



Krishnaguru Adhyatmik Visvavidyalaya, Nasatra, Barpeta, Assam

Department of Geography

Ph.D. Course Work Syllabus

Session-2025-26



Ph.D. Course Work Syllabus

Course Title and Code: Research Methodology (PHD-C-5014)

Credit: 04

Department: Geography
Krishnaguru Adhyatmik Visvavidyalaya

Total Marks 100 (80+20=100)

Learning Objective: To instill in students an in-depth knowledge of Research Methodology and enable them to conduct research in a scientific manner.

Block-I: Introduction to Research

Unit-I: Research Approaches: Historical approach, Case study approach, Descriptive approach and Experimental approach.

Unit-2: Types of research: Pure research-applied research; categories of research: ex-post facto research-experimental research-field investigation² research-survey research-evaluation research-action research.

BLOCK-II:

Unit-I: Selection and Formulation of Research Problems: Factors to be considered in selection of Research Problem. Steps in formulation of problem.

BLOCK-III:

Unit-I: Research Design: Components of Research Design; Framing of hypothesis and research question.

BLOCK-IV:

Unit-I: Basic Statistical Concept: Types of variables-Quantitative and Qualitative; Reliability and validity-assessing reliability and validity of variables; confidence level and determination of size of samples.

Unit-2: Types of Sampling: Random and Non-Random sampling and their various kinds.

Total number of class= $4 \times 14 = 56$ classes of 1 hour duration

Internal Assessment: 10 Marks: 20 Marks for 1 Sessional Examination

5 Marks: 10 Marks for submission of a write-up on any one of the units.
5 Marks: 10 Marks for presentation of the above write-up

Books recommended:

Text Books:

1. The Essential Guide to doing Research; Zina O' Leary; Vistar Publications (A division of Sage Publication) New Delhi.
2. Research Methodology; C.R. Kothari, New Age International Publications, 2nd Edition.
3. Research Methodology, The What and How of Project Assignment and Seminar Paper: Dr. Mukunda Sarma; Eastern Book House (FBH) Publications, Panbazar, Guwahati, Assam
4. Practice of Social Research; E.R. Babbie, Belmont, CA; Wads worth.

Reference Books:

- 1) Hand Book of Research Design and Social Measurement : D.C. Miller and N.J. Salkind, Sage Publications, London.
- 2) Qualitative Research Methods for the Social Science; Allyn and Bacon Boston, MA
- 3) Qualitative and Quantitative Approaches: Sage Publications, London.



Ph.D. Course Work Syllabus

Course Title and Code: Research and Publication Ethics (PHD-C-5022)

Credit: 02

Department: Geography
Krishnaguru Adhyatmik Visvavidyalaya

Total Marks 50 (40+10=50)

Course structure

- The course comprises of six modules listed in table below. Each module has 4-5 units.

Modules	Unit title	Teaching Units
Theory		
RPE 01	Philosophy and Ethics	4
RPE 02	Scientific Conduct	4
RPE 03	Publication Ethics	7
Practice		
RPE 04	Open Access Publishing	4
RPE 05	Publication Misconduct	4
RPE 06	Databases and Research Metrics	7
	Total	30

Syllabus in detail

THEORY

- RPE 01: PHILOSOPHY AND ETHICS (3 hrs.)**
 - Introduction to philosophy: definition, nature and scope, concept, branches
 - Ethics: definition, moral philosophy, nature of moral judgements and reactions
- RPE 02: SCIENTIFIC CONDUCT (5 hrs.)**
 - 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 (4hrs.)**

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 (2hrs.)

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

B. Research Metrics (3hrs.)

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

References

- Birs, a.(2006). *Philosophy of Science*. Routledge.
- MacIntyre, Alasdair (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.
- Resnik, D.B. (2011). What is ethics in research 7 why is it important. *National Institute of Environmental*
- *Health Sciences*, 1-10. Retrieved from
<https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm>
- Beall, J. (2012). Predatory publishers are corrupting open access. *Nature*, 489(7415), 179-179.
- <https://doi.org/10.1038/489179a>
- Indian National Science Acedemy (INSA), *Ethics in Science Education, Reserch and Governance* (2019),
- ISBN:978-81-939482-1-7. <http://www.insaindia.res.in/pdf/Ethics Book.pdf>



Ph.D. Course Work Syllabus

Course Title and Code: Krishnaguru Studies (KGS-5032)

Credit: 02 (Value Added Compulsory Paper)

Department: Geography

Krishnaguru Adhyatmik Visvavidyalaya

Total Marks 50 (40+10=50)



Krishnaguru Adhyatmik Visvavidyalaya (KAV)
Department of Geography
Ph.D. Course Work Syllabus
PAPER-IV
Course Code: PHD-GEO- 5044
Title: *Mountain Ecology and Disaster Management*
Credits: 4
Total Marks: 100 (80 +20)

Course Objectives

1. To develop an advanced understanding of mountain ecosystems, their ecological processes and environmental sensitivity.
2. To analyze human–environment interactions and major ecological constraints affecting mountain regions.
3. To examine the nature of natural and anthropogenic hazards, vulnerability and disaster risk in fragile mountain environments.
4. To equip research scholars with conceptual and applied knowledge of disaster preparedness, mitigation and resilience building.

Course Outcomes

After completing the course, the scholars will be able to:

1. Critically explain the structure, functioning and dynamics of mountain ecosystems.
2. Assess environmental degradation and hazard processes influencing mountain ecology and human settlements.
3. Analyze disaster vulnerability, risk and management strategies with reference to mountain regions.
4. Apply interdisciplinary and research-based approaches to ecological and disaster management issues for sustainable development.

Course Structure

Unit I: Mountain Ecosystems and Ecological Processes

- Concept and characteristics of mountain ecosystems
- Altitudinal zonation and biodiversity
- Mountain climate and weather systems
- Treeline ecology and ecological sensitivity of mountain regions
- Human adaptation and modification of mountain ecosystems

Unit II: Environmental Constraints and Degradation in Mountain Regions

- Mountain topography and geomorphological processes
- Soil erosion and land degradation
- Deforestation and forest fire dynamics
- Landslides and slope instability
- Cloudbursts and extreme weather events
- Emerging ecological stresses due to climate change

Unit III: Hazards, Vulnerability and Risk in Mountain Areas

- Types of hazards:
 - ❖ Natural hazards
 - ❖ Anthropogenic hazards
- Disaster concepts: hazard, vulnerability, risk and resilience
- Dynamics of vulnerability in mountain societies
- Human activities and risk amplification
- Environmental and socio-economic impacts of disasters

Unit IV: Disaster Management, Preparedness and Resilience

- Disaster preparedness planning in mountain regions
- Stakeholders in disaster mitigation and management
- Response mechanisms, relief management and coordination

- Damage assessment, rehabilitation and reconstruction
- Community-based disaster management
- Building resilience and adaptive capacity in fragile mountain ecosystems

Research Component

- Case studies on ecological degradation and disasters in mountain regions
- Constraints of mountain ecosystems: research perspectives
- Application of GIS, Remote Sensing and ICT in disaster management
- Policy frameworks and sustainable mountain development

Suggested Readings / References

Mountain Ecology

1. Broll, G. & Keplin, B. (2005). *Mountain Ecosystems: Studies in Treeline Ecology*. Springer.
2. Spehn, E. M. (2002). *Mountain Biodiversity: A Global Assessment*. Parthenon Publishing.
3. Parish, R. (2002). *Mountain Environments*. Pearson Education.
4. Funnell, D. & Parish, R. (2001). *Mountain Environments and Communities*. Routledge.
5. Price, L. W., Byers, A. C., Kohler, T., & Price, M. F. (2013). *Mountain Geography: Physical and Human Dimensions*. University of California Press.
6. Barry, R. G. (1981). *Mountain Weather and Climate*. Methuen.

Disaster Management

1. *Encyclopedia of Disaster Management* (2 Vols.)
2. *Handbook of Disaster Management* (2 Vols.)
3. *Disaster Management and Climate Change*
4. *Disaster Preparedness and Capacity Building*
5. *Natural Hazards and Disaster Management*
6. *Environmental Disasters and Impact Assessment*

Selected Authors:

R. P. Madhani, K. C. Dhir, A. Sharma, R. P. Tripathy, K. F. Banks, B. Narayan, K. K. Singh, C. I. Raut, M. H. Khupse, A. K. Saxena, G. K. Ghosh, V. K. Asthana, N. C. Tippal, B. S. Pani, Shreenivas, Virender and others.



Krishnaguru Adhyatmik Visvavidyalaya (KAV)
Department of Geography
Ph.D. Course Work Syllabus
PAPER-V (Optional)
Course Code: PHD-GEO 5054
Title: PHYSICAL GEOGRAPHIC RESEARCH
Credits: 4
Total Marks: 100 (80 + 20)

Course Objectives

The course aims to enable students to:

1. Understand the nature, philosophy and scope of Physical Geographic research
2. Acquire knowledge of research methods, tools and techniques in geomorphology
3. Analyze landform development processes and geomorphic hazards
4. Apply GIS and Remote Sensing in physical geographic problem-solving
5. Critically examine contemporary environmental and geomorphic issues, especially in India and N.E. India

Course Outcomes

After completing this course, students will be able to:

1. Explain the theoretical perspectives and approaches in Physical Geography
2. Collect, analyze and interpret geomorphological and hydrological data
3. Apply research techniques to river basin and hazard studies
4. Use modern geospatial tools for analysis and planning
5. Critically evaluate current environmental and geomorphic challenges

Course Structure

UNIT-I: FOUNDATIONS OF PHYSICAL GEOGRAPHIC RESEARCH

- ❖ Nature, scope and philosophy of Physical Geography
- ❖ Evolution and development of Physical Geography as a scientific discipline
- ❖ Relationship of Physical Geography with allied sciences
- ❖ Domains of Physical Geography:
 - Lithosphere and landform development
 - Atmosphere and climate systems
 - Hydrosphere and earth surface processes
- ❖ Recent trends and emerging areas in Physical Geographic research

UNIT-II: APPROACHES AND TECHNIQUES IN GEOMORPHOLOGICAL RESEARCH

- ❖ Scope and significance of Geomorphology
- ❖ Approaches to geomorphological studies:
 - System approach
 - Process–response approach
 - Quantitative and applied approaches
- ❖ Nature and types of geomorphological data
- ❖ Methods of data collection, presentation and analysis
- ❖ Laboratory tools and techniques in geomorphological analysis
- ❖ Field techniques and geomorphological mapping
- ❖ Models and simulations in geomorphic studies

UNIT-III: LANDFORM DEVELOPMENT, RIVER BASIN STUDIES & HAZARDS

- ❖ Processes and forms of landform development
- ❖ Surface and groundwater processes
- ❖ Watershed and river basin as geomorphic units
- ❖ Fluvial geomorphology: drainage basin morphology and dynamics

- ❖ Physical geographic / geomorphic studies of river basins
 - Special reference to N.E. India
- ❖ Geomorphic hazards and their management:
 - Landslides
 - Floods
 - Riverbank erosion and channel migration

UNIT-IV: APPLIED & CONTEMPORARY ISSUES IN PHYSICAL GEOGRAPHY

- ❖ Applied Geomorphology in environmental management
- ❖ Role of Physical Geography in sustainable development
- ❖ Climate dynamics:
 - Global warming
 - Climate change and geomorphic response
- ❖ Contemporary water-related issues:
 - Interlinking of rivers in India
 - Global and regional water crisis
- ❖ Emerging geomorphic issues:
 - Glacial Lake Outburst Floods (GLOFs)
 - Anthropogenic impact on landforms
- ❖ Use of GIS and Remote Sensing in planning and hazard mitigation

Suggested Readings

1. Chorley, R.J., Wolman, M.G. & Miller, J.P. (1969). *Fluvial Processes in Geomorphology*. W.H. Freeman, San Francisco.
2. Chorley, R.J. (Ed.) (1969). *Water, Earth and Man*. Methuen, London.
3. Chow, V.T. (1964). *Handbook of Applied Hydrology*. McGraw Hill, New York.
4. Folk, R.L. (1980). *Petrology of Sedimentary Rocks*. Hemphill Publishing, Austin.
5. Garde, R.J. & Ranga Raju, K.G. *Mechanics of Sediment Transportation*.
6. Gregory, K.J. & Walling, D.E. (1973). *Drainage Basin Form and Processes*. Arnold, London.



Krishnaguru Adhyatmik Visvavidyalaya (KAV)

Department of Geography

Ph.D. Course Work Syllabus

PAPER-V (Optional)

Course Code: PHD-GEO 5054

Title: Human Geographic Research

Credits: 4

Total Marks: 100 (80 + 20)

Course Objectives

1. To develop a comprehensive understanding of concepts, theories and approaches in human geographic research.
2. To familiarize learners with quantitative, qualitative and spatial techniques used in contemporary human geography.
3. To examine emerging human geographic issues at global, national, regional and North-East Indian contexts.
4. To enable students to formulate research themes and critically appraise human geographic studies for academic and applied purposes.

Course Outcomes

After successful completion of the course, learners will be able to:

1. Explain major theoretical frameworks and models used in human geographic research.
2. Apply quantitative, spatial and demographic techniques to analyze human geographic phenomena.
3. Critically evaluate research trends related to well-being, migration, urbanization, fertility and health,
4. Design research themes and proposals addressing regional and contemporary human geographic issues.

Course Structure

Unit I: Foundations of Human Geographic Research

- ❖ Meaning, nature, scope and evolution of human geographic research
- ❖ Branches of human geography and contemporary research trends
- ❖ Philosophical approaches: positivism, behavioralism, humanism, structuralism, post-modernism
- ❖ Models in human geography: types, applications, limitations and relevance
- ❖ Space-time perspective in human geographic research

Unit II: Methods and Techniques in Human Geographic Research

- ❖ Quantitative techniques: descriptive statistics, correlation, regression, factor analysis
- ❖ Spatial analysis and modeling in human geography
- ❖ Use of GIS and geospatial technologies in human geographic research
- ❖ Human Development Index (HDI), Human Resource Development (HRD): concept, computation and applications
- ❖ Indicators and indices in social and human development research

Unit III: Population, Migration and Social Well-being

- ❖ Concepts of social well-being and livelihood security
- ❖ Geography of literacy, education, health and gender disparities in India
- ❖ Women, work participation and livelihood adaptation
- ❖ Migration vs forced migration: concepts and typologies
- ❖ Development-induced, conflict-induced, disaster-induced and economic displacement
- ❖ Internal displacement, refugees, stateless population, trafficking and left-behind populations
- ❖ Migration, unemployment and health linkages

Unit IV: Urban Environment, Fertility and Health Geography

- ❖ Urbanization, housing issues and urban sustainability

- ❖ Urban sprawl, slums, infrastructure and urban poverty
- ❖ Urban environmental problems: air, water, noise pollution and health impacts
- ❖ Measures of fertility and reproduction
- ❖ Adolescent fertility, below-replacement fertility and family planning
- ❖ Nutrition, sanitation, indoor pollution and child health
- ❖ Health-seeking behavior, ageing population, disasters (floods/flash floods) and health
- ❖ Emerging human geographic research issues in North-East India

Suggested Readings

1. Smith, D.M. (1975). *Patterns in Human Geography*. Penguin Books.
2. Haggett, P. (1972). *Geography: A Modern Synthesis*. Harper & Row.
3. Chorley, R.J. & Haggett, P. (eds.) (1967). *Models in Geography*. Methuen.
4. Yeates, M.H. (1974). *An Introduction to Quantitative Analysis in Human Geography*. McGraw Hill.
5. Berry, B.J.L. & Marble, D.F. (1968). *Spatial Analysis*. Prentice Hall.
6. Gregory, S. (1978). *Statistical Methods and the Geographers*. Longman.
7. Knox, P. (1995). *Social Well-being: A Spatial Perspective*. Oxford University Press.
8. Smith, D.M. (1977). *Human Geography: A Welfare Approach*. Edward Arnold.
9. Cernea, M.M. (2002). *Impoverishment Risks and Reconstruction*. World Bank.
10. Das, S.K. (ed.) (2008). *Blisters on Their Feet*. Sage India.
11. UNHCR (2018). *Global Trends: Forced Displacement*. United Nations.
12. Lundquist, J.H. et al. (2015). *Demography*. Waveland Press.
13. Taher, M. & Ahmed, P. (2000). *Geography of North East India*. Mani-Manik Prakash.
14. Sharma, H.N. (2000). *Social Geography in Progress in Indian Geography*. INSA.
15. Momsen, J.H. & Townsend, G. (1987). *Geography of Gender in the Third World*. SUNY Press.



Krishnaguru Adhyatmik Visvavidyalaya (KAV)

Department of Geography

Ph.D. Course Work Syllabus

PAPER-V

Course Code: PHD-GEO 5062

Title: TERM PAPER

Credits: 2

Total Marks: 50 (40 + 10)

Course Objectives:

- To enable Ph.D. scholars to develop a research-oriented mindset by engaging in a structured term paper.
- To facilitate an in-depth review of existing literature and secondary data analysis relevant to the scholar's Ph.D. research area.
- To enhance academic writing, critical thinking and presentation skills.
- To prepare scholars for rigorous academic discourse through viva voce.

Outcome:

- Upon successful completion, scholars will gain expertise in literature review, secondary data analysis and academic writing, preparing them for their Ph.D. research.

Course Structure & Guidelines

1. Selection of Topic

- The term paper should align with the scholar's Ph.D. research area.

2. Review of Literature

- Conduct a detailed literature review using books, journal articles, reports and other secondary sources.
- Identify relevant secondary data sources for analysis.

- Develop a conceptual framework based on literature.

3. Term Paper Writing

- The term paper should be 5,000-10,000 words (excluding references).
- Structure of the paper:
 1. **Introduction** – Background, research problem, objectives and significance.
 2. **Review of Literature** – Thematic analysis of existing studies.
 3. **Methodology** – Description of secondary data sources and analytical approach.
 4. **Findings & Discussion** – Interpretation of secondary data with theoretical insights.
 5. **Conclusion & Recommendations** – Summary, implications, and scope for further research.
 6. **References** – Proper citation in APA format.

4. Submission & Evaluation

- Final term paper submission deadline: **[To be Decided]**
- Evaluation will be based on clarity, depth of analysis and originality.

5. Presentation & Viva Voce

- Scholars will present their findings before a panel of faculty members.
- Viva voce will assess the scholar's understanding, analytical ability and research readiness.

Evaluation Criteria (Total Marks: 50)

1. **Term Paper (Written Submission) – 40 Marks**
2. **Presentation & Viva Voce – 10 Marks**
 - Clarity & effectiveness of presentation (5)
 - Ability to defend research arguments (5)

Recommended Reading References

1. Creswell, J. W. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). Sage Publications.
2. Best, J. W., & Kahn, J. V. (2016). *Research in Education* (10th ed.). Pearson.
3. Bryman, A. (2015). *Social Research Methods* (5th ed.). Oxford University Press.
4. Mertens, D. M. (2020). *Research and Evaluation in Education and Psychology: Integrating Diversity with Quantitative, Qualitative, and Mixed Methods* (5th ed.). Sage Publications.
5. Neuman, W. L. (2014). *Social Research Methods: Qualitative and Quantitative Approaches* (7th ed.). Pearson.
6. Yin, R. K. (2018). *Case Study Research and Applications: Design and Methods* (6th ed.). Sage Publications.
7. Bogdan, R. C., & Biklen, S. K. (2019). *Qualitative Research for Education: An Introduction to Theories and Methods* (6th ed.). Pearson.
8. Punch, K. F. (2016). *Developing Effective Research Proposals* (3rd ed.). Sage Publications.
9. Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education* (8th ed.). Routledge.
10. Kumar, R. (2022). *Research Methodology: A Step-by-Step Guide for Beginners* (5th ed.). Sage Publications
11. Hart, C. (2018). *Doing a Literature Review: Releasing the Social Science Research Imagination*. Sage Publications.
12. Ridley, D. (2012). *The Literature Review: A Step-by-Step Guide for Students*. Sage Publications.
13. Machi, L. A., & McEvoy, B. T. (2016). *The Literature Review: Six Steps to Success* (3rd ed.). Corwin.
14. Swales, J. M., & Feak, C. B. (2012). *Academic Writing for Graduate Students: Essential Tasks and Skills*. University of Michigan Press.