

SEMESTER – I

MURP11 Urban & Regional Planning Studio-I

Credit 15

The studio program involves learning of basic techniques such as GIS applications, remote sensing and statistical applications.

Module 1: GIS Applications Coordinate system and geo-coding, vector data structure and algorithms, raster data structure and algorithms, data bases for GIS – concepts, error modeling and data uncertainty, decision making through GIS, constructing spatial data infrastructure and spatial information system; National Urban Information system.

Module 2: Remote Sensing Why remote sensing, aerial and satellite remote sensing, principles of aerial remote sensing, Aerial photo-interpretation, photogrammetry, stereovision, measurement of heights / depths by relief displacement and parallax displacement. Principles of satellite remote sensing, spatial, spectral, temporal resolutions Applications in planning, population estimation, identification of squatter / unauthorized areas, sources of pollution, etc., spatial resolution related to level of Planning

Module 3: Demography Sources of demographic data in India, Settlement type, growth pattern and structure: urban settlement analysis, Concentration: spatial, vertical and size, peri-urban sprawl, economic base; Rural Settlements – Size, occurrence and character, transformation, Policies towards various size class settlements. Population structure and composition – Age, sex, gender, marital status, caste, religion, literacy level, etc.; Age - sex ratio, structure, pyramid; dependency ratio; occupational structure; Fertility; mortality, migration analysis, natural growth of population, migration and its implications in spatial planning;

MURP12 Planning History and Theory I

Credit 3

Module 1: Evolution of City Building Relevance of the study of evolution of settlements; Hunter, gatherer, farmer and formation of organized society; Cosmological and other influences, origins and growth of cities, effects of cultural influence on physical form; Human settlements as an expression of civilizations; Basic elements of the city; Concepts of space, time, scale of cities.

Module 2: Planning History Town planning in ancient India; Medieval, renaissance, industrial and postindustrial cities; City as a living spatial entity; Concepts of landmark, axis, orientation; City form as a living space; City as a political statement: New Delhi, Chandigarh, Washington D.C. Brasilia etc; Contribution of individuals to city planning: Lewis Mumford, Patrick Geddes, Peter Hall, etc; Dynamics of the growing city, impact of industrialization and urbanization, metropolis and megalopolis.

Module 3: Definitions and Objectives of Planning Definitions of town and country planning; Orthodoxies of planning; Goal formulation, objective, scope, limitations; Sustainability and rationality in planning; Components of sustainable urban and regional development.

Module 4: Theories of City Development and Planning Theories Theories of city development including Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory and other latest theories; Land use and land value theory of William Alonso; Ebenezer Howard's Garden City Concept; and Green Belt Concept; City as an organism: a physical, social, economic and political entity; Emerging Concepts: global city, inclusive city, safe city, etc.;

SEMESTER – I

MURP13 Socio-economic basis for Planning

Credit 3

Module 1: Nature and Scope of Sociology

Sociological concepts and methods, man and environment relationships; Socio-cultural profile of Indian society and urban transformation; Tradition and modernity in the context of urban and rural settlements; Issues related to caste, age, sex, gender, health safety, and marginalized groups; Displacement, resettlement and rehabilitation due to compulsory land acquisition.

Module 2: Community and Settlements

Social problems of slums and squatters communities, urban and rural social transformation and their impact on social life, safety, security; Crimes in urban areas and their spatial planning implications, social structure and spatial planning; Role of socio-cultural aspects on growth patterns of city and neighbourhood communities; Social planning and policy, and community participation; Marginalization and concepts of inclusive planning, and gender concerns in planning. Settlement Policy: National Commission on Urbanization, Rural Habitat Policy and experiences from developing countries regarding settlement structure, growth and spatial distribution.

Module 3: Elements of Micro and Macro Economics

Concepts of demand, supply, elasticity and consumer markets; concept of revenue costs; Economies of scale, economic and social costs, production and factor market; Different market structures and price determination; market failures, cost-benefit analysis, public sector pricing; Determinants of national income, consumption, investment, inflation, unemployment, capital budgeting, risk and uncertainty, and long-term investment planning.

Module 4: Development Economics and Lessons from Indian Experiences

Economic growth and development, quality of life; Human development index, poverty and income distribution, employment and livelihood; Economic principles in land use planning; Policies and strategies in economic planning, balanced versus unbalanced growth, public sector dominance; changing economic policies, implications on land.

MURP14 Planning Techniques

Credit 3

Module 1: Survey Techniques and Mapping

Data base for physical surveys including land use, building use, density, building age, etc., and socio-economic surveys; Survey techniques; Land use classification or coding and expected outputs; Techniques of preparing base maps including understanding the concepts of scales, components and detailing for various levels of plans like regional plan, city plan, zoning plan, and local area plan.

Module 2: Analytical Methods

Classification of regions, delineation techniques of various types of regions, analysis of structure of nodes, hierarchy, nesting and rank size; Scalogram, sociogram, etc.; Planning balance sheet; Threshold analysis; Input output analysis, SWOT analysis;

Module 3: Demographic Methods

Methods of population forecasts and projections; Lorenz Curve, Ginni Ratio, Theil's index, ratios: urban – rural, urban concentration, metropolitan concentration; Location dimensions of population groups – social area and strategic choice approach – inter connected decision area analysis.

Module 4: Planning Standards

Spatial standards, performance standards and benchmarks, and variable standards; UDPFI guidelines, zoning regulations and development control rules and regulations.

SEMESTER – I

MURP15 Development Finance

Credit 3

Module 1: Overview of Development Finance

Approaches, concepts, components, process, credit rating.

Module 2: State Finance

Finance Commissions, functions, relationship between Central, State and Urban Local Government.

Module 3: Municipal Finance

Urban reform incentive fund, Sources of revenues; Equities; Loans; Debt financing; City challenge fund, Pooled finance development fund, National urban infrastructure fund, Municipal Bonds, Miscellaneous sources; Structure of finances, fiscal problems and issues of financial management, implications of 74th Constitution Amendment Act for municipal finance, expenditure pattern, Bilateral and multi-lateral lending intuitions mobilizing resources for a project - financial resources, land resources, project resources, and other resources.

Module 4: Investment Planning and Financing Mechanism

Link with spatial plans, process, components, investment needs, budgeting, financial investments in infrastructure and services. Financing of urban development, infrastructure and services – mechanisms and instruments, subsidy reduction, cost recovery, public private partnerships; Financial appraisal, investment appraisal; Financial Risk – Sources, Measures and perspectives on risk, Sensitivity analysis.

MURP16 Planning for Tourism

Credit 3

Module 1: Introduction to Tourism

Definitions, scope, nature, classification and dimension, tourism as an industry, tourism in developed and developing world.

Module 2: Tourism Sector – impacts

Relationship between Tourism and Urban Development, Tourism multiplier and forecasting methods: capacity building and carrying capacity planning for tourism projects, tourism and cultural and social change: Socio-cultural problems, environmental degradation.

Module 3: Planning for Tourism

Nature and scope of a tourism plan- key issues and stages, data requirements, surveys, role of key players / stake holders in tourism policy and planning, sustainable tourism development planning; community planning and tourism; implementation and management, role of travel and tourism promoting agencies, monitoring the tourism development; Tourism marketing - concept, techniques and strategies.

Module 4: Policies and Programmes

Tourism policies at various levels.

SEMESTER – II

MURP21 Urban & Regional Planning Studio-II

Credit 15

The studio exercise focuses on the planning, development and design aspect (in line with the other core and elective courses offered in the semester). The exercise pertains to large cities and emerging metropolitan cities and ranges from preparation of sustainable development plans to sector specific themes pertaining to tourism, SEZs, etc. The studio exercise enables them to develop an approach/ framework for the task; it is field based as a database is generated that is analyzed and the plan and strategies are formulated. Initial study involves understanding of the exercise through theories, study of similar case studies, awareness of relevant norms and standards through extensive literature search. Students are required to prepare a comprehensive list of required data and identify probable sources before making a field visit to the case study town/city. Students are encouraged to translate learning from the core and elective subjects to the studio exercise. The introduction of GIS in the studio enables them to apply it in the studio exercise.

MURP22 Infrastructure and Transportation Planning

Credit 3

Module 1: Role of Infrastructure in Development

Elements of Infrastructure (physical, social, utilities and services); Basic definitions, concepts, significance and importance; Data required for provision and planning of urban networks and services; Resource analysis, provision of infrastructure, and land requirements; Principles of resource distribution in space; Types, hierarchical distribution of facilities, Access to facilities, provision and location criteria, Norms and standards, etc.

Module 2: Planning and Management of Water, Sanitation and Storm Water

Water – sources of water, treatment and storage, transportation and distribution, quality, networks, distribution losses, water harvesting, recycling and reuse, norms and standards of provision, institutional arrangements, planning provisions and management issues; Sanitation – points of generation, collection, treatment, disposal, norms and standards, grey water disposal, DEWATS, institutional arrangements, planning provisions and management issues. Storm water – rainfall data interpretation, points of water stagnation, system of natural drains, surface topography and soil characteristics, ground water replenishment, storm water collection and disposal, norms and standards, institutional arrangements, planning provisions and management issues;

Module 3: Planning and Management of Municipal Wastes, Power and Fire

Municipal and other wastes – generation, typology, quantity, collection, storage, transportation, treatment, disposal, recycling and reuse, wealth from waste, norms and standards, institutional arrangements, planning provisions and management issues.

Power – Sources of power procurement, distribution networks, demand assessment, norms and standards, planning provisions and management issues. Fire – History of fire hazards, vulnerable locations, methods of fire fighting, norms and standards, planning provisions and management issues.

Module 4: City Development and Transport Infrastructure Planning, Management and Design .Role of transport, types of transport systems, evolution of transport modes, transport problems and mobility issues; Urban form and Transport patterns, land use – transport cycle, concept of accessibility; Hierarchy, capacity and geometric design elements of roads and intersections; Basic principles of Transport infrastructure design; Traffic and transportation surveys and studies, traffic and travel characteristics; Urban transport planning process – stages, study area, zoning, data base, concept of trip generation Transport, environment and safety issues; principles and approaches of traffic management, transport system management.

SEMESTER – II

MURP23 Housing and Environmental Planning

Credit 3

Module 1: Concepts and Definitions

Shelter as a basic requirement, determinants of housing form, Census of India definitions, Introduction to policies, housing need, demand and supply, dilapidation, structural conditions, materials of constructions, housing age, occupancy rate, crowding, housing shortage, income and affordability, poverty and slums, houseless population

Various housing typologies viz. traditional houses, plotted development, group housing, multi-storied housing, villas, chawls, etc., slums and squatters, night shelters, public health issues related to housing, various theories of housing, concept of green housing, green rating of housing projects.

Module 2: Social and Economic Dimensions

Housing as social security, role of housing in development of family and community well being, status and prestige related to housing, safety, crime and insecurity, deprivation and social vulnerability, ghettoism, gender issues, housing for the elderly.

Contribution of housing to micro and macro economy, contribution to national wealth and GDP, housing taxation, national budgets, fiscal concessions, forward and backward linkages.

Module 3: Housing and the City

Understanding housing as an important land use component of city plan / master plan, considerations for carrying out city level housing studies, projections, land use provisions; Suitability of land for housing, housing stress identification, projecting housing requirements, calculating housing shortages, housing allocation.

Module 4: Planning for Neighbourhoods

Approaches to neighbourhood living in traditional and contemporary societies, elements of neighbourhood structure, Planning and design criteria for modern neighbourhoods, norms and criteria for area distribution, housing and area planning standards, net residential density and gross residential density, development controls and building byelaws, UDPFI guidelines, NBC 2005 provisions and Case studies of neighbourhood planning.

I

MURP24 Advanced Planning Techniques

Credit 3

Module 1: Survey Techniques

Data Base for Physical surveys (including land use / building use / density / building age, etc.) and Socio-economic surveys; Questionnaire formulation, Sampling and survey techniques, etc. Land use classification / coding.

Module 2: GIS Mapping

Coordinate system, Georeferencing and geo-coding; GIS data processing (Digitization, topology building and metadata creation), Data structures and modeling, GIS analysis (Buffer, proximity and overlay), Decision making through GIS, Information systems (Land Information system, Urban Information system for various activity sectors).

Module 3: Research Design and implementation

Approaches in research, developing a method for research; Questionnaire Design, Types of data, sampling methods; developing aims, objectives, scope, limitations; and literature research – using library, accessing the Internet

Module 4: Analytical Techniques, Presentation and Report Writing

Data tabulation; Interpretation of information; Graphical presentation of data; Spatial representation of data; Types of reports with specific focus on technical report writing; Organizing the report, structure chapter organization, Writing the report (analytical findings); Referencing in text, use of software in referencing

SEMESTER – II

MURP25 Politics and Planning

Credit 3

Module 1: Interface between Politics and Planning

Social and economic context; State in India – political culture of the Indian State – Centre – State – Local political economy: 74th Constitution Amendment Act, State Finance Commissions; Emergence of the State in the federal set up.

Module 2: City and the State

State as a manager of resources – property rights, norms and standards – Government market and market by Government – Regulatory State, Reforming State, and Rent Seeking State – their spatial implications; Development planning and the Indian state – Centralization, powerlessness and decentralization; spatial politics and competition; Politics of the State and bureaucracy; New State spaces, invited and contested spaces – changing role of the state

Module 3: Politics related to Planning and Development

Politics related to land, shelter, urban infrastructure, resources; Regeneration and redevelopment politics; politics of provision, financing and pricing; decision-making and decision taking

Module 4: Politics and Civil Society

Politics and emergence of civil society – NGO, CBO and their role in planning, development and management, collective bargaining and collective action

MURP26 Inclusive Urban Planning

Credit 3

Module 1: Understanding Inclusive Planning

Definitions and components

Module 2: Stakeholders Profile and Needs, Access to Shelter, Services and Livelihoods

Urban Poor, Informal Sector, Gender, Children, Elderly, Disabled, Displaced people, etc.; Slums - dimensions, causative factors, determinants, location characteristics of settlements; Informal sector - growth, characteristics, functions, economic contributions, linkages with formal sector, impact on Urban Development

Module 3: Participatory Planning Process and Policies, Programmes and Legislation

Methods, role of stakeholders (including civil society organizations), etc.; Related Acts, Five year plans, policies and programmes at various levels.

Module 4: Planning interventions

Inclusive zoning, development and building regulations

SEMESTER – III

MURP31 Urban & Regional Planning Studio-III

Credit 15

The focus of the studio is on management and governance aspects (in line with the other core and elective courses offered in the semester). The exercise pertains to metropolitan cities and mega cities and ranges from preparing management plans and projects related to various sectors pertaining to infrastructure, disaster risk, riverfront development etc. Students are also required to identify and formulate projects, work out the appraisals and do the feasibility, viability and implementation mechanisms of the projects. Students work on a case study town/city and have to visit the field for collection of data and interaction with city officials and stakeholders. Although planning continues to be an important aspect of the exercise, students are also exposed to project identification, formulation, and appraisal, financing mechanisms and institutional framework. Students draw from the theoretical knowledge provided in the core and elective subjects related to management, finance and governance offered in the semester and translate them in their studio exercise. The culmination of the exercise is in the form of group presentations and studio report

MURP32 City and Metropolitan Planning

Credit 3

Module 1:

Urban Growth and System of Cities Growth of cities scale, complexity and its impact on national development, cities as engines of growth, cities as ecosystems, resources in cities.

Module 2:

City – Region Linkages

City, fringe and the periphery - physical and functional linkages, peri-urban development.

Module 3:

Metro and Mega Cities: Problems and Issues

Growth trends and processes, characteristics, problems, concepts and concerns of urban sustainability, issues related to diversity and unintended growth, economic, social and environmental sustainability, quality of life, inclusivity and equity, climate change, transit oriented development, participatory planning. Inner city – issues and problems, approach to development.

Module 4

: Human Settlement Planning, Urban Development Policies and Programmes

Concepts, approaches, strategies and tools; Policies and programmes at various levels, impact on metro and mega city development.

SEMESTER – III

MURP33 Urban Heritage Conservation

Credit 3

Module 1: Introduction to Urban Heritage

Typology / classification, inventories, mapping; Human habitation in historical context; Heritage as a motivating force in sustainable urban conservation and development,

Module 2: Heritage Conservation

Natural heritage conservation - typologies, policies for conservation, regulatory measures, community participation; Concept of Historic Urban Landscapes; Built heritage conservation - determinants of built form on heritage; Historic urban infrastructure and traditional water harvesting systems. Integration of historic monuments / areas / cores / urban systems in the developmental process and land use, regulatory measures and community involvement; Intangible cultural heritage and development: issues, conservation strategies. Preparation of conservation and heritage management plans.

Module 3: Heritage and Tourism, Policies and Programmes, Legislation

Cultural and heritage based tourism - nature, potential and prospects, marketing aspects; Acts and laws recognizing conservation / regeneration; Heritage toolkit; Implications of 74th Constitution Amendment Act.

Module 4: Design in Human Habitation

Social / cultural / ecological / energy determinants of design; Imagibility of the city; Structure of urban spaces – location criteria of activities and urban uses; Urban Regeneration, renewal, rehabilitation, revitalization, reconstruction and redevelopment - concepts, interventions, processes, approaches and methods, tools.

MURP34 Infrastructure Planning

Credit 3

Module 1: Water Supply and Sanitation

Quantity and quality, source of supply, transmission and distribution, treatment methods, design guidelines. Sanitation – concepts, disposal systems, low cost sanitation options; engineering aspects of sewage disposal; Wastewater – generation, disposal system Storm water drainage – systems

Module 2: Solid Waste Disposal and Management

Basic principles, generation, characteristics, collection, disposal, management.

Module 3: Fire and Electrification, and Social Infrastructure

Planning for fire protection, services and space standards, location criteria; Planning for Education, health, civic, cultural infrastructure

Module 4: Traffic and Transportation

Planning for infrastructure and facilities for transport

SEMESTER – III

MURP35 Urban Development Management

Credit 3

Module 1: Introduction to Development Management

Concept, approaches, components, interface with national goals and political economic system.

Module 2: Urban Development Management

Strategies, Tools and Techniques; organizations involved

Module 3: Land and Real Estate Development

Economic concepts of land, Land Pricing / valuation; Economic principles of land use; demand forecasting for land use: factors affecting land supply and demand; Land development methods, Supply Management, Demand side Management; Real estate markets, type of property development and its impact on supply and demand, method of development, environmental considerations.

Module 4: Information System and Urban Reforms

Spatial and Non - spatial information systems; Urban reforms and acts and policies.

MUR362 Energy, Climate change and Urban development

Credit 3

Module 1: Introduction

Energy, Climate change and Urban Development – Interface.

Module 2: Energy Generation and Consumption.

Energy Supply and Demand, Energy Consumption in cities, determinants of energy demand, phenomenon of climate change, factors influencing climate change, impacts of climate change

Module 3: Energy Planning and Management, and Mitigation and Adaptation to Climate Change.

Energy efficient development, Compact city form, Transit oriented development. Mechanisms and measures for mitigating and adapting to climate change at various levels

Module 4: Plans, Policies and Strategies.

Related to energy planning, conservation, climate change mitigation and adaptation.

SEMESTER – IV

MURP41 Thesis

Credit 24

The students are required to carry out independent study and prepare a thesis on a topic on urban planning selected by them and approved the faculty under the supervision of a Guide allocated by the department.

MURP42 Project Planning and Management

Credit 3

Module 1: Project planning

Introduction to Projects; Nature of planning projects; Project Life Cycle; Identification of projects

Module 2: Project Formulation and Appraisal

Relationship between projects and planning issues including sectoral policy at: Local, State and National levels Project appraisal: Market analysis – Macro environment survey, survey methods, market characterization, demand forecasting; Technical Analysis – Magnitude, processes, materials, equipment, factors of production availability, implementation schedule; suitability of the plans, layout and design, location of the project; location analysis; supporting infrastructure requirements- Capital Budgeting – Estimation of costing of components; developing over project cost; Social cost benefit analysis – UNIDO, Merles, ZOPP/GOPP, etc

Module 3: Project Management and Implementation, and Project Evaluation and Monitoring

Project characteristics - pitfalls in management of a project; Techniques of management; Planning milestones - responsibility charts and principle responsibility, principles of activity planning; Project Implementation – methods, hurdles, facilitative factors; Project culture: line management, steering committee, role of project manager; Project Control: cost and time, quality - ISI standards and its application to Indian context; Introduction to Project Management Software (Ms Projects) and its usage. Types of evaluation - concurrent, ex-ante and ex-post. Methods of evaluation, techniques of evaluation, end results, Presentation of evaluation findings, Techniques of Monitoring of Development Works.

Module 4: Regulatory Frameworks Governing Projects

National Rehabilitation and Resettlement Policy (2007) - Social Impact mitigation; National Environmental Policy (2006) – Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP)

SEMESTER – IV

MURP43 Legal issues and Professional Practice

Credit 3

Module 1: Introduction

Interface between policy and legislation pertaining to urban development.

Module 2: Understanding of Law

Concepts, sources, terminologies, significance of law and its relationship to Urban Planning benefits of statutory backing for schemes - eminent domain and police powers; Indian Constitution: concept and contents; 73rd and 74th Constitution Amendment Act, provision regarding property rights.

Module 3: Planning Legislation and Policy Formulation and Appraisal

Evolution; An over view of legal tools connected with Urban Planning and Development, Town and Country Planning Act, Improvement Trust Act, Urban Planning and Development Authorities Act – objectives, contents, procedures for preparation and implementation of Regional Plans, Master Plans and Town Planning Schemes. Various Acts related to urban governance, planning and development organizations, land resources, environment protection, and public participation in statutory planning process; Approaches of formulation of policies, appraisal of policies.

Module 4: Professional Practice

Aims and objectives of professional Institutes, sister bodies, professional role and responsibility of planning consultants, professional ethics, code of conduct and scale of professional charges; Formulation of project proposal and outlines, consultancy agreements and contracts, managerial aspects; Role in inter disciplinary groups: Appreciation of the decision-making processes and the process in relation to varied consultancy assignments of planning.