DEPARTMENT Of GEOGRAPHY AND ENVIRONMENTAL STUDIES
UNIVERSITY OF CHITTAGONG

Website: www.cugeography.com

SYLLABUS

B.Sc. Honours, MS and M.Phil
(Session: 2013-2014 and 2014-2015)

FACULTY OF BIOLOGICAL SCIENCES
UNIVERSITY OF CHITTAGONG, BANGLADESH

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DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES
UNIVERSITY OF CHITTAGONG, BANGLADESH
(At a glance)

The Department of Geography and Environmental Studies is one of the well established departments in Chittagong University. The Department was started functioning with few students and teachers in 1996. At present, the teaching staff of this department consists of 19 teachers. Currently the total number of students in the department is around 200. With several changes in academic set up and curriculum, the department is now placed under the Faculty of Biological Sciences. Integrated Honours Program is running since 1996-1997 sessions and to meet the challenges of time four year Honours course was introduced in 1998-99 session. The courses for Honours Programme are designed to maintain a balance between physical, human and environmental Geography. Moreover the courses for MS program 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, reference books, drawing and drafting equipment and cartographic apparatus. The laboratories of the department were not so developed at the beginning but remarkable progress has been made in this regard during the last decade. Now the department has physical, environmental, cartographic and GIS laboratories. Recently, a computerized weather monitoring station has been established by the joint collaboration with Norwegian Geographical Institute (NGI) and Geological Survey of Bangladesh (GSB), Government of Bangladesh.

The teachers of the department are actively engaged in different research activities in different fields of the discipline including agriculture, food security, health, environment, urban, Disaster, coastal zone, sustainable development, resource management, 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. Currently a good number of teachers are also engaged in higher study academic programs in Scotland, Australia and Thailand. Senior teachers of this department are supervising a good number of Masters, M.Phil and Ph.D research works in this department. The department organizes seminar, conference and workshops at regular basis. 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. Most of the teachers of the department are associated with the Bangladesh Geographical Society (BGS) and Bangladesh National Geographical Association (BNGA). The department has also established the Chittagong University Geographical Association (CUGA). All the Students and teachers are member of CUGA.

DEPARTMENT Of GEOGRAPHY AND ENVIRONMENTAL STUDIES
UNIVERSITY OF CHITTAGONG

List of Faculty Members

SL	NAME	DESIGNATION	RESEARCH FIELD
01	Muhammad Muhibbullah	Chairman and Associate Professor	Physical Geography, Environment, Agriculture
02	Dr. Mohammad Abu Taiyeb Chowdhury	Professor	Environment, Sustainable Development, Resource Management
03	Abdul Haque	Associate Professor (in Study leave)	Physical Geography, Coastal Environment
04	Dr. Alak Paul	Associate Professor	Public Health, Disaster Management, Qualitative Methodology
05	M. Edris Alam	Assistant Professor (in Study leave)	Disaster, Population
06	Salma Mamtaz	Assistant Professor	Gender, Climate Change, Waste Management
07	Md. Mahbub Murshed	Assistant Professor	Physical, Environment, Water Resource
08	Kazi Md. Barkat Ali	Assistant Professor	Disaster, Environment, Geo-politics
09	Md. Iqbal Sarwar	Assistant Professor	Urban Environment, GIS, Disaster Management
10	Md. Ali Haider	Assistant Professor	Urban and Population
11	Taj Sultana	Assistant Professor	Physical, Coastal Environment
12	Nasreen Akter	Assistant Professor	Geomorphology, Coastal Environment, Urban
13	Biswajit Nath	Assistant Professor	Geoinformatics
14	Nahid Sultana	Assistant Professor	Coastal Geography and Environment
15	Md. Atiqur Rahman	Assistant Professor	Water, Land and Environment Management
16	Hiamul Islam	Lecturer	Tourism, Regional Planning
17	Naznin Nahar Sultana	Lecturer	Health
18	Shamsun Nahar	Lecturer	Urban planning, Environment
19	Shahidul Islam	Lecturer	

List of Chairman

SL	NAME	PERIOD
01	Professor Dr. Yousuf Sharif Ahmed Khan	04.06.1996 to 29.10.1997
02	Professor Dr. Mohammad Fazlee Hossain	30.10.1997 to 19.02.1998
03	Dr. Mohammad Shahidul Islam	20.02.1998 to 19.02.2001
04	Md. Nurul Islam	20.02.2001 to 11.04.2003
05	Dr. Mohammad Abu Taiyeb Chowdhury	12.04.2003 to 11.04.2006
06	Mr. Abdul Haque	12.04.3006 to 11.04.2009
07	Dr. Maksudur Rahman	12.04.2009 to 24.01.2010
08	Dr. Alak Paul	25.01.2010 to 24.01.2013
09	Muhammad Muhibbullah	25.01.2013 to

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Syllabus for M. Phil Degree

A student admitted to M. Phil. course will have to undertake two years supervised study in the Department of Geography and Environmental Studies under the guidance of supervisor/ supervisors. In case of more than one supervisor, the main supervisor must be from the Geography department and other/others could be from allied disciplines. The M. Phil course in Geography shall consist of (i).written examination on approved course with a viva-voce examination and (ii) submission of a thesis on an approved topic with an oral examination. There will be an examination on the approved courses at the end of the first year, covering 200 marks for two papers from the following (each carrying 100 marks). The pass marks for each course will be 50%. At the end of the second year the student will submit the thesis on the approved topics with the approval of the supervisor/supervisors and will appear oral examination provided the thesis is recommended for acceptance by the examiners. A student may choose any two courses including the following compulsory course **(GES:1001)** from the following courses subject to the approval of the academic committee

Course Code	Course Name	Marks	Credits	Remarks
GES-1001	Advanced Research Methodology in Geography	100	4	Compulsory
GES-1002	Development Geography	100	4	Optional
GES-1003	Geography of Health and Environment	100	4	Optional
GES-1004	Environment and Society	100	4	Optional
GES-1005	Education for Sustainable Development (ESD)	100	4	Optional
GES-1006	Coastal Dynamics and Management	100	4	Optional

GES: 1001	**Title: Advanced Research Methodology in Geography**	**Marks: 100**	**Credits: 4**

SL	Topic
1.	Philosophy and Methodology of Geography: An introduction to the general principles of geographical inquiry and the development of the scientific method.
2.	Selecting and defining research problem, preparing research design/outline: Formulation and testing of hypothesis
3.	Basic techniques: Library research, lab based research, field based research, field survey and sampling, selection of sites
4.	Data collection: Field/library research methods, sampling method and procedure, questionnaire designing and interviewing techniques, observation, field recording techniques. Rapid Geographical Appraisal (RGA)
5.	Data processing: Data analysis and interpretation related statistical cartographic and graphic techniques
6.	Presentation of research results, organization and drafting of thesis research report
7.	Sources: Monograph, reprints, documents, maps, proceedings, electronic media
8.	Management of research files
9.	References: Techniques, footnotes, bibliography sources
10.	Seminar presentation: Techniques
11.	Book review, review of articles, proceedings
12.	Research organization in base of geography: Govt. & NGOs organizations

Selected Readings:

1. M. Nurul Islam (2011), *An Introduction to Research Methods*, Mullick & Brothers
2. Abu Jafar Mohammad Sufian (2009), *Methods and Techniques of Social Research*, UPL
3. C. R. Kothari (2001), *Research Methodology: Methods and Techniques*
4. Earl Babbie (2004) *The Practice of Social Research*, Thomson
5. Black, James, A. & Dean, A. Champion, *Methods and Issues in Social Research*
6. Moser, C. A. & Kalton, G. *Survey Methods in Social Investigation*
7. Turabian, K. L., *A Manual writers of Term Papers Thesis and Dissertation*
8. Babbie Earl, *The Practice of Social Research*
9. Abu Jafar Mohammad Sufian, *Methods and Techniques of Social Research*
10. John & James, *Research in Education*
11. Rahman, Atiqur and Sawkatuzzaman: *Social Research Method (in Bengali)*
12. Zainul Abedin, *Introduction to Research Method*

GES: 1002	Title: Development Geography	Marks: 100	Credits : 4

SL	Topic

1. Meaning of development: Definitions; shifting development paradigms-economic development, social development, human development and sustainable development
2. World development in a historical context; early thoughts on economic growth
3. Classic theories of development and underdevelopment: development as stages of growth-Harrod-Domar growth model, Rostow's stages of growth; structural change model (modernization) - Lewis theory; theory of dependency and colonialism; market fundamentalism
4. Regional geography and comparative area studies; development geography
5. Social theory and regional disparity/ inequality or uneven development
6. Regional political economics: multi polar world, north/south dichotomy
7. Development problems and policies-domestic: poverty and development; population growth and development-causes, consequences and controversies; rural-urban migration and development; problems associated with urbanization
8. Domestic: human capital-education and health in development, gender gap; agricultural transformation and rural development; role of women
9. Domestic: environment and development-the basic issues of environmental degradation
10. Development problems and policies-international: trade and development- international trade and finance, some key issues; the trade policy debate-export promotion, import substitution and economic integration; economic globalization
11. International: balance of payments-north/south issue; developing country debt, and the macro-economic stabilization controversy; foreign finance, foreign direct investment and multinational corporations; foreign aid-controversies and opportunities
12. Development possibilities and prospects: development policy making and the role of the state; nature of development planning; rationale; regional planning and development, decentralization, development participation, governance and reform

Selected Readings:

1. Michael P. Todaro and Stephen C. Smith, 2006, *Economic Development*
2. UNEP 2001, *State of the Environment: Bangladesh*
3. World Commission on Environment and Development 1987, *Our Common Future*
4. Forbes, D.K. 1984, *The Geography of underdevelopment*

GES: 1003	Title: Geography of Health and Environment	Marks: 100	Credits : 4

SL	Topic
1.	Contemporary development of Medical Geography and Geography of Health
2.	The environment as the concern of health and diseases
3.	Concept of Epidemiology in geo-environmental studies
4.	Disease: diffusion, case studies of disease, special emphasis for HIV/AIDS, malaria, TB and other diseases
5.	Hazards in occupational health
6.	Geography of health care and delivery services
7.	Global and local environmental laws and health policy

Selected Readings:

1. Pyle G.F. *Applied Medical Geography*
2. McGlashsan, N.d. (ed.), *Medical Geography: Techniques and Field Studies National Health Report, Bangladesh*
3. Akter, R. *Environment and Health Rowland, Environment and Health*
4. Liliundfeld, Abrahan M, (1988) *Foundation of Epidemiology*
5. Holland W.W. (ed) (1970) *Data Handling in Epidemiology*
6. Gatrell, A.C. *Geographies of health: An Introduction*

GES: 1004	Title: Environment and Society	Marks: 100	Credits : 4

SL	Topic
1.	Environmental Sustainability: Concepts, History, Measurement and Ethics
2.	Geographic Approaches to the Human- Environmental Relationship
3.	Peoples of the Contemporary World and Ecology of our Changing World
4.	Examples of society - environment & social science - physical geography linkages
5.	Conflict and correlation between Environment and Development: Global, Regional and Local level, Conflict management in natural resource
6.	Human Dimensions of Natural Resource Management: Forest, Energy, Water, and Land
7.	Natural Disasters: Local, National and Global causes and effects, Disaster Management
8.	Climate Change: Vulnerability and Coping
9.	Environmental Management: Conservation Strategies of Natural Resource, State Policy for environment, Environmental Economics
10.	Communication, Social Justice and the Environment
11.	Case studies from social science and physical geography

Selected Readings:

1. E. Peter Volpe (1980) *Man Nature and Society: An Introduction to Biology*
2. A. Atiq Rahman (1998) *Environment and Poverty: Key linkages for global sustainable development*
3. H.J. de Blij and Peter O. Muller (2002) *Geography Realms, Regions and Concepts*

GES:1005	Title: Education for Sustainable Development (ESD)	Marks:100	Credits:4

SL	Topic

Block I: Basic Principles- the Global Economic Structure

1. Concept of Development: Definition and meaning; indicators, shifting development paradigm
2. Dimensions of Development: economic, social, human and sustainable development
3. Approaches to the classic theories of economic development; colonialism, dependency and under-development; alternative development
4. Development Geography: Regional disparity; North-South divide; geography of well-being and equity (standard of living, quality of life etc.)

Block II: Problems of Development in LDCs (Domestic)

Demographic, Socio-economic and political aspects of development in LDCs

5. Demographic issues: Population dynamics, causes and consequences of population growth
6. Population Distribution and Movement: Urbanization; rural-urban migration
7. Economic and Social Issues: Poverty, inequality and underdevelopment
8. Gender Dimension: Women in development; education and health issues
9. Democracy and Governance: Community participation and co-management

Block III: Barriers to Development in LDCs (International)

10. Trade Theory: Globalization of trade; export promotion and import substitution
11. Balance of Payments: Developing country debt, foreign aid, and foreign direct investment (FDI)
12. The Role of Multinational Corporations (MNCs) and International Organizations in Development

Block IV: Sustainable Development: Concepts and Approaches

13. Definition, meaning, component, criteria, measures and goals of sustainable development
14. Global environmental policy; key principles of the Earth Charter
15. Environmental Approaches: Human-Centered (economic) and Life-Centered (Ecological)
16. Environmental Ethics: Stewardship, indigenous knowledge and social justice

Block V: Environmental Degradation and Management

17. Environmental Pollution: Air, water, soil, food, sound/noise, social and economic pollution
18. Natural Hazards: Floods, cyclones, drought, water-logging, landslides, earthquake etc.; Disaster management
19. Climate change, adaptation and mitigation
20. Man-made Hazards: dam and reservoirs, bad agricultural practices; technological, urban and industrial problems

Block VI: Natural Resources Depletion and Management

21. Ecosystems: Linking people and ecosystems; viability, services and benefits, drivers of degradation; managing for ecosystems heath
22. Land Degradation: Desertification, drought, urbanization and modern agricultural practices, Deforestation: biodiversity loss and conservation
23. Degradation of Wetlands: Water scarcity and management
24. Energy Resources Depletion : Fossil fuel; renewable energy, nuclear energy

Block VII: Sustainable Agriculture and Rural Development (SARD)

25. Agriculture, Livestock and Fisheries: Food and nutrition security- agro-based approaches
26. HYV/ Genetically modified crops; cycling and use of organic materials in low input farming systems; promote rural energy in transition

27. Promote sustainable technologies; conservation and utilization of agro-biodiversity

Block VIII: Technology and Regulation

28. Legal framework, Technology assessment, Technology transfer, EIA

Block IX: Managing Fragile Ecosystems

29. Biodiversity conservation, Land degradation and desertification,
30. Green economy and ecosystems, Mountain water and watershed management
31. Climate change and disaster risk management

Block X: Socio-economic Well-being and Equity

32. Poverty alleviation, income, food security and nutrition
33. Indigenous peoples issues; gender and development

Selected Readings:

1. Cunningham William P. and Barbara Woodworth Saigo. 1997. *Environmental Science: A Global Concern*, U.S.A.: The McGraw-Hill Companies, Inc.
2. G. Tyler Miller, Jr. (1996) *Living in the Environment: Principles, Connections and Solutions,* Wadsworth Publishing Company, Belmont, California, USA
3. Michael P. Todaro and Stephen C. Smith (2006), *Economic Development-Eight Edition, Pearson Education Asia* (Singapore) Pvt. Ltd.
4. UNEP (2001) *State of the Environment, United Nations Environment Program/UNEP RRC.*AP, Thailand
5. WCED (1987) *Our Common Future, The World Commission on Environment and Development,* Oxford University Press, 1987
6. World Resources Institute (2000) *World Resources 2000-2001: People and Ecosystems,* Elsevier Science: Oxford, U.K.
7. Web-based materials; conference proceedings, SD related research papers and study reports

GES: 1006	**Title: Coastal Dynamics and Management**	**Marks: 100**	**Credits : 4**

SL	**Topic**
1.	Coast: Definition, delineation, major environmental gradients and characteristics
2.	Approaches to study coastal dynamics and environment and relation to allied disciplines
3.	Coastal zones: Types and classification
4.	Coastal dynamics and processes: Waves, tides, winds, ocean current
5.	Coastal influx: Sedimentation, sediment sources and distribution
6.	Biological and chemical influx; Carbon sink, nutrients deposits, plankton
7.	Coastal landform: cliff, sand dunes, shores, beach profile, tidal flat etc.
8.	Estuaries: Definition, types, processes and morphology
9.	Coastal ecosystem: Mangroves and salt marsh, their distribution, characteristics and succession
10.	Coastal disaster: Cyclones, storm surges, tsunamis, erosion
11.	Coastal geomorphology and sea level changes
12.	Coastal dynamics and human interventions
13.	Coastal landuse changes, development activities, environmental degradation, coastal management
14.	Coastal zone management: principles, practices and policies, Coastal zones of Bangladesh

Selected Readings:

1. Rafaelli, D. and Hawkins, S. *Inter tidal Ecology*
2. Pathick, J. *A Introduction to Coastal Geomorphology*
3. Birds, E. C. *Submerging Coast*
4. Snedakar, S.C. and Snedakar, J.G. *The mangrove ecosystem*