h-index, g-index, i10 index, Altmetrics 4. <i>Reference Management Software</i>: Mendeley, Zotero, EndNote Academic Writing Tools (AI Tools, Grammarly, Quillbot, ChatGPT, Consensus, ResearchRabbit)	12
Teaching Learning Process: Class discussions/ demonstrations, Power point presentations, Class activities/ assignments, Field visits., Internship, etc.		

References

1. Beall, J. (2012). Predatory publishers are corrupting open access. *Nature*, 489(7415), 179. <https://doi.org/10.1038/489179a>
2. Bird, A. (2006). *Philosophy of science*. Routledge.
3. Bos, J. (2020). *Research ethics for students in the social sciences*. Springer. <https://doi.org/10.1007/978-3-030-48415-6>
4. Chaddah, P. (2018). *Ethics in competitive research: Do not get scooped; do not get plagiarized* (ISBN: 9789387480865).
5. Committee on Publication Ethics. (2011). *Code of Conduct and Best Practice Guidelines for Journal Editors*. COPE. <https://publicationethics.org>
6. Indian National Science Academy. (2019). *Ethics in science education, research and governance*. <http://www.insaindia.res.in/pdf/Ethics%20Book.pdf>
7. Israel, M., & Hay, I. (2006). *Research ethics for social scientists: Between ethical conduct and regulatory compliance*. SAGE Publications.
8. MacIntyre, A. (1967). *A short history of ethics*. Routledge & Kegan Paul.
9. Marušić, A. (Ed.). (2023). *A guide to responsible research*. Springer Cham. <https://doi.org/10.1007/978-3-031-22412-6>
10. National Academy of Sciences, National Academy of Engineering, & Institute of Medicine. (2009). *On being a scientist: A guide to responsible conduct in research* (3rd ed.). National Academies Press. <https://doi.org/10.17226/12192>
11. Resnik, D. B. (2020). *The ethics of research with human subjects: Protecting people, advancing science, promoting trust* (2nd ed.). Springer.
12. Steneck, N. H. (2007). *Introduction to the Responsible Conduct of Research* (Revised ed.). U.S. Government Printing Office. <https://ori.hhs.gov/ori-introduction-responsibleconduct-research>
13. Suber, P. (2012). Open access. MIT Press. <https://doi.org/10.7551/mitpress/9286.001.0001>
14. UGC (2020) Good Academic Research Practices, [https://www.tezu.ernet.in/IQAC/notices/Guidelines_Good_Academic_Research_Practices_\(GARP\).pdf](https://www.tezu.ernet.in/IQAC/notices/Guidelines_Good_Academic_Research_Practices_(GARP).pdf)
15. Wager, E., & Kleinert, S. (2011). Responsible research publication: International standards for authors. In Mayer, T., & Steneck, N. (Eds.), *Promoting research integrity in a global environment* (pp. 309–316). World Scientific Publishing.