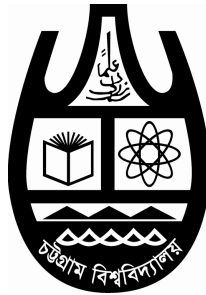


**DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES
UNIVERSITY OF CHITTAGONG**

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.

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**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. Mahub Murshed	Assistant Professor	Physical, Environment, Water Resource
08	Kazi Md. Barkat Ali	Assistant Professor	Disaster, Environment, Geopolitics
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	12.04.2006 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

**DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES
UNIVERSITY OF CHITTAGONG, BANGLADESH**

MS Syllabus for the Sessions: 2013-14 and 2014-15

There shall be two groups in MS courses Group-A: (General group) and Group-B: (Thesis Group). A student may choose any of the above two groups subject to the approval of the academic committee. Each group shall consist of 600 marks in total. The distributions of marks are given as follows:

GROUP-A

(Any six theory courses as decided by individual student and recommended by the academic committee)

Course Type	Course Code	Course Name	Marks	Credits	Total	
					Marks	Credits
Optional	GES-501	Water Resource Management	50	2	300	12
	GES-502	Coastal Geography and Environment	50	2		
	GES-503	Disaster Studies and Management	50	2		
	GES-504	Geography of Tourism and Leisure	50	2		
	GES-505	Urban Planning and Management	50	2		
	GES-506	Rural Development and Planning	50	2		
	GES-507	Geography of Health and Environment	50	2		
	GES-508	Industrial Geography and Environment	50	2		
	GES-509	Climate Change and Human Adaptation	50	2		
	GES-510	Land Use Change & Sustainable Land Management	50	2		
	GES-511	Geography of Gender and Human development	50	2		
	GES-512	Human Resource Development and Management	50	2		
	GES-513	Education for Sustainable Development (ESD)	50	2		
	GES-514	Sustainable Mountain Development	50	2		
Practical courses						
Practical	GES-515 (a)	Project on Bangladesh with Research colloquium (75+25=100)	100	4	200	8
	GES-515 (b)	Land Use Survey	50	2		
	GES-515 ©	Study of Disaster Management	50	2		
Sessional	GES-516	Tutorial+ Class attendance	50	2	50	2
Viva Voce	GES-417	General Viva	50	2	50	2
Total					600	24

GROUP-B

(Any six theory courses as decided by individual student and recommended by the academic committee)

Course Type	Course Code	Course Name	Marks	Credits	Total	
		Theory Courses			Marks	Credits
Optional	GES-501	Water Resource Management	50	2	300	12
	GES-502	Coastal Geography and Environment	50	2		
	GES-503	Disaster Studies and Management	50	2		
	GES-504	Geography of Tourism and Leisure	50	2		
	GES-505	Urban Planning and Management	50	2		
	GES-506	Rural Development and Planning	50	2		
	GES-507	Geography of Health and Environment	50	2		
	GES-508	Industrial Geography and Environment	50	2		
	GES-509	Climate Change and Human Adaptation	50	2		
	GES-510	Land Use Change & Sustainable Land Management	50	2		
	GES-511	Geography of Gender and Human development	50	2		
	GES-512	Human Resource Development and Management	50	2		
	GES-513	Education for Sustainable Development (ESD)	50	2		
	GES-514	Sustainable Mountain Development	50	2		
Thesis						
Thesis	GES-515 (a)	Thesis Marks	150	6	200	8
	GES-515 (b)	Thesis Viva	50	2		
Sessional	GES-516	Tutorial+ Class attendance	50	2	50	2
Viva Voce	GES-417	General Viva	50	2	50	2
Total					600	24

GES: 501	Title: Water Resource Management	Marks: 50	Credits: 2
SL	Topic		
1 2 3 4 5 6 7 8 9 10 11	Water resource management: Concept, scope and importance Phases of human interventions in the water cycle: Atmospheric, watershed, runoff, ground water, maritime Water as finite resource: Supply scenario of surface and ground water Sectors of fresh water demand utilization: Domestic, agriculture, industry, fisheries, navigation and ecology Flood management : Structural and non-structural approaches Water power development: Dams and storage reservoirs, environmental and population displacement concerns, multi-purpose benefits Water quality: Pollution and control strategies Water conservation and demand management (Sectoral prioritization of water use, including water pricing and irrigation efficiency) Water resource policy and planning including institutional framework Transboundary water resource management and hydro politics Environmental issues in water resource development		
Selected Readings:			
<ol style="list-style-type: none"> 1. Abbas, B. M. <i>The Ganges Water Dispute</i> 2. Ahmad, M.(ed), 1989. <i>Floods in Bangladesh</i> 3. Ahmad, Q.K. et. al. (ed), 1994. <i>Converting water into wealth</i> 4. BANCID, 1995. <i>Non-structural aspect of Flood Management in Bangladesh</i> 5. GOB, 1992. <i>Training Manual of Environmental Management in Bangladesh</i> 6. Elahi, K.M. and Rogge, J.R.1990, <i>Riverbank Erosion Flood and Population Displacement in Bangladesh</i> 7. Gleick P.H. (ed), 1993. <i>Water in Crisis</i> 8. Haggart, K. (ed).1994. <i>Rivers of Life</i> 9. Huq, et al. (ed), 1990. <i>Environmental aspects of Agricultural Development in Bangladesh</i> 10. ICID, 1994. <i>Management of International River Basins and Environmental Challenges</i> 11. Miah, M.M.1990. <i>Floods in Bangladesh</i> 12. MPO, 1991. <i>National Water Plan Phases I and II</i> 13. Nishat, A. et. al. 1993. <i>Freshwater wetlands in Bangladesh: Issues and Approaches for Management</i> 14. Ohlsson, L.1992. <i>Hydro policies, Bangladesh Flood Policy Study</i> 15. Morisawa, M. <i>Streams: Their Dynamics and Morphology</i> 16. Leopold, Wolman and Miller. <i>Fluvial Processes in Geomorphology</i> 17. Ward, R. C. <i>Principles of Hydrology</i> 18. Chorley R.J. <i>Introduction to Physical Hydrology</i> 19. Chorley, R.J., Dunn, A.J. and Backinsale, <i>The History of the Study of Land Forms</i> 20. Morton, R. E., <i>Erosional Development of Streams and Their Drainage Basins</i>”, Bulletin of the Geosoc. of America Vol. 56 (175-370) 21. More, R.J. <i>Hydrological Models and Geography</i> 22. Chorely,R.J. & Haggett, P. (ed), <i>Models in Geography</i> 23. Schunum, S.A. <i>The Evolution of Drainage Systems and Slopes</i> 24. Rashid, K.B.S. <i>Water Resources Management</i> 			

GES: 502	Title: Coastal Geography and Environment	Marks : 50	Credits: 2
SL	Topic		
1.	Coast: Definition, delineation, major environmental gradients and characteristics		
2.	Approaches to coastal geomorphology and allied disciplines, historical development and applied coastal geomorphology		
3.	Coastal classification: Open coast, closed coast, rocky coast, muddy coast and sandy coast		
4.	Coastal processes: Waves, tides, winds and shore current		
5.	Coastal landform: Cliff, sand dunes, shores, beaches, tidal flat mud flat, lagoons.		
6.	Coastal sediments: Basic concept of sediment transport, sediment sources, sizes, distribution		
7.	Estuaries: Definition, types, processes and morphology		
8.	Coastal vegetation: Mangroves and salt marsh, their distribution, characteristics and succession		
9.	Coastal resources: Flora and fauna, coral reef, mineral resources		
10.	Coastal disaster: Cyclone, storm surges, tsunamis, coastal flood, erosion, sea level changes salinity intrusion, pollution		
11.	Human impact on the coast: Land use changes, economic activities, coastal tourism, industrial activities, development activities, environmental degradation, climate refugee and migration		
12.	Coastal zone management: Concept, policies, ICZM, land reclamation, coastal zoning, protection and defense, management techniques, community participation, coastal conservation		
Selected Readings:			
1.	Raffaelli D. and Hawkins S., <i>Inter tidal Ecology</i>		
2.	Pathick J. <i>An Introduction to Coastal Geomorphology</i>		
3.	Birds E.C. <i>Submerging Coast</i>		
4.	Snedakar S.C. and Snedakar J.G., <i>The Mangrove ecosystem</i>		
5.	Davis, <i>Coastal Environment</i>		

GES: 503	Title: Disaster Studies and Management	Marks:50	Credits:2
SL	Topic		
1.	Disaster: Concept, definition, scope, importance, related disciplines, disaster and hazard		
2.	Disaster: Types, causes, locations and consequences of disasters (global and Bangladesh): flood, cyclones, tornadoes, earthquakes and volcanism, tsunamis, landslides, bank erosion, sea level rise etc.		
3.	Disaster risk and vulnerability: Concept, measurement, disaster risk and vulnerability assessment		
4.	Natural Disaster Risk Index (NDRI): Global vulnerability index (GVI), approaches to disaster risk reduction (DRR), DRR and livelihood model, DRR and managing risk (hazard analysis and vulnerability analysis), risk reduction measures (mitigation, preparedness -early warning system, principles of emergency preparedness plan, advocacy), DRR in practice (field tools-interviews, survey, community mapping, historical profiling, seasonal calendar, social and gender analysis) analytical and planning tools (hazard characteristics and ranking), resilience (absorbing capacity, buffering capacity, response capacity)		
5.	Disaster mitigation: Approaches, strategies/views: structural and non-structural, environmental, cost-benefit approach, community need assessment		

6. Disaster management: Major issues/challenges, awareness and preparedness, indigenous knowledge, education, training and research, pro-active and re-active concept
7. Management policies: Principles, strategies, acts, roles of government, SOD, CDMP, levels of management, Hugo framework, COP-15, COP-16
8. Disaster studies and management in Bangladesh: Related organizations and their interrelationships, institutional capacity building.
9. International participations: Agenda-20, UNFCCC, IPCC, Kyoto Protocol, COP, MOP, Durban summit
10. Climate change and Bangladesh: Case studies, climatic effect, extreme events, challenges and national strategies

Selected Readings:

1. ADB.1992. *Disaster Mitigation in Asia and Pacific*
2. Ahmad, Q.K. et. al. (ed). 2000. *Perspectives on Flood 1998*
3. Blakie,P. et. al.1994. *At Risk: Natural Hazards, People's Vulnerability and Disasters*
4. Braynt, E., 1993. *Natural Hazard*
5. Elahi, K.M., Ahmed and Mafuzuddin M., 1991, *River Bank erosion, Flood and Population Displacement*
6. IDNDR, 2000. *Natural Disasters: Strategies for Mitigation and Disaster Response*
7. Islam, N.,2005. *Natural Hazards in Bangladesh*, DRTMC, University of Dhaka
8. Mannion, A.M. 1991. *Global Environmental Changes*
9. Miah, M.M. 1990. *Floods in Bangladesh*
10. Nizamuddin,K.(ed), 2001. *Disaster in Bangladesh: Selected Readings*
11. Sahni, P. 2001, *Disaster Mitigation: Experiences and Reflections*
12. SEHD, 1998. *Environment: Facing the 21st Century*
13. Smith, K.1992.*Environmental Hazards: Assessing Risk and Reducing Disaster*

GES: 504	Title : Geography of Tourism and Leisure	Marks : 50	Credits: 2
SL	Topic		
	<ol style="list-style-type: none"> 1. Definition, nature scope and importance of tourism and leisure 2. Types of tourism and leisure 3. Tourism as an industry and service 4. Tourism and related infrastructure 5. Recreational facilities; natural, manmade their development and management 6. Geographical analysis of tourism: approaches, methods, techniques 7. Development of tourism: policy guidelines, organizational setup, institutional framework, eco-tourism and sustainable development of tourism industry 8. Constrains in tourism development: natural, social and economic 9. Tourism industry in Bangladesh: current state and future prospects 		
	Selected Readings:		
	<ol style="list-style-type: none"> 1. Sharpley, R. and Telfer, D.J. (ed.), 2006, <i>Tourism and Development: Concepts and Issues</i> 2. Newsome, David et.al. 2006, <i>Natural Area Tourism: Ecology, Impacts and Management</i> 3. Sharma, K. C. 1996, <i>Tourism: Policy, Planning, Strategy</i> 4. Horner, S. and Swarbrooke, 2004, <i>International Cases in Tourism Management</i> 5. Ganderton, Paul, 2000, <i>Mastering Geography</i> 6. Goswami, B. K. and Raveendran, 2003, <i>A Textbook of Indian Tourism</i> 		

GES: 505	Title: Urban Planning and Management	Marks: 50	Credits: 2
SL	Topic		
<ol style="list-style-type: none"> 1. Urban planning: Nature, concept, definition, need and scope, Geographers` role in urban planning 2. Urban form: Past, present and future 3. Elements in urban planning: policies, planning process, peoples` participation, government and NGOs activities, planning standard (zoning, density control, building code, EIA) 4. Critical urban issues in urban planning: Land use and land zoning, housing structure, slums and squatters; population structure, governance, urban pollution 5. Planning types: Master plan, strategic plan, neighborhood plan, Detail area plan, structural plan, CMMP,DMDP 6. Urban planning in Bangladesh: Status, institutional aspect (RAJUK, CDA), legal aspect, strategies, DAP (Dhaka and Chittagong) 7. Building construction act of Bangladesh 			
Selected Readings:			
<ol style="list-style-type: none"> 1. Keebly, L. <i>Principle and Practice in Town and Country Planning</i> 2. N. Islam & Ahsan, R.M. <i>Urban Bangladesh</i> 3. Islam, N. <i>Urbanization, Urban Planning, Development and Urban Governance</i> 4. Golam, R. <i>Town Planning and Political Culture of Bangladesh of Bangladesh</i> 5. Rao, M.P. <i>Urban Planning: Theory and Practice</i> 6. Gallion, A.B. and Eisner, S. <i>The Urban Pattern: City Planning and Design</i> 			

GES: 506	Title : Rural Development and Planning	Marks : 50	Credits: 2
SL	Topic		
<ol style="list-style-type: none"> 1. Rural development: Definition, concepts and development 2. Elements of rural development: Physical, social, cultural, economic, political etc. 3. Problems of rural underdevelopment: Physical, social, economic etc. 4. Rural land management and land tenure reforms in Bangladesh 5. Rural marketing: Growth and changing nature of the rural markets, marketing channel, marketing structure in rural Bangladesh and China 6. Patterns of rural development in Bangladesh: Government organizations (Bangladesh Rural Development Board, Rural Electrification Board, Local Government Engineering Department, etc.) non-government organizations (National/International NGOs) 7. Rural development models: growth pole concept, schuitz model, comilla model, RDA, grameen bank etc. 8. Rural development planning: Rural land use planning, agriculture and national economy, network of constraints and planning, migration and rural development, rural infrastructure planning (road, electrification tc), rural industrialization 			
Selected Readings:			
<ol style="list-style-type: none"> 1. Cloud, H.D. <i>Rural Geography and Introductory Survey</i> 2. Hamid, A. <i>Palli Unnayan Bangladesh</i> (in Bengali) 3. Baquee, A. <i>Grameen Bashati</i> (in Bengali) 4. Foster, J. at. el. <i>Present Society: A Reader</i> 			

GES: 507	Title : Geography of Health and Environment	Marks: 50	Credits: 2
SL	Topic		
<ol style="list-style-type: none"> 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 			
Selected Readings:			
<ol style="list-style-type: none"> 1. Pyle G.F. <i>Applied Medical Geography</i> 2. McGlashan, N.d. (ed.), <i>Medical Geography: Techniques and Field Studies National Health Report</i>, Bangladesh 3. Akter, R. <i>Environment and Health Rowland, Environment and Health</i> 4. Liliundfeld, Abraham M, (1988) <i>Foundation of Epidemiology</i> 5. Holland W.W. (ed) (1970) <i>Data Handling in Epidemiology</i> 6. Gatrell, A.C. <i>Geographies of health: An Introduction</i> 			

GES: 508	Title : Industrial Geography and Environment	Marks : 50	Credits: 2
SL	Topic		
<ol style="list-style-type: none"> 1. Industrial geography: Definition, objectives, approaches, methods, data sources, and trends in research 2. Recent world industrial pattern: Industrialized countries, underdeveloped countries, historical framework for present world industrial pattern 3. Factors of industrial location: Raw materials, fuel & energy, labour, capital technology, transportation, market, globalization, government policy, EPZ, EEC 4. Industrial location theory: Classical-neoclassical, behavioral, structural approaches 5. Techniques of describing industrial change: Classification of industries, measures of industrial structure, diversification indices, descriptive techniques-percent change, shift & share analysis 6. Regional industrial growth theories, spatial strategies for regional industrial development 7. Impact of industrialization on environment 8. Review of Selected industry of Bangladesh: Jute, Tea, RMG, textile and cotton with industrial policy of Bangladesh 			
Selected Readings:			
<ol style="list-style-type: none"> 1. Lloyd, P. & Dicken, P. (1972), <i>Location in Space: A Theoretical Approach to Economic Geography</i> 2. Truman 2. A., Hartshorn & John and W. Alexander (1988), <i>Economic Geography</i> 3. Watts, H.D. (1987), <i>Industrial Geography</i> 4. Knox, P. & Agnew, J. (1989), <i>The Geography of the World Economy</i> 			

GES: 509	Title : Climate Change and Human Adaptation	Marks:50	Credits:2
SL	Topic		
	<ol style="list-style-type: none"> 1. Climate change: Concept, nature, needs and challenges, related disciplines 2. Climatic variability: Extreme events and their inter-linking 3. Causes of climate changes: Natural causes, man-made causes, theories and hypothesis 4. Global warming: Definition, concept, process, extent, human interaction, global response 5. Adaptation and capacity to climatic change: Types, principles and vulnerability, exposure, sensitivity 6. Impact assessments: Methodologies, vulnerability-adaptation linkage 7. Adaptation strategies: Key elements, types, natural and human dimensions, spatial adaptation (local, regional, national and global), sectoral adaptation (agriculture, water resources, ecosystem and bio-diversity), food security and bio-fuel, settlement and migration 8. Responses and assessment: Global and regional partnership and networking, community responses 9. International participations: Agenda-20, UNFCC, IPCC, Kyoto Protocol, COP, MOP, Durban summit 10. Climate change and Bangladesh: Case studies, climatic effect, extreme events, challenges and national strategies 		
Selected Readings:			
	<ol style="list-style-type: none"> 1. Houghton, J.T. Jekins, G.J. and Ephraums, J.J. <i>Climate Change</i> 2. Huq, S., Karim, Z., Asadzaman, M. and Mahtab, F. <i>Vulnerability Adaptation to Climate Changes for Bangladesh</i> 3. Smith, S.B. (ed.) <i>Adapting to Climate Change: Assessment and Issues</i> 4. Rafique Ahmed, and Dara Samsuddin(ed), <i>Climate Change Issues and Perspectives for Bangladesh, 2011</i> 		

GES: 510	Title : Land Use Change and Sustainable Land Management	Marks: 50	Credits: 2
SL	Topic		
	<ol style="list-style-type: none"> 1. Land: Definition, concepts, scope, development and related disciplines 2. Land inventories: Rural and urban 3. Natural resources survey :Component and scales 4. Land systems and land units: Agro-ecological zones 5. Land degradation: Process, physical and biological loss, chemical change, desertification (natural and man made) 6. Land use: Factors and principles, models (Von Thunen, Coleman, Diagrammatic model, Mc Carty- Lindenberg, Polar and Anti-Polar) 7. Land evaluation: Procedure, utilization types (LUT) and attributes, general crop requirements, land qualities and land characteristics, measuring agriculture productivity 8. Land capability classification (LCC): Concept of land capability (USDA), methods of classification, irrigation suitability classification (ISC), concept of irrigation suitability (USBR), structure of the land suitability classification 9. Land management and planning: Demand for land resources, land conservation, rural land use planning, tools and data sources, fractional method (TVA), RRA and PRA, Agro-ecological transect, Remote sensing and air-photograph, Urban land use planning, Planning process, Land use zoning 		

Selected Readings:

1. Beek, K. J. *Land Evaluation for Agriculture Development*
2. Freeman, T. W. *Geography and Planning*
3. Dent, D. & Young, A. *Soil Survey and Land Evaluation*
4. F.A.O. (1976), *Framework for Land Evaluation*, Soils Bulletin No. 32
5. F.A.O. (1978), *Report on the Agro-Ecological Zones Project, Methodology and Results for Africa*, Worlds Soil Resources Report
6. Harwood, R.R. & E. C. Price, *Multiple Cropping in Tropic Asia*, Symposium “Multiple Cropping” of the America Society of Agronomy, August 1975
7. Islam, M.A., *Environment, Land Use and Natural hazards in Bangladesh*
8. Lounsbury, F.L.& Aldrich, F.T., *Introduction to Geographic Field Methods and Techniques*
9. Mandal, R.B., *Land Utilization: Theory and Practice*
10. Pierce, J.T., *The Food Resource*, New York: Longman Scientific and Technical
11. Purnell, M.F., *The FAO Approach to Land Evaluation and Its Application to Land classification for Irrigation*

GES: 511	Title : Geography of Gender and Human Development	Marks: 50	Credits: 2
SL	Topic		
	<ol style="list-style-type: none"> 1. Geography of Gender: Definition, scope and linkages with related disciplines, development and Interrelationships 2. Gender disparity and gender roles in various societies; geographical differentials 3. Women and men in production processes examples from UDC and DC 4. Gender: Resources and resource control 5. Gender: Economic activities and time use of women 6. Gender and health: Family health and social issues 7. Gender and global change: Feminist, women liberation, women empowerment-geographic dimension from UDC and DC 		
	Selected Readings:		
	<ol style="list-style-type: none"> 1. Momsen, J. H. & Townsend, J. <i>Geography of Gender in the Third World Explorations in Feminism:</i> 2. Women and Geography study group the IBG, <i>Geography and gender: An Introduction to Feminist Geography</i>, Rana Haider, <i>Gender Geography</i> 3. Rosie M Ahsan, Hafiza Katun and Nasreen Ahmed (eds), <i>Gender Geography: Bangladesh perspective</i> 		

GES: 512	Title : Human Resource Development and Management	Marks: 50	Credits: 2
SL	Topic		
	<ol style="list-style-type: none"> 1. Introduction to Human Resource Management: Definition, nature and scope, importance of studying HRM in geography and environmental studies. 2. The human resource management arena: Strategic human resource management, International human resource management. 3. Resource and Talent Management: Human resource planning, principles of people resource strategies in organizations, the factors of HR policy development, acquisition, management and retention of people. 		

4. Organizations and leadership: Recruitment, selection, working environment, role of HR leaders, managing a competitive and harmonious Organization.
5. Performance, appraisal and reward management: Performance management, reward management and the related tools and systems.
6. Developing personal and professional practice (DPPP): Learning and development in key professional and HR leadership skills.
7. Managing employee relations: National employment policy, legal regulation and current perspectives on the management of the employment relationship. Union–management relations, Employee involvement and relations, health and wellness management.
8. Strategies for international HRM: Comparative HRM, managing people across domestic boundaries, managing diversity in a domestic situation and managing a domestic situation affected by international influences, such as international labour law.
9. HRM in Bangladesh: Current and future issues in learning and development.

Selected Readings:

1. Banfield, P. and Rebecca, K., 2008. Introduction to Human Resource Management .Oxford. Oxford University Press
2. Storey, J. (2007) "What is strategic HRM?" in Storey,
3. J. (2007) Human Resource Management: A Critical Text, Thompson
4. Armstrong, Michael (2006). *A Handbook of Human Resource Management Practice* London: UK

GES: 513	Title : Education for Sustainable Development (ESD)	Marks:50	Credits:2
SL	Topic		
1.	Sustainable development: Definition, concepts, components, criteria/ indicators, measures and goals; shifting development paradigm; theory and practice		
2.	Environmental Issues: Environmental degradation and pollution; natural hazards; man-made hazards; disaster management; climate change, human adaptation and mitigation		
3.	Natural Resources Degradation and Depletion: Ecosystems; land, water, wetlands; Life: forest- deforestation, and loss of biodiversity; energy crisis		
4.	Problems of Development in LDCs (Demographic and Socio-economic): Economic growth and progress; poverty, income inequality, regional disparity, North/South divide; population growth, distribution and rural-urban migration; urbanization; food insecurity, hunger, malnutrition, hidden hunger, education and health issues; democracy and governance; people participation, gender dimension- women in development		
5.	Barriers to Development in LDCs (International): Globalization- free trade; balance of payments; developing country debt; foreign aid and foreign direct investment (FDI); role of multinational corporations (MNCs)		
6.	Environmental Approaches to Development: Human-Centered and Life-Centered approaches; environmental ethics, stewardship, indigenous knowledge and social justice		
7.	Global Environmental Policy: Earth Summit, Agenda 21, Rio+20; Key principles of the Earth Charter; Sustainable Development Goals (SDGs);		
8.	Sustainable Agriculture, Rural Development and Food Security: MDGs and the end of hunger; agriculture, livestock and fisheries; HYV/ Genetically modified crops; organic farming- cycling and use of organic materials in low input farming systems; Integrated Pest Management, green economy, rural energy in transition; conservation and utilization of agro-biodiversity		
9.	Sustainable Technologies: Technology assessment; technology transfer		
10.	Regulation: Legal framework; Environment Impact Assessment		

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: 514	Title : Sustainable Mountain Development	Marks:50	Credits:2
SL	Topic		
	<ol style="list-style-type: none"> 1. Sustainable Development (SD): Definition, concept, shifting development paradigm. 2. Components: Sustainable development criteria/ indicators; measures and goals- MDGs 3. Global environmental policy; key principles of the Earth Charter 4. Environmental Approaches: Human-Centered (economic) and Life-Centered (Ecological) 5. Environmental Ethics: Stewardship, indigenous knowledge and social justice 6. Population Dynamics: Composition, growth, distribution and migration 7. Gender Dimension: Women in mountain development; education and health issues 8. Economic and Social Issues: Poverty, inequality and marginalization 9. Governance Issues: Democracy- participatory development and co-management 10. Political Economy: Regional disparity; disadvantage and underdevelopment 11. Development Geography: Spatial variation; distributive justice; well-being and equity 12. Land Resources: Land degradation and desertification in mountain ecosystems 13. Water Resources: Mountain water and watershed management 14. Biotic Resources: Deforestation; biodiversity conservation and mountain ecosystems 15. Atmosphere: Climate change and disaster risk management in mountain areas 16. Agriculture: Sustainable Agriculture, livestock and fisheries in mountain areas 17. Food Security & Health: Poverty alleviation, food security and nutrition in mountains 18. Rural Development: Green economy and sustainable energy in mountain ecosystems 19. Education: Literacy, education, communications, networking and knowledge sharing. 20. Sustainable Technology: Technology assessment and transfer in mountain areas 21. Environment Impact Assessment in mountain areas 22. Legal framework 		
	Selected Readings:		
	<ol style="list-style-type: none"> 1. University of Central Asia, <i>Sustainable mountain development, 2012</i> 2. ICIMOD, <i>Green Economy for sustainable mountain Development 2011</i> 3. ICIMOD, <i>Understanding Mountain Poverty in the Hindu Kush Himalayas</i> 		

For Practical Group (A)			
GES: 515 (a)	Title : Project on Bangladesh Project Report: 75 marks Project Colloquium : 25 marks	Marks:100	Credits:4
GES: 515 (b)	Title : land Use Survey	Marks:50	Credits:2
SL	Topic		
<p>This course will train the non thesis students in field techniques and methods of rural and/or urban land use survey with socioeconomic studies. Field work for the survey is a compulsory and will be arranged by the course teacher. The theme and the survey area will be decided by the academic committee for each year and each student will produce a report based on the field survey.</p>			
GES: 515 (c)	Title: Study of Disaster Management	Marks:50	Credits:2
SL	Topic		
<p align="center">Marks Distribution: Report+ Practical (20+30)</p> <p>(The student will make a field tour in a disaster prone area focusing a specific disaster and submit a report on the basis of findings)</p> <p>a. Practical: Field Based</p> <ol style="list-style-type: none"> 1. Understanding community based DRM or family level DRM (existing/indigenous adaptation) 2. Risk assessment/need assessment/risk mapping by using tools (qualitative checklist analysis, assumption analysis SWOT analysis, expert judgment etc. and quantitative-risk probability and impact assessment, impact matrix, network diagrams) 3. Hazard mapping/ranking/ vulnerability and capacity analysis 4. Developing and implementing standard operation procedure <p>b. Planning section:</p> <p>Developing plans for family, community, organizational plans, design early warning system, disaster response system. However, data will be provided of a imaginary area (coast/rural/urban) on disaster vulnerability or risk. The student will picture a pre-disaster plan for the area/ community people/ vulnerable groups</p>			
Selected Readings:			
<ol style="list-style-type: none"> 1. Edward Bryant, <i>Natural Hazards</i> 1991 2. WMO, <i>Comprehensive Risk Assessment for Natural Hazards</i>,1999 			
GES: 516	Sessional: (Tutorial + Class Attendance)	Marks:50	Credits:2
GES: 517	General Viva	Marks:50	Credits:2

For Thesis Group (B)			
GES: 515 (a)	Title : Thesis	Marks:150	Credits:6
GES: 515 (b)	Thesis Viva	Marks:50	Credits:2
GES: 516	Sessional: (Tutorial + Class Attendance)	Marks:50	Credits:2
GES: 517	General Viva	Marks:50	Credits:2