CURRICULUM
Bachelor of Science (BS) with Honours in Geography and Environment

Academic Session
2024-2025

Department of Geography and Environment
Faculty of Earth and Environmental Sciences
University of Dhaka

Dhaka-1000, Bangladesh

Preface

Although the University of Dhaka was established in 1921, it took another 27 years to establish the Department of Geography in 1947 which finally renamed as Department of Geography and Environment in 1996. In the beginning, the Department was under the family of Science. However, since 2008, the Department is placed under the Faculty of Earth and Environmental Sciences. Department of Geography and Environment, the oldest and largest Department of the Faculty, includes 18 Faculty members, more than 500 students and 15 supporting staffs, is one of the leading institutes to teach Geography and Environment at tertiary level and conduct research in Bangladesh.

At present the Department offers 4 years B.S. (Hons), 1-year M.S. (Thesis or Non-thesis) under three specialised streams; Physical Geography; Human Geography and Urban Geography; along with M.Phil and Ph.D courses. All the programmes are outlined as per the syllabus prepared by the Academic Committee of the Department under the Guidelines of the Faculty and the University. This curriculum and syllabus for 4-year B.S. (Hons) programme for the session 2024-2025 has been prepared under the new guidelines of the Institutional Quality Assurance Cell (IQAC) of Dhaka University, established under the Higher Education Quality Enhancement Project (HEQEP) funded by the World Bank. To prepare this curriculum and syllabus a series of meetings and workshops were conducted, with the involvement of students, faculty members, employees and experts. Finally the curriculum and syllabus was adopted by the Academic Committee of the Department for final approval of the University. The four year duration Bachelor of Science (BS) with Honours in Geography and Environment programme includes 144 Credits in eight academic semesters. The major objectives of this programme are; to provide adequate knowledge to explore the physical and social environmental settings and their interlinks with the human beings; to provide different types of tools and techniques applicable in the field and laboratory for better understanding the wider arena of Geography and Environment; to build the capacity to explore the complex man-environment relationship in the context of resource and environmental planning and management; to create research bend of mind for critical analysis of cause effect relationship among various geographical components and environmental parameters; and to inspire students for higher studies and research in enhancing their competence.

It is a privilege for me that with full support from my colleagues and their hard work it became possible to complete the curriculum and we are going to provide it to the students and teachers of the Department. I firmly believe that with the completion of this curriculum, the quality of teaching and learning of Geography and Environment will enhance significantly.

Finally, I would like to thanks all my colleagues and office staffs for their whole hearted supports to complete the task.

Professor Dr. M. Shahidul Islam
Chairman
July, 2025

Department of Geography and Environment
Faculty of Earth and Environmental Sciences
University of Dhaka

B.S. (Honours) Degree in Geography and Environment

1. Vision of the Department

The vision of the Department of Geography and Environment, University of Dhaka, is to contribute to the nation through high-quality Geography and Environmental education and research; to continue its journey as a center of excellence in international research; and to produce world-class graduates with a full research bent and high competence in attaining sustainable management of natural and human environment in the context of national visionary targets (Vision 2041) and Sustainable Development Goals (SDGs).

2. Mission of the Department

The mission of the Department of Geography and Environment is to produce highly competent graduates through quality teaching, learning and research environment; providing adequate laboratory facilities; technical and instrumental supports for effective fieldworks; collaborative research environment; and facilitating for Human Resource Development (HRD) to face the future challenges at national, regional and global contexts.

3. Title of the Programme

Bachelor of Science (BS) with Honours in Geography and Environment

4. Duration of the Programme

Eight (08) Academic Semesters

5. Objectives of the Programme

The major objectives of this B.S.(Honours) programme are to:

- Provide adequate knowledge to explore the physical and social environmental settings and their interlinks with the human beings.
- Introduce different types of tools and techniques applicable in the field and laboratory for better understanding the wider arena of Geography and Environment.
- Build the capacity to explore the complex man-environment relationship in the context of resource and environmental planning and management.
- Create research bend of mind for critical analysis of cause-effect relationship among various geographical components and environmental parameters.
- Inspire students for higher studies and research in enhancing their competence.
- To offer perception into the complex relationship that exist between people, places and spaces and to inform approaches to different environmental and societal problems and challenges.
- To understand the spatial relationship between human communities and their cultures and traditions as well as their connection with the environments.

6. Assessment:

Distribution of marks for theory courses:

Items	2 Credit	3 credit
Attendance	5	10
Tutorial	5	10
In-course and Assignment	10	20
Course final examination	30	60
Total	50	100

Distribution of marks for practical courses:

Items	2 Credit	3 or 4 credit
Attendance	5	10
Lab work and Assignment	20	40
Course final examination	25	50
Total	50	100

Distribution of marks for fieldwork courses:

Items	2 Credit	3 or 4 credit
Attendance	5	10
Class and field assessment	15	30
Field report	15	30
Course final examination	15	30
Total	50	100

7. In-course Examination:

Course teacher will notify the students about the in-course exam date, question pattern and marks distribution in advance. Students must attend the exam in due date. Option for make-up examination is not available except for those students having solid proof.

8. Class Performance and Attendance

All students are expected to attend every class. However, only attending the class will not sufficient enough to earn class performance points. To achieve that, students have to actively participate during discussion sessions and to finish all class assignments/tasks in time

9. Marks for Attendance:

Attendance (%)	Percentage Total Marks (%)
95-100	10
90-94	9
85-89	8
80-84	7
75-79	6
70-74	5
65-69	4
60-64	3
< 60	0

10. Classroom Rules of Conduct

- Student should be present in the class in time.
- Cell phones and other electronic devices must be switched off or in silent mode during class time.

- Cell phones and other electronic devices will not be allowed during exam.
- Deadline should not be missed.
- Be respectful to your course teacher and to your peers.

11. Resources

Book Chapters, Articles, PPT, Handouts and Internet Sources: Course teacher will provide in class as needed.

12. The Grading System

Each 3 and 4 credit hour course will include 100 Marks and each 2 credit course will include 50 Marks for numerical evaluation. Total marks obtained by a student will be finally converted into Letter Grades and Grade point following the standard scale of the University as follows:

Marks Obtained (%)	Letter Grade	Grade Point
80-100	A+	4.00
75-79	A	3.75
70-74	A-	3.50
65-69	B+	3.25
60-64	B	3.00
55-59	B-	2.75
50-54	C+	2.50
45-49	C	2.25
40-44	D	2.00
<40	F	0.00
I	Incomplete	
W	Withdrawn	

13. Promotion

For promotion from one class year to next class year, a student is required to obtain a minimum GPA (Grade Point Average), only for 1st Semester and CGPA (Cumulative Grade Point Average) for remaining semesters, which are as:

Class Year	Minimum GPA
From First Year to Second Year	2.00
From Second Year to Third Year	2.25
From Third Year to Fourth Year	2.50

14. Degree Requirements

For the B.S. (Honors) degree in Geography and Environment, each student is required to complete 143 credits hours, without any F grade in any course; and a minimum CGPA of 2.50, within a maximum consecutive period of six years after the first admission into the program. To appear in each semester final examination, each student has to complete the form fill-up process as set by the Controller of Examination on payment of all dues

15. Improvement of Grades

A student earning F grade in a course in any year must improve the grade with any of the following two batches and not more than one time. For mid-term examination and *viva vocé*, no improvement is allowed. A student obtaining less than C+ grade in any course may improve the grade by appearing at the year final examination with the following batch only, subject to prior permission from the Department at least three weeks the final examination starts. In such cases, only the better result will be considered.

16. Re-admission

Any student failing to earn required GPA in any year final examination may apply for re-admission with the following batches. In such case all in-course marks/grades obtained earlier by a student shall be cancelled and the student shall have to retake all the in-courses and final examinations. Re-admission shall be allowed only once in a class and not-more than twice during the entire program.

17. Dean's Award

Students obtaining CGPA 3.75 without having any improvement, no F grade and no academic loss during his/her four year program and having at least 90% attendance shall be eligible to receive the Dean‟s Award.

Total Credits	**144**		1st Year	33
GED Credits	**31**		2nd Year	33
GED %	**21.53**		3rd Year	39
			4th Year	39

First Year 1st Semester Courses

Course code	Course title	Credit	GED Credit	
GETh 101	Fundamental Concepts in Geography and Environment	3		
GETh 102	Introduction to Physical Geography and Environment	3		
GETh 103	Introduction to Human Geography and Environment	3		
GEDTh 104	Fundamentals of Economics	3	3	
GELb 105	Cartography and Map Projection	3		
Total credit hours		**15**	**3**	

First Year 2nd Semester Courses

Course code	Course title	Credit	GED Credit	
GETh 106	Region and World Regional Pattern	3		
GETh 107	Biogeography	3		
GEDTh 108	Fundamentals of Anthropology	3	3	
GELb 109	Topography and Geomatic Surveying	3		
GEDLb 110	Fundamentals of Computer	2	2	
GELb 111	Introduction to Research and Fieldwork in Geography and Environment	2		
GEV 112	Viva voce	2		
Total credit hours		**18**	**5**	

Second Year 1st Semester Courses

Course code	Course title	Credit	GED Credit	
GETh 201	Geomorphology	3		
GETh 202	Economic Geography	3		
GEDTh 203	Introduction to Soil Science	3	3	
GEDLb 204	Fundamentals of Programming	3	3	
GELb 205	Fundamentals of GIS and Computer Cartography	2		
Total credit hours		**14**	**6**	

Second Year 2nd Semester Courses

Course code	Course title	Credit	GED Credit	
GETh 206	Cultural Geography	3		
GETh 207	Geography of Natural Resources	3		
GEDTh 208	Sociology of Bangladesh	3	3	
GEDTh 209	Fundamentals of Statistics	3	3	
GELb 210	Fundamentals of Remote Sensing	2		
GELb 211	Research Methods and Fieldwork in Human Geography and Environment	3		
GEV 212	Viva Voce	2		
Total credit hours		**19**	**6**	

Third Year 1st Semester Courses

Course code	Course title	Credit	GED Credit	
GETh 301	Thoughts and Concepts in Geography and Environment	3		
GETh 302	Population Geography	3		
GEDTh 303	Fundamentals of Chemistry	3	3	
GEDLb 304	Application of Statistics in Geography and Environment	2	2	
GELb 305	GIS: Advanced Data Concepts and Spatial Analysis	2		
GELb 306	Map Reading and Interpretation	3		
Total credit hours		**16**	**5**	

Third Year 2nd Semester Courses

Course code	Course title	Credit	GED Credit	
GETh 307	Bangladesh: Geography and Environment	3		
GETh 308	Climatology	3		
GEDTh 309	Fundamentals of Geology	3	3	
GEDTh 310	Coastal Geography and Environment	3		
GEDTh 311	Hazard and Disaster Management	3		
GELb 312	Remote Sensing: Image Processing and Analysis	3		
GELb 313	Research and Fieldwork in Physical Geography and Environment	3		
GEV 314	Viva Voce	2		
Total credit hours		**23**	**3**	

Fourth Year 1st Semester Courses

Course code	Course title	Credit	GED Credit	
GEDTh 401	Advanced Research Methodology	3	3	
GETh 402	Oceanography and Marine Environment	3		
GETh 403	Urban Geography	3		
GETh 404	Rural Geography and Settlements	3		
GETh 405	Environmental Planning and Management	3		
GELb 406	Application of GIS and Remote Sensing	3		
Total credit hours		**18**	**3**	

Fourth Year 2nd Semester Courses

Course code	Course title	Credit	GED Credit	
GETh 407	Political Geography	3		
GETh 408	Transport Geography	3		
GETh 409	Regional Geography of South Asia	3		
GETH 410	Agricultural Geography	3		
GELb 411	Physical Analysis of Environment	2		
GELb 412	Chemical Analysis of Environment	2		
GELb 413	Landuse Survey	3		
GEV 414	Viva Voce	2		
Total credit hours		**21**	**0**	

Curriculum for 1st and 2nd Semester
Session: 2024-25
Total Semester: 08

Total Credit in 1st Year: 33

Total GED Credit in 1st Year: 8

First Year 1st Semester Courses

Course code	Course title	Credit	GED Credit
GETh 101	Fundamental Concepts in Geography and Environment	3	
GETh 102	Introduction to Physical Geography and Environment	3	
GETh 103	Introduction to Human Geography and Environment	3	
GEDTh 104	Fundamentals of Economics	3	3
GELb 105	Cartography and Map Projection	3	
Total credit hours		**15**	**3**

First Year 2nd Semester Courses

Course code	Course title	Credit	GED Credit
GETh 106	Region and World Regional Pattern	3	
GETh 107	Biogeography	3	
GEDTh 108	Fundamentals of Anthropology	3	3
GELb 109	Topographic and Geomatic Surveying	3	
GEDLb 110	Fundamentals of Computer	2	2
GELb 111	Introduction to Research and Fieldwork in Geography and Environment	2	
GEV 112	Viva voce	2	
Total credit hours		**18**	**5**

1st Year 1st Semester

Course Name	**Fundamental Concepts in Geography and Environment**
Course Code & Number	**GETh 101**
Course Type	**Theoretical**
Session	**2024-2025**

Course Information

Course Credit and Marks	**03 (Three); Full Marks 100**
Course Introduction	Geography is a bridge between the human and physical sciences. As a systematic discipline Geography and Environment provides a clear understanding of the Universe and its features. The students are expected to learn about the basics of human and physical geographies and how they support each other while describing any geographical phenomena emphasizing man and environment interactions.
Course Objectives	The course will: • Provide emphasis on the fundamental concepts, major views and themes of geography and environment. • Enhance students‟ knowledge about the development of geographical thoughts and ideas.
Learning Outcomes	After completing this course, the students will be able to: • Understand the basics such as subject matter and branches, scope, purpose and methods of geography and environment. • Get an idea of the brief development history of geographical thoughts and concepts along with major themes of geography and environment.

Course Contents

1. **Geography and Environment:**
   -Definition, subject matter and branches of Geography,
   -Geography as a discipline: Geography as a science, Geography as a social science, The context of Environment in Geography,
   -Purpose, Scope and Methods of Geography and Environment
2. **Fundamental Concepts in Geography:**
   - Location, Distribution and Agglomeration,
   - Process, Interaction and Pattern,
   - Place, Space and Time,
   - Shape, Size and Distance,
   -Thesis, Anti-thesis and Synthesis,
   - Region and Regionalization
3. **Development of Geographical Ideas and Concepts:** (Brief History of the Development of Geographical Knowledge and Concept)

   Ancient Period, Greek and Roman Classical Period, Middle Ages and Renaissance, Muslim Periods, Chinese and Indian Geography in the ancient and Middle Ages
4. **Major Views and Themes in Geography and Environment:** Earth-Science View, Man-Environment View, Regional View, Spatial Organization View, Behavioral View, Ecological View

Essential Readings

Chorley, R. J. and Haggett, P.(ed.) (1967).Models in Geography. London: Methuen
Geoffrey, M. J. and Preston, J. E. (1993). All Possible Worlds: A History of Geographical Ideas. 4th Edition. Johnston, R.J. and James D. S. (2004). Geography and Geographers: Anglo-American Human Geographysince 1945. 6th Edition. Hodder Education Publishers.
Rhoads, M. (1967). Introduction to Geography. Rand McNally & Co, U.S.

Extended Readings

Dohrs, F. E. and Sommers, L.M. (1969). Introduction to Geography: Crowell Company, New York.
Harvey, D. (1969). Explanation in Geography. Edward Arnold: London.
Minshull, Roger M. (1970). The Changing Nature of Geography.
Majid, H. (2015). Evolution of Geographical Thought. 6th Edition. Rawat Publications
Nafis, A. (1981). Muslim Contributions to Geography. Sunwise Turn Ltd. New York.

Course Name	**Introduction to Physical Geography and Environment**
Course Code & Number	**GETh 102**
Course Type	**Theoretical**
Session	**2024-2025**

Course Information

Course Credit and Marks	**03 (Three) Full Marks-100**
Course Introduction	This course introduces the students to the physical environment of the Earth. Physical Geography is a fundamental course to know about the formation and characteristics of the Earth's surface and its interior; the structure, composition and properties of the lithosphere, atmosphere, hydrosphere, and biosphere; and also the processes that drive Earth's physical systems.
Course Objectives	• Describing and explaining the Earth's land surface, atmosphere, oceans and biosphere, and relating them to the dominant natural processes and changes over time. • Developing an impression of the complex inter-relationships inherent in Earth's natural systems. • Understanding the basics of land formation and the processes that shape the landscape. • Understanding the spatial distribution and dynamics of flora and fauna; and their ecological characteristics.
Learning Outcomes	After the successful completion of the course, students will be able to: know the internal structure of the Earth, the physical environmental settings of the earth, and the relationship between different spheres of the Earth.

Course Contents

1. **Introduction**: Physical Geography and Environment: definition; subject matter; historical development; nature, scope and relation with other subjects.
2. **Earth as a Planet**: Origin of solar system and earth, shape and size; rotation and revolution; Geographic grid; world time zone.
3. **Geological time scale:** Definition, divisions and sub-divisions, emergence of plants and animals
4. **Earth's Structure**: Internal structure of the Earth: Crust, Mantle, and Core; composition of the Earth crust (SiAl/SiMa): rocks and minerals (Classification and Properties).

5. **Land forming Processes**: Endogenic process (Volcanism, Earth Quakes); Exogenic process (River, Glacier, and Wind); weathering and erosion;
6. **The Lithosphere**: Different types of landforms; mountains, valleys, plateaus, deltas and deserts. global distribution, landscape ecology.
7. **The Atmosphere**: Composition and structure; weather and climate (factors and elements)
8. **The Hydrosphere**: Global distribution of water (oceans, lakes, glaciers, rivers and wetlands); hydrological cycle.
9. **The Biosphere:** Definition; components; plant and animal kingdom. global distribution

Essential Readings

Strahler, Alan H. (1970).*Introducing Physical Geography (6th Edition)*, Wiley International Edition.
Robinson, H., 1974).*Physical Geography*, Mac Donald & Evans.
Lake, P. (1958).*Physical Geography*. Macmillan's & Co., Calcutta.
Monkhouse, F.J. (1964).*The Principles of Physical Geography*, University of London Press, London

Extended Readings

Barry, R.G. and Chorley, R.J. (2003). *Atmosphere, Weather and Climate (8th Edition)*, Routledge
Holden, J. (2017). *An Introduction to Physical Geography and Environment (4th Edition)*, Pearson Education Limited
Reynolds, S. J., Rohli, R. V. and McGraw-Hill (2015). *Exploring Physical Geography (1st Edition)*
Robert E. Gabler, R. E, , Petersewn J.F. Trapasso, L,M (2007) Essentials of Physical Geography, Thomson Higher Education;
Thronbury, W.D. (1969). *Principles of Geomorphology (2nd Edition)*, John Wiley & Sons New York

Course Name	**Introduction to Human Geography and Environment**
Course Code & Number	**GETh 103**
Course Type	**Theoretical**
Session	**2024-2025**

Course Information

Course Credit and Marks	**03 (Three) Full Marks-100**
Course Introduction	This course offers a foundational core of Human Geography, focusing on the interplay between people, places, and environments. Key themes include population dynamics, cultural landscapes, economic systems, urbanization, political territories, and human-environment interactions. Students will engage with traditional and contemporary approaches, including environmental determinism - possibilism, spatial analysis and general terms of human geography to understand the evolving field of the study on local to global scale.
Course Objectives	The purpose of this course is to: Introduce the foundational concepts, approaches and scope of Human Geography including the key terms of place, space, scale and landscape. • Examine population dynamics, migration patterns and urban development, with a focus on their global and local implications. • Teach theories of human-environment interactions and analyze their applications through real-world case studies. • evaluate the impacts of globalization and emerging challenges in Human Geography by emphasizing planning and policy applications

Learning Outcomes	After completion of the course the students will be able to- • Define the core concepts and approaches of Human Geography including the terms of place, space, scale and landscape. • Analyze the development and methods of Human Geography and their impact on culture and spatial dynamics. • Evaluate population dynamics, demographic models and migration patterns including related policies. • Examine the origins, diffusion and evolution of urban landscapes in developing regions. • Understand human-environment interactions through key theories and real-world case studies. • Explain the impacts of globalization and apply geographic concepts to planning and policy challenges.

Course Contents

1. **Introduction to Human Geography:** Definition, Approaches and Scope of Human Geography, Importance and Applications of Human Geography, Human Geography as Multi-Disciplinary Discipline, Key Concepts of Place, Space, Scale, and Landscape and Perspectives in Human Geography.
2. **The Foundations of Human Geography:** Development of Human Geography as a Discipline, Tools and Methods in Human Geography and Its Impact on Place and Culture.
3. **Population and Migration:** Population Dynamics (Growth, Distribution and Density), Demographic Transition Model, Models of Population growth and Population Policies, Migration (Types, Causes, and Consequences), Concepts of Overpopulation and Under-population.
4. **Geographies of Culture and Landscape:** World division by culture, Cultural landscapes, Cultural variables, Identity and difference
5. **Human-Environment Interactions:** Theories of human-environment interactions, Environmental Determinism, Possibilism, Cultural Ecology, Political Ecology, Human-Environmental System, case studies of human impacts.
6. **Uneven Development and Global Inequalities:** Identifying global inequalities, Explaining global inequalities, Interpreting the significance of global inequalities.
7. **Geographies of Globalization:** Introducing globalization, Interpreting, Conceptualizing, Measuring.
8. **Human Geography in Practice:** Applications of Human Geography in Planning and Policy, Emerging Trends and Future Challenges in Human Geography.

Essential Readings

Fouberg, E. H., Murphy, A. B., & de Blij, H. J. (2015). *Human geography: People, place, and culture* (11th ed.). Wiley.
Knox, P. L., & Marston, S. A. (2016). *Human geography: Places and regions in global context* (7th ed.). Pearson.
Norton, W. (2014). *Human geography* (8th ed.). Oxford University Press.
Peter, D. (2018). *Introduction to human geography*. Pearson.

Extended Readings

Aitken, S. and Valentine, G. (2006). Approaches to Human Geography, Sage Publication, London.
Domosh, M. (2013). Human Mosaic, W.H. Freeman.
Dorrell, D. and Henderson, J. P. (2008). Human Geography, North Georgia University Press, USA.
Fellmann, J. D. (2013). Human Geography: Landscapes of Human Activities, McGraw-Hill Publishing.
Rowntree, L. (2015). Diversity amid Globalization, Pearson, London.

Course Name	**Fundamentals of Economics**
Course Code & Number	**GEDTh 104**
Course Type	**Theoretical**
Session	**2024-2025**

Course Information

Course Credit and Marks	**03 (Three) Full Marks-100**
Course Introduction	The course introduces fundamental economic concepts, focusing on how individuals, businesses, and governments make choices in the face of scarcity to satisfy unlimited wants. This foundational course equips students with the knowledge to understand and analyse economic issues and their implications in the real world. It covers the following areas of Economics: Microeconomics - the analysis of choices made by individual decision-making units (households and firms); Macroeconomics - the analysis of the economy as a whole; Development and Planning – analysis of multidimensional aspects of development, and planning; and Economy of Bangladesh – analysis of socio-economic variables over the years
Course Objectives	• To give a clear idea about the fundamental economic problems and provide adequate knowledge for understanding basic economic theories and practices, and their implications in the economy • To provide students with an understanding of how the modern economy functions in the real world and thereby prepare them to evaluate the state-of-affairs of an economy using an economist's lens. • To enable students to apply their acquired knowledge in different stages of their professional career.
Learning Outcomes	After successful completion of the course, students are expected to be able to: • understand the nature of the discipline, and consumer behavior. • explain key macroeconomic concepts to understand the overall performance of an economy. • discuss the multifaceted aspects of development. • assess implications of different economic policies, and different planning issues for growth and development in the context of Bangladesh.

Course Contents

Microeconomics:

1. Basic concepts of Economics: Scarcity, Choice and Opportunity Costs
2. Demand: The Law of Demand, the Demand Curve, Individual and Market Demand, factors affecting the Demand Curve, Shifts vs. Movement along the demand curve, Elastic and Inelastic Demand
3. Supply: Law of Supply, Supply Curve, factors affecting the Supply Curve, Shifts vs. Movement along the Supply Curve, Elasticity of Supply
4. Market Equilibrium: Interaction of Demand and Supply, effect of a shift in Demand or Supply or both, effect of a Tax or a Subsidy, Price Controls
5. Consumer Behavior: Utility and Choice, Marginal Utility, Diminishing Marginal Utility, Equimarginal Principle, Indifference Curves and their properties, Budget Sets, Equilibrium of the Consumer with Indifference Curves and Budget Sets, Income and Substitution Effects, Deriving the Demand Curve from the Indifference Curves and Budget Sets, Complements and Substitutes, Consumer Surplus

Macroeconomics:

6. Macroeconomic Variables: National Income, Employment, Interest and Price
7. Measuring the Total Activity of an economy: GDP, Real vs. Nominal GDP, Price Deflators
8. GDP and its components: Consumption, Investment, Government Expenditure, Net Exports
9. Macroeconomic Equilibrium: Aggregate Demand – Aggregate Supply Model
10. Money and its evolution

Development and Planning:

11. Dimensions of Economic Development
12. Human Development Index
13. Sustainable Development Goals (SDGs)
14. Project Evaluation: Net Present Value (NPV), Internal Rate of Return (IRR), Cost Benefit Analysis.
15. Multidimensional Poverty Index (MPI)
16. Fourth Industrial Revolution (4IR)
17. Planning: Definition of Planning, Different Stages of Planning

Economy of Bangladesh:

18. Brief profile of the Socioeconomic Status of Bangladesh
19. Population growth, labor force and its distribution, structure and composition of GDP, growth in GDP and Per Capita Income, macroeconomic change since independence
20. Fiscal sector: Budget and its structure, revenue: structure and growth, tax and non-tax revenue: structure and growth, expenditure: structure and trends, financing of the budget

Essential Readings

Hubbard, G. & O'Brien, A. P. (2021c). *Economics*. Pearson. 8th Edition.

মোঃ শাহেদ আলী, *ব্যাষ্টিক অর্থনীতি*, চলক প্রকাশনী (সর্বশেষ সংস্করণ)।

মোঃ শাহেদ আলী, *সামষ্টিক অর্থনীতি*, চলক প্রকাশনী (সর্বশেষ সংস্করণ)।

মনোরঞ্জন দে , দিলীপ কুমার বল, অর্থনৈতিক চিন্তাধারার ইতিহাস (সর্বশেষ সংস্করণ)।

মনোরঞ্জন দে , দিলীপ কুমার বল, বাংলাদেশের অর্থনীতির অধ্যায়ন (সর্বশেষ সংস্করণ)।

Roncaglia, A. (2017). *A Brief History of Economic Thought*. Cambridge University Press.

Hunt, E. K. and Lautzenheiser, M. (2011). *History of Economic Thought: A Critical Perspective.* Third Edition. M. E. Sharpe, Inc.

Extended Readings

Bangladesh Economic Review Latest version.

বাংলাদেশ-অর্থনৈতিক-সমীক্ষা (সর্বশেষ সংস্করণ)।

Salvatore, D. (2008). *Microeconomics: theory and applications*. McGraw-Hill.

Koutsoyiannis, A. (1975). *Modern Microeconomics*. Springer.

Mankiw, N. G. (2007). *Principles of Microeconomics*.

Mankiw, N.G. (2020). *Principles of Macroeconomics*. Cengage Learning.

Dornbusch, R., Fischer, S. and Startz, R. (2011). *Macroeconomics*. McGraw-Hill.

Diulio, E. (1997). *Macroeconomics: theory and problems*. McGraw-Hill.

Sloman, J., Garratt, D. and Guest, J. (2018). *Economics*. Pearson.

A Abdullah (Ed.), *Bangladesh Economy 2000: Selected Issues*, (BIDS, 2001).

Course Name	**Cartography and Map Projection**
Course Code & Number	**GELb 105**
Course Type	**Practical**
Session	**2024-2025**

Course Information

Course Credit	**2 (Two) Full Marks: 50**
Course Introduction	This course emphasis on designing and producing both thematic and reference maps at multiple scales using symbols and visual hierarchies that allows the content of the maps to be effectively communicated.
Course Objectives	The main objectives of the course are: • Understanding the basic concepts of cartography • Achieving precise knowledge on arranging geographic data • Understanding on presenting geographic data • Acquiring knowledge on symbolizing geographic data
Learning Outcome	With the completion of the course, students will be able to understand- □ creating map layouts • labelling maps using cartographic conventions • selecting symbols and colors to suitably represent geospatial data • designing basemap content that supports data interpretation • generalizing and presenting spatial data

Course Contents

1. **Introduction to Cartography:** Definition, History, Importance and Application
2. **Maps:** Definition, History, Importance and uses of maps, Types-based on scale and content, Basic elements of map, Scale: Definition, Types and Use; Construction of scale- Linear, Comparative and Diagonal
3. **Enlargement and Reduction** of Map; Combining map
4. **Distance Measurement** and Area measurement
5. **Map Design and Symbology**: Principles of map design; Cartographic Design; International Colour Scheme; Theory, Models and Perception; Typographic Map Production
6. **Thematic map:** Definition and Concept: Methods/Techniques of Thematic Mapping- Choropleth, Isopleths, Dot, Flow, Proportional symbol, Isarithmic and Diagrammatic method; Cartogram
7. **Map Projection**; Definition and Uses; Classification (Perspective, Non-perspective, Conventional, Cylindrical Conical Zenithal)
8. **Construction of Various Projections** (Graphical and Mathematical) along with their Merits and Demerits, Cylindrical Equal Area Projection, Mercator's Projection, Conical Projection with one Standard Parallel, Bonne's Projection, Zenithal Equal Area Projection

Essential Readings

Markoski, B. (2018). *Basic Principles of Topography*, Springer Geography.
Singh, G. (2009). *Map Work and Practical Geography*, Vikas Publishing House
Singh, R.L. and Singh, R.P.B, (1979). *Elements of Practical Geography*, Kalyani Publishers.

Extended Readings

H. Robinson, Joel L. Morrison, Phillip C. Muehrcke,A. Jon Kimerling, Stephen C. Guptill, (1995). *Elements of Cartography*. John Wiley & Sons Publisher.
Francis John Monkhouse, Henry Robert Wilkinson*(1971).* Maps and diagrams. Methuen young books.
Islam, N (Ed.). (2017). *Bangladesh National Atlas*. Asiatic Society of Bangladesh, Dhaka.
Lambert, N., Zanin, C. 2020. Practical Handbook of Thematic Cartography: Principles, Methods and Applications. 1st Edition. Routledge.
Rana,Pb Singh Rl Singh, (2005). *Elements of Practical Geography*. Kalyani Publishers.

1st Year 2nd Semester

Course Name	**Region and World Regional Pattern**
Course Code & Number	**GETh 106**
Course Type	**Theoretical**
Session	**2024-2025**

Course Information

Course Credit and Marks	**03 (Two); Full Marks- 100**
Course Introduction	This course is an introduction to the region and regional geography basics. The world's major regions seen through their defining physical, social, cultural, political and economic features. The regions are examined in terms of their physical and human characteristics and their interactions. The course emphasizes the role of regions in the globalization process.
Course Objectives	The purpose of the course is to: • expand students' general knowledge of the world by introducing them the physical and human geography of world regions. • recognize the forces of globalization and assess its impacts. • make aware of regional contributions to global pollution and climate change. • gain an understanding of the importance of cities.
Learning Outcomes	Upon completion of this course, students will be able to: • define and explain the geographic concept of "region" and its role in a globalizing world. • locate significant geographic features of regions of the world and describe their cultural, economic, politicaland physical characteristics. • utilize maps to understand locations of places, the connections between place, and spatial patterns and trends of cultural and physical phenomena on the earth. • describe area and population patterns, important historical background, features that create regional unity or division, economic, urban and agricultural patterns, and geopolitical issues that help define each of the world's regions. • apply geographic concepts to understanding current events, conflicts, and issues in a regional context.

Course Contents

1. **Region:** Definitions, Types, Characteristics, World Regionalization, Dynamic concepts
2. **Regional Geography Basics:** Issues of people and land, Political Freedom, Economic Inequality, Global Economy, Natural Environment, Human Development and Human Rights
3. **Globalization and World Regions:** Concepts and Facets of Globalization and Localization, Major World Regions
4. **World Physical Regions:** Characteristics of Physical Regions, Climatic Region, Vegetation Region, Soil Region
5. **World Human Regions:** Characteristics of Humanistic Regions, Cultural Region, Economic Region, Urban Region, Population Region

Essential Readings

Bradshaw, M., White, G.W. and Chacko, E. (2004). *Contemporary World Regional Geography*. 2nd Edition. New York: McGraw-Hill.

De Blij, H.J. and Muller, P.O. (2004). *Geography: Realms, Regions and Concepts*. 11thEdition. John Wiley and Sons, Inc.

Pulsipher, L.M. and Pulsipher, A. (2006). *World Regional Geography: Global Patterns, Local Lives*. 3rd Edition. W. H, Freeman and Company.

Extended Readings

Hobbs, J.J. (2016). *Fundamentals of World Regional Geography*. 4th Edition. Cengage Learning.

Mittal, A. K. (1990). Mandal, R.B. (ed). *Patterns of Regional Geography: An International Perspective*. Concepts Publishing Company, New Delhi.

Short, J. R. (2019). *World Regional Geography: A Short Introduction.* Oxford University Press.

Zaniewski, K., Alberts, H., and Bowen, J. (2018). *World Regional Geography: Places, Peoples, and Cultures.* Cognella Academic Publishing.

Course Name	**Biogeography**
Course Code & Number	**GETh 107**
Course Type	**Theoretical**
Session	**2024-2025**

Course Information

Course Credit and Marks	**03 (Three); Full Marks- 100**
Course Introduction	This course offers the basic understanding of biogeography dealing with the spatio-temporal distribution of plants and animals in the context of biological diversity.
Course Objectives	The specific objectives of the course are to teach students the basic concepts of environments of plants and animals, adaptation, ecological processes, phytogeography, biogeochemical cycling of nutrients, current status of forests and wildlife in Bangladesh as well as the world.
Learning Outcomes	Students will have the basic idea about different plant and animal groups and branches of Ecology and adaptive mechanisms of plants growing in different habitats. They will gain enhanced knowledge about the nature, distribution and evolution of species, extinction and endangering flora and fauna on Earth and their ecological implications.

Course Contents

1. **Biogeography:** Definition; History of biogeography- scope and development; Biogeographic patterns

2. **Evolution, Niche, and the Geographic Range:** Evolution and plate tectonics; Geologic time scale; Dispersal and colonization; The ecological niche- distributions of species and extinction; Pleistocene biogeography and paleoecology

3. **Geographical Distribution of Plants:** Plant growth; Factors of plant dispersal; Types of distribution of plants; Floristic region; Plant succession (types, forms, stages)

4. **Zoogeography:** Animal dispersal and migration; Zoogeographical realms

5. **Ecosystem:** Definition and components; Classification, Structure and components of ecosystems; Food chain and food web; Energy and mineral movement in ecosystem

6. **Distribution and Dynamics of Communities and Biomes:** Distribution of ecological communities; Major biomes of the world- Forest, Savana, Grassland and Desert; Formation classes; Biomes and communities
7. **Biogeography in the Anthropocene:** Geography of biodiversity; Island biogeography and conservation; Climate Change and ecosystem process

Essential Readings

Lomolino, M. V., B. R., Riddle, R. J. Whittaker. 2017. Biogeography, Fifth edition. (5), 730. Sunderland, MA: Oxford University Press. ISBN: 9781605356662

Lomolino, M.V., D.F. Sax, J.H. Brown. 2004. Foundations of Biogeography: Classic Papers with Commentaries. University of Chicago Press.

Haggett, R.J. 2004. Fundamentals of Biogeography, 2nd edition, Routledge: London and New York. ISBN: 978-0415323475

Course Name	**Introduction to Anthropology**
Type of Course	**Theoretical**
Course Code & Number	**GEDTh 108**
Session	**2020-2021 ; 2021-2022**

Course Information

Course Credit & Marks	**04 (Four): Full Marks- 100**
Course Introduction	This course introduces a holistic study of culture. It is designed with a brief introduction on the discipline of Anthropology followed by human social behavior, material culture and cultural diversity.
Course Objectives	• Understand the meaning of anthropology and its orientation. • Understand the importance of culture in the human behavior. • Understand the various aspects of human behavior in the context of culture.
Learning Outcome	• List the fundamental elements of cultural anthropology • Identify the factors that contribute the culture change • Understand the historical evolution of language • Evaluate the significance of race and ethnicity in the society • Identify the adaptive factors that contribute to the sustenance of the human being • Assess the different mode of production in nonindustrial and industrial economies • Evaluate the role of kinship, families and marriage in the society • Identify the importance of political organization in the human society • Appraise the significance of religion in the human society • Understand the role of gender in different form of society

Course Contents

1. **Introduction:** Definition of Anthropology. Sub disciplines of Anthropology. Socio-cultural, Archaeological, Biological and linguistics.

2. **Culture:** Definition, Factors of culture, Ethnocentrism and Cultural relativism, Mechanism of cultural change.

3. **Language and communication:** Call system, Sign language. The origin of language. Structure of language. Historical linguistics.

4. **Ethnicity and Race:** Ethic groups and ethnicity, Race, Nations and nationalities, Ethnic tolerance and accommodation.

5. **Adaptive Strategies and Economic Systems:** Foraging, Cultivation, Pastoralism and Industrialism.

6. **Aspects of economic systems:** Mode of production, Production in nonindustrial societies, means of production, alienation in industrial economies.

7. **Kinship, families and marriage:** Biological kin types and kinship calculation. Kin group and descent group. The nuclear family and extended family.

8. **Marriage:** Endogamy and exogamy. Bride wealth. Plural marriages.

9. **Gender:** Gender among foragers and agriculturists. Matrilineal and Matrifocal society, Patrilineal and Patrifocal societies. Gender among the agriculturists. Patriarchy and violence. Gender and industrialism.

10. **Belief systems:** why do we have religion? What are the functions, benefits and problems? Shamanism, animism, Olympian religion and monotheism. Distribution of major religions of the world.

11. **Political organizations and human interaction:** Role of political organization, involvement of human in politics, impacts of politics in the state and human society.

Essential References

Kottak, P.L (2012).*Anthropology*. McGraw Hill, New York.
Kottak, P.L (1991). *Mirror for Humanity.* McGraw Hill, Boston.
Hoebel, E.A (1966). *Anthropology*: A Study of Man. McGraw Hill, USA.

Extended Readings

Crate, S.A and Nuttall, M (2016). *Anthropology and Climate Change*. 2nd edition. Routledge. London.
Ember, M and Peregrine, P.N (2014). *Human Evolution and Culture*. 8th edition. Pearson.
Ember, C.R and Melvin, E (1988*). Anthropology*. Prentice Hall. New Jersey.

Course Name	**Topographic and Geomatic Survey**
Course Code & Number	**GELb 109**
Course Type	**Practical**
Session	**2024-2025**

Course Information

Course Credit and Marks	**3 (Three) Full Marks: 100**
Course Introduction	Topographic and Geomatic surveying are used to identify and map the physical and human features of a land area. Topographic and geomatic surveys play a crucial role in determining opportunities, assessing unpredictable issues and enabling a thorough plan when undergoing any project on a building or area of land.
Course Objectives	The specific objectives of the course are as follows: • To understand the types of topographic and Geomatic surveying used in Geography and Environment. • To exercise Chain and Tape and Plane Table surveying for mapping geographical areas. • To use level and leveling instruments for identifying altitudes of point locations. • To prepare maps by using Total Station instrument. • To identify latitude and longitude and plot the tracking routs by using GPS. • To prepare contour maps by using data gathered from Level, Total Station and GPS.
Learning Outcome	After completing the course, students will be achieved the following outcomes: • The types of topographic and geomatic surveying will be understood. • Mapping geographical areas will be accomplished. • Identification of altitudes of point will be learned. • Mapping of a geographical area with point heights will be performed. • GPS tracking will be performed for generating rout maps. • Contour maps will be prepared by using point heights.

Course Contents

1. **Introduction:** Definition, purpose and types of surveying (by purpose, methods and instruments), understanding scales and maps.
2. **Plane Surveying:** Understanding and conducting different types of plane surveying.
3. **Levels and Levelling:** Definition, types, instruments, and procedures of conducting levelling survey.
4. **GPS Survey:** GPS principles and surveying with GPS.
5. **Total Station Survey:** Understanding the machine and its operations, procedures of surveying with a Total Station, and management and reporting of collected data
6. **Drone Survey:** Understanding the machine and its operations, and procedures for conducting a drone survey.
7. **Contouring**: Definition and characteristics of contour, data acquisition and mapping techniques

Essential Readings

Shingh, R.L. (1979). *Elements of Practical Geography*, Kalyani Publishers, India.
Keates, J.S. (1973). *Cartographic Design and Production*, Longman Group Ltd., London.
Uren, J. and Price, W.F. (2006). *Surveying for Engineers*, 4th edition, Palgrave Macmillan, New York.

Course Name	**Fundamentals of Computer**
Course Code & Number	**GEDLb 110**
Course Type	**Practical**
Session	**2024-2025**

Course Information

Course Credit and Marks	**02 (Two); Full Marks 50**
Course Introduction	This course provides a general introduction to computers with an emphasis on computer literacy, particularly for students in geography and environmental studies. Topics covered include hardware, software, operating systems, data communications, applications software, and information systems. The course also emphasizes the use of computers for research work, data analysis, report generation, and effective communication in the field of geography and environment.
Course Objectives	The main objectives of the course are: • To understand the basic concepts of computer programming and hardware/software integration. • To gain proficiency in using computers for basic tasks such as word processing, internet browsing, email communication, and handling data. • To acquire the necessary skills for managing and analyzing environmental and geographic data. • To learn how to operate Microsoft Office tools, including Word, Excel, PowerPoint, and Google services, which are crucial for academic and research tasks in geography and environment.
Learning Outcomes	Upon completion of the course, students will be able to: • Demonstrate understanding of computer hardware, software, and operating systems to perform basic tasks effectively. • Use word processing tools to create, format, and share professional-quality documents for academic and research purposes. • Apply spreadsheet functions and tools to manage, analyze, and visualize data for decision-making and problem-solving. • Design and deliver effective presentations using PowerPoint, incorporating multimedia elements and animations. • Understand and apply the basics of internet usage, including web browsing, troubleshooting connectivity issues, and accessing e-governance platforms. • Master communication and collaboration tools like email, Google Docs, and other cloud-based services to enhance teamwork and productivity. • Utilize Google services (Forms, Sheets, Slides, Drawings) for academic tasks and data management, promoting collaborative learning.

Course Contents

1. **Introduction to Computer and Computer Hardware & Software**
   Introduction to computers, basic computer organization, fundamental applications of computers; key components of a computer system (CPU, memory, storage, input/output devices).

2. **Computer Operating System**
   Overview of popular operating systems (Windows, MacOS, Linux); understanding the user interface, managing files and folders, basic system settings, and customization.

3. **Perform Word Processing**
   Basics of word processing; opening, closing, and saving documents; text creation and formatting, paragraph alignment, and page setup; table handling, spell check, language settings, and thesaurus; printing and sharing documents.

4. **Perform Spreadsheet and Microsoft Excel**
   Fundamentals of spreadsheets; cell manipulation, formulas and functions; editing and formatting spreadsheets; data visualization with charts and graphs; printing options and spreadsheet layouts.

5. **Perform Microsoft PowerPoint**
   Basics of PowerPoint; designing slides, adding multimedia, slide transitions, and animations; formatting, customizing slide layouts, and creating a cohesive presentation; presenting and exporting slides.

6. **Introduction to Internet, WWW, and Web Browsers**
   Basics of computer networks, understanding LAN and WAN; overview of the internet, internet connectivity, troubleshooting connectivity issues; World Wide Web concepts, understanding URLs, domain names, IP addresses; accessing e-governance websites.

7. **Communications and Collaboration**
   Essentials of electronic mail, setting up an email account, sending and receiving emails, organizing and archiving emails; document collaboration, instant messaging, and netiquette guidelines for effective online communication.

8. **Applications of Google Services**
   Overview of Google tools for collaboration and productivity; Google Forms for surveys and data collection, Google Docs for collaborative document editing, Google Sheets for data management, Google Slides for presentations, and Google Drawings for diagramming.

9. **Cloud Storage and Collaboration Tools**
   Understanding cloud storage services like Google Drive and OneDrive; managing, sharing, and collaborating on academic and research files in real-time.

Essential Readings

1. N. Subramanian (1986). *Introduction to Computers: Fundamentals of Computer Science*.
2. Norton, Peter (2010). *Introduction to Computer*. McGraw Hill India, 7th Edition.
3. Mohammad Lutfor Rahman, M. Alamgir Hossain (2016). *Computer Fundamentals*. Systech Publication Ltd., Dhaka, Bangladesh.

Extending Readings

1. Manaullah Abid, Mohammad Amjad (2015). *Fundamentals of Computers*. International Publishing House.
2. Rajaraman V, Adabala N (2014). *Fundamentals of Computers*. Prentice Hall India Learning Private Limited.
3. Pradeep K. Sinha, Priti Sinha (2019). *Computer Fundamentals*. BPB Publications, Daryaganj, New Delhi.
4. D. P. Nagpal (2021). *Fundamentals of Computer*. S. Chand And Company Limited.
5. Microsoft Office: *Microsoft Word*. Available at: http://www.microsoft.com.

Course Name	Introduction to Research and Fieldwork in Geography and Environment
Course Code	GELb 111
Course Type	Practical (Fieldwork)
Session	2024-25

Course Information

Course Credit	**2 Credit Full Marks=50**
Introduction	This course introduces the foundational concepts of research and fieldwork to the students. Through a combination of lectures, discussions, readings, and fieldwork, students will be acquainted with the theoretical basics of research and practical applications.
Objectives	By the end of this course, students will be able to: • understand the basic concepts, types, and significance of research in geography. • explain the meaning, scope, and importance of fieldwork. • identify and apply key steps in the geographical research process. • collect and interpret both primary and secondary data from natural and human environments. • prepare and present a structured geographical field report based on field observations.
Learning Outcomes	Upon successful completion of this course, students will be able to: • define and describe core research concepts in geography. • plan and conduct basic field investigations. • observe and record data from physical and human environments. • analyze collected data using simple tools and techniques. • write and present a coherent fieldwork-based research report.

Course Contents

1. Research in Geography: Concepts and types of research, importance, research process, scope and nature of geographical research

2. Introduction to Fieldwork: Meaning, Scope, Nature and importance

3. Steps of Research: Identification of research problem, Literature review, Research Gap, Research questions and objectives, Research design

4. Site Selection for fieldwork: Site selection, Criteria of site selection, Reconnaissance

5. Data Collection Procedure: Primary data, Secondary sources of data, Merits and demerits of each type data sources Observation techniques and interview methods for data collection,

6. Observation of Natural and Human Environment: Landforms and soil condition, Landuse and landcover, Water bodies, Settlement pattern, Road network, Culture, Society, Economic, Activities etc.

7. Research Ethics: Ethical approval, Consent of participants, Respect to cultural sensitivity, Anonymization, Integrity and honesty, Plagiarism

8. Fieldwork and Activities: Preparation for fieldwork, Field activities, Data collection and recording etc.

9. Report writing: Data processing, Data manipulation, Data analysis, Data presentation, Preparation and submission of Report

10. Reference and Bibliography: Common referencing style, In-text citations and full reference, Bibliography

Essential Readings

Clifford, N. J., Holloway, S. L., Rice, S. P., & Valentine, G. (eds.). (2009). *Key concepts in geography* (2nd ed.). SAGE Publications Ltd.

Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd ed.). New Age International Publishers.

Gouide, A. (1990). *Techniques in Physical Geography,* Routledge, London