

**DEPARTMENT OF GEOGRAPHY AND
ENVIRONMENTAL STUDIES**

**Syllabus for
M.Phil/Ph.D Programme
Session 2012-2013**



**University of Rajshahi
Rajshahi-6205
BANGLADESH**

www.ru.ac.bd

The Department of Geography and Environmental Studies is one of the oldest department in Rajshahi University. The Department started functioning with few students and teachers in 1955. The first batch of students in the two-year postgraduate course was admitted in 1955. Subsequently, three-year honours course was introduced in 1962. Since its establishment, the department has been growing almost continuously. The pace of growth has increased after the Liberation of Bangladesh in 1971. At present, the teaching staff of this department consists of 21 teachers, of which 9 are Professors. Currently the total number of students in the department is around 400. With several changes in academic set up and curriculum, the department is now placed under the newly created Faculty of Life and Earth Sciences. Integrated Honours Programme is running since 1991-92 sessions and to meet the challenges of time four-year Honours course was introduced in 1997-98 session. The courses for Honours Programme are designed to maintain a balance between physical and human geography. Moreover the course for Masters Programme are designed to give the students specialized knowledge on different aspects of the subjects for application in national development.

The department is well equipped in respect of technical equipment and staffs. Besides library facilities, practical and fieldwork, the department has an adequate facility for advanced research works. There is a huge stock of maps, drawing and drafting equipment and cartographic apparatus. The laboratories of the department were not developed at the beginning but remarkable progress has been made in this regard during the last two decades. Now the department has physical, environmental, cartographic, topographic, remote sensing and GIS laboratories. Environmental Laboratory has few instruments and kits for research which is not developed enough due to paucity of fund. The department has a plan to establish a computerized weather monitoring station which is under process. The department is also proud to have sophisticated remote sensing and GIS laboratory.

The teachers of this department are actively engaged in research activities in different areas of the discipline including fluvial morphology, regional development, agriculture geography, urban geography, urban and regional planning hazard management, coastal zone study, remote sensing and GIS application. A good number of teachers have also received trainings and advanced education in all the above areas of research from home and abroad. Some of them obtained specialized trainings on remote sensing and GIS from abroad. Currently, a good number of teachers are also engaged in various academic programmes in Hong Kong and U.S.A. Senior teachers of this department are supervising a good number of Masters, M.Phil and Ph.D thesis in this department as well as in various institutes under this University. The department organizes seminar, conference and workshop at regular basis. The department has its own annual Journal named "The Journal of Geo-Environment", ISSN 1682-1998. Students of this department take part in sports,

athletics and other co-curricular activities. All the members of the department are working hard to meet the challenges of higher education of this new millennium.

Some of the department's facilities are:

Geographic Information System (GIS) and Remote Sensing Laboratory includes sufficient number of high speed Computers with some wide screen monitors, wide base digitizer and color inkjet plotter, sufficient number of conventional printers and multimedia projector. All the computers and peripherals in the department are networked, which is connected to the fiber optics based campus LAN. The LAN is connected to the university's own 24-hour online internet service.

Survey Laboratory includes plane table survey equipment, prismatic compass survey equipment, chains and taps, theodolite, dumpy level and global positioning systems (GPS).

Physical Geography Laboratory includes different landform models, rocks and minerals' testing equipment, particle measuring devices, arsenic contamination testing tools, pollution measuring kits and pH meter.

Climatology Laboratory includes automatic weather monitoring devices. Cartography Laboratory includes large scale topographical map of two periods of entire Bangladesh, different types of weather maps and satellite image hardcopies of 1978-1979 for the entire country. This laboratory also includes different types of maps and atlases.

Geoinformatics Research Unit has satellite raw digital data of different platforms for the entire country of different time phases. The unit also has a good archive of vector digital data of different administrative levels and features of Bangladesh.

Teaching Staffs and their Specialization :

Md. Abu Taha, M.A., Professor
Human Geography

Md. Shamsul Alam, Ph.D, Professor
Regional Development and Environment, GIS

Syed Rafiqul Alam Rumi, Ph.D, Professor
Urban and Regional Development, Transport Geography and Land use

Md. Abu Hanif Sheikh, Ph.D, Professor
Fluvial Morphology

Md. Abdul Wahab, Ph.D, Professor
Population Geography, Social Geography, Climatology and Medical Geography

Raquib Ahmed, Ph.D, Professor
Urban Geography, Remote Sensing

Md. Zahidul Hassan, Ph.D, Professor
Agriculture Geography, Environmental Pollution and Management

Md. Abdur Rahman, M.A., Professor
Urban Geography, Environmental Science and Cartography

Noor Mohammad, M.A., Professor
Economic Geography, Agriculture Geography, Quantitative Geography and GIS

Md. Mizanur Rahman, Ph.D, Associate Professor
Urban and Regional Planning, Spatial Development and Quality of Life (QOL) in Citys.

A.Z.M. Shoeb, Ph.D, Associate Professor
Disaster Management and Population Migration

Md. Latifur Rahman Sarker, M.Sc (KTH), Associate Professor
Geoinformatics

Md. Zahurul Islam, M.Sc, Assistant Professor
Agriculture Geography, Rural Geography and Planning

Shitangsu Kumar Paul, M.Sc (AIT), Assistant Professor
Rural and Regional Development Planning

A.H.M. Hedayutul Islam, M.Phil, Assistant Professor
Agriculture Geography

Md. Mizanoor Rahman(2), M.Phil, Assistant Professor
Economic Geography and Environmental Management

Md. Masud Parves Rana, M.Sc, M.Phil, Assistant Professor
Sustainable Urban Environment

Md. Moniruzzaman, M.Sc, Assistant Professor
Physical Geography

Md. Jahan Boksh Moral, M.Sc (AIT), M.Phil, Assistant Professor
Urban Environmental Management

On study leave :

Md. Rejaur Rahman, M.Tech. Associate Professor (In China)
Remote Sensing, GIS, Agriculture Geography, Environmental Management

Mullik Akram Hossain (now in Hongkong University)

Syllabus for M.Phil/Ph.D Programme

Session 2012-2013 Examination 2013

The M.Phil and Ph.D. programme in Geography and Environmental Studies shall consist of course work (of one year duration) and a dissertation. The course work will include four courses each carrying **50** marks. Candidates securing a minimum of 60% marks in the course work will be recommended for carrying out dissertation work. Candidates must present two seminars of his/her research work, one within maximum of six months of starting the research and another at least six months before the submission of the dissertation.

Course-601: Research Methodology

- 1.0 The Context of research:
 - 1.1 Scientific method-characteristics of scientific method
 - 1.2 Definition and importance of research
 - 1.3 The research process- the cyclic process of research projects and steps in research.
- 2.0 Elements of research:
 - 2.1 Theoretical basis of research
 - 2.2 The role of research in the formulation of theory-concept, definition, variables.
- 3.0 Hypothesis-its uses and misuses of research:
 - 3.1 Definition, attributes, advantages of a hypothesis
 - 3.2 Types of hypothesis-working hypothesis, null hypothesis, alternative hypothesis
 - 3.3 Examples of hypothesis
 - 3.4 Misuse of hypothesis
 - 3.5 Test of hypothesis.
- 4.0 Selection and preliminary formulation of a research project/proposal:
 - 4.1 Definition of research project
 - 4.2 Research design-structure of a research project programme schedule, monetary budget.
- 5.0 Research methods:
 - 5.1 Methods of data collection
 - a) Survey research-construction of questionnaire and interview
 - b) Action research
 - 5.2 Methods of data analysis:
 - a) Selection of suitable statistical methods
 - b) Data processing.
 - c) Presentation of statistical data.
- 6.0 Research report:
 - 6.1 Techniques and styles of the structures of a research project/thesis
 - 6.2 Policy research-
 - a) Characteristics of policy research,
 - b) Characteristics of policy research environment,
 - c) Implications for the research process
 - d) Some contributions of policy research.
- 7.0 The utilisation of research findings.

Course-602: Political and Economic Aspects of Bangladesh

1. Concept of political economy and development forms of state and Bangladesh. Governmental forms & party system
Parliamentary, presidential, unitary, federal system and welfare state. Rise of party system, elections & transfer of power.
2. Economy and mode of production, development aspects of Bangladesh-self sufficient village economy, colonial economy, controlled & free economy.
3. Emergence of Bangladesh, shape size and locational aspects, administrative structure and decentralization, local governments, constitutions and its significance, regional integration (transport, religion and socio-cultural).
4. Resource base of the country. Ownership and conflict over resources. Population and man power concept, types of resources and their utilization, agrarian development & land reforms, development in industrial sector.
5. International Relations:
Concept of international relations for development and groupings of countries. International trade, international organization and Bangladesh. Market economy and multinational company. International aid and transfer of technology. Role of NGO's for Development. Problems as co-operation for development. International dispute.

Course-603: Environmental Issues in Development Process

1. Fundamental of environment: definition, basic terms, components and functioning of environment.
2. Major development issues: Resource exploitation, urbanization, industrialization, modernization of agriculture and technological progress.
3. Major environmental problem: Population explosion, waste accumulation, hazard and pollution.
4. Environmental impact assessment (EIA) and sustainable development. Methods and techniques of EIA and sustainable use of resources.
5. Environmental management and protection: Environmental monitoring forecasting, population control, waste management, hazard management, pollution control measure and resource conservation strategy.

Course-604: South Asia: Regional Context, Problems and Developmental Challenge

1. Historical & political outline.
2. Geographical background: Relief and geological structure, climate, drainage, natural vegetation
3. Socio-economic aspect: Agriculture, industry, population, transport and communication, foreign trade, housing and settlement.

4. Problems & developmental challenges of Bangladesh:
5. Urbanization in Bangladesh, strategies of rural development during the past decades. Elements of rural development and constraints of rural development.
6. Theories of rural development: Sult₃ model, growth pole, Commila Model, Grameen Bank, etc. Development strategies and participation of NGOs and their activities.
7. Land management and Land Reforms: East India Company and British period, Pakistan period and Bangladesh period. Agricultural revolution, industrialization in Rural Areas.
8. Planning aspects: Various aspects of land use and settlement planning.