3rd Year / 6th Semester

CE 329: Elements of Civil Engineering Structures
3.0 credits; 3 hours/week theory Prerequisite CE 327
Structural forms and systems for buildings, bridges, communication and transmission structures; loads on structures; types of foundation, concept of bearing capacity and settlement. Introduction to design in reinforced and pre-stressed concrete; design codes.

URP 331: Rural Development Planning I
3.0 credits; 3 hours/week theory
Distinction between urban and rural areas. Analysis of rural settlement patterns. Social and cultural characteristics of rural communities. Meaning of rural development. The concept, nature and scope of integrated rural development. Integration of functional and spatial aspects in the context of rural development. Planning procedures for integrated rural development. Resources for rural development - land, water, human, forest, livestock etc. Policies for rural resources development. Rural industrialization and rural centre planning. Rural development programs in Bangladesh - past and present. Governmental and nongovernmental organizations involved in rural development activities. Problems and issues in local level rural planning in Bangladesh.

URP 345: Transportation Policy and Planning
3.0 credits; 3 hours/week theory
Transportation system in Bangladesh. The key issues in urban and national transport policy and implementation of transport plans and programs. Policy options in urban transportation; the role of different modes; cost structure. The transportation planning process at national, regional and urban levels. Fundamentals of transportation economics. Transportation and environment.
Local area transportation planning. System modeling and strategy development. Planning of transport infrastructure. Planning for urban public transportation. NMT planning and management. Demand management.

URP 333: Regional Development Planning
3.0 credits; 3 hours/week theory
Definition and types of regions. Regionalization and the delineation of planning regions. Levels of planning - national, regional, sub-regional and local. Need and scope of regional planning. Regional analysis: regional data base; income measures and regional social accounting; input-output analysis; industrial structure analysis; interregional trade multiplier analysis.

Theories and models of regional growth: Aggregate growth models; industrial location theory; central place theory; growth pole theory; agropolitan growth. Regional growth - convergence or divergence. Regional development policies at home and abroad.
Policy issues: Place prosperity vs. people prosperity; economic development vs. regional growth. Regional distribution of public investment - dispersal vs. concentration; balance vs. imbalance; growth vs. welfare; efficiency vs. equity. Policy instruments.

URP 355: Urban Design
3.0 credits; 3 hours/week theory
Historical overview of urban design - from tree dwelling to Renaissance. Definition of urban design, its aims and objectives. Elements of design - unity and space, proportion and scale, balance, uniformity and contrast, etc. and their application in urban design. Urban aesthetics. Urban spaces and their types and perception. City planning and design according to artistic principles, approaches and levels of analysis.

URP 323: Neighborhood Planning and Community Development
3.0 credits; 3 hours/week theory
Concept of neighborhood; the physical, spatial, social, economic, political and cultural aspects of neighborhood planning; neighborhood functions, service facilities and their standards; upgrading of service facilities; functional and environmental improvement; spatial organization.
The issues in community development; problems in urban communities of Bangladesh; community based organizations (CBOs); public participation in community development, community revitalization, service management and economic development in low income urban communities especially in the slums and squatter settlements.

URP 393: Operations Research and Systems Analysis
3.0 credits; 3 hours/week theory
Introduction to operations research. Techniques for analyzing interconnected policy decision areas. Optimization techniques in the decision making process; elements of mathematical programming: linear programming, graph theory, network analysis; fundamentals of simulation techniques, queuing theory. Systems approach in planning.

URP 396: Programming Techniques
2 credits; 4 hours/week sessional
Exercises for developing algorithms for simple computer programs for data analysis and solving planning problems; programming exercises in a high level language like C/C++ involving, inter alia, reading data from files, using different data

types, iterative and conditional processing and producing formatted outputs.

URP 332: Rural Planning Studio

3.0 credits; 6 hours/week sessional

Individual or group projects involving application of planning techniques for analyzing problems related to rural development planning.