

Department of Geography

Programme Outcome:

• Course- Outcome of Geography Undergraduate Program

A study of Geography of the undergraduate level entails the study of Geo tectonic, Geomorphology, Bio Geography, Soil Geography, Human Geography, Cartography and its Methods and Techniques. The correlation between nature and human can only be well understood through this discipline. The mapping techniques are guides to represent all the physical, social, cultural features maintaining proper scaling and elaborative description. The surveys and other projects & analysis are very helpful in carrying out a research carrier for the students. Besides this practical course imparts training and skills of map making, field survey and research. The classroom teaching is sufficiently supplemented by the invited lectures, workshops and field excursions. With the introduction of Geo- informatics comprising techniques such as Remote Sensing, GIS, GPS etc., the capacity to attempt analysis has increased tremendously. As geography is divided into various branches which have further scope future study like Climatology, Oceanography, Remote sensing and GIS After completion of this programme students can get ready not only for jobs but also for various research activities in National and International level.

• Program Outcome

After the completion of undergraduate program, the students will be able to assimilate the following program outcomes which can be divided as follows:

1. Knowledge outcomes:

- Concrete knowledge about the basic disciplines of Geography and its sub branches.
- Know the basic concepts and terminologies used in Geography like interior of the earth, plate tectonic, sea floor spreading, population growth, disasters, composition and structure of atmosphere, hydrosphere, etc.
- Get information about the causes and effects of local, national and international problems like global warming, acid rain, ozone depletion, soil degradation, deforestation etc.

2. Skill outcomes:

- Carry out surveying and learn the art of map making using surveying techniques.
- Developing strong foundation on various statistical techniques, Construct various types of projections and scales as per requirement of the study.
- Collect primary and secondary data in the field.
- Apply various statistical formulas to analyze data in completion of the project.
- Use cartographic techniques with the help of simple software techniques like MS Excel.
- Handle topographical and weather maps and interpret them.
- Know about Geographical Information System (GIS) and Remote Sensing (RS) and their utility in day-to-day life.

• **Program Specific Outcome- B.Sc. Geography (Honours & General)**

1. Students will acquire knowledge about the various tectonic processes for the formation of present-day continents along with the features.
2. They will even come to know about the evolution of different landforms and related processes.
3. At the end of the course, students will learn to prepare their own maps on the basis of statistical data and will be able to analyse spatial data.
4. Students will also develop clear understanding of various atmospheric processes which influence our day-to-day weather patterns.
5. They will also know how to analyse statistical data.
6. They will have a clear knowledge about remote sensing and its utility. It will be very helpful in different geographic research techniques in resource management practices.
7. Students will have a clear understanding of the regional geographical approaches at the backdrop of India in general and West Bengal in particular.
8. Students will understand through the lectures the interconnection between people and places in different regions, the distribution of economic activities.
9. Understand the world-wide distribution of hazards and disasters and know the similarities and differences between natural and technological disasters.
10. Acquire the skills to use information technology to access current disaster-relevant information for assessing, planning, mitigating, responding to and recovery from disaster from local through global levels.
11. The students will be able to work with interdisciplinary dimensions of human geographical processes and their impacts and spatial aspects at different scales.
12. Developing a sustainable approach towards the ecosystem and the biosphere with a view to conserve natural systems and maintain ecological balance and understand about spatial pattern and geographic characteristics of plants and animal and their habitats.
13. Students will be able to learn about the globalization processes and their geographical implications, transformation of cities, regions and landscapes, migration, urbanisation, rural-urban connection and land use change.
14. The students will be able to briefly analyze bivariate and categorical data and know the sequential development of probability theory, its analysis for univariate and bivariate distribution.
15. The students will get an idea about the importance of Statistics for the development of our country and how the statistical system in India works.
16. Develop and capability of observation through field experience so that the students will be able to identify the socio- environmental problems of a locality as well as will be able to analyse the problems of both physical and cultural environment.

Course Outcome
Subject – Geography (Hons.)

Semester-I

C1T: Geotectonics and Geomorphology (GEOHCC01T)

- The students will be familiar with the Geological time scale, earth's interior with reference to seismology and concept of Isostasy specially models of Airy and Pratt.
- Development of idea regarding plate tectonics, hot spot, land forms created by endogenetic and exogenetic forces.
- Understanding the processes of erosion, deposition and resulting landforms by various erosive agents.
- Development of idea of landscape evolution like Davis, Peck, King etc.

C2T & P: Cartographic Techniques (GEOHCC02)

- Map as tool of Geography, helps student to grasp spatial ideas more precisely.
- Gain knowledge about topographical maps and apply this knowledge in ground surface.
- Develop an idea about scale and draw different types of scale like linear, diagonal and vernier and their importance in the cartography.
- Acquire knowledge about different types of map projections and their utility in constructing the various types of map.

GE1T: Disaster Management

- This part of syllabus developed the idea about the concepts of Hazards, Disasters, Risk and Vulnerability along with causes and consequences of various types of hazards.
- Emphasis the indigenous Knowledge and Community-Based Disaster Management; Do's and Don'ts During and Post Disasters,
- It helps to bring the ideas of Emerging approaches to Disaster management in Pre-disaster stage, emergency stage and post disaster stage.
- Gain knowledge about national and international policies for disaster management and use of geospatial technology (RS, GNSS and GIS) in disaster management.

Semester-II

C3T: Human Geography (GEOHCC03)

- Gain knowledge about major themes of human Geography
- Acquire knowledge on the history and evolution of humans.
- Understand the approaches and processes of Human Geography as well as the diverse patterns of habitat and adaptations of different tribes.
- Develop an idea about race and ethnicity and the difference between them.

C4T&P: Cartograms and Thematic Mapping (GEOHCC04)

- Comprehend the concept of scales and representation of data through cartograms.
- Develop an idea about different types of thematic mapping techniques.
- Learn the usage of survey instruments and concepts of bearing to develop surveying skills.
- Brings direct interaction of different types of surveying instruments like Dumpy level and Prismatic Compass and their utilization in conducting the survey.

GE2T: Geospatial Technology

- This build up the ideas of components, scope and historical development of geospatial technology along with concepts of spheroid, ellipsoid and projection systems like UTM.
- Develops ideas of the classification of Remote Sensing platforms, sensors and resolution. IRS (Resourcesat and Cartosat) and Landsat system, Principles of georeferencing of maps and images.
- Emphasis on Principles of satellite positioning and navigation. Collection of waypoints and exporting to GIS and Principles of preparing DEMs from optical and RADAR sensors with reference to Carto DEM and SRTM data.

Semester-III

C5T: Climatology (GEOHCC05)

- Understand the elements of weather and climate, different atmospheric phenomena and climate change.
- Learn to associate the greenhouse effect and importance of ozone layer on the atmosphere.
- To analyze the dynamics of the Earth's atmosphere and global climate. Assessing the role of man in global climate change.
- Learn the interaction between the atmosphere and the earth's surface and understand the importance of the atmospheric pressure and winds.
- Understand the mechanism of precipitation (Bergeron and Collision and coalescence)
- Understanding the mechanism of monsoons and jet stream, tropical and mid latitudinal cyclone.
- Students can acquire the knowledge about the different types of climatic classification given by several geographers, viz, Koppen, Thornthwaite, Oliver etc.

C6T&P: Statistical Methods in Geography (GEOHCC06)

- Recognize the importance and application of Statistics in Geography.
- Interpret statistical data for a holistic understanding of geographical phenomena.
- Know about different types of sampling, need and methods of random sampling.
- Learn to use tabulation of data, collection formation of statistical tables.
- Gain knowledge about association and correlation, regression and time series analysis and their uses in various socio- economic data.

C7T: Geography of India (GEOHCC07)

- The objective of the course is to understand India in terms of physiographic divisions, their important characteristics and their formation according to various tectonic and stratigraphic provinces during different areas.
- In depth knowledge of climate, soil, natural vegetation, agriculture, energy resources and industries of India.
- To familiarize the students with new modern technical methods and their applications in Agricultural activities.
- To familiarize the students with both physiographic and economic regionalization of India.
- To gain a vast knowledge about the physical perspectives, resources, population and regional issues of West Bengal.
- To learn about the various regional problems of Darjeeling Hills and Sundarbans and try to resolve those issues by taking various measures.

SEC1T: Coastal Management (GEOHSEC1)

- The main objective of this part of the syllabus is to obtain knowledge about various aspect of coastal management.
- The course mainly emphasis on components of coastal zones, coastal morphodynamics, coastal hazards, dune degeneration, coastal pollution etc.
- This part also gives a concrete idea about the coastal management, impact of tourism near the coastal areas, coastal regulation zones with reference to India.

GE3T: Geography of Tourism

- Build the concrete ideas about the concepts and issues of tourism, recreation and leisure and geographical parameters of tourism by Robinson.
- Have the ideas of types of tourism like ecotourism, cultural tourism, adventure tourism, medical tourism, pilgrimage etc.
- Have emphasis on environmental laws and tourism, current trends, spatial patterns and recent changes role of foreign capital and impact of globalization on tourism.
- Emphasis on tourism in India with some Case Studies of Dal lake, Goa, Garhwal Himalaya, Desert and Coastal Areas and promotion of Tourism - National Tourism Policy.

Semester- IV

C8T: Regional Planning and Development (GEOHCC08)

- To acquire knowledge about the concept of regional planning and development, their utilisation in different fields of geography.
- Understand and identify regions as an integral part of geographical study.
- Appreciate the varied aspects of development and regional disparity, in order to formulate measures of balanced development.
- Analyzing the concept of regions and regionalization.
- Gain knowledge about definition of region, evolution and types of regional planning. Develop an idea about choice of a region for planning.
- Build an idea about theories and models for regional development and their utility in today's world. Know about measuring development indicators
- Conceptualizing the idea about the need for regional planning in India.

C9T: Economic Geography (GEOHCC09)

- Understand the concept of economic activity, factors affecting location of economic activity. Gain knowledge about different types of Economic activities
- Assess the significance of Economic Geography, the concept of economic man and theories of choice.
- Analyze the factors of location of agriculture and industries.
- Understand the evolution of varied types of economic activities.
- Understanding the concept of International Trade and their interrelationships with various economic blocs.
- To familiarise the students with the factors affecting the location of economic activities related to agriculture and industry.
- To get an idea about the various primary, secondary and tertiary activities.
- Understanding of agricultural systems with the help of various case study.

C10 T&P: Environmental Geography (GEOHCC10)

- Gain knowledge about concept, scope of environmental geography and components of environment.
- Develop an idea about human-environment relationships.
- Build an idea about ecosystem.
- Know about environmental programmes and policies and their management.
- They can come to know about the preparation of the questionnaire on the basis of perception survey on environmental problems.
- Can gain knowledge about doing the project on environmental problems.
- The course will also enlighten students to develop the concept and preparation of the checklists for Environmental Impact Assessment related to the development of specific lists of projects under various sectors.

SEC2T: Research Methods (GEOHSEC2)

- Students learn about the types of data and methods of data collection and also study the processing and analysis of data.
- Understanding the basic objectives and hypothesis of research enquiry.
- Assessing the different qualitative and quantitative techniques of research.
- Enable the students to write the research report

GE4T: Regional Development

- Analyzing the concept and types of regions.
- Enable the students to analyze various characteristics and parameters used for delineating the planning regions.
- Build an idea about theories and models for regional planning.
- Know about measuring development indicators.
- Understand about the regional development, regional inequality, disparity and diversity in India.

Semester- V

C11T&P: Field Work and Research Methodology (GEOHCC11)

- Learn the significance of field work in geographical studies.
- Understanding the meaning and significance of fieldwork in geographical studies and identifying the various methods of conducting the survey.
- Know about different types of field techniques and tools.
- Develop an idea about research problems.
- Develop skills in photography, mapping and video recording.
- The outcome of this syllabus will be to prepare a field report project based on primary data collected from the field.
- The topic will cover both physical and socio-economic aspects of that particular chosen area
- Analyse the data by using different statistical techniques.

C12T&P: Remote Sensing and GIS (GEOHCC12)

- Have knowledge of the principles of remote sensing, sensor resolutions and image referencing schemes.
- The objective of the course is to introduce to the students the basic principles of remote sensing and the methods of digital interpretations of satellite images.
- The course provides hands-on- training on the basic elements of GIS and its areas of applications and contemporary mapping skills.
- Apply GIS to the preparation of thematic maps.
- Use GNSS.
- They can understand the GIS Data Structures and develop an idea about GIS Data Analysis.
- Know about the application of GIS.

DSE1T: Hydrology and Oceanography (GEOHDSE1)

- Analyse the concepts of Hydrology and Oceanography.
- Emphasizing the significance of groundwater quality and its circulation
- Evaluate the role of the global hydrological cycle.
- Studying the behaviour and characteristics of the major relief features of the global ocean and origin according to plate tectonics.
- Introduce students to the physical and chemical properties of ocean water, distribution and determinants of ocean temperature and salinity.
- Realize the importance of water conservation.
- Identify marine resources and characteristics of ocean waters.
- Students will be able to understand about the types causes of sea level changing.

DSE2T: Resource Geography (GEOHDSE2)

- Analyze the contemporary energy crisis and assess the future scenario.
- Understand the concept of Limits to Growth, resource sharing and sustainable use of resources.
- Analyze the decadal changes in state-wise production of coal and iron ore.
- Learn about the various resource conflicts and their management with special reference mineral resources and energy resources.
- To learn about the significance of resources in the economic growth and development of a country.
- It also aims to create an awareness amongst the students about the idea of sustainable use of resources.

Semester-VI

C13T: Evolution of Geographical Thought (GEOHCC13)

- Perceive the evolution of the philosophy of Geography.
- Appreciate the contribution of the thinkers in Geography.
- Give power point presentations on different schools of geographical thought.
- Discussing the evolution of geographical thought from ancient to modern times.
- Establishing relationship of Geography with other disciplines and man environment relationships.
- Analyzing modern and contemporary principles of Empiricism, Positivism, Structuralism, Human and Behavioural Approaches in Geography.
- Build an idea about the dichotomous nature of Geography.
- Develop an idea about evolution of geographical thinking and disciplinary trends in Germany, France, Britain, and United States of America.
- Know about the trends of geographical thoughts under different eras.

C14T&P: Disaster Management (GEOHCC14)

- Students would be aware of concept of disaster and its relationship with Geography.
- Classify various types of disasters.
- Understand terminology and concepts used in Disaster Management.
- Elaborate structural and non-structural measures used in Disaster Management.
- Discuss causes, effects of disasters and locate areas on the map.
- Differentiate global issues and describe their causes, effects and remedies.
- To study about the different hazard study with focus on India.
- Familiarizing students to prepare and submit a project report based on different topics provided to them on any one case study of disasters of West Bengal incorporating a preparedness plan.

DSE3T: Soil and Biogeography (GEOHDSE03)

- Have knowledge about the character and profile of different soil types.
- Understand the impact of man as an active agent of soil transformation, erosion and degradation.
- Recognize land capability and classify it.
- Explaining the Pedological and Edaphological Approaches to Soil Studies - Processes of soil formation, types of soil, and principles of soil and land classification; and management.
- Understand the varied ecosystems and classify them.
- Recognize the significance of biogeochemical cycles and biodiversity.
- Comprehend the devastating impact of deforestation.
- Identify soil types and derive their pH.
- Students should know the concept, need and methods of soil management.

DSE4T: Urban Geography (GEOHDSE04)

- This section aims at the nature and scope of urban geography and also indicates the recent trends of urban geography.
- Theories of urban evolution and growth, rank size rule, concept of Primate city are explained here to give the idea of urban theories.
- Concept of urban hierarchy like central place theory, August Losch theory also included here.
- Various urban polices, urban issues like slums, civic amenities, urban landscape are also discussed here with special reference to India.
- Some urban case studies are also highlighted like Delhi, Kolkata, Chandigarh with reference to land use.