



# दक्षिण बिहार केंद्रीय विश्वविद्यालय CENTRAL UNIVERSITY OF SOUTH BIHAR

*COURSE STRUCTURE AND SYLLABI*

*PREPARED IN THE LIGHT OF NATIONAL EDUCATION POLICY 2020*

## SYLLABUS

### COURSE WORK FOR Ph.D. IN GEOGRAPHY

EFFECTIVE FROM ACADEMIC SESSION 2022-23

## DEPARTMENT OF GEOGRAPHY

**SCHOOL OF EARTH, BIOLOGICAL AND  
ENVIRONMENTAL SCIENCES**

## **COURSE WORK FOR PH.D. IN GEOGRAPHY**

### **BOARD OF STUDIES OF THE DEPARTMENT OF GEOGRAPHY**

The Hon'ble Vice Chancellor, Central University of South Bihar has reconstituted the Board of Studies of the Department of Development Geography, School of Earth, Biological and Environmental Sciences as per Statute 16 (2) of the University vide notification No.CUSB/Acad/932/dt.26.08.2022, with the following members.

Sl. No.	Name	Address	Position
1.	Prof. Kiran Kumari	Head, Department of Geography, Central University of South Bihar (CUSB), Gaya	Chairman
2.	Prof. Narendra Kumar Rana	Department of Geography, Banaras Hindu University, Varanasi	External Member
3.	Prof. Shiva Kant Singh	Head & Professor Department of Geography, Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur	External Member
4.	Prof. K. N. P. Raju	Ex-Head, Department of Geography, Banaras Hindu University, Varanasi	Special Invitee
5.	Prof. Pradhan Parth Sarthi	Dean, School of Earth, Biological and Environmental Sciences, CUSB	Cognate Member
6.	Prof. Prafull Kumar Singh	Head & Professor, Dept. of Geology, CUSB	Cognate Member
7.	Dr. Rupesh Kumar Gupta	Associate Professor, Department of Geography, CUSB	Member
8.	Dr. Kiran Kumari Singh	Associate Professor, Department of Geography, CUSB	Member
9.	Dr. Sunita Singh	Assistant Professor, Department of Geography, CUSB	Member
10.	Dr. Jogindar Singh Chauhan	Assistant Professor, Department of Geography, CUSB	Member
11.	Dr. Manjit Singh	Assistant Professor, Department of Geography, CUSB	Member
12.	Dr. Somnath Bera	Assistant Professor, Department of Geography, CUSB	Member

The Board meeting held during **29-30 August 2022** discussed and resolved to approve the programme structure and syllabus of the Ph.D. Course Work in Geography.

## DEPARTMENT OF GEOGRAPHY

### Course Work Syllabus for Ph.D. Programme

Course Code	Course Title	Course type	Credit Hours	Evaluation Marks
<b>Core Course (Compulsory)</b>				
GEO901	Research Methodology in Geography	Core	4	100
GEO902	Tools and Techniques	Core	4	100
GEO903	Presentation and Preparation of Research Proposal	Core	4	100
GEO904	Research and Publication Ethics	Core	2	100
	<b>Total</b>	<b>CBCS</b>	<b>14</b>	<b>400</b>

**Choice Based Credit System (CBCS):** CF: Compulsory Foundation, Co: Core  
Cr: Credit

**Total Credits of Course Work for Ph.D., Geography:  $4+4+4+2 = 14$  Credits**

## **PH. D. COURSEWORK (EFFECTIVE FROM SESSION 2022-2023)**

In accordance with “Ordinance (Amendments) Relating to the Award of Degree of Doctor of Philosophy-2021” vide notification F.N. CUSB/Acad/1-7/2021/116 Dated 27-28.09.20222020”, in terms of clause 15.2 Credit, Lecture mode, attendance and Evaluation of Ph.D. Coursework is as following:

- 15.2.1. Ph. D. Coursework will be minimum of 08 credits and a maximum of 16 credits.
- 15.2.2. Atleast four credits will be given to one or more courses on research methodology in the Ph.D. course covering areas such as quantitative methods, computer applications, research ethics and review of published research in the relevant field, training, fieldwork, etc.
- 15.2.3. All the courses will be advanced course to prepare students for pursuing advanced level research for the Ph.D. programme.
- 15.2.4. A two credits course on Research and Publication Ethics as prescribed by UGC is compulsory.
- 15.2.5 The details of courses, course credits and other related matters will be determined as per the ordinances of the department.
- 15.2.6. A minimum of 75% attendance in the coursework will be mandatory for the research scholars for full time and part-time.
- 15.2.7. The details of courses, course credits and other related matters not provided in this Ordinance shall be prescribed in accordance with the UGC Guidelines and Ordinances. The evaluation of the paper/ course related to Ph.D. Coursework will be done by the course Instructor (s). A Ph.D. scholar must obtain a minimum of 55% marks in the UGC 7 point scale or its equivalent grade (or equivalent Grade/CGPA by whatever grading system is followed). In the course work and submit the thesis while continuing with the program. In case of any discrepancy related to evaluation or subject matter, the RAC and DRDC will be consulted. The grades will be finalized after a joint evaluation or a thorough overview of the subject-matter related work.
- 15.2.8. Course (Course codes 901 and 902) will be evaluated by the respective course instructor (s) or faculty member(s). And the evaluation report will be sent through DRDC to the office of the Controller of Examinations. The end semester examinations of these courses will be of 100 marks. The calculation method of grades for these courses will be the same as for the respective PG courses and will not be placed before the examination board.
- 15.2.9. The allotted maximum of 100 marks of course code 903 will be divided into two parts, 75% for writing the research proposal plan and the remaining 25% for Research Plan Proposal presentation. This evaluation will be done jointly by the RAC concerned and DRDC, and the marks obtained by the PHD scholar will be submitted to the office of the Controller of Examinations through the DRDC.

## Paper-I

<b>Course Title: Research Methodology</b>		<b>L</b>	<b>T</b>	<b>P</b>	<b>Cr</b>
<b>Course Code: GEO901</b>		4	-	-	4
<b>Total Hour:</b> 60 Hours					
<b>Course Learning Outcomes (CLO):</b> At the completion of the course, the student will be able to: CLO1: understand research and research methodology. CLO2: understand philosophical approaches in doing research CLO3: how to identify research problem and CLO4: how to write scientific research paper.					
<b>Unit/Hours</b>	<b>Content</b>				<b>Mapping with CLO</b>
Unit I / 15 Hours	<b>Introduction of Research</b> Research: Meaning and concept; Scientific method of inquiry and basic steps of research; Types of research: Basic, Applied and Action Research; Methods and Methodology.				CLO1
Unit II / 15 Hours	<b>Research Methodology</b> Qualitative research methodology (Case Study, Ethnography, Historical methods, Participatory research methods, Focused Group Discussion); Quantitative research methodology; Mix method.				CLO2
Unit III / 15 Hours	<b>Philosophical Discourses in Geography</b> Positivism; Idealism and Realism; Structuralism; Post Structuralism and Post Modernism; Environmentalism; Philosophy of Space and Time; Inductive and Deductive approach.				CLO2 CLO3
Unit 4/ 15 Hours	<b>Dissertation, Report and Research paper writing</b> Identification and Conceptualization of a Research Problem, Research Questions and Hypotheses; Literature Review; Research Design: Types and Stages of research design; Sampling Design. Research Dissertation and Documentation, Scientific research paper writing; Referencing.				CLO4
<b>Suggested/ recommended readings:</b> 1. Creswell, J., (1994). <i>Research Design: Qualitative and Quantitative Approaches</i> . UK: Sage Publications. 2. Creswell, J.W. and Creswell, J.D. (2017). <i>Research Design: Qualitative, Quantitative, and Mixed Methods Approaches</i> . London: Sage Publications. 3. Flick, U. (2020). <i>Introducing Research Methodology: Thinking Your Way through Your Research Project</i> . 3rd Ed. London: Sage Publications. 4. Denzin, N. K. and Lincoln, Y.S. (eds.) 2000. <i>Handbook of Qualitative Research</i> . Sage Publ., ThousandOaks CA. 5. Hay, Iain (ed.) 2005. <i>Qualitative Research Methods in Human Geography</i> . Oxford University Press, Melbourne. 2 <sup>nd</sup> Ed. 6. Knight, Peter G. and Parsons, Tony 2003. <i>How to do your Essays Exams &amp; Coursework in Geography and Related Disciplines</i> . Nelson Thornes, Cheltenham U.K. 7. Kothari, C.R. (2012). <i>Research Methodology, Methods and Techniques</i> . New Delhi: New Age International Publishers. 8. Misra, R. P. 2015. <i>Research Methodology: A Handbook</i> , Concept Publishing Company, New Delhi.					

**Paper-II**

<b>Course Title: Tools and Techniques</b>		<b>L</b>	<b>T</b>	<b>P</b>	<b>Cr</b>
<b>Course Code: GEO902</b>		4	-	-	4
<b>Total Hour: 60 Hours</b>					
<b>Course Learning Outcomes (CLO):</b> At the completion of the course, the student will be able to: CLO1: understand research methods and techniques used in Geography. CLO2: understand both qualitative and quantitative research methods and techniques. CLO3: skill for developing acumen to select sampling, designing, appropriate data analysis, presentation and making inferences about the population.					
<b>Unit/Hours</b>	<b>Content</b>				<b>Mapping with CLO</b>
Unit I / 15 Hours	<b>Tools and Techniques of Data Collection</b> Introduction of tools and techniques of research; Data and its sources: primary data and secondary data; Questionnaire preparation and data collection; Sampling Techniques, Schedule and Interview, Conducting Interview and Survey, Concept & types of field survey, concept and types of observation. <b>Learning activities:</b> Case study (national and international), Research Paper reading, Presentation				CLO1
Unit II / 15 Hours	<b>Data Measurement Scale</b> Data arrangement, classification and tabulation of data, frequency distributions and data, Cartography techniques, Model making; Quantitative and qualitative interpretations. <b>Learning activities:</b> Case study (national and international), Research Paper reading, Presentation				CLO2
Unit III / 15 Hours	<b>Geo-Spatial Techniques</b> Introduction of softwares of GPS, GIS and Remote Sensing; Application of GPS in data collection; Application of GIS in spatial analysis, Application of Remote Sensing in Environmental Monitoring and Management; Introduction of Digital Elevation Model (DEM) and properties; Sources of satellite images. <b>Learning activities:</b> Case study (national and international), Research Paper reading, Presentation				
Unit 4/ 15 Hours	<b>Descriptive and Inferential Statistics</b> Central Tendency, Dispersion, Correlation, Regression; Hypothesis Testing: T-test and Z-test; Application of Microsoft Excel and SPSS. <b>Learning activities:</b> Case study (national and international), Research Paper reading, Presentation				
<b>Suggested/ recommended readings:</b> 1. Creswell, J., (1994). Research Design: Qualitative and Quantitative Approaches. UK: Sage Publication. 2. Creswell, J.W. and Creswell, J.D. (2017). Research Design: Qualitative, Quantitative, and 3. Denzin, N. K. and Lincoln, Y.S. (eds.) 2000. <i>Handbook of Qualitative Research</i> . Sage Publication, Thousand Oaks CA. 4. Hay, Iain (ed.) 2005. <i>Qualitative Research Methods in Human Geography</i> . Oxford University Press, Melbourne. 2 <sup>nd</sup> Ed. 5. Jensen, J.R. (2009). Remote Sensing of the Environment: An Earth Resource Perspective. 2nd					

Ed. New Delhi: Pearson Education.

6. Knight, Peter G. and Parsons, Tony 2003. *How to do your Essays Exams & Coursework in Geography and Related Disciplines*. Nelson Thornes, Cheltenham U.K.
7. Kothari, C.R. (2012). *Research Methodology, Methods and Techniques*. New Delhi: New Age International Publishers.
8. Lillesand, T.M.; Kiefer, R.W. and Chipman, J.W. (2004). *Remote Sensing and Image Interpretation*. 5th Ed. New Delhi: John Wiley India.
9. Sabins, F.F. (2007). *Remote Sensing: Principles and Interpretation*. 3rd Ed. Long Grove: Waveland Press.
10. Stoddard, Robert H. 1982. *Field Techniques and Research Methods in Geography*. Kendall/Hunt Pub. Dubuque IO.

### Paper III

#### PREPARATION AND PRESENTATION OF RESEARCH PROPOSAL

<b>Course Title: Preparation and Presentation of Research Proposal</b>				<b>Credit</b>
<b>Course Code: GEO903</b>		-	-	4
<b>Total Hour:</b> 60 Hours				
<p><b>Course Objectives:</b> The course intends to develop PhD Scholar's writing and oral presentation skills while preparing their respective research proposals.</p> <p><b>Learning Outcomes (CLO):</b> At the completion of the course, the scholar will be able to:</p> <p>CLO1: identify their research topic and formulate the research problems lucidly.</p> <p>CLO2: learn the art of writing a research proposal/ paper/ article/ dissertation/ thesis.</p>				
<b>Unit</b>	<b>Contents</b>			
Unit I 30 Hours	<p><b>Part I:</b> Preparation of Research Proposal: Literature Survey, Identification of the topic for Ph.D. Research and preparation of research proposal in the standard format as per the University guidelines.</p>			
Unit II 30 Hours	<p><b>Part II:</b> The research proposal on the topic chosen by the candidate for her/his Ph.D. shall be submitted as computer typed script as per the writing discipline followed by seminar presentation. Each student shall be required to articulate in about 5000 words in her/his individual subject of study in the intended area of research by selected bibliography. The written submission on the chosen topic shall be evaluated for 75 per cent weightage and the seminar presentation for 25 per cent weightage.</p> <p>The research proposal is supposed to give evidence of two things: a comprehensive review of existing literature of the past studies in the subject area, and the student's awareness of and adherence to the discipline of writing research proposal/paper/dissertation and documentation.</p>			

## Paper IV

**RESEARCH & PUBLICATION ETHICS (CORE)**

<b>Course Title: Research &amp; Publication Ethics (Core)</b>		<b>L</b>	<b>T</b>	<b>P</b>	<b>Cr</b>
<b>Course Code: GEO904</b>		2	-	-	2
<b>Total Hour: 60 Hours</b>					
<b>Course Learning Outcomes (CLO):</b> At the completion of the course, the student will be able to: CLO1: understand philosophy of research and scientific conduct of doing research. CLO2: understand the publication ethics and misconduct of doing research. CLO3: to do, how to formulate research design and research problem. CLO4: how to validate data for research.					
<b>Unit/Hours</b>	<b>Content</b>				<b>Mapping with CLO</b>
Unit I / 10 Hours	<b>Philosophy and Scientific Conduct</b> Introduction to Philosophy: Definition, Nature and Scope, Concept, Branches; Ethics: Definition, Moral Philosophy, Nature of Moral Judgments and Reactions. Scientific Conduct: Ethics with respect to Science and Research, Intellectual Honesty and Research Integrity, Scientific Misconducts: Falsification, Fabrication and Plagiarism; Redundant Publications; Duplicate and Overlapping Publications, Salami Slicing; Selective Reporting and Misrepresentation of Data <b>Learning activities:</b> Assignment work, seminar presentation				CLO1
Unit II / 10 Hours	<b>Publication- Ethics and Misconduct</b> Publication Ethics: Definition and Importance, Best Practices and Guidelines: COPE, WAME; Conflicts of Interest. Publication Misconduct: Definition, Concept, Problems that lead to Unethical Behavior and Vice Versa; Violation of Publication Ethics, Authorship and Contributionship; Identification of Publication Misconduct, Complaints and Appeals; Predatory Publishers and Journals <b>Learning activities:</b> Assignment work, seminar presentation				CLO1 CLO2
Unit III / 10 Hours	<b>Publication- Policy</b> Open Publications and Initiatives; SHERPA/RoMEO Online Resource to Check Publisher Copyright and Self Archiving Policies; Software Tool to Identify Predatory Publications Developed by SPPU; Journal Finder/Journal Suggestion Tools Viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, Etc.; Use Of Plagiarism Software Like Turnitin, Urkund and Other Open Software Tools. <b>Learning activities:</b> Reading Journals/articles / Paper writing				CLO2 CLO3
Unit 4/ 10 Hours	<b>Data Base and Research Metrics</b> Data Base: Indexing Database; Citation Database: Web Science, Scopus Etc.; Research Metrics: Impact Factor of Journal as Per Journal Citation Report, SNIP, SJR, IPP, Cite Score; Metrics: H-Index, G Index, I10 Index, Altimetric. <b>Learning activities:</b> On-Hand practices, Exercises				CLO4 CLO5



**Suggested/ recommended readings:**

1. CEHAT. (2000). *Ethical Guidelines for Social Science Research in Health, National Committee for Ethics in Social Science Research in Health (NCESSRH)*. Mumbai: Centre for Enquiry into Health and Allied Themes.
2. Comstock, G. (2012). *Research Ethics: A Philosophical Guide to the Responsible Conduct of Research*. Cambridge: Cambridge University Press.
3. Gregory, I. (2003). *Ethics in Research*. London: Continuum.
4. Hames, I. (2007). *Peer Review and Manuscript Management in Scientific Journals: Guidelines for Good Practice*. Malden: Blackwell Publishing.
5. Iphofen, R. (2020). *Handbook of Research Ethics and Scientific Integrity*. Switzerland: Springer Nature.
6. Iphofen, R. (2017). *Finding Common Ground: Consensus in Research Ethics across the Social Sciences*. Bingley: Emerald Publishing.
7. Iphofen, R. and Tolich, M. (2018). *The Sage Handbook of Qualitative Research Ethics*. London: Sage Publications.
8. Kara, H. (2018). *Research Ethics in the Real World*. Bristol: Policy Press.
9. Lakhota, S.C. and Chandrasekaran, S. (2019). *Ethics in Science Education, Research and Governance*. New Delhi: Indian National Science Academy.
10. Oliver, P. (2010). *The Student's Guide to Research Ethics*. 2nd Ed. Philadelphia: Open University Press.
11. Sana, L. (2002). *Textbook of Research Ethics: Theory and Practice*. New York: Kluwer Academic Publishers.
12. Shamoo, A.E. and Resnik, D.B. (2003). *Responsible Conduct of Research Contributors*. New York: Oxford University Press.