Mahatma Gandhi University, Meghalaya
Ph.D. Course Work Syllabus
Geography- 2024

S. No.	Paper Code	Paper Name	Credit
1.	**Geo-101**	Research Methodology	4 credits
2.	**Geo-102**	Review of Literature	2 credits
3.	**Geo-103**	Computer Applications	3 credits
4.	**Geo-104**	Advance Paper of Geography	3 credits
5.	**Geo-105**	Research Publication and Ethics	2 credits
		Total Credit	14 Credits

***As per Regulation Minimum 12 Credits are required.**

Paper I: Research Methodology- 4 Credits

Course Objectives

1. Provide foundational knowledge of research concepts, processes, and designs.
2. Differentiate between qualitative and quantitative research methods and their applications.
3. Equip students with tools and techniques for data collection and sampling.
4. Introduce statistical techniques for data analysis, hypothesis testing, and interpretation.
5. Develop skills in presenting research findings through reports, proposals, and graphical representations while emphasizing ethical considerations.

UNIT I

Definition, Concept, Types, Importance, of Research, Formulation of Research problem, Research process, Research design.

UNIT II

Qualitative and Quantitative research, Measurements of Scales, Sampling Vs Census, Types of samples; Probability and Non Probability methods.

UNIT III

Data collection tools; Primary Data; Observation, Questionnaire, Interview Schedule and Interview and Secondary Data.

UNIT IV

Hypothesis, Types of Hypothesis, Testing of hypothesis, , Test of significance for small and large samples, Parametric and Non-parametric tests.

UNIT V

Application of Statistical techniques in Research, Measures of central Tendency, Dispersion, Simple correlation, Simple Regression, Normal Distribution, Skewness

UNIT VI

Diagrammatic and Graphical presentation
Report Writing, Research Proposal, Ethics in Research and Presentation Techniques

***Note: Subject wise Research Methodology will be taught with Respective Papers.**

References:

1. Kothari, C. R., & Garg, G. (2019). Research methodology: Methods and techniques (4th ed.). New Age International Publishers.
2. Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.
3. Kumar, R. (2020). Research methodology: A step-by-step guide for beginners (5th ed.). SAGE Publications.
4. Kinnear, P. R., & Gray, C. D. (2010). SPSS for Windows made simple (6th ed.). Psychology Press.
5. Babbie, E. (2020). The practice of social research (15th ed.). Cengage Learning.

Paper II: Review of Literature- 2 Credits

Paper III – Computer Applications- 3 Credits

Course Objectives:

1. Provide foundational knowledge of computers, including their configuration, types, hardware, software, and networks.
2. Equip students with practical skills in widely used applications like MS Word, MS Excel, and MS PowerPoint for academic and professional tasks.
3. Introduce SPSS as a tool for statistical data analysis in research.
4. Develop the ability to use computer applications for data presentation, research, and effective communication.
5. Foster understanding of the role of computers in social science research and ethical considerations in their application.

Unit I: Introduction: Basics of Computer

What is Computer?, Computer Block Diagram, Generations, Languages, Characteristics of a Computer, Benefits, Types of a Computer, Configuration of a Computer System, Hardware & Software, Operating System & it's Functions, Input Devices, Out Put Devices, Memory, Number System,Binary, Decimal, Octal, Hexadecimal, Complier, Interpreter, Introduction of Computer Networks, Network Models, Introduction of Database, Role of Computer in Social Science Research & Word Processor.

Unit II: MS-Word

Basics:- New, Open Save, Save As, Cut, Copy, interface, Paste, Paste Special, Format Printer Operations, Style, Size, Font, Subscript, Superscript.
Insert:-Hyperlink, Header, Footer, Page Number, Table, Chart.
Page Layout:-Page Setup, Margins, Orientation, Watermark, Indent, Spacing.
References:-Footnote, Endnote, Citations & Bibliography, Captions.
Mailings:-Mail Merge, Review:-Spelling & Grammar, Thesaurus, Comment, Compare, Protect Document, View:-Document Views, Show/Hide, Zoom, Windows

Unit III: MS-Excel

Basic:- Cell, Worksheet, Workbook, interface, spreadsheet, rearranging workbook, New, open, save, save As, Cut, Copy, Paste, Paste Special, Size Font, Find, Replace, page Setup, page security, Printing options, Page setting, Orientation, Size Wrap text, Merging of cells and columns, sorting, formulas, filtering, tables, charts, working with functions.

Unit IV: MS Power Point

Basic:- New, open, save save As, Cut Copy, interface, Paste, Paste Special, Size, Font, Numbering & Bullets, Margin, Find, Replace, Slides, Slides Layout, Designs, Slide Setup
Animation: - Different types of animations apply on the Slides, text, objects, Different custom animations, Entrance, Emphasis, exit, motion path. Set Slides Navigations on mouse click, automatic, manual.
Slide Show: - Slide show, Custom Slide show, Slide sorter.

Unit V: SPSS

SPSS Introduction, Windows:-Data Editor, Output Viewer, Syntax Editor, Script Window, Method of Preparing Data Sheet and Entering Data, SPSS Importance in Research.

References:

1. Sinha, P. K., & Sinha, P. (2020). *Computer fundamentals* (6th ed.). BPB Publications.
2. Nelson, S., & Walkenbach, J. (2021). *Microsoft Excel 365 Bible: The Comprehensive Tutorial Resource* (3rd ed.). Wiley.
3. Lambert, J., & Frye, C. (2021). *Microsoft Word Step by Step* (1st ed.). Microsoft Press.
4. Pallant, J. (2020). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS* (7th ed.). Routledge.
5. Shufflebotham, M., & McFarland, S. (2021). *Microsoft PowerPoint Step by Step* (1st ed.). Microsoft Press.

Paper IV: Advanced Paper of Geography- 3 Credit

Course Outcomes:

1. Analyze advanced concepts and theories in geography, contributing to academic research and policy-making.
2. Critically evaluate spatial and temporal dynamics in various geographical phenomena.
3. Design and execute geographical research using advanced tools and techniques.
4. Explore the interconnection of geography with environmental, social, and economic systems at global and local scales.
5. Demonstrate a comprehensive understanding of the role of geography in addressing contemporary global challenges such as climate change and urbanization.

Unit 1: Advanced Geographical Thought

1. Evolution of geographical thought: Pre-modern, modern, and post-modern paradigms
2. Critical perspectives: Feminist, Marxist, and post-colonial geography
3. Emerging trends in geographical thought

Unit 2: Spatial Analysis and Geostatistics

1. Theoretical foundations of spatial analysis
2. Geostatistical techniques: Spatial autocorrelation, interpolation, and regression models
3. Application of GIS and remote sensing in spatial analysis
4. Advanced cartographic methods and visualization techniques

Unit 3: Environmental Geography and Sustainability

1. Human-environment interactions: Approaches and frameworks
2. Concepts of sustainability, resilience, and environmental justice
3. Global environmental challenges: Climate change, biodiversity loss, and resource depletion

Unit 4: Urban and Regional Geography

1. Theories of urbanization and regional development
2. Urban systems and spatial organization: Global cities, smart cities, and sustainable urban planning
3. Regional disparities and development planning: Strategies and case studies

Unit 5: Research Methods in Geography

1. Advanced quantitative and qualitative methods in geographical research
2. Techniques of fieldwork and ethnography in geography
3. Integration of geospatial technologies in research design

Reference Books:

1. Agnew, J., Mitchell, K., & Toal, G. (Eds.). (2014). *A Companion to Political Geography* (2nd ed.). Wiley-Blackwell.
2. Goodchild, M. F., & Janelle, D. G. (Eds.). (2010). *Spatial Thinking and Geographic Information Science*. Springer.
3. Harvey, D. (2009). *Social Justice and the City* (Revised ed.). University of Georgia Press.
4. Johnston, R. J., Gregory, D., Pratt, G., & Watts, M. (Eds.). (2009). *The Dictionary of Human Geography* (5th ed.). Wiley-Blackwell.
5. Singh, R. B., & Prokop, P. (Eds.). (2020). *Environmental Geography of South Asia: Contributions Toward a Sustainable Future*. Springer.
6. Thrift, N. (2009). *Space: The Fundamental Stuff of Geography*. Routledge.

Paper V: Research Publication and Ethics- 2 Credits

Course Objectives

1. Provide an understanding of the philosophical foundations of research ethics and its relationship with science.
2. Equip students with knowledge of scientific conduct, integrity, and ethical practices in research.
3. Develop awareness about publication ethics, including best practices, standards, and the importance of integrity in academic publishing.
4. Familiarize students with open-access publishing, copyright issues, and ethical dilemmas in various disciplines.
5. Enable students to understand and apply citation metrics, indexing databases, and tools for quality research assessment.
6. Promote adherence to UGC Regulations 2018 on academic integrity and awareness of legal provisions related to research ethics.

Unit I: Philosophy and Ethics

1. Introduction to Philosophy
2. Origin of Philosophy
3. Characteristics of Philosophy
4. Common sense and Philosophy
5. Relationship between Philosophy & Science

Unit II: Scientific Conduct

1. Integrity and Ethics
2. Ethics with Respect to Science & Research
3. Intellectual Honesty & Research Integrity: Scientific Misconducts & Redundant Publications
4. Selective Reporting and Misrepresentation of data

Unit III: Publication Ethics

1. Publication Ethics,
2. Best Practices/Standards Setting
3. Initiatives & Guidelines: COPE, WAME etc.
4. Conflict of Interest; Publication Misconduct
5. Violation of Publication Ethics, Authorship and Contributorship;
6. Identification of Publication Misconduct, Complacent & Appeals
7. Predatory Publishers & Journals

Unit IV Open Access Publishing and Publication Misconduct

Open Access Publishing

1. Concept of OER
2. Concept of open license
3. Open access publishing
4. Open access content management

Publication Misconduct

1. Ethical issues in various Disciplines
2. Fabrication, Falsification and Plagiarism (FFP)
3. Authorship : Definition and types
4. Conflict of Interest
5. Complaints and Appeals
6. Software Tools

Unit V: Database and Research Metrics

1. Indexing Databases
2. Citation Databases: Web of Science, Scopus, Google Scholar
3. Metrics: h-index, g-index, i10 index, Almetrics
4. Understanding Citation Metrics for Quality Research: Impact & Visualization Analysis
5. Exploring the Citation Network
6. Rules & Tools

UGC Regulations 2018 on Academic Integrity: UGC Regulations-Meaning & concept
Legal Provisions

Books and References:

1. Bird, A. (2006). Philosophy of Sciences. Routledge
2. MacIntyre, Alasdair (1967). A Short History of Ethics. London
3. P.Chandah. (2018). Ethics in Competitive Research: Do not get scooped; do not get plagiarized.
4. National Academy of Sciences, National Academy of Engineering and Institute of Medicine (2009)., National On being a Scientist: A guide to responsible conduct in Research : third edition, National Academies Press