

Department of Architecture
Birla Institute of Technology, Mesra, Ranchi, India

Syllabus Structure of
Master of Urban Planning [MUP] Programme, starting 2011

Code	Name	L	T	P	Credit
1st Semester					
[Departmental] Theory Subjects					
MUP1101	History of Human Settlement & Planning Principles	3	0	0	3
MUP1103	Housing & Community Planning	3	0	0	3
MUP1105	Planning Theory and Techniques	3	0	0	3
[Non-Departmental] Breadth Subject 1					
	<i>Any, as available</i>	3	0	0	3
Sessional / Laboratory Subjects					
MUP1102	Planning Studio / Workshop (With Field Study)	0	0	6	6
MUP 1104	Urban Design	0	0	2	2
Semester Total of Credits					
		12		8	20
2nd Semester					
[Departmental] Theory Subjects					
MUP2101	Urban Ecology & Environment Planning	3	0	0	3
MUP2103	Transportation Planning	3	0	0	3
MUP2105	Urban Infrastructure Planning	3	0	0	3
[Departmental] Elective 1					
MUP 2207	Techniques of Analysis & Population Studies				
MUP2109	Socio-Economic Basis for Planning				
MUP2111	Urban & Rural Sociology				
MUP2113	Introduction to Regional Planning				
[Non-Departmental] Breadth Subject 2					
	<i>any as available</i>	3	0	0	3
Sessional / Laboratory Subjects					
MUP2102	Planning Studio / Workshop II (With Field study)	0	0	6	6
Semester Total of Credits					
		15		6	21
3rd Semester					
MUP3101	Planning Legislation & Professional Practice	3	0	0	3
MUP3103	Urban Land Economics, Development Management & Finance	3	0	0	3
[Departmental] Elective 2					
MUP 3105	Urban Regeneration & Conservation Techniques				
MUP 3107	Urban Development Models				
MUP 3109	City & Metropolitan Planning				
MUP 3111	Research Methodology				
Sessional / Laboratory Subjects					
MUP 3104	Thesis / Dissertation & Planning Seminar	0	0	10	10
Semester Total of Credits					
		9		10	19
4th Semester					
Sessional / Laboratory Subjects					
MUP 4102	Thesis / Dissertation	0	0	20	20
Semester Total of Credits					
					20
Total of 4 Semesters					
					80

DEPARTMENT OF ARCHITECTURE
B.I.T. MESRA
Master of Urban Planning (PG) FIRST SEMESTER

MUP 1101 History of Human Settlement & Planning Principles

L-T-P: 3-0-0, Credit: 3

1. Relevance of evolution of human settlements in modern context. Historic determinants, settlement types: ancient, medieval, renaissance and industrial age.
2. Origin and evolution of planning: Impacts of Industrial revolution on town planning and regional planning. Contemporary developments in planning in India; formation of metropolitan areas; socio-economic impacts of growth of population; rural-urban migration.
3. Contributions of Ebenezer Howard, Patrick Geddes, Tony Garnier, Lewis Mumford, Le-Corbusier and others in planning.
4. The fundamental problems of the city; changes with time and growth; technological, social and other changes in size and scale.
5. Physical nature and characteristics of the urban environment and its components; Land uses, physical structure and relationship between parts of city. Land use planning information system.
6. Models of the planning process, Goals of land policy, the interim and comprehensive plans: Structure Plan, Master Plan, Zonal Development Plan and Action plan their purpose and contents.
7. System approach and physical planning, Choice theory and Advocacy planning.

Reference Books:

1. The Urban pattern: City planning and design / GALLION, A B.
2. Text book of Town Planning / BANDOPADHYAY, ABIR
3. Town Planning / RANGWALA, R C
4. Introduction to Town Planning / CATANES, A & SNYDER J
5. Design of cities / BACON, EDMUND N
6. Ekistics : An introduction to the science of human settlement / Doxiadis, C. A
7. Garden cities of tomorrow / HOWARD, EBENZER
8. The city in history / MUMFORD, LEWIS
9. The Image of the City / LYNCH, KEVIN

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Master of Urban Planning (PG) FIRST SEMESTER

MUP 1103 Housing and Community Planning

L-T-P: 3-0-0, Credit: 3

1. Concepts, definitions and components of Housing. Role of housing in socioeconomic development of a nation. Housing in relation to non-residential components of settlement.
2. Effects of Urbanization & Industrialization in Housing including problems and possibilities of Slums and Squatters settlement in India and abroad.
3. Theories and approaches to housing. Housing process and sequence of development. Housing need, demand and supply, formal and non-formal housing.
4. Housing characteristics and situation (indices and statistics), Housing in five year plans and social housing programmes.
5. Social aspects: built environment and human behavior, Evaluation of user's satisfaction.
6. Major elements of a housing policy, land, finance, legislation for institutions and housing development, approaches and contents of National Housing Policy.
7. Housing norms, design and standards, units of housing design, layouts, densities and neighborhood units; infrastructure and community facilities, form and structure of housing as shaped by socio-economic and physical parameters.
8. Finance for housing: priority in the national plans – role of public and private agencies, role of cooperatives and various institutions.
9. Materials, technology and housing production, Industrialization and future of housing, including cost reduction techniques in housing.

Reference Books:

1. Financing of Housing and community Improvement Programmers / United Nation
2. Housing Act / H.M.O.S
3. Housing and town and country planning: Urban land Problems and Policies / ABRAMS, C.
4. Town and Country Planning and Housing / MODAK, N.V.
5. Low Cost housing in development countries / MATHUR, G C
6. Sustainable housing: Principles and Practice / EDWARDS, BRIAN
7. The Economics of Housing Policy / STAFFORD, D C.
8. Urban Housing in Third World / Payne, G K.

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Master of Urban Planning (PG) FIRST SEMESTER

MUP1105 Planning Theory and Techniques

L-T-P: 3-0-0, Credit: 3

1. Aims and objectives of planning, Levels of planning in India and their interrelationship, Planning administration.
2. Models of planning processes, components of settlement structures; models of urban structure; demand and supply of land for urban use, means and mechanism; impact on urban structure; goals of land policy.
3. Concept of landuse, locational attributes of landuse, landuse planning information system, activity system and choice of space qualities.
4. System approach and physical planning; approach to landuse planning; introduction to spatial planning at regional level; choice theory and advocacy planning and their application; action plan and its relevance; development plan types – scope and objectives.
5. Planning practices in India, method of identifying urban and regional problem, setting of goals objectives and priorities; performance standards, spatial standards and standard for utilities.
6. Classification of regions, regionalization and delineation techniques for various types of regions, cluster and factor analysis method.
7. Analysis for understanding structure of urban areas; land value and density patterns, locational dimensions of population groups; forces of concentration and dispersal, social area analysis, strategic choice approach and technique of interconnected decision area analysis.
8. Introduction to (I) techniques of system simulation; Grain Lowry model (II) linear programming (III) threshold analysis; preparation of urban and regional development plans – various approaches; case studies identifying use of techniques.

Reference Books:

1. An introduction to town planning technique / MARGARET, ROBERT
2. Planning and forecasting technique: an introduction to macroeconomics applications / RABINSON, J N
3. Planning Theory / FALUDI, ANDREAS
4. Landuse Planning: Techniques of Implementation / PATTERSON, T WILLIUM
5. Planning Theory /Techniques ITPI Reader volume

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Master of Urban Planning (PG) FIRST SEMESTER

MUP 1102 Planning Studio / Workshop I (With Field study)

L-T-P: 0-0-6, Credit: 6

1. Skill formation and Community Planning exercise.
2. Orientation Workshop through reference studies and introductory graphic course.
3. Identification of needs of a community through socio-economic and physical survey, including updating of given base map.
4. Housing cluster and residential sector studies – layout, density, utility net-work and community facilities locations.
5. Introduction to special area problems (slum / new town / rural area) and preparation of their plan program.
6. Land use interaction studies of a small urban area and its environment.

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MUP1104 Urban Design

L-T-P: 0-0-2, Credit: 2

1. Early examples of Urban Design in classical and pre-industrial cities – Heritage and the roots of our modern concepts in urban design.
2. Objectives and scope of urban design, Basic functions, principles and techniques. Value enhancement, aesthetics and conservation aspects.
3. Surveys in Urban Areas, Scale in Urban design, urban mass, perceiving & mapping a city, Urban Space. Urban activity & circulation. Examples at regional, metropolitan, Urban and project level.
4. Designing the parts of city - central areas, the town center, civic spaces, shopping centers, Industrial Areas and estates. Residential areas & Housing.
5. Techniques of Urban Design with emphasis on public policies, conservation and economic considerations, Road forms, serial, grid-iron, Hierarchy of access routes - Pedestrian areas and malls & Urban elements.
6. Legal aspects with respect to Land Acquisition Act and Town Planning acts - financing for Project realization – Agencies involved in the execution – coordinating role of planning authorities. Working of Urban Arts commission.
7. Planning and Design parameters for New towns

Reference Books:

1. Urban Design: The architecture of towns & cities / SPREIREGEN, PAUL. D.
2. Town Scape / GORDEN GULLEN
3. The Urban Experience / FISCHER, CLAUDE S
4. Design of cities / BACON, EDMUND N
5. Town Design / FREDERICK GIBBERD
6. The urban pattern: city planning and design / GALLION, A B.
7. The Image of the City / LYNCH, KEVIN

DEPARTMENT OF ARCHITECTURE
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Master of Urban Planning (PG) SECOND SEMESTER

MUP 2101 Urban Ecology & Environment Planning

L-T-P: 3-0-0, Credit: 3

1. Components of natural and built environment, Eco-systems and their relevance to environment, resources and human settlements, Modifications in natural environment, causes and consequences.
2. Impact of urbanization and industrialization on nature, urban ecosystem approach, evolution and significance.
3. Preparation and analysis of resource inventories and resource matrices, Resource regions in India, their problems and potentials, Integrated resource planning approach.
4. Sustainability and environmental criteria for location of human settlements, Ecological parameters for planning at different levels: site planning, settlement planning and regional planning.
5. Pollution types, sources and remedies, Environmental impact assessment methods.
6. Energy and human settlements.
7. Objectives of environmental planning and design, Integration of environmental assessments and planning options, Environmental management approach.
8. Global concerns for environment and bio-diversity, International treatises, Overview of Government of India's policies.

Reference Books:

1. Energy, Ecology & Environment / WILSON, RICHARDS & JONES WILLIUM
2. Handbook of Environmental Planning / McENRO, JAMES
3. Environmental Science / CUNNINGHAM, W.P.
4. Integrated Environmental Planning / LEIN, J.K.
5. Sustainable Development / Khanna, D.D.
6. Man & the changing Environment / FRANK, R. G & FRANK D. N

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Master of Urban Planning (PG) SECOND SEMESTER

MUP 2103 Transportation Planning

L-T-P: 3-0-0, Credit: 3

1. Transportation Systems: technological characteristics of transport models and systems: the nature of demand and supply of transport services.
2. Land use- transportation inter-relationships; transportation planning process: Transport survey, analysis, Travel demand forecasting, Trip assignment.
3. Planning of public transports stems: local area traffic management.
4. Planning considerations for goods transportation.
5. Traffic analysis and design considerations; design of intersections; traffic signals and street lighting.
6. Recent innovations in technologies and its probable impacts on future urban forms.
7. Environmental impacts of traffic; energy issues in transportation; transportation safety.
8. Government transport policies and evaluation of transportation proposals.

Reference Books:

1. Fundamental of Transportation Engineering / HENNES, ROBERT G AND EKSE, MARTIN
2. Information and pricing in road transportation / EMMERING, RICHARD H M.
3. Principles of Urban Transport Systems Planning / HUTCHINSON, B G.
4. The value of time in passenger transportation / GRONAU, R
5. Transportation engineering and planning / PAPACOSTAS, C S
6. Transportation Network analysis / BELL, MACHAEL G
7. Transportation Planning, Policy and Analysis / STARKIE, D N M
8. Transport Planning and engineering / KADIYALI.

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MUP 2105 Urban Infrastructure Planning

L-T-P: 3-0-0, Credit: 3

1. Understanding of different types of urban infrastructures in planning, layout of service lines and interface.
2. Water supply systems: quality and quantity requirements; sources; collection and conveyance of water; treatment methods; treatment plant location; planning distribution systems and their zoning with respect to urban structure.
3. Waste water disposal systems: separate and combined systems; characteristics of waste water; Industrial pollutants and their effects; waste water treatment methods; planning and location of treatment plants; disposal of municipal and industrial effluents, effects of rivers and water bodies; legal aspects.
4. Solid waste collection and disposal: Elements of solid wastes management; classification and properties of solid wastes; on site collection, storage, transportation and disposal of solid wastes; processing and treatment of solid wastes; various social aspects of the solid waste management.
5. Power and communication system: source and distribution networks with safety norms applicable.

Reference Books:

1. Solid waste management: The Regional approach / CLAYTON, C K
2. Water supply, waste disposal & Environmental Engineering / CHATTERJEE, AK
3. Street Lighting / WALDRAM, J M
4. Municipal and Rural Sanitation / EHBEN, V M
5. Solid Liquid flow Slurry pipeline Transportation / WASPE, E J

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Master of Urban Planning (PG) SECOND SEMESTER

MUP 2207 Techniques of Analysis and Population Studies (Elective)

L-T-P: 3-0-0, Credit: 3

Module 1: Collection and Presentation of Data

Introduction of Statistics: Statistical data and method of analysis Types of Data. Designing a questionnaire, Tabulation and representation of data: Line diagram, Pie diagram, Frequency distribution, Histogram, Radar diagram

Module 2: Measures of Central Tendency and Variances

Significance of Averaging and Variation. Calculation of Mean Median and Mode for Ungrouped and Grouped data. Merits and limitations. Variance and standard deviation of Ungrouped and Grouped data, Lorenz Curve, Skewness, Moments and Kurtosis.

Module 3: Correlation Analysis

Significance of study of Correlation. Types of Correlation, Karl Pearson's Coefficient of Correlation, Properties of Correlation Coefficient, Rank Correlation. Partial and Multiple Correlation

Module 4: Regression Analysis

Introduction and difference between Correlation and Regression analysis. Linear Bivariate Regression model, Coefficient of Regression and its properties, Computation of Regression equation, Multiple Regression analysis and application

Module 5: Forecasting and Time Series Analysis

Requirement and methods of Forecasting system. Types of time series data. Method of Trend analysis: Semi-average, Moving-average and method of Least Square. Analysis and measurement of Seasonal and Cyclical variations, Introduction to Non-linear Trends.

Module 6: Introduction to Linear programming

Linear programming and its application in Planning, Graphical method and Simplex Method.

Module 7: Population Pyramid: Types and Properties, Human Sex Ratio, Dependency Ratio, Components of Population Growth: Birth and Mortality Rate, Age composition, Migration, Population forecasting method using statistical theories.

Note: Assignment can be given or Tutorial can be taken on: Computation of Correlation, Regression and Time Series Analysis using available software and MS-Excel

Reference Books:

1. Urban Planning: use of critical path Method / WORD, SOL A.
2. Operation research : an introduction / TAHA, H H

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MUP 2109 Socio-economic Basis for Planning (Elective)

L-T-P: 3-0-0, Credit: 3

1. Man and environment. Traditional patterns and trends of change in Indian society, concept of social structure, culture and social institutions.
2. Relation between social structure and spatial structure. Social aspects of housing. Social problems of slums.
3. Economic resource, Typology of goods, production economics, process, laws, product and costs. Economies of scale, external economies, valuation, typology of markets, land and real estate market, macro-economic concepts.
4. Basic economic analysis, economic principles, and land use, economic rent, land use pattern and land values.
5. Development of land and real property, financial balance sheet of land development.
6. Land and real property markets: private ownership and social control over land.

Reference Books:

1. Social areas in cities: Spatial processes and form / HERBART, D T
2. Social Theory for Planning / NAILY, JOE
3. Economic Planning / AGARWAL, A.N.
4. Economic Planning in Developing Countries / JOSEPH, BONGER
5. Economic for Urban Social Planning / HENDON, WILLIUM. S
6. Economics of Regional Development & Planning in Third World Countries / PATTANAIAK, S.C.

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MUP 2111 Urban and Rural Sociology (Elective)

L-T-P: 3-0-0, Credit: 3

1. Concepts of culture, environment, society, groups. Rural – urban continuum, dichotomy. Physical and Social settings; concepts of little community, peasant society, resources – production system production relation; relationship between village and town today.
2. Dynamics of rural society: Institutions, leadership changing power structure with special reference to Panchayati Raj system.
3. Social aspects of spatial planning; significance of public participation in planning.
4. Social dimensions in rural and urban poverty in India.
5. Urbanization and urban living: trends in urbanization and urban development; migration, population growth and its impact (social and physical); Policies of urban development.

Reference Books:

1. An introduction to Sociology / VIDYA, BHUSAN
2. Building & Society / KING, ANTHONY. D
3. Social Theory & Urban Question / SAUNDERS, PETER
4. Social Theory for Planning / NAILEY, JOE
5. Societal Systems: Planning, Policy, & Complexity / WARFIELD, J.N.

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Master of Urban Planning (PG) SECOND SEMESTER

MUP 2113 Introduction to Regional Planning (Elective)

L-T-P: 3-0-0, Credit: 3

1. Overview of planning: various types and levels of planning in India and their interrelationship. Concepts of Sectoral & Spatial Planning, Single and multi-level planning processes. National Development Planning Mechanism.
2. Aims, objectives and evolution of Regional Planning. Review of contemporary thoughts on the subject.
3. Introduction to Regional planning techniques; classification of regions, regionalization and delineation techniques for various types of regions.
4. Techniques of understanding spatial structure of regions; Analysis of structure of Nodes, hierarchy, nesting and rank-size.
5. Cluster and Factor analysis methods; use of Remote Sensing in Regional Planning.
6. Regional Planning Theories: Growth pole theory, Christaller's theory, Weber's theory of Location; Core-periphery theory and Spread and Back Wash theory.
7. National Development issues and Key policies in regard to Regional disparities and imbalances; Urbanization, industrialization and related issues; poverty and unemployment, urban and rural programs and strategies for poverty eradication.
8. Regional planning efforts in India, critical appraisal, Regional Development Plans – types, scopes and objectives, case studies.
9. Regional development models: their structure and characterization and construction; delineation of regions and regionalization methods and techniques: Economic regionalization, composite regionalization.
10. Cost-benefit analysis, dynamics of project analysis, financial feasibility, cost allocation and pricing.

Reference Books:

1. Introduction to Regional planning / GLASSON J
2. An Approach to Planning / BURROUGH, T H B
3. Development Planning, Models and Methods / TODARO, MICHAEL P
4. Disaster Planning: Preservation of Life and Property / FOSTER, HAROLD D.
5. Economic Planning; Principles, Techniques and Practice / AGARWAL, A N.
6. Regional Development Planning in India / MISRA, R P
7. Regional Disparities in India / NAIR K R G.
8. Regional Geography Theory and Practice / MINSHULL, ROGER.

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Master of Urban Planning (PG) SECOND SEMESTER

MUP2102 Planning Studio / Workshop II (With Field study)

L-T-P: 0-0-6, Credit: 6

1. Integrated plan for urban region, including 2 weeks field survey.
2. Theories and principles of urban development plan and preparation for survey and data collection.
3. Field survey of the study area.
4. Analysis of data and information
5. Planning for urban area and its region (structure plan / Development plan) with emphasis on:
 - Land use and transportation network
 - Infrastructure plan
 - Action area programs and urban renewal plan
 - Capital budget and financing
 - Administrative and management backup for implementation

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MUP 3101 Planning Legislation & Professional Practice

L-T-P: 3-0-0, Credit: 3

1. The meaning, significance and objectives of planning legislation, constitutional basis and provisions relating to land, its development and use, concept of eminent domain, police power and taxation powers as basis of legislation.
2. Evolution of planning legislation in India. An overview of legal tools connected with urban planning & development. Town & Country Planning Organization, Improvement Trust, Development Authorities etc. – objectives, contents and procedures for preparation & implementation of Regional Plans, development plans, town planning schemes.
3. Land Acquisition Act of India, its provision and limitation. Urban Land (Ceiling & Regulation) Act – objectives, contents & planning implications.
4. Legislation on Conservation of natural resources including Mining & Forestry Acts, Conservation and Management of Archaeological sites.
5. Significance of Land Development Control – objectives and legal tools, critical evaluation of Zoning, subdivision regulations, building regulations and byelaws.
6. Urban Arts Commission Act, Transportation, Landscape, housing and slum clearance legislation.
7. National Environment Policy Act.
8. Aims & Objectives of Professional institute, sister bodies, professional role and responsibility of planning consultants, professional ethics, code of conduct and scale of professional charges.
9. Role of interdisciplinary groups; Appreciation of the decision-making processes, and the process in relation to varied consultancy assignments of planning.

Reference Books:

1. The Municipal administration in India: A Sociological analysis of rural & urban India / BHARDWAJ, R K
2. Guide to practical project appraisal, Social benefit, Cost analysis in Developing Countries / UNITED NATION

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Master of Urban Planning (PG) THIRD SEMESTER

MUP 3103 Urban Land economics, Development management & Finance L-T-P: 3-0-0, Credit: 3

1. Urban land market and real estate market characteristics, Socio-economic and political factors influencing urban land markets, Urban land supply and demand conditions, Land pricing and transactions.
2. Techniques of land assembly: acquisition, readjustment, pooling, sharing, plot reconstitution, land lease, cooperative of landowners.
3. Local financial system in India: Taxation and fees, state and local fiscal relations, financing local fiscal services, local expenditure, capital budgeting, performance budgeting, Financial resource mobilization, Policies and programs of related institutions.
4. Systems of local governments in India, Development administration at National, state, district, local level, Functions, powers, Organizational structure and resource of local governments.
5. Non-government development organizations and their relationship with local government, Citizen Participation.
6. Personnel management: Manpower planning, performance appraisal, motivational aspects. Behavior organization theory: authority and conflict, administration communication, leadership in administration, organizational changes.
7. Techniques of Monitoring: Integrated reporting system, works standard oriented cost control, turnkey system, inventory cost control technique, unified status index technique.

Reference Books:

1. Urban land Economics / RATCHIFF, RICHARD U.
2. Urban Law Economics: Principle and Policy / HALLETT, GRAHAM
3. Planning for Profit / HOLDEN I & MALLORY K. PETER

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Master of Urban Planning (PG) THIRD SEMESTER

MUP 3105 Urban Regeneration & Conservation Techniques (Elective)

L-T-P: 3-0-0, Credit: 3

1. Quality of historic cities and areas: problems and issues, cultural resource management.
2. Integrated urban conservation: principles, international charters, guidelines and standards for conservation of historic monuments, sites and heritage zones; aesthetic and social dimensions, economic, legal and tourism aspects.
3. Planning procedures: inspection and surveys, investigation techniques, methods for inventories and documentation, identification and reporting on heritage zones; programs for adaptive reuse, restoration, rehabilitation and infill or new constructions.
4. Implementation of plans and urban management: phasing, resource mobilization, incentives, acts and legal tools; people's awareness and participation, role of various action groups.
5. Concept of urban redevelopment, Urban Renewal. Urban reconstruction, urban rejuvenation.
6. Symptoms and pre-conditions that warrant the need for regeneration of cities. Economic, social and physical environmental aspects. Perception of urban regeneration in the context of evolution of selected urban centers of the West and the East.
7. National urbanization policy, goals and objectives of urban regeneration of Indian cities. Process to evolve a feasible set of goals and objectives for urban regeneration.

Reference Books:

1. Conservation & Planning / ALAN, DOBBY

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Master of Urban Planning (PG) THIRD SEMESTER

MUP 3107 Urban Development Models (Elective)

L-T-P: 3-0-0, Credit: 3

1. Meaning and definitions of model, Classification of models, Mathematical models as a special class of models. Role of different types of models used in urban planning process.
2. Brief overview on mathematical and statistical techniques as an aid to model building, recent developments in spatial data analysis and management, Design of models: formulation of objective, theoretical structure, mathematical formulation, methodology, empirical testing, application and limitations.
3. Explanation of some operational models: land use, transportation planning, allocation of location of activities, land value, accessibility simulation, etc. Future scope of model building in the planning profession.

Reference Books:

1. Urban Planning analysis: Methods and Models / KRUECKEBERG, D A
2. Urban & regional models in geography & planning / WILSON A G

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MUP 3109 City & Metropolitan Planning (Elective)

L-T-P: 3-0-0, Credit: 3

1. Urban growth and system of cities: growth of metropolitan and mega cities – scale, complexity and its impact on national development.
2. National and international concepts of human settlement planning and urban development, relevance to Indian context.
3. Metropolitan growth – trends, characteristics, problems. Socio-economic and political issues in India with reference to Asia.
4. Changing urbanity between a city and a metropolis. Anatomy, growth and trends of metropolitan development, components of metropolitan plan; economics, transportation, etc. in evolving metropolitan framework.
5. Multi-nuclei developments: hierarchy of urban centers and their functional linkages.
6. Metropolitan region and problems of major agglomerations, studies in conjunction with the theories of major cities, Dynapolis and Megalopolis, special problems of the central area; migration and sub-urban development; emerging social and economic characteristics of the central city and the suburbs; impact on government systems and public services.
7. Patterns and policies of urban developments and decentralization as alternative to metropolitan growth, their merits and demerits.
8. Inter-city issues and problems, approach to development, urban redevelopment and renewal – goals, objectives, costs and benefits.
9. Alternative strategies to metropolitan growth - planning for New towns: types, design criteria, development process and issues. New town approach in India: small and medium town development.
10. Case studies of metropolitan planning in India and abroad. The inter-disciplinary policy issues and public action for guiding metropolitan development, including inter-governmental relations and national urban policy.

Reference Books:

1. The Urban pattern: City planning & design / GALLION, A B
2. Design of cities / BACON, EDMUND N
3. The Image of the City / LYNCH, KEVIN
4. The Building of Cities: Development and Conflict / KALSER HARVEY H
5. Cities in Evolution / GEDDES, P
6. City Planning: Problems and Prospects / YADAV C S
7. Morphology of Indian cities / TANEJA, K L
8. Metropolitan planning – the planning system of Greater London / PETER, S

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Master of Urban Planning (PG) THIRD SEMESTER

MUP 3111 Research Methodology (Elective)

L-T-P: 3-0-0, Credit: 3

Module 1: Introduction to Research Methodology : Definition of Research, Qualities of Researcher, , Objectives of research, Various Steps in Scientific Research, Types of Research; Hypotheses Research Purposes - Case Study Research.

Module 2: Research Problem: Components of Research Problem Research Problem and Selection of Research Problem, Need for defining the Problem, Techniques for defining a Problem, Development of hypothesis

Module 3: Research Design : Research & Survey Design, Meaning and Need of Research Design , Features of a good Research Design, Types of Research Design-Exploratory, Descriptive and Experimental Research, Bias, Collecting Samples.

Module 4: Referencing Information Sources: Overview of major data sources including definitions of variables, and problems with data. Using secondary sources of information: using an Encyclopedia, bibliography card, translation card catalogue information, periodic indexes and usage, compiling a preliminary bibliography; Referencing documentation sources: styles of footnotes, endnotes etc., model bibliography entries.

Module 5: Sampling Design: Census and Sample survey, Implication of Sample design, Steps in Sampling Characteristics of a good Sample design, Types of Sample design.

Module 6: Scaling Techniques & Data Collection: Attitude Measurement and Measurement in Research, Measurement Scales, Scaling, Scale Classification Bases, Concept of important Scaling Techniques; Data Collection: Primary and Secondary data, Observation Method , Survey Method, Collection of data through Questionnaire and Schedule distinction, Selection of appropriate method of Data Collection

Module 7: Processing Operations and Report Writing: Processing Operations, Problem in Processing, Types of Analysis, Application of some Multivariate tools of data analysis
Report Writing: Writing and Formulating of Reports, Steps in Report Writing, Types of Report, Introduction to SPSS

Reference Books:

1. Wilkinson & Bhandarkar: METHODOLOGY AND TECHNIQUES OF SOCIAL RESEARCH.
2. Pauline Vyoung: SCIENTIFIC SOCIAL SURVEYS AND RESEARCH.
3. Panneerselvam, R., RESEARCH METHODOLOGY, Prentice Hall of India, New Delhi, 2004.
4. C.R.KOTHARI, Research Methodology; New Age International (P) Ltd
5. D.K.BHATTACHARY, Research Methodology; Excel Books

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B.I.T. MESRA
Master of Urban Planning (PG) THIRD SEMESTER

MUP 3104 Thesis / Dissertation & Planning Seminar

L-T-P: 0-0-10, Credit: 10

1. Each student is required to prepare a thesis on a subject concerning urban planning and development, (presented through a seminar) and under the guidance of an advisor, approved by the department.
2. The objective of the thesis is to provide an opportunity to each student to undertake in-depth and original study and research in the field of his / her interest. The thesis also provides an opportunity to synthesize the knowledge and skills, acquired through the learning of various theories and practices during the three semesters.
3. The subject of the thesis may be conceptual, historical analytical, comparative or in any other area related to urban planning and development, which will be approved by the departmental jury, in stages.
4. Development of the thesis is to be done at this stage through delineation of project area, case studies, literature studies, survey and data collection only.
5. Seminar is to be presented regarding tool and techniques to be applied in the dissertation project.

DEPARTMENT OF ARCHITECTURE
B.I.T. MESRA
Master of Urban Planning (PG) FOURTH SEMESTER

MUP 4102 Planning project / Thesis

L-T-P: 0-0-20, Credit: 20

In continuation to the previous semester thesis, the student is required to analyze the collected data and formulate strategies, policies, principles for the development of the analyzed scenario.

The student is also required to prove the validity of the proposal on any chosen action area within the study zone.

Each student is required to defend his / her thesis through a presentation to external panel of experts.