

3rd Year / 5th Semester

CE 327: Elements of Solid Mechanics

3.0 credits; 3 hours/week theory

Force, resultants and components, moments and parallel coplanar forces, centroids, moment of inertia. Fundamental concepts of stress and strain. Mechanical properties of materials: stress and strain in members subject to tensile, compressive and shear forces; bending moment and shear force diagrams for statically determinate structures.

CE 307: Introduction to Water Resources Planning

3.0 Credits; 3 hours/week theory

Hydrologic cycle, precipitation, stream flow, evaporation and transpiration, rainfall-runoff relationship, hydrograph analysis, storm water drainage, groundwater occurrence and wells; behavior of alluvial rivers, navigation and dredging, river training and bank protection works; irrigation planning and methods of irrigation; flood mitigation approaches; integrated water resources management—economic, social, environmental and institutional aspects.

URP 321: Housing and Real Estate Development

3 credit; 3 hours/week theory

Social, physical, economic and cultural aspects of housing. Typology of housing. Nature of housing problems in Bangladesh and scopes for housing development (including real estate development). Types and forms of ownership (single, multiple, tenancy in common, joint tenancy, general and limited partnership, syndicate, investment trust, condominiums, cooperatives etc.). Accessibility to housing by different income groups. Process of housing development. Housing finance and resource mobilization, housing package, credit facilities. Housing development and management in both public and private sectors. Role of various professional groups in housing sector development. Housing policies in Bangladesh and other developing countries. Social program and public policy for low income housing. Role of private formal sector in the housing sector of Bangladesh.

Real estate economics: characteristics of supply and demand. Real estate trade cycle (both long term and short term). Real estate instruments: contract, deed, lease, mortgage, broker and brokerage. Planning considerations for real estate development. Evaluation of real estate projects- cost estimation, feasibility study, environmental impact statement, implementation, monitoring and management. Regulatory measures to guide and monitor housing development and the developers.

URP 343: Traffic and Transportation Study**3.0 credits; 3 hours/week theory**

Elements of transportation system. The land use and transport interaction. Fundamentals of landuse-transport planning.

Fundamentals of transport demand and supply analysis. Urban transportation study: defining the study area and the network, volume study, O-D survey, parking survey, public transport survey, goods traffic survey, employment survey, inventory of physical infrastructure. Characteristics of different modes.

Concepts of roadway capacity. Hierarchy of roads. Concept of environmental area; pedestrian traffic. Cross-sectional elements of roadway. Parking. Planning standards for physical facilities. Traffic management.

Hum 225: Accounting**2.0 credits; 2 hours/week theory**

Introduction to Accounting; Accounting equation; Business data processing—Transaction, Double entry mechanism, Journal, Ledger, Trial balance. Preparation of financial statement, financial statement analysis.

Long-term investment decision—Capital budgeting; Decision under uncertainty. Cost concept and classification; Cost-volume-profit analysis; Break-Even-Point & sensitivity analysis.

Taxation-Definition of tax; types of tax; Cansons of tax; Tax administration in Bangladesh; Tax holiday; Capital allowance; corporation tax; Tax credit.

Hum 271: Social Psychology**2.0 credits; 2 hours/week theory**

Introduction to Social Psychology. The Nature of Social Psychology. Social factors in perceptual cognitive processes: Social perception; person perception. Social attitudes: The nature of attitude; the formation of attitude; the change of attitude. Process of social learning; Socialization and family structure. Emerging norms and conformity. Leadership. Youths and drugs: youths in Bangladesh; Sources of frustration among youths, drugs as a menace to the society and individuals.

URP 313: Land Economics**2 credits; 2 hours/week theory**

Basic concepts of land economics. Land market. The demand for and supply of land resources. Population pressure and the demand for land. Determination of the requirements of land resources. Economic returns to land resources. The land development

process. Locational and institutional factors affecting land use.

The value of land and the methods of land valuation.

URP 312: Urban Planning Studio**3.0 credits; 6 hours/week sessional**

Case studies in urban studies and planning. Studio works related

to course Plan 211 - practical and field works on urban planning.

URP 362: GIS and Remote Sensing Studio

3 credits; 6 hours/week sessional

Individual or group projects to analyze planning problems with the help of GIS and RS techniques.