PLANNING STUDIO			
Course Code	**MUP 102**	**Credits**	**04**
Contact Hours (Hrs/Week)	**08**	**Semester**	**02**
Course Category	**BSAE**		

INTRODUCTION

The course will help students to study the various Forms, Arenas and Uses of Inclusion in the Processes of Urban and Regional Planning.

COURSE OBJECTIVES

The objective of this course is to:

- To Assess, Collect and Analyze the Information Requirements for the Study.
- To understand the Characteristics of the City for Preparation of Sustainable Development Plan.

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having successfully completed this course, the student will be able to understand:

- The aspects associated with development plans
- The usage of data and information for future scenario building and represent it in appropriate medium

PEDAGOGY

Classroom teaching is supported by giving handouts, PowerPoint slides. Readings/Short Movies may be shown to students. Students may visit site for collecting context specific data for getting better understanding of real- life project details. Outstation tours, of short/long duration, for studio problems are recommended.

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP**
0	4	0	--	Yes	--	35	--	15	0	--	50

CONTENT

S. No	Contents	Contact Hours
1.	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 may pertain to a large city or emerging metropolitan cities and range from preparation of sustainable development plans to sector specific themes pertaining to tourism, SEZs, etc. The studio exercise enables students 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	**112**

	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. Students are expected to analyze the data collected and come out with proposals and recommendations for planned development of the city. The entire exercise is also documented in the form of a technical report. Another assignment may be a short and intensive exercise. It may pertain to topical issues i.e. property tax reforms, informal sector, development of railway land, etc. The study may based on primary / secondary surveys and students are expected to analyze the information and arrive at recommendations.	

REFERENCE BOOKS

1. Urban Planning in India; Amiya Kumar Das; Rawat, 2007
2. Fundamentals of Town Planning; G.K. Hiraskar; Dhanpat Rai Publication, 2018
3. Town Planning; Rangwala; Charotar Book Distributors, 2015

PLANNING LEGISLATION AND GOVERNANCE			
Course Code	**MUP 104**	**Credits**	**02**
Contact Hours (Hrs/Week)	**02**	**Semester**	**02**
Course Category	**HMC**		

INTRODUCTION

The course will help students to develop an understanding of legal framework and tools required for urban planning and development and for determining principles and policies for achieving balanced, equitable and inclusive development of the State as a whole.

COURSE OBJECTIVES

The objective of this course is to:

- To understand the concepts and fundamentals of Law in context of Urban Planning.
- To understand the evolution of planning legislation in India and the legal tools needed for urban development
- To understand the scope and relevance of Town and Country Planning Acts.
- To understand the urban governance structure in India

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having successfully completed this course, the student will be able to understand:

- The state and national legal framework for urban development
- The national legal requirement pertaining to environment, conservation
- The implications of 73rd and 74th constitutional amendment
- To understand the basis and key features of various provisions in planning legislation

PEDAGOGY

- Classroom teaching is supported by giving handouts/ readings, PowerPoint slides, short movies/ discussions, exposure to Site visits/filed visits to specific building pertaining to the typology chosen.
- Stage by stage submission may be followed by an internal jury where the student work may be critically examined followed by a class discussion.
- Case Study based approach may be explored

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP#**
2	0	0	Yes	--	10	--	30	--	60	--	--

CONTENT

S. No	Contents	Contact Hours
2.	**Unit 1: Fundamentals of Law and its relevance with planning** ● Concepts of law, legislation and precedent, terms of law- legislation, ordinance, bill, act, regulations and byelaws, Significance of law and	**07**

	its relationship to urban planning, Evolution of planning legislation.	
3.	**Unit 2:** Planning policies and Acts ● Indian Constitution: Concept and contents, Provisions regarding property rights, Legislative competence of State and Central Governments to enact town planning legislation, National Environmental Policy; Environmental Protection Act, Land Acquisition Act, 1894 and Amendments – Basic concept, procedure for compulsory acquisition of property and determination of compensation ● Regional Planning Legislation including National Capital Region Planning Board Act, 1985, Model Town and Country Planning Act 1960, Delhi Development Act, 1957: objectives, contents, procedures for preparation and implementation of 73rd, 74th Constitutional Amendment Act, 1992, Panchayati Raj and Local Self Government Legislation. Introduction to law relating to slum clearance, housing, landscape and traffic, Real Estate Act 2016, Street vendors Act 2014, Delhi Rent Act 1995, National Capital Territory of Delhi (Recognition of Property Rights of residents in unauthorized colonies) Act 2019, The ancient monuments and archaeological sites and remains (Amendment and Validation) Act, 2010.	**07**
4.	**Unit 3: Overview of legal tools connected with urban planning and development.** ● Concept of arbitration, betterment levy, development charges and public participation in statutory planning process, Property Tax, Concept of structure plan, local plan and action plan. Zoning regulations, sub-division regulations, building regulations, and byelaws and Development code	**07**
5.	**Unit 4: Public governance in India** ● emergence of the good governance paradigm, overview of urban governance structure in India, governance for town planning, national goals and political system affecting development management, emerging concepts of decentralization and privatization, role of government, elected representatives, executive and judiciary, industry, citizens, communities and non-governmental organizations, democracy and participatory processes in plan making, Constitutional provisions and amendments.	**07**

REFERENCE BOOKS

1. Town and Country Planning Act (any State Act)
2. Model Municipal Act, Ministry of Urban Development, Government of India
3. Nagar Raj Act (any State Act)
4. Environment Protection Act (Central Act)
5. Mining and Forestry Act (Central Act) 6. Building Byelaws (any State Act)
7. Apartment Ownership Act (any State Act)
8. Development Authority Act (any State Act)
9. Water Bodies Conservation Act (any State Act)

SUSTAINABLE DEVELOPMENT			
Course Code	**MUP 106**	**Credits**	**02**
Contact Hours (Hrs/Week)	**02**	**Semester**	**02**
Course Category	**BSAE**		

INTRODUCTION

This course has been designed to develop an understanding about urban environment and various sustainable development methods which may be adopted for planning.

COURSE OBJECTIVES

The objective of this course is to:

- develop an understanding of various factors responsible for development of diverse ecosystems
- orient students to various international charters/ initiative adopted by world countries w.r.t sustainable development
- help students understand pressing issues of the world and various ways of addressing these challenges

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

As an outcome of the above course the students will:

- Develop understanding of the environment and the interactions and inter-relationships of all living organisms with the physical surroundings.
- Expose themselves to various social, cultural and technological activities being carried by human beings and its influence on the environment.

PEDAGOGY

- Classroom teaching is supported by giving handouts/ readings, PowerPoint slides, short movies/ discussions, exposure to Site visits/filed visits to specific building pertaining to the typology chosen.
- Stage by stage submission may be followed by an internal jury where the student work may be critically examined followed by a class discussion.
- Case Study based approach may be explored

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP#**
2	0	0	Yes	--	10	--	30	--	60	--	--

CONTENT

S. No	Contents	Contact Hours
1.	**Unit 1: Introduction to Sustainable Development** ● Sustainable Development- Definitions, Concepts and Parameters; Eco-	07

	City Approach; Kyoto Protocol, Intergovernmental Panel on Climate Change (IPCC), United Nations Framework Convention on Climate Change; Indian Network of Climate Change Assessment, Global Environment Facility, and Clean Development Mechanism; UNHABITAT policies, Sustainable Development Goals, New Urban Agenda, Sustainable Cities Programme (UNEP and UN-Habitat), Localizing Agenda 21 (UN-Habitat)	
2.	**Unit 2: Principle of Sustainable planning** ● Concept of sustainable planning, Three pillars of sustainability and its implication in planning process; Environmental preservation; commerce and liveability; Walkability and Connectivity; Integration of diverse community features; Strong sense of place. Natural drainage and water bodies; Application of Ecological Principles in Sustainability; Carrying Capacity Based Planning- Concept, Parameters and Indicator Measures; Models and Case Studies in Urban and Regional Development	**07**
3.	**Unit 3: Climate Change and its impact** ● Basic concepts and definitions of Climate Change; Urban Heat Islands; Climatic Change and Human History; Impacts of Climate Change; Climate as Forcing Variable, Location Attributes, Sensitivity and Vulnerability of Different Sectors; Extreme events and their effects	**07**
4.	**Unit 4: Urban Environmental Management** ● Urban Environmental Management and Planning; Human activities and energy in Cities; Contribution to GHGs; Environmental Impact and Strategic Environmental Assessment for Urban Areas; Ecological Footprint Analysis of Cities; Sustainable Lifestyle Assessment. Low carbon urban development strategies- concept of 3-Rs: "Recycle-Reuse and Recovery"; Low carbon transport modes and mobility options; Land Capability and Suitability Analysis; Compact City Concept; Use of Non-Conventional Energy Sources; Urban Water Treatment, Recycling and Harvesting; Pollution Control Measures for Industrial Wastes, Hazardous Wastes, Biomedical Wastes, Domestic Waste Water, Air Pollutants and Noise.	**07**

REFERENCE BOOKS

1. UNICEF document of Women and Sustainable Development
2. Sassi, Paola,"Strategies for Sustainable Architecture", Taylor and Francis, 2006
3. Majumdar, Mili, "Energy Efficient Buildings in India", TERI Press, 2009
4. "An Inconvenient Truth", A documentary Film by Al Gore, Ex Vice President of USA

GIS AND REMOTE SENSING			
Course Code	**MUP 108**	**Credits**	**02**
Contact Hours (Hrs/Week)	**02**	**Semester**	**02**
Course Category	**BSAE**		

INTRODUCTION

This course focuses on making students understand various technicalities associated with GIS and its applications in urban and regional planning

COURSE OBJECTIVES

The objective of this course is to:

- Equip students with advanced concepts of Geo-informatics with special emphasis on applications in Urban and Regional Planning.

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

As an outcome of the above course the students will:

- Familiarize themselves with the applicability of spatial data, attribute data input and
- Learn to carry out experiments with GIS analysis

PEDAGOGY

- Classroom teaching is supported by giving handouts/ readings, PowerPoint slides, short movies/ discussions, exposure to Site visits/filed visits to specific building pertaining to the typology chosen.
- Stage by stage submission may be followed by an internal jury where the student work may be critically examined followed by a class discussion.
- Case Study based approach may be explored

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP#**
2	0	0	Yes	--	10	--	30	--	60	--	--

CONTENT

S. No	Contents	Contact Hours
1.	**Unit 1: Geographic Information Systems** ● Concepts of global positioning system and its components, benefits; Spatial data entry into GIS,Mapping and spatial analysis software, Linking of attribute data, Spatial data aggregation, Spatial data generalization; Raster data capture; Coordinate system, Geo-referencing 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).	**07**

2.	**Unit 2: Information Systems** ● Information Needs, Scales and Levels; Pre-Conditions for Using Planning Information Systems; Representing, Modelling and Impact Analysis of the Data; Structure Models; Query Measurement and Transformations; Summary Statistics and Inference; Terrain Modelling	**07**
3.	**Unit 3: Data Creation and Checking** ● Geo Spatial and Temporal Data, Base Maps and Thematic Maps; Mapping and Spatial Analysis; Linking of Attribute Data, Spatial Data Aggregation; Spatial Information, Database Creation; Geo-Coding and Data Accuracy, Topology Creation, Data Acquisition	**07**
4.	**Unit 4: Topography and Landforms** ● Topography and Landforms; Digital Change Detection; Suitability Analysis; Landuse / Landcover Analysis; Use of GIS Data Focusing on Urban and Regional Planning	**07**

REFERENCE BOOKS

1. Advanced Surveying: Total Station, GIS and Remote Sensing, Satheesh Gopi, Pearson
2. Applied Remote Sensing in Urban Planning, Governance and Sustainability, Netzband, Springer, India
3. Environmental Modelling with GIS and Remote Sensing, Andrew Skidmore et al, CRC Press
4. Geographic Information Systems and Science, PA Longley et al, John Wiley and Sons Ltd.
5. GIS, Spatial Analysis, and Modelling, David J Maguire et al, ESRI Press
6. Landuse Change Detection using GIS, Remote Sensing and Spatial Matrices, Mesfin T Bekalo et al, Lap Lambert Academic Publications
7. Lans Sustainability Evaluation using GIS and Remote Sensing Technology, MezenziaMengist, VdmVerlag
8. Remote Sensing and GIS Integration: Theories, Methods and Applications, QihaoWeng, McGraw Hill Professional
9. Remote Sensing and GIS, Basudeb Bhatta, Oxford University Press
10. Remote Sensing and Image Interpretation, Thomas M Lillesand et al, John Wiley and Sons Ltd

GIS LAB			
Course Code	**MUP 110**	**Credits**	**03**
Contact Hours (Hrs/Week)	**06**	**Semester**	**02**
Course Category	**BSAE**		

INTRODUCTION

This course focuses on training the students in using GIS models for urban and regional planning applications

COURSE OBJECTIVES

The objective of this course is to:

- Equip students with hands on working of the associated software
- Help understand the applications collected data

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

As an outcome of the above course the students will:

- Familiarize themselves with the applicability of spatial data, attribute data input and
- Learn to carry out experiments with GIS analysis

PEDAGOGY

Classroom teaching is supported by giving handouts, PowerPoint slides. Readings/Short Movies may be shown to students. Students may visit site for collecting context specific data for getting better understanding of real- life project details. Outstation tours, of short/long duration, for studio problems are recommended.

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP**
0	3	0	--	Yes	--	35	--	15	0	--	50

CONTENT

S. No	Contents	Contact Hours
1.	GPS Survey, Data acquisition using remote sensing techniques, spatial data, attribute data, satellite image as input to GIS, Coordinate system	**28**
2.	Geo referencing and Geo Coding- GIS data processing (Digitization, Topology Building and Mata Data creation), GIS analysis (Buffer Proximity and Overlay)	**28**
3.	Information Systems- land information system, urban information system for various activity centres, decision making through GIS, Data Tabulation, interpretation of information, graphical presentation of data	**28**

REFERENCE BOOKS

1. Advanced Surveying: Total Station, GIS and Remote Sensing, Satheesh Gopi, Pearson

2. Applied Remote Sensing in Urban Planning, Governance and Sustainability, Netzband, Springer, India
3. Environmental Modelling with GIS and Remote Sensing, Andrew Skidmore et al, CRC Press
4. Geographic Information Systems and Science, PA Longley et al, John Wiley and Sons Ltd.
5. GIS, Spatial Analysis, and Modelling, David J Maguire et al, ESRI Press
6. Landuse Change Detection using GIS, Remote Sensing and Spatial Matrices, Mesfin T Bekalo et al, Lap Lambert Academic Publications
7. Lans Sustainability Evaluation using GIS and Remote Sensing Technology, MezenziaMengist, VdmVerlag
8. Remote Sensing and GIS Integration: Theories, Methods and Applications, QihaoWeng, McGraw Hill Professional
9. Remote Sensing and GIS, Basudeb Bhatta, Oxford University Press
10. Remote Sensing and Image Interpretation, Thomas M Lillesand et al, John Wiley and Sons Ltd

Advanced Mobility Planning			
Course Code	**MUP 112**	**Credits**	**02**
Contact Hours (Hrs/Week)	**04**	**Semester**	**02**
Course Category	**DEC**		

INTRODUCTION

This course offers an overview of the Advanced Mobility Planning concepts and its benefits, describes the ever-growing importance of Mobility Planning in cities, looks at the procedural elements of the Mobility plan cycle and identifies the key challenges arising in sustainable urban mobility planning.

COURSE OBJECTIVES

The objective of this course is to:

- Sensitize students with the growing concern of mobility planning in urban areas.
- develop an understanding on how to initiate a Mobility Planning process
- help identify various stakeholders involved

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having successfully completed this course, the student will be able to understand:

- various strategies associated with mobility planning
- the associated measures to implement mobility planning.

PEDAGOGY

- Classroom teaching is supported by giving handouts/ readings, PowerPoint slides, short movies/ discussions, exposure to Site visits/filed visits to specific building pertaining to the typology chosen.
- Stage by stage submission may be followed by an internal jury where the student work may be critically examined followed by a class discussion.
- Case Study based approach may be explored

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP**
0	2	0	--	Yes	--	35	--	15	0	--	50

CONTENT

S. No	Contents	Contact Hours
1.	**Sustainable Development and Sustainable Transport** ● Land use and mobility patterns in cities, implications of land use patterns on transportation and mobility, land use and transport decisions, need for sustainable development and sustainable transport; need and benefits of land use transport integration, case cities of land use –transport integration	14

2.	**Transportation Planning and Management** – ● Area Delineation, Zoning (TAZ); Four Stage Planning Process: Trip Generation, Trip Distribution, Trip Assignment and Modal Split; Traffic Management- Signal design; Phasing and Time cycles; Principles of one way system design; Pedestrianisation and non-motorised transportation- Issues, policies and case studies; Towards more inclusive cities; Comprehensive Mobility Plan	**14**
3.	**Introduction to External Cost of Urban Transportation**: ● Issues, Level of Service and Transport Pricing, Congestion Pricing, Policy Issues, Emission Standards and Energy Policy; National Urban Transport Policy 2006 Pricing and Revenue in Transport- Pricing; Revenue and Forecasting; Willingness to Pay; Introduction to Freight Transport- differences from passenger transport; location choice of transport hubs in relation to regional distribution linkages	**14**
4.	**Regional Transport Issues** ● Intercity Connectivity; Urban –Rural Linkages and Road Hierarchy; Road and Rail as Competing/Complementary Modes; Highway Standards in Indian Context; • Software Applications: E.G. Cube 6-Network Coding, Creation of Models, Data Base and Scenarios in Cube Base, Cube Voyager Modeling Functions; Urban Land Use &Transportation Planning Applications	**14**

REFERENCE BOOKS

1. Modelling Transport (2011), Juan De Dios Ortuzar, Luis G. Willumsen, Publisher: John Wiley & Sons
2. Integrated Land Use and Transport Modelling, Author: Tomas De La Barra, Publisher: Cambridge University Press.
3. Location, Transport and Land-Use: Modelling Spatial-Temporal Information, by Yupo Chan, Publisher: Springer
4. The Economics of Transport: A Theoretical and Applied Perspective, Jonathan Cowie, Routledge
5. Transportation Engineering and Planning, C. S Papacostas, P. D Prevedouros PHI Learning
6. Transportation Engineering: An Introduction, C. JotinKhisty, B. Kent Lall Phi Learning
7. Public Transportation Improvement, SemiatIdris, Lambert Academic Publishing
8. The Economics of Transport: A Theoretical and Applied Perspective, Jonathan Cowie, Routledge
9. Integrated Land Use and Transport Modelling, Author: Tomas De La Barra, Publisher: Cambridge University Press.

INTRODUCTION TO URBAN LANDSCAPE			
Course Code	**MUP 114**	**Credits**	**02**
Contact Hours (Hrs/Week)	**04**	**Semester**	**02**
Course Category	**DEC**		

INTRODUCTION

This course will expose students to the elements and concepts of urban landscape design and equip them with appropriate methods and techniques successfully implemented.

COURSE OBJECTIVES

The objective of this course is to:

- expose students to the application of landscape planning techniques to large scale developments such as infrastructure and power projects, extractive and manufacturing industry, new towns and urban extensions, and developments for tourism and eco-tourism.
- improve Landscape perception, visual assessment and the aesthetic dimension of Landscape planning.

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having successfully completed this course, the student will be able to understand:

- the impacts of proposed development projects, enabling them to work out alternatives, so that wherever possible significant negative impacts may be avoided, minimized, or mitigated.
- the components associated with landscape planning

PEDAGOGY

- Classroom teaching is supported by giving handouts/ readings, PowerPoint slides, short movies/ discussions, exposure to Site visits/filed visits to specific building pertaining to the typology chosen.
- Stage by stage submission may be followed by an internal jury where the student work may be critically examined followed by a class discussion.
- Case Study based approach may be explored

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP**
0	2	0	--	Yes	--	35	--	15	0	--	50

CONTENT

S. No	Contents	Contact Hours
1.	**Principles and Techniques of Landscape Design** ● Landscape design with Landform, Water and Vegetation; Plant Characteristics and Planting Designs; Plantations along Urban Roads and Regional Highways; Landscaping of Recreational Areas; Landscape	14

	Design Related to Land-Use, Circulation Networks and Activity; Street Furniture as a Component of Urban Landscape	
2.	**Characteristics and Components of Open Space Patterns Towns, Cities and rural areas** ● (Traditional and Contemporary); Basic Types: Streets, Squares, Plazas, Gardens, Ghats and Maidans, Public Parks at District, Local and Neighbourhood Levels; Park Systems; Urban and Regional Level Open Spaces . The Rural Landscape: Characteristics, Components and Change Related to Agriculture, Forestry and Development	**14**
3.	**Site Planning** ● Principles of Understanding and Evaluating an Existing Landscape; Development as a Response to Constraints and Opportunities Offered by the Site Site and Resource Inventory Methods, Analyses and Appraisal; Landscape Suitability Analysis • Landscape Evaluation; Landscape Conservation – Principles and Techniques , Application of G.I.S. and Remote Sensing in Regional Landscape Planning. Basic quantitative methods of collecting, analyzing, projecting and presenting data for Landscape Planning. (requires utilisation of GIS Lab)	**14**
4.	**Landscape Planning** ● Landscape Planning as a Component of Regional Development Proposals for Industrial Location (Manufacturing and Extractive); Environmental Conservation, Tourism, Etc., Landscape Planning in the Context of Urban Extensions and New Towns; Introduction to Landscape Ecology, Cultural Landscapes, Environmental Impact Assessment and the Environmental Impact Statement: Theory and Practice. definitions, methodologies, techniques Illustrative examples from India and elsewhere(EIA in developed and developing countries) to demonstrate the degree of effectiveness	**14**

REFERENCE BOOKS

1. Design with Nature, Ian L. McHarg, John Wiley
2. Landscape Architecture: A Manual of Environmental Planning and Design, John O. Simonds
3. Urban Landscape Design, John A. Flannery et all, The Neues Publishing Company
4. Routledge Handbook of Urban Ecology, Ian Douglas ed., Routledge
5. The Dynamic Landscape: Design, Ecology and Management of Naturalistic Urban Planning, Nigel Dunnettet all, Taylor and Francis
6. Anatomy of a Park: Essentials of Recreation Area Planning and Design, Dahl B. and Donald J. Molnar, Illinois, Waveland Press 2003
7. Basics Landscape Architecture 01: Urban Design, Ed Wall and Tim Waterman, London AVA Academia, 2009
8. Time-Saver Standards for Landscape Architecture, C.W. Harris and N.T. Dines, New York, McGraw-Hill, 1998

WATER SENSITIVE URBAN DEVELOPMENT			
Course Code	**MUP 116**	**Credits**	**02**
Contact Hours (Hrs/Week)	**04**	**Semester**	**02**
Course Category	**DEC**		

INTRODUCTION

The city is dependent on water, because water plays an essential role for its development and functioning. The functions of water are diverse and cover not only domestic purposes and discharge of waste but also include ecological functions. These are linked to green space management, landscape design, crop cultivation and biodiversity. But also functions such as temperature buffering are becoming more important. Water thus forms a cross-sectional topic that integrates several areas such as climate protection, quality of life, resource and energy efficiency. These connections show the importance of water for an urban development. This course shall create awareness about water and its management for sustainable urban development.

COURSE OBJECTIVES

The objective of this course is to:

- understand and synthesize water fundamentals (water quality, quantity, governance, environmental flows) and current and future water uses and strategies.
- be able to evaluate and prescribe water planning and management strategies that will ensure adequate amounts of accessible, affordable, clean water for human use while maintaining environmental water flows.

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having successfully completed this course, the student will be able to understand:

- Governance aspects associated with water management in urban areas
- legislatures associated with planning and distribution

PEDAGOGY

- Classroom teaching is supported by giving handouts/ readings, PowerPoint slides, short movies/ discussions, exposure to Site visits/filed visits to specific building pertaining to the typology chosen.
- Stage by stage submission may be followed by an internal jury where the student work may be critically examined followed by a class discussion.
- Case Study based approach may be explored

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP**
0	2	0	--	Yes	--	35	--	15	0	--	50

CONTENT

S. No	Contents	Contact Hours
1.	**Water Quality** Understanding basics of water quality. Effects of poor water quality, Water Supply, Understanding hydrology, UN World Water Development Report, case studies	14
2.	**Water Governance** ● Role of Central, Regional, State and Local Water Management Agencies, Water resources and environmental issues, adaptive and integrated management of water resources	14
3.	**Water uses and strategies** ● Water biodiversity and ecosystems, water sensitive urban design, Water conservation, flood management and preparation, Water and energy, energy consumed in water use, electricity-water tradeoffs, The Right to water, Water and Sanitation, water and agriculture	14
4.	**Water Planning** ● Supply planning, water supply needs, water management strategies, impacts of plans, financing for water, challenges and uncertainties, case studies	14

REFERENCE BOOKS

1. Begbie, A. S. T. G. D., 2018. *Approaches to Water Sensitive Urban Design Potential, Design, Ecological Health, Urban Greening, Economics, Policies, and Community Perceptions.* 1st Edition ed. s.l.:Elsevier.
2. Jacqueline Hoyer, W. D. ,. B. W. L. K., 2011. *Water Sensitive Urban Design: Sustainable Stormwater Management in the Cities of the Future.* s.l.:JOVIS Verlag.
3. Per-arne Malmqvist, G. H. E. K. T. A. S. G. S., 2006. *Strategic Planning of Sustainable urban water Management.* 1st ed. London: IWA Publishing, 2006.
4. Pinderhughes, R., 2004. *Alternative Urban Futures: Planning for Sustainable Development in Cities throughout the world.* s.l.:Lanham : Rowman & Littlefield, 2004.

URBAN HERITAGE CONSERVATION			
Course Code	**MUP 118**	**Credits**	**02**
Contact Hours (Hrs/Week)	**04**	**Semester**	**02**
Course Category	**DEC**		

INTRODUCTION

The term Urban Conservation is often described as preservation of built heritage at an urban level i.e. concerned with the built environments that are of cultural significance. A broad aim of the course is to develop a wider understanding of historic built environment in precincts, settlements, town, open spaces and urban landscapes of cultural significance.

COURSE OBJECTIVES

The objective of this course is to:

- help understand the Integration of heritage in urban planning framework
- expose various ways of revitalization of urban heritage through urban renewal
- generate awareness of heritage

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having successfully completed this course, the student will be able to understand:

- mapping and recording of physical and social layering in the city,
- gain an introduction to urban conservation as an approach to revitalization and redevelopment of historic urban areas,
- gain an insight into theoretical concepts of cultural variation and diversity in urban contexts,
- develop an understanding to identify the key attributes of cultural significance in a built environment,
- start thinking critically about urban conservation of heritage in India.

PEDAGOGY

- Classroom teaching is supported by giving handouts/ readings, PowerPoint slides, short movies/ discussions, exposure to Site visits/filed visits to specific building pertaining to the typology chosen.
- Stage by stage submission may be followed by an internal jury where the student work may be critically examined followed by a class discussion.
- Case Study based approach may be explored

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP**
0	2	0	--	Yes	--	35	--	15	0	--	50

CONTENT

S. No	Contents	Contact Hours
1.	**Planning for Heritage Areas** ● Conceptual & legal framework Evolution of concept of integrated conservation and development, planning for areas of heritage significance; Value based approach to heritage management and urban conservation; International obligations and National Policy and Legislation for heritage conservation and management.	14
2.	**Heritage Areas in India** ● Resource significance & potential Types of heritage areas in India and their significance and potential today; Responsibilities of the urban local bodies and relevance of the 74th Amendment 12th schedule for heritage conservation, interface with district planning & metropolitan area planning; participatory heritage management; financing of heritage conservation heritage values; economic imperatives an implications for heritage management, heritage tourism.	14
3.	**Integrated urban conservation & heritage management** ● Integrated urban conservation & heritage management process Identification, delineation and designation of heritage areas; Listing, documentation and heritage resource database development; Conservation and development guidelines for heritage areas; Integration of heritage conservation zones into master plans; Preparation of City Development Plans and DPR's in the heritage management and conservation sector under the JNNURM programme, Heritage Toolkit; Disaster preparedness for urban heritage areas; Methods for 'Heritage Impact Assessment' and 'Archaeological Impact Assessment'	14
4.	**Comprehensive conservation plans & heritage management plans** ● Holistic approach to conservation and management of urban and rural heritage, cultural landscapes and cultural regions; Goals and objectives of comprehensive conservation plans and heritage management plans; Plan implementation and capacity building for heritage management.	14

REFERENCE BOOKS

1. Luigi Fusco Girard and Peter Nijkamp (editors) Cultural Tourism and Sustainable Local Development 2009 Ashgate, Burlington
2. Nirmala Rao Khadpekar Urban revitalization : perspectives and initiatives / 2008 ICFAI University Press
3. Richard Longstreth (editor) Cultural Landscapes: Balancing Nature and Heritage in Preservation Practice 2008 University of Minnesota Press
4. Cohen, Naoum Urban Planning Conservation and Preservation 2001 McGraw-Hill
5. Ismailb Serageldin, Ephim Shluger, Joan Martin-Brown (editors) Historic Cities and Sacred Sites: Cultural Roots for Urban Futures 2001 The World Bank

TOURISM AND RECREATIONAL PLANNING			
Course Code	**MUP 120**	**Credits**	**02**
Contact Hours (Hrs/Week)	**04**	**Semester**	**02**
Course Category	**DEC**		

INTRODUCTION

This course subject emphasizes on Tourism and recreational planning, policy making and their implementation.

COURSE OBJECTIVES

The objective of this course is to:

- introduce the principles of planning for tourism in various tourism contexts and
- help develop appropriate planning strategies and tools.

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having successfully completed this course, students will be able to understand:

- about the environmental protection done through the concept of Eco tourism and sustainable development.
- the role of tourism in employment creation and socio-economic development.
- the information on typology and various forms of tourism, tourism systems, elements of tourism, tourism transport and
- the role of various tourism organizations and authorities.

PEDAGOGY

- Classroom teaching is supported by giving handouts/ readings, PowerPoint slides, short movies/ discussions, exposure to Site visits/filed visits to specific building pertaining to the typology chosen.
- Stage by stage submission may be followed by an internal jury where the student work may be critically examined followed by a class discussion.
- Case Study based approach may be explored

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP**
0	2	0	--	Yes	--	35	--	15	0	--	50

CONTENT

S. No	Contents	Contact Hours
1.	**Planning for Leisure and Tourism** ● Key Determinant; Characteristics of Tourism Sectors; Differences Between Leisure and Business Tourism. Tourism and Economy-Impact on Livelihoods and Local Communities.	**14**

2.	**Types of Tourism and Planning Implication** ● Cultural Tourism, Eco-Tourism, Heritage Tourism, Adventure Tourism, Religious Tourism, Leisure Destination Tourism; Characteristics of Each and Planning Implications. Regional Context of Tourism Locations, Circuit Identification and Destination Planning	**14**
3.	**Tourism Plans** ● Social Factors Shaping Leisure; International Tourism Trends; Factors and Impact on National Tourism Markets: Components, Time Frame, Actors, Cost and Revenue, Etc. Tourism Infrastructure- Definition and Classification; Tourism as a Burden on Local Infrastructure	**14**
4.	**National Policies Affecting Tourist Inflow** ● Role of Multiple Government Authorities and Agencies Involved in Tourism Development; Private Players in Tourism Development; Case Studies	**14**

REFERENCE BOOKS

1. Tourism Planning: Basics, Concepts, Cases, Clare A. Gunn
2. Contemporary Issues in Tourism Development, D.G. Pearce, ed, Routledge
3. Cultural Tourism and Sustainable Development, L.F. Girard ed.
4. Event Tourism: Critical Concept in Tourism
5. Sustainable Tourism Management, John Swarbook
6. Tourism and Poverty Reduction: Pathways to Prosperity, J Mitchell
7. Tourism and the Less Developed World: Issues and Case Studies, David Harrison
8. Tourism Infrastructure Development: Sustainable Approach, Manoj Sharma