Master of Planning
(Urban Planning)
(2 year; 4 Semester)
Programme

Master of Planning (Urban Planning) (2 year; 4 Semester) programme

Introduction:

IGDTUW was established as a state technical varsity for the women in 2013. The main aim of a women technical institute was women empowerment, as the study of the women enrolment in technical courses in Delhi was found to be around 20% only, in the second decade of 21st century. It was therefore envisaged that an all women's technical institute will help in significant increase in enrolment of women in technical courses. The Bachelor of Architecture programme was started in 2015. This was also a step towards social equity and gender parity in technical professions.

Hence, viewed from this context, it is imperative that architectural and planning education should empower students to become protagonist of positive change by exploring, learning and practicing a sustainable form of architecture. The concept of sustainability encompasses not just environmental variables, but also issues of livelihood, poverty, migration, food security, democracy, human rights and peace. Planners have an important social responsibility to fulfill - now and in future.

Planning education should be geared towards deepening awareness about environmental as well as social issues and realities. However, this by itself is incomplete. It is important that students are able to reflect on their own role in creating a sustainable world. They should be able to understand how their informed decisions can have a major impact on creating a sustainable world. Only this clarity will give rise to the will to take concrete actions to address the challenges the world is facing. Hence, the architecture and planning education must, besides imparting knowledge, also endeavor to create opportunities for students to engage with real life issues, so that they can reflect on their role in creating a better world. Further, it is also important that they are empowered to make informed choices, which are more life-sustaining.

In this context, the role of IGDTUW as an all women institute is of strategic significance.

Need:

India is rapidly urbanizing since independence. As per census 2011, approximately 31% of population in India is urbanized and this is expected to be around 40% by 2030 as per UN State of the World Population report in 2007. Currently Almost 97% of population in Delhi is urbanised.

Currently Delhi has only 2 government universities offering post graduate programmes related to Urban Planning and they too are centrally funded universities.

There is no state government funded university offering the post graduate programme in the area of Urban Planning. UGC also sent a letter no. D.O. No. F.14-12/2016(CPP-II), dated 01st June 2016, to IGDTUW mentioning that Universities should start subject/courses on Urban Planning at graduate and post graduate level.

Vision of M.Plan (Urban Planning) Programme (under Department of Architecture and Planning)

The Department of Architecture and Planning of Indira Gandhi Delhi Technical University for Women will orient its curriculum and pedagogy to become a transformative force for a more

inclusive, humane, responsive and sustainable urban planning through cultivation of creativity, critical thinking, compassion, and collaborative working.

Objectives

1. To provide **urban planning education to empower** students to become protagonist of positive change by exploring, learning and practicing a sustainable and inclusive form of urban planning.
2. To develop the **capacity of the women** students to practice urban planning which is humane and sustainable by developing understanding of
    - Sustainability which encompasses not just environmental variables but also social- economical- cultural variables.
    - How peace and inclusion can be fostered in society through domains of urban planning.
3. To foster **research, innovation and creativity** through promotion of holistic learning environment, a flexible and distinctive pedagogy that leverages use of latest technology, hands on activities in the form of field visits, peer learning, etc. which instils a notion of lifelong learning.
4. To **promote a learning environment** that welcomes and honours women from diverse cultures for involving themselves in intellectual inquisitiveness, explore knowledge dimensions for future application in industry, profession and life.
5. To shape students into **thoughtful and responsible individuals** who are effectively able to tackle the challenges of the profession and create ecosystems which enhance the quality of life.

Course Structure & Syllabus
Master of Planning
(Urban Planning)

Course Structure for M.Plan .(Urban Planning) Programme (First and Second Year)

FIRST YEAR					
First Semester					
S.No.	**Code**	**Subject**	**(L-S-P)**	**Credit**	**Category**
1	MUP101	Planning Studio	0-0-8	4	DCC
2	MUP 103	Housing & Environmental Planning	2-0-0	2	DCC
3	MUP 105	Planning Techniques	2-0-0	2	DCC
4	MUP 107	Infrastructure and Mobility Planning	2-0-0	2	DCC
5	MUP 109	Planning History & Theories	2-0-0	2	DCC
6	MUP 111	Women and Habitat	2-0-0	2	HMC
7	MUP 113	Demographics and Statistical Analysis	0-0-2	1	HMC
8	MUP 115	Urban Informatics and Analytics	0-0-4	2	BSAE
9	GEC 101	Generic Open Elective	0-0-4 2-0-0 0-2-0	2	GEC
			Total	**19**	
Second Semester					
S.No.	**Code**	**Subject**	**(L-S-P)**	**Credit**	**Category**
1	MUP 102	Planning Studio	0-0-8	4	DCC
2	MUP 104	Planning Legislation and Governance	2-0-0	2	HMC
3	MUP 106	Sustainable Development	2-0-0	2	BSAE
4	MUP 108	GIS & Remote Sensing	2-0-0	2	BSAE
5	MUP 110	GIS Lab	0-0-6	3	BSAE
6	MUP 112 MUP 114 MUP 116 *	Departmental Elective Course -1	0-0-4	2	DEC
7	MUP 118 MUP 120 MUP 122 *	Departmental Elective Course -2	0-0-4	2	DEC
			Total	**17**	

NOTE:

1) Students have to undergo Professional Training after completion of second semester, during summer vacations. The same shall be evaluated in semester 3.

SECOND YEAR					
Third Semester [@@]					
S.No.	**Code**	**Subject**	**(L-S-P)**	**Credit**	**Category**
1	MUP 201	Planning for Region - Studio	0-0-8	4	DCC
2	MUP 203	Thesis (Stage – I)	0-4-0	4	DCC
3	MUP 205	Project Planning and Management	2-0-0	2	HMC
4	MUP 207	Urban Economics and Finance	2-0-0	2	HMC
5	MUP 209	Advanced Geoinformatics Lab	0-0-4	2	BSAE
6	MUP 211	Professional Training (Summer)	0-0-0	2	DCC
7	MUP 213 MUP 215 MUP 217 *	Departmental Elective Course -3	0-0-4	2	DEC
8	GEC 201	Generic Open Elective	0-0-4 2-0-0 0-2-0	2	GEC
			Total	**20**	
Fourth Semester					
S.No.	**Code**	**Subject**	**(L-S-P)**	**Credit**	**Category**
1	MUP 202	Thesis (Stage - II)	0-24-0	24	DCC
			Total	**24**	

[@@] Student exchange may be permitted in third semester with other National/International University but the requirement of 19 credits to complete the semester may be fulfilled by the concerned student by obtaining the said credits after completion of studies at University with which the exchange of student has been done by IGDTUW.

Course Code for Generic Open Elective may be decided as per University norms / other programmes

List of Departmental Elective Courses

Category	Course Code	Subject	Credits
Departmental Elective Course-1	MUP 112 MUP 114 MUP 116 *	Advanced Mobility Planning Introduction to Urban Landscape Water Sensitive Urban Development Any Other Elective	0-0-4
Departmental Elective Course-2	MUP 118 MUP 120 MUP 122 *	Urban Heritage Conservation Tourism and Recreation Planning Advanced Informatics Any Other Elective	0-0-4
Departmental Elective Course-3	MUP 213 MUP 215 MUP 217 *	Introduction to Urban Design Disaster Mitigation and Management Resilient Planning Any Other Elective	0-0-4

*** Any other elective(s) may be offered by department (s) of the university and may be taken up by student as per norms of University or Department of Architecture and Planning**

PLANNING STUDIO			
Course Code	**MUP 101**	**Credits**	**04**
Contact Hours (Hrs/Week)	**08**	**Semester**	**01**
Course Category	**DCC**		

INTRODUCTION

The course is introductory in nature and exposes students to all domains of planning and bring them to practice

COURSE OBJECTIVES

The objective of the course is to:

- Bring students of diverse backgrounds to a common platform and develop the essential skills of planning.
- Introduce students to the general concepts of Physical Planning
- Develop skills of data analysis, interpretation and knowledge representation through graphical, theoretical and verbal mediums
- To be able to apply knowledge gained in other courses and to be able to generate comprehensive physical plans

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having completed the course, the students would be able to:

1) Develop skills for data analysis (including, collection, storage and segregation)
2) To be able to collate 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	8	0	--	--	--	35	--	15	0	--	50

CONTENT

S. No	Contents	Contact Hours
1.	**Film Appreciation (individual assignment)** Films related to city development and socio-economic issues will be screened for students. The purpose of these films is to educate the students' understanding of various development issues and to absorb them in the planning practice. At the end of the film, a discourse around the film will also be held. After viewing the films, each student is expected to write about its main focus, city / region context, its applicability to Indian environment by answering the given questions in not more than half a page.	**16**

2.	**Literature Review (individual assignment)** Each student is expected to read the article given from a journal/book and write a summary of not more than a page (250 words only) highlighting the problem, approach, methodology, analysis, how the author arrived at the conclusion and its relevance to Indian context. There will be a negative marking for writing the same text as in the original (that is copying from the original text given to them). • **Simple circulation/flow diagrams for small building projects**	**16**
3.	**Area Appreciation (individual assignment)** The aim of the area appreciation exercise is to enable the students to understand and contextualize the location of the area in relation to the city, zone and area in which the particular place is situated. This is done in relation to the socio-economic, spatial and cultural characteristics of that city, zone, location, etc. The main purpose is to make the students appreciate the locational attributes of land parcels for future development in a city. Due to the size of the area, this exercise is done in groups of students being assigned to a particular area. The following planning issues at area level should be identified: • Review of the Master Plan / Zonal / Area plan in relation to the selected areas. • Appreciation / Analysis of ward level data. • Perception of areas in terms of legal / illegal / authorized / unauthorized, Slums, Urban Aesthetics. Social Categorizations of people - Type of population living, people's perception about area and its planning problems. • Land use including Agriculture land and land use conflicts, extent (%) of broad land use such as commercial, industrial, residential, institutional and recreational. • Extent of formal / informal activities present in the area including their location and conflicts. General land tenure of the area and land value for different uses. • Major types of transport, type of roads, hierarchy of roads, type of transport modes used. Amenities: Location of Social and Physical infrastructure and their problems as perceived by local population. Look for specific infrastructure such as Water supply, drainage (water logging areas), waste collection and disposal system, sanitation, etc. • Environmental Issues: Open Spaces – Availability and extent of open space to built-up area, garbage disposal, encroachment (through photographic evidences and sketches). • Locating the study area in the zone, city and regional context with respect to all the above aspects.	**20**
4.	**Site Planning (individual assignment)** Site planning is a process whereby the optimum utilization of potential of site is considered recognizing the constraints the site has. It uses three-dimensional space of the site and the associated locational advantages, human activities and the regulations that are assigned to a particular site. The site is developed using a set of standards / norms in a given context which varies from location to location. A student is expected to understand the intricacies and interface between various variables such as soil conditions, topography, environmental dimensions, location, spatial standards applicable to the site, etc.	**24**
5.	**City Development Plan (Group assignment)** A City is a multi-dimensional, dynamic and a futuristic space. Understanding city involves appreciating this multi direction and include them in the city making process. A job of physical planner does not merely understand the current conflict in development but to emerge out of this	**36**

	and to come out with a vision for the city. To arrive at this vision, a planner needs to understand the dynamics of various components of the city and how and what level interventions can be made to achieve that vision. A group of students are expected to study a city in terms its present problems and issues and project a futuristic vision in terms of scenario building.	

REFERENCE BOOKS

1. Cities for People; Jan Gehl; Island Press; 2nd None ed. Edition, 2010
2. The Death and Life of Great American Cities; Vintage Books, 1992
3. Urban Planning in India; Amiya Kumar Das; Rawat, 2007
4. Fundamentals of Town Planning; G.K. Hiraskar; Dhanpat Rai Publication,2018
5. Town Planning; Rangwala; Charotar Book Distributors, 2015
6. Delirious New York; Rem Koolhaas; The Monacelli Press, 1997
7. Good City Form; Kevin Lynch; MIT Press, 1984
8. Site Planning; Kevin Lynch and Gary Hack; MIT Press, 1984

HOUSING & ENVIRONMENTAL PLANNING			
Course Code	**MUP 103**	**Credits**	**02**
Contact Hours (Hrs/Week)	**02**	**Semester**	**01**
Course Category	**DCC**		

INTRODUCTION

This course shall create awareness about aspects that affect housing planning and need to plan in accordance with environment within the existing framework.

COURSE OBJECTIVES

The objective of this course is to:

- Enable the students to understand the fundamentals of Housing and Environmental Planning.
- familiarize students with a wide spectrum of aspects related to housing viz., housing scenario, housing needs, housing design, building legislations and relevant methods for formulating housing strategies.
- The objective of this course is to initiate the students to a discreet understanding of the environment and the interactions and inter-relationships of all living organisms with the physical surroundings.

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

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

- Housing as a social issue and as an infrastructure.
- Housing needs and demands
- Implication of statutory norms and market forces on the typology of housing and Planning of housing for a given/explored number of house hold.
- Sensitive Planning for environment
- Understanding of Various Environmental frameworks for Planning

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.

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: 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, multistoried housing, villas, chawls, etc., slums and squatters, night shelters, public health	**07**

	issues related to housing, various theories of housing, concept of green housing	
2.	**Unit 2: Housing as social security** • Housing as a social aspect; Role of housing in development of family and community well-being, ghettoism, gender issues, housing for the elderly. Contribution of housing to micro and macro economy, housing taxation, national budgets, fiscal concessions	**07**
3.	**Unit 3: Planning for Neighborhoods** • Neighborhood living in traditional and contemporary societies, elements of neighborhood structure, Planning and design criteria for modern neighborhoods, housing and area planning standards as per MPD -2021, net residential density and gross residential density; National Housing Policy.	**07**
4.	**Unit 4: Environment and Development** • Changing Perspectives in Man-Environment Relationship with Focus on Issues of Population, Urbanization, Resource Depletion and Pollution. Concept of Ecology; Fundamentals of Ecosystem—Its Structure and Function. Environmental Degradation (Environmental Concerns and Challenges) and Its Impact on Various Ecosystems. Concept of Sustainable Development and EIA.	**07**

REFERENCE BOOKS

1. Housing: Changing Needs and New Directions, V. Gandotra, M. Shukul, N. Jaju and N. Jaiswal, Authors press, 2009
2. Housing and Urbanization- A study of India, Cedric Pugh, Sage Publications, New Delhi, 1990
3. Housing Laws in India- Problems and Remedies, P.K.Sarkar , Eastern Law House Private Ltd., 2000
4. National Housing Policy, GOI, New Delhi
5. Reading Material on Housing, K. Thomas Poulose, ITPI, India
6. Understanding Housing Policy, Brain Lund, The Policy Press, Great Britain, 2017
7. Urban Development and Housing in India- 1947 to 2007, Rishi Muni Dwivedi, New Century Publications, 2007
8. Housing Policies and Related Acts and Schemes of Government of India
9. Master Plan of Delhi 2021.
10. Fundamentals of Ecology, Odum, E.P., Barrett, G.W., Brewer, R., Thomson Brooks, 2004
11. Ecology, Impact Assessment and Environmental Planning, Westman W., John Wiley and Sons, 1985
12. Integrated Environmental Planning, James K. Lein, Blackwell Publishing, 2002
13. AITP Reader on Ecology & Resource Development, AITP
14. AITP Reading Material on Environmental Planning and Design, Prof A. K. Maitra, SPA Delhi
15. Ecology and Equity - The Use and Abuse of Nature in Contemporary India, Gadgil, M. and Guha, R., Penguin, 1995
16. Environment and Development: The Place of Human Ecology in South Asian Studies Programme, Rambo, T.,
17. Environment Crisis and Sustainable Development, Bahuguna, S., Natraj, Dehradun, 2000
18. Environmental Issues and Researches in India, Agarwal, S.K. and Garg, R.K (eds), Himanshu Publications, 1988
19. Environmental Law and Policy in India - Cases Materials and Statutes, Divan, S. and Rosencranz A., Oxford, 2001
20. Our Common Future: The World Commission on Environment and Development, Oxford University Press, Oxford, New York, 1987

PLANNING TECHNIQUES			
Course Code	**MUP 105**	**Credits**	**02**
Contact Hours (Hrs/Week)	**02**	**Semester**	**01**
Course Category	**DCC**		

INTRODUCTION

The course introduces techniques used for planning at various stages from preliminary to advanced.

COURSE OBJECTIVES

The objective of the course is to:

- Enable the students to understand various techniques for efficient physical planning
- Enable students to use various planning tools and techniques

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

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

- Application of various planning techniques
- Understanding of various planning tools

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.

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
5.	**Unit 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.	**07**
6.	**Unit 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;	**07**
7.	**Unit 3: Demographic Methods** • Methods of population forecasts and projections; Lorenz Curve, Ginni Ratio, Theil's index, rations: urban – rural, urban concentration, metropolitan concentration; Location dimensions of population groups – social area and strategic choice	**07**

	approach – inter connected decision area analysis.	
8.	**<u>Unit 4:</u> Planning Standards** • Spatial standards, performance standards and benchmarks, and variable standards; UDPFI guidelines, zoning regulations and development control rules and regulations.	**07**

<u>REFERENCE BOOKS</u>

1. Urbanisation and Urban Systems in India, Ramchandran R. Oxford University Press, 1997
2. Cities Urbanisation and Urban Systems, Sidddhartha K. and Mukherjee S., Kisalaya Publications, 2016
3. Regional Planning, Glasson J., Open University Press, 2007
4. Economic and Social Geography Made Simple, Knowles R. and Wareing J., Rupa and Company, 1990
5. Planning Techniques for AITP, Reader on Institute of Town Planners India
6. UDPFI Guidelines Volume 1, Ministry of Urban Affairs and Employment Govt. of India, New Delhi

INFRASTRUCTURE AND MOBILITY PLANNING			
Course Code	**MUP 107**	**Credits**	**02**
Contact Hours (Hrs/Week)	**02**	**Semester**	**01**
Course Category	**DCC**		

INTRODUCTION

The course introduces students to different types of utilities and services required for efficient operations of systems. The course also introduces students to the aspects that have an impact on transportation systems in the city.

COURSE OBJECTIVES

The objective of the course is to:

- Sensitize students towards the importance and requirement of infrastructure that supports development
- Make students aware about the significance of infrastructure in planning
- Enable students to provide for the required infrastructure and services for planned development

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

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

- Design principles for various services and utilities
- Understanding of aspects that affect Transport Planning

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.

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: 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. Familiarizing to CPHEEO Manual and Guidance	07
2.	**Unit 2: Planning and Management of Water, Sanitation and Storm Water** • Water – sources of water, treatment and storage, transportation and	07

	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.	
3.	**Unit 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 firefighting, norms and standards, planning provisions and management issues.	**07**
4.	**Unit 4: City Development and Mobility 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.	**07**

REFERENCE BOOKS

1. Environmental Engineering, Howard S. Peavy, Tata Mc Grawhill
2. Regulation and the Management of Public Utilities, C. S. Morgan, Gale -2010
3. Water Supply Engineering, S. K. Garg, Khanna Publishers -2017
4. Manual on Sewerage and Sewage Treatment, CPHEEO -1993
5. Urban Planning Manual, AIILGS Reader
6. Solid Waste Management, Krishana Gopi Sanoop P, Sasikumar K, Phi Learning -2015
7. Solid Waste Management, Dewan, Sudarshan, Discovery Publishing House - 1996
8. Telecommunication Management Networks (TMN) Implementation, Amani Omer, Lambert Academic Publishers. -2011
9. Firefighting: Management and Techniques, Overton Frank, Inkata -1996
10. Water Supply Engineering: Environmental Engineering – I, Arun Kumar Jain, Ashok Kumar Jain, B. C. Punmia, Laxmi Publications
11. Traffic Engineering and Transport Planning, L.R. Kadiyali, Khanna Publications -2018
12. Transportation Engineering and Planning, Author: C. S Papacostas, P. D Prevedouros, Publisher: PHI Learning -2019
13. Principles of Urban Transport Systems Planning, B.G. Hutchinson, McGraw Hill -1974
14. Urban Transport: Planning and Management, A K Jain, APH Publishing -2016
15. Modelling Transport; Juan De Dios Ortuzer, Luis G. Willumsen; 3rd Edition, Wiley, 2001, England.

PLANNING HISTORY AND THEORIES			
Course Code	**MUP 109**	**Credits**	**02**
Contact Hours (Hrs/Week)	**02**	**Semester**	**01**
Course Category	**DCC**		

INTRODUCTION

The course introduces students to classical practices of city/urban planning

COURSE OBJECTIVES

The Objective of the course is

- To make students aware about the traditional practices and theories based on which the cities evolved and the interconnectedness amongst them
- To sensitise students to the classical theories and practices that led to the evolution of cities as we see today
- To learn how planning thoughtful planning emerged as a discipline with various theories with modern outlook

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

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

- Observe and appreciate the application of various theories of planning in the cities historically and contemporarily
- Apply theories of planning to the practice

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.

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: 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. Familiarizing to CPHEEO Manual and Guidance	**07**
2.	**Unit 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,	**07**

	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.	
3.	**Unit 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 firefighting, norms and standards, planning provisions and management issues.	**07**
4.	**Unit 4: City Development and Mobility 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.	**07**

REFERENCE BOOKS

1. Planning Theory, Healey P., Pergamon Press
2. Planning Theory, Allmendinger Philip, Palgrave MacMillan - 2017
3. Cities of the World: World Regional Urban development, Brunn S.D.et all. -2003
4. City Assembled: The Elements of Urban form through History, Kostof Spiro, Thames and Hudson - 2005
5. Contemporary Urban Planning, Levy John M, Longman -2016
6. Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century, Hall Peter - 2002
7. Urban and Regional Planning Since Independence: Retrospect and Prospect: Technical papers, National Town and Country Planners Congress, Mysore, Ministry of Urban Affairs and Employment
8. The City in History: Its Origins, Its Transformations, and Its Prospects;Lewis Mumford; Mariner Books - 1968
9. The Oxford Handbook of Urban Planning, Weber Rachel et all, Oxford University Press -2012
10. Urban Pattern: City Planning and Design, Gallion, Arthur B. and Eisner Simon, CBS Publishers - 2003

WOMEN AND HABITAT			
Course Code	**MUP 111**	**Credits**	**02**
Contact Hours (Hrs/Week)	**02**	**Semester**	**01**
Course Category	**HMC**		

INTRODUCTION

The course introduces students to the importance and role of women in all the processes and outcomes of urban planning

COURSE OBJECTIVES

The objective of the course is to:

- To enable students to also have a gender sensitive perspective in urban planning
- To study and identify whether urban planning was/is gender sensitive
- To understand and identify the parameters which are not sensitive towards women and need modification or the parameters which are needed to be included, while planning urban areas, in order to make urban planning more sensitive and inclusive towards women
- To identify processes which would ensure increased participation of women in urban planning

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having completed the course, the students would be:

- Able re-imagine urban planning from a gender sensitive perspective;
- Able to plan urban areas which provide equitable opportunity to women in urban areas as compared to men;
- Able to plan more safe, secure and healthy urban areas for women.

PEDAGOGY

Classroom teaching is supported by giving handouts, PowerPoint slides. Readings/Short Movies may be shown to students. Students may visit site / industry/professionals for collecting context specific data and for getting better understanding of real-life issues related to urban planning details.

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: Gender and Urban Planning** • Defining Habitat; Understanding Habitat from Women's perspective; Concept of Inclusive Planning; Importance of gender sensitive urban planning; Different needs of women and men; different roles of women in a society.	**07**
2.	**Unit 2: Gender related concepts** • Linking SDG no. 5, 11 and Urban Planning; Concepts of Women Empowerment through Urban Planning, Gender Sensitive, Gender Impact Assessment, Gender Mainstreaming, Gender budgeting, Gender auditing.	**07**

3.	**Unit 3: Gender related issues** • Key Issues - Access to livelihood and employment, Access to Municipal Services (Water, Sanitation, Solid Waste Management), Access to Urban Spaces (Land, Housing, Finance), Access to social services (healthcare, food, education), Safety/security, design for Mobility, Accessibility, Housing , public spaces; Acknowledging Issues like care giving as an unpaid job, women in different socio economic conditions using the resources in urban areas differently, work areas are only work areas and doesn't facilitate women in fulfilling her other obligations , Impact of climate change and environmental disasters on Women.	**07**
4.	**Unit 4: Governance and Institutionalizing Gender Sensitive Urban Planning** • Women in Local Governance in the context of 74th CAA; Gender Sensitive Decision making in Planning; Men define urban (statutory definition of urban area); elements of Draft National Policy for Women (2016) by MoWCD; Institutional mechanisms for gender equality in urban planning.	**07**

REFERENCE BOOKS

1. Study on "Addressing Gender Concerns in India's Urban Renewal Mission"; Renu Khosla, UNDP India, 2009
2. Manual on Gender Mainstreaming in Urban Planning and Urban Development; Urban Development Vienna, Municipal Department 18 (MA 18) – Urban Development and Planning; 2013
3. Gender and Urban Planning: Issues and Trends; UN Human Settlements Programme; 2012
4. Institutionalizing Gender Equality Urban Development Experience of The Bangladesh Local Government Engineering Department; Asian Development Bank; 2017
5. Gender and Planning; Susan S Fainstein, Lisa J Servon; -2005
6. Fair Shared Cities: The impact of Gender Planning; Marion Roberts; Edited by: Ines Sanchez de Madariaga; Routledge Taylor and Francis Group; 2013 (e books 2016)

DEMOGRAPHICS AND STATISTICAL ANALYSIS			
Course Code	**MUP 113**	**Credits**	**01**
Contact Hours (Hrs/Week)	**02**	**Semester**	**01**
Course Category	**HMC**		

INTRODUCTION

The course introduces the students to the aspects related to population growth, distribution, etc and the statistical methods that help analysis of data pertaining to people and helps to correlate this analysis with people for efficient planning

COURSE OBJECTIVES

The Objectives of the course are:

- To create awareness about the population geography and its role in economic and spatial growth
- To develop basic understanding of concepts of demography
- To understand importance of geographical aspect of population
- To learn and use tools to analyse data

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having completed this course, the students would be able to:

- Understand the issues and aspects related to population of any urban area like composition, distribution, change etc.
- Understand tools required to analyse data related to aspects of urban development
- Interpret the analysis of data and connect it to decision making process

PEDAGOGY

Classroom teaching is supported by giving handouts, PowerPoint slides. Readings/Short Movies may be shown to students. Students may visit site / industry/professionals for collecting context specific data for getting better understanding of real- life project details.

EVALUATION SCHEME:

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

CONTENT

S. No	Contents	Contact Hours
1.	**Population Studies** • Distribution and Density of Population - Measures of Population Distribution and Concentration; Factors Affecting Population Distribution and Density; World Population Distribution; Density Distribution in India; Population Change; Fertility and Mortality; Mobility; Factors Affecting Population Change; Demographic Transition Theory; Some Population Theories (Overview only). • Migration - Types of Migration; Determinants of Migration; Migration Models. • Population Composition - Assumptions, Methods, Techniques. Distribution and Density of Population - Measures of Population Distribution and Concentration; Factors.	**07**

2.	**Basics of Statistics** • Measures of Central Tendency and Dispersion - Arithmetic Mean; Weighted Mean; Geometric and Harmonic Mean; Median and Mode; Variance and Standard Deviation • Time Series and Forecasting - Trend Analysis - Cyclical Variation, Seasonal Variation, Irregular Variation; Various Methods in Time Series Analysis – Moving Average, Ratio to Trend, Link Relative and Residual	**10**
3.	**Probability and decision making** • Probability Distribution and Sampling Distribution - Use of Expected Value in Decision Making; Binomial, Poisson and Normal Distribution (only application).	**04**
4.	**Sampling and Correlation – Regression Analysis** • Determination of Sample Size and Types of Sampling; Sampling Distribution (concept only); ANOVA Methods • Correlation and Regression Binary and Multiple Linear Regression; Simple and Multiple Correlation; Estimation of Parameters – The Method of Ordinary Least Squares; Hypothesis Testing. Factor Analysis-PCA	**07**

REFERENCE BOOKS

1. Demography, Peter R. Cox, Cambridge University Press -1976
2. Studies in Demography, S.C. Srivastava et all, Anmol Publishers - 2005
3. Introduction to Applied Demography: Data Sources and Estimation Technique, William J Seraw, Sage Publishers - 1984
4. Patterns of Migration in the National Capital Region, National Institute of Urban Affairs (NIUA), New Delhi
5. India's Population Problems, S.N. Agarwal, Tata McGraw Hill Co., Bombay - 1975
6. Statistics for Management, Richard I. Levin et all, Pearson - 2017
7. Econometrics Damodar Gujarati Tata Mc Graw Hill - 2017
8. Quantitative Methods: Theory and Applications, J.K. Sharma, Macmillan - 2010
9. Quantitative Methods for Business, Management and Finance, Swift, Palgrave - 2005
10. Statistics, Larry J. Stephens, Tata McGraw Hill
11. Quantitative Techniques in Geography – An Introduction, Robert Hammond et al, Oxford University Press - 1978
12. Applied Statistics, P.K. Majumdar, Rawat Publications - 2010

URBAN INFORMATICS AND ANALYTICS			
Course Code	**MUP 115**	**Credits**	**02**
Contact Hours (Hrs/Week)	**04**	**Semester**	**01**
Course Category	**BSAE**		

INTRODUCTION

The course introduces students to the role of technology (primarily Information Technology) in Urban development

COURSE OBJECTIVES

The objective of the course is to:

- Enable students to make use of technology to improve the quality of life of people
- Enable students to identify the areas where technology can be applied help improve upon the planned development
- To make use of technology to improve the available infrastructure, services

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

Having completed the course, the students would be:

- Enable students to make use of technology to improve the quality of life of people
- Able to understand the application areas if IT in urban planning
- Able to build more integrated and efficient urban systems

PEDAGOGY

Classroom teaching is supported by giving handouts, PowerPoint slides. Readings/Short Movies may be shown to students. Students may visit site / industry/professionals for collecting context specific data for getting better understanding of real- life project details.

EVALUATION SCHEME:

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

CONTENT

S. No	Contents	Contact Hours
1.	Introduction to nature of problems in Urban areas, Role of technology in urban planning, concept of Data sciences; Conceptual understanding of term - spatial analytics, concept of Big Data and its role in urban planning/development.	**10**
2.	Introduction to SQL; Cleaning, manipulating, and analyzing urban data, philosophy and good practices of data science; the flow chart of a data-driven project.	**14**
3.	Visualizing data with charts, graphs, and table; Accessing public data from the web (including Twitter, Google, Census data, and the Open Data portals of cities).	**14**
4.	Developing spatial indicators and mapping urban data with open source tools.	**18**

REFERENCE BOOKS

1. Seeing Cities Through Big Data, Editors: Thakuriah, Piyushimita (Vonu), Tilahun, Nebiyou, Zellner, Moira (Eds.), Springer Geography - 2016

2. Big Data Support of Urban Planning and Management: The Experience in China (Advances in Geographic Information Science) Edited by Shen, Zhenjiang; Li, Miaoyi; 2018; Springer; Switzerland - 2018

3. From Social Butterfly to Engaged Citizen: Urban Informatics, Social Media, Ubiquitous Computing, and Mobile Technology to Support Citizen Engagement; Edited by Foth, Marcus; Forlano; Laura, Satchell, Christine; Gibbs, Martin; Donath, Judith; 2011; MIT Press; USA - 2011

4. Handbook of Research on Urban Informatics: The Practice and Promise of the Real-Time City; Marcus Foth; Information Science Reference, USA/UK
by Marcus Foth (Author, Editor) - 2008

Generic Open Elective			
Course Code **Contact Hours (Hrs/Week)** **Course Category**	**GEC 101** **GEC**	**Credits** **Semester**	**02** **01**

(i) GEC enable exposure to some other discipline/ subject/domain or nurtures candidate's proficiency and skills in niche areas which are of interest to the students. GEC courses can be completed in-house (GEC courses offered by IGDTUW) or from any other university in online/offline mode or through MOOC (NPTEL, SWAYAM, edX, Coursera etc) or GIAN Courses.

(ii) Variety of courses may include Creative Art Courses like (Dance, Yoga, Music etc), Social Welfare Courses like NCC, NSS, *Unnat Bharat*, *Swachh Bharat*, Fire Fighting etc and Women Empowerment Courses like Women Safety, Self Defence, Gender Sensitization etc) among several others.

(iii) Student may also opt for subjects from Entrepreneurship category where she can enhance/groom her skills to pursue her career as successful entrepreneur. She will be evaluated based on her business plan, innovation involved in the idea, development and execution for the same. Student must be able to prove her sincere efforts in implementing her business idea and bringing it to the next level.

(iv) If a student is interested in pursuing research career, she may opt for writing research paper and based on the quality of research paper published, she may be suitably awarded the marks/grade. The necessary consent / approvals from the department, as and when required may be obtained by the student

(v) Students, who are more inclined towards project development, may work on a live and sufficiently large project under the guidance of a faculty member or industry person. These students may be evaluated based the performance in the project development.

(vi) If the student opts for a GEC course outside IGDTUW in offline/online mode, all the expenses including registration and certification fee shall be borne by the student. The duration of GEC course shall be minimum 8 weeks (Tentatively as per University Norms).

(vii) For MOOC / GIAN / other courses department may prepare separate guidelines for conduct of the course and students must seek timely prior approval from department for registering course outside university (online/offline) and for any online / MOOC / GIAN / course

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

PLANNING FOR REGION			
Course Code	**MUP 201**	**Credits**	**04**
Contact Hours (Hrs/Week)	**08**	**Semester**	**03**
Course Category	**DCC**		

INTRODUCTION

The studio will focus on regional planning to enable students to understand how inclusive human settlements, in which economic development, environmental enhancement and social development is holistically studied for to contribute to sustainable, resilient regional planning to provide better quality of life. Regional development plan for a selected area shall be based on detailed field study of the designated area.

COURSE OBJECTIVES

The objective of this course is to:

- Enable the students to understand the fundamentals of Regional Planning through practical exercise.
- Familiarize students with a wide spectrum of aspects related to regional planning and relevant methods for formulating sustainable inclusive regional planning strategies.

PREREQUISITE- NIL

COURSE LEARNING OUTCOMES

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

- Experiential understanding of Regional Planning Process to create a synergy between environmental, social, economic and governance issues.
- Develop understanding of regional development strategies.
- Understand the region delineation techniques
- Develop regional planning objectives, develop tools for data collection and analysis

PEDAGOGY

Classroom teaching is supported by presentation, lectures, case studies and interactions. Students may visit site for collecting context specific data for getting better understanding of real- life regional planning project details.

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAP**	**MTET**	**MTEP**	**ETET**	**ETIP**	**ETEP#**
0	8	0	--	--	--	35	--	15	0	--	50

CONTENT

S. No	Contents
	Defining characteristics of identified areas, Case study and literature review of planning concepts and norms for the selected area/special area, Selection of site and collection data (field trip of 2 weeks duration), Data analysis and presentation Outline framework of development – sectoral and spatial ● Implementation framework – capital investment and funding methods

Vishal Rai

	● Financial feasibility of proposals ● Financial feasibility governance and management aspects may be explored

REFERENCE BOOKS

1. Regional Inequality and 'Inclusive Growth' in India under Globalization, Amitabh Kundu and Varghese.K. Institute of Human Development, 2010
2. Urban and Regional Planning in India: Handbook for Professional Practice, Kulshrestha, S.K, Sage Publications, 2012
3. Worldling Cities: Asian Experiments and the Art of being Global, Roy, A. and OngA. (ed). Wiley Blackwell , London, 2011
4. Regional Plan 2021, NCRPB, 2005
5. State Acts related to Town Planning, Slum Clearance, Municipalities, Development Authorities etc by Government of Various States

Vishal Pai

THESIS STAGE 1			
Course Code	**MUP 203**	**Credits**	**04**
Contact Hours (Hrs/Week)	**04**	**Semester**	**03**
Course Category	**DCC**		

INTRODUCTION

This course shall introduce students to pre planning related to selection and finalization of detailed thesis project in subsequent semester.

COURSE OBJECTIVES

The objective of this course is to:

- Enable the students to understand how to conduct in depth literature review and identify appropriate research method and process to conduct research on topic of their choice.
- Enable students to finalise a topic for thesis based on well-rounded arguments, comprehensive study and planning.

PREREQUISITE - Understanding of issues impacting Urban Development

COURSE LEARNING OUTCOMES

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

- Conduct in-depth literature review on topics of interest and present in report
- Identify thesis topic based on comprehensive process involving literature survey, research method identification, objectives and scope of the thesis
- Identify appropriate research methodology including conceptualization and operationalization of variables, sampling, data source identification, data collection and analysis.
- Development of tools of data collection and piloting of the same.

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.

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAS**	**MTET**	**MTES**	**ETET**	**ETIS**	**ETES**
0	0	4	--	--	--	50	--	--	-	--	50

CONTENT

S. No	Contents
	Thesis Programming Identification of topic of interest having relevance to planning profession, integration and application of the learnt research processes to the pre-thesis work Book reviews and journal article compilation to establish the body of work existing in the selected area of work Collection of data and opinions by the stakeholders, decision makers, urban managers, advocates, technocrats, user groups, etc. on the topic selected.

Vishal Rai

	Based on the literature review and inputs from the colloquial arguments, the topics shall be finalised for thesis in the subsequent semester. Selection of study area, identification of extent and spread of intervention; collection of data for preparation of base map. Development of research thrust and work methodology. Identification of data sources. Secondary data collection and analysis: sample determination, data tabulation (coding, de-coding, etc.), quantitative and qualitative data analysis. Appropriate and relevant data analysis methods would need to be studied by individual students based on thesis topic and research area. Finalisation of topic; formulation of problem statement, literature review, working hypothesis, research brief, research methodology, sample determination, data collection and analysis, report structuring. The student will be required to make two seminar presentations and submit a report at the end of the semester which will qualify as the literature review and research methodology component of his/her thesis in the forthcoming semester.

References

1. Ranjit Kumar, 2nd Edition, “Research Methodology: A Step by Step Guide for beginners” 2010
2. Validity and Review of Literature, Review in the Schools. Dellinger,A. 2005. Research in the Schools, Vol 12, No.2 41-54 pg
3. A Student’s Writing Guide: How to Plan and Write Successful Essays. Taylor,G., Cambridge University Press, 2009
4. The Complete Guide to Referencing and Avoiding Plagarism, Colin Neville, Neville ,C. , McGraw Hill International, 2007
5. An Introduction to Social Research: Quantitative and Qualitative Approaches. Punch, Keith, Sage Publications, 2005
6. Basics of Social Research: Qualitative and Quantitative Approaches, Newman, William. Pearson , Allen and Bacon Publications, 2007
7. Social Research Methods, Bryan, Alan. Oxford University Press, 2008
8. Statistical Methods for the Social Sciences, Finlay, B. Pearson Publisher University off Florida, USA, 2009
9. Research Design, John W Creswel, Sage Publications, 2003
10. Writing the Winning Thesis, Glatthorn A, and Joyner R.L. . Corwin Press, California, 2005

Vishal Rai

PROJECT PLANNING AND MANAGEMENT			
Course Code	**MUP 205**	**Credits**	**02**
Contact Hours (Hrs/Week)	**02**	**Semester**	**03**
Course Category	**HMC**		

INTRODUCTION

The objective of the course on Project Planning and Management is to train the students in managing a project right from its conception, implementation, monitoring to evaluation stages

COURSE OBJECTIVES

The objective of this course is to:

- Enable the students to understand the fundamentals of Project Planning and Management
- Familiarize students with different phases of Project Planning and Management, including designing, planning, implementing, evaluating and monitoring
- Familiarize students with tools like Microsoft Project in performing simple project management task

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

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

- Importance of project management and different stages of project formulation and management
- The roles of successful project manager
- Different types of feasibilities in project appraisal- financial, technical and social
- The project planning process including identification of interventions, designing implementation, financing, budgeting, scheduling etc
- Project monitoring and its parameters and tools

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.

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

UNIT - I	07 Hours
Project Management and Appraisal Definition of Project , Project Management – Definition and its importance; Stages of Project Life Cycle; Causes of Project Delay; Attributes of a Successful Project Management, Introduction to Project Appraisal- Types of Feasibility, Concept of Financial and Economic Appraisals, Project Financial Appraisal Techniques(Including IRR and NPV); Introduction to Market Analysis, Technical analysis and Social cost benefit analysis	
UNIT - II	**07 Hours**
Project Planning and Financing Introduction to Project Planning- Process, Investment Phase; Project Work (Work Breakdown Structure), Manpower and Organisation, Project Finance, Information System; Process of Project Formulation and Constraints; Breakeven Analysis; Sensitivity Analysis; Project Budgeting; Project Scheduling - definition and steps; Network Techniques and Activity on Arc/Node; Forward Pass and Backward Pass; Critical Path and Slack; PERT; Concept of Gantt Chart, Introduction to Project Financing and Planning for Project Financing	
UNIT - III	**07 Hours**
Project Monitoring Project Monitoring and criteria for decision making; Parameters and Tools of Control; Use of Network Analysis in Project Monitoring; Reporting and Corrective Actions; Resource Management and Project Reporting	
UNIT - IV	**07 Hours**
Project Evaluation Project Evaluation- Methods, tools, time frame and results; Project Cash Flows; Principles of Cash Flow Estimation; Project Benefits; Financial Closure, Presentation of evaluation findings.	

REFERENCE BOOKS

1. Projects Prasanna Chandra, McGraw Hill, New Delhi, 2009
2. Brilliant Project Management, Barker, Stephen and Cole. Pearson Education Limited UK, 2007
3. Project Planning and Management: An integrated Approach, Goodman, L.T. and Love Ralph,N. Pregamon Press, NY 1980
4. Project Management, Clifford F Gray et all, 7th Edition Tata Mc Graw Hill, 2017
5. Project Management for Planners, Clark Terry. Routledge 2018

Vishal Rai

URBAN ECONOMICS AND FINANCE			
Course Code	**MUP 207**	**Credits**	**02**
Contact Hours (Hrs/Week)	**02**	**Semester**	**03**
Course Category	**HMC**		

INTRODUCTION

The course will help students to develop understanding of how macro- economic issues are manifested at local levels, the significance of integrated land-use, transportation, housing, infrastructure and governance policies

COURSE OBJECTIVES

The objective of this course is to:

- Enable the students to understand the fundamentals of issue of land availability, market forces, demand, supply and pricing
- Familiarize students on using tools of economics to study housing, environment, mobility, education, livelihoods etc
- Familiarize students to development finance and how the state and municipalities are funded, besides developing an understanding of innovative financial models

PREREQUISITE NIL

COURSE LEARNING OUTCOMES

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

- Objectives and scope of land economics, land use and land value
- How market dynamics impacts land use patterns and impact land availability
- Cost of development and sources of finances for developmental work
- Economic aspects of policies related to urban issues such as land, transport, hosing, environment, social development, local government finance etc

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.

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

UNIT - I	07 Hours
Land Economy Definition of urban land, other relevant terms and definition of such terms, allocation of resources, Economic concept of land, objectives, scope of land economics, relevance for spatial	

Vishal Kai

planning	
UNIT - II	**07 Hours**
Economic Principles of Land Uses Economic principles of land uses, inefficiency of the market use, accessibility and demand of land, urban land use pattern, factors of specific uses like residential, industrial, commercial and institutional, urban rent, land values and densities, spatial structure, Land development, introduction to economic aspects of Land policies	
UNIT - III	**07 Hours**
Overview of Development Finance Development Finance- approaches, concepts, components, process, credits rating; Role of Improvement Trusts, Development Authorities, SEZs and Special Purpose Vehicles (SPV) in Urban finance Management.	
UNIT - IV	**07 Hours**
State and Municipal Finance Central Finance Commission (CFC) and State Finance Commission (SFC)- Constitution, Powers and Functions; Consolidated Fund (Central and State); Centrally Sponsored Schemes; Municipal Finance- Categorisation of Municipal Sources of Revenue, Internal Vs. External Revenue, Capital Vs. Revenue Receipt; Municipal Finance Assessment Framework; Reforms in Municipal Finance- Unit Area Method in Property Tax Calculation, Rationalisation of User Charges; Streamlining Municipal Tax Administration, Introduction to methods of financing urban development	

REFERENCE BOOKS

1. Urban Economics, Arthur O'Sullivan, Mcgraw-Hill, 2018
2. Urban Land Market and Land Price Change: A Study in the Third World Context, Amitabh Kundu, Roultedge Publishing Company, 2019
3. Economics, Real Estate and the Supply of Land, Alan Evans, Wiley and Blackwell, 2004
4. Analyzing Land Readjustment: Economics, Law and Collective Action, Hong, Yu-Hung and Barrie Needham, Lincoln Institute of Land Policy, 2007
5. Urban Land Economics (5th Edition) Jack Harvey, Palgrave MacMillan, 2000
6. Urban Land Economics and Public Policy, Paul N. Balchin, Gregory H. Bull and Jeffrey L. Kieve, Palgrave MacMillan, 1988
7. Public Finance: Policy Issues for India, Sudipto Mundle, Oxford University Press, 2000
8. Fiscal Decentralisation and Governance – A Cross Country Analysis, De Mello, IMF Working Paper (WP.01/171, 2001)
9. Fiscal Decentralisation to Local Government in India, M.A. Oommen, Cambridge Scholars Publishers, 2008
10. State of Municipal Finance in India – An Assessment, P.K. Mohanty et all, Finance Commisssion of India, 2019
11. Municipal Finance – A Handbook for Local Government Practitioners, World Bank, 2014
12. Federalism and Fiscal Transfers in India – C. Rangarajan et all., Oxford University Pres, 2011
13. Urban Economics and Real Estate Markets, Denise DiPasquale and William C. Wheaton, Pearson, 1995
14. Costs and Challenges of Local Urban Services: Evidence from Indian Cities – O.P. Mathur et all., Oxford University Press, 2009

Vishal Kai

ADVANCED GEO INFORMATICS LAB			
Course Code	**MUP 209**	**Credits**	**02**
Contact Hours (Hrs/Week)	**04**	**Semester**	**03**
Course Category	**BSAE**		

INTRODUCTION

The course will help students learn how to store, manipulate and analyze physical, social and economic data of a city, so that the students can use spatial query and mapping functions of GIS to analyze existing situation in a city

COURSE OBJECTIVES

The objective of this course is to:

- Enable the students to use GIS to better understand current needs for a city and make appropriate design and planning decisions
- To familiarize students on processing of geospatial data from satellite imaging, aerial photography and remote sensors to get detailed perspective on land and infrastructure

PREREQUISITE: NIL

COURSE LEARNING OUTCOMES

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

- Database management using GIS for urban planning
- Spatial analysis and spatial modelling using GIS for planning of urban areas
- How to use GIS as a visualization tool urban planning project
- Using GIS for research, development and monitoring of projects

PEDAGOGY

Hands on exercises further facilitated by lectures, interactions, and site visits.

EVALUATION SCHEME:

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

CONTENT

Contents	
Topography and Landforms	**16 Hours**
Digital Change Detection, Suitability Analysis, Land use/Landcover Analysis, Use of GIS Data focusing on Urban and Regional Planning	
2D and 3D Spatial Analysis	**16 Hours**
Raster files reclassification, Building Boolean layers, adding values to intervals or categories and data conversion, grouping several raster layers, Algebra map, math calculation between raster	

Vishal Rai

layers, field statistics, Data interpolation, exploring different interpolation tools(IDW< Kriging, Natural Neighbour) Euclidean distances, Surface Contour, slope calculation, hill shade orientation and visibility, Use in hydrology, obtaining a drainage system, flow direction, outlets and identification of drainage basins and sub basins, Volume calculations, Raster multi criteria analysis- basic concept and weighting Least cost routes	
Network Analyst	**16 Hours**
Network Categories- geometric networks, Transportation networks. Network Components- nodes, axis, flow. Creating network datasets- operators, optimal routes, service areas, closest facility, origin destination cost matrix.	

REFERENCE BOOKS

1. GIS Fundamentals: A First Text on GIS, 6th Edition, Bolstad Paul, Xandau Publishings Inc, 2019
2. Designing Better Maps: A Guide for GIS Users, Brewer Cynthia, 2nd Edition Esri Press, 2015
3. Geographic Information Systems and Science, Longley Paul, A et al. John Wiley and Sons Ltd, New York, 2001
4. Fundamentals of Remote Sensing, Bhatia, S.C.. Atlantic Publishers Delhi, 2008
5. Urban Planning and Development Application of GIS, Easa S. Chan Y (Ed), American Society of Civil Engineers, 2000

Vishal Rai

PROFESSIONAL TRAINING			
Course Code	**MUP 211**	**Credits**	**02**
Contact Hours (Hrs/Week)	**00**	**Semester**	**03**
Course Category	**DCC**		

INTRODUCTION

To expose the students to the profession of planning and foster links with the industry so as to develop an understanding of professional nature of various organizations involved in the planning profession.

COURSE OBJECTIVES

The student is required to undertake summer training after 2 semesters of course work in any government, private or research organization undertaking urban and regional planning works. The practical training will commence during the summer break between second and third semester.

PREREQUISITE -NIL

COURSE LEARNING OUTCOMES

Having successfully completed this course, the student will be able to develop deeper and nuanced understanding of project or program, the various variables that impact the project, and will also understand how knowledge of urban planning theories gets translated to action.

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAS**	**MTET**	**MTES**	**ETET**	**ETIS**	**ETES**
0	0	0	--	--	--	50	--	--	-	--	50

CONTENT

Contents
The student is expected to work on any project/s related to urban planning or any specialization such as infrastructure planning, environmental planning, transportation planning, housing etc. The student shall submit a report describing the task undertaken during professional training. Each student shall have to undergo professional training for a period of 5-6 weeks at an establishment working in domain related to urban development. A student will be required to submit a training certificate from the planner under whom training is undertaken as well as a report on the work carried out by her during the training period. The contents of the report should include brief introduction of organization and works undertaken, description of project/s worked on, role of individual student supported by data/evidences from the organization. The students may be evaluated on the basis of the report submitted and presented at the time of viva-voce. Professional Training shall be pursued during summer vacation after 2nd semester but shall be evaluated in 3rd semester.

INTRODUCTION TO URBAN DESIGN			
Course Code	**MUP 213**	**Credits**	**02**
Contact Hours (Hrs/Week)	**04**	**Semester**	**03**
Course Category	**DEC**		

INTRODUCTION

This course shall create awareness about how urban design is an integral part of urban planning, and various tools and techniques used in urban designing.

COURSE OBJECTIVES

The objective of this course is to:

- Enable the students to understand the fundamentals of Urban Design and its relation with architecture and urban planning
- Familiarize students with a wide spectrum of techniques, method and approaches to urban planning.
- Familiarize students with urban design strategies through case studies at pan global level.

PREREQUISITE - NIL

COURSE LEARNING OUTCOMES

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

- Elements of urban design
- Impact of various determinants like social/behavioural/economic etc on urban design
- Approaches, tools and strategies of urban regeneration, urban renewal, urban redevelopment, urban revitalization etc
- Good global practices using case studies for sustainable urban design

PEDAGOGY

Classroom teaching is supported by giving hand-outs, 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.

EVALUATION SCHEME:

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

CONTENT

UNIT - I	14 Hours
Introduction to Urban Design Elements of urban form; Organization of spaces and their articulation in the form of square, streets, vistas and focal points; Image of the city and its components - edges, paths, landmark, street features, skyline, etc., Elements of urban design.	

Vishal Rai

UNIT - II	14 Hours
Urban Spaces and Urban Form Hierarchy and nature, sense of enclosure, isolation and continuity; determinants of urban form; urban massing in built form; landscape elements, open spaces, water bodies.	
UNIT - III	**14 Hours**
Urban Design in Urban Conglomerates Social/cultural/ecological/energy Determinants of design; image ability 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.	
UNIT - IV	**14 Hours**
Techniques and Strategies of Urban Design Modern Techniques, Methods and Emerging Approaches to Urban Design; Behavioural Issues in Urban Design; Principles of Urban Spatial Organization, Understanding Scale and Issues of Urban Design Interventions and Strategies in Cities, Case Studies of Urban Design Projects: Best Practices and Analysis of Urban Design Projects in India	

REFERENCE BOOKS

1. Happy City:Transforming our Lives Through Urban Design, Montgomery Charles, FSG, 2014
2. The Urban Design Reader, Elizabeth Mcdonald, Routledge, New York, 2012
3. Public Places Urban Spaces: Dimensions of Urban Design, 2nd Edition Mathew Carmona, Steve Teisdell, Architectural Press, London, 2010
4. Redesigning Cities: Principles, Practice, Implementation, Jonathan Bartnett , Routledge, 2019
5. Responsive Environments , Ian Bentley, Architectural Press, London , 1985
6. Image of the City , Kevin Lynch, MIT Press , 1960
7. Urban Design: The Architecture of Towns & Cities, Paul D. Spreiregen, R.E. Krieger Publishing, 2016
8. Town Design , Frederick Gibberd, Architectural Press, London, 1967
9. Making People Friendly Towns – Improving the Public Environment in Towns and Cities, Francis Tibbalds, Spon Press, London. 2017
10. The Concise Townscape, Gordon Cullen, Taylor and Francis, London. 1961
11. My Idea of India, Sunil Khilnani, Farrar Straus and Giroux. 2004

Vishal Rai

DISASTER MITIGATION AND MANAGEMENT			
Course Code	**MUP 215**	**Credits**	**02**
Contact Hours (Hrs/Week)	**04**	**Semester**	**03**
Course Category	**DEC**		

INTRODUCTION

The objective of this course is to initiate students with the issues of various types of natural and man-made Disasters and impart techniques of mitigation and management.

COURSE OBJECTIVES

The objective of this course is to:

- Enable the students to understand various types of natural and manmade calamities.
- familiarize students with Disaster Preparedness, Response and Post Disaster Recovery and Rehabilitation Measures; Risk Mitigation and Risk Transfer
- To understand impact on victims and forecasting systems are needed for disaster mitigation

PREREQUISITE: NIL

COURSE LEARNING OUTCOMES

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

- Classification of disasters and other historical facts
- Need for identification of disaster-prone areas and vulnerability mapping
- Technological interventions that can be used in rebuilding disaster affected areas
- Disaster preparedness, response, rehabilitation and mitigation

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.

EVALUATION SCHEME:

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

CONTENT

UNIT - I	14 Hours
Urban Risks and Assessment Urban Risks- Definitions, Types and nature, Magnitude; Hazard, vulnerability and risks; Methods and approaches to urban risk assessment; hazard impact assessment, institutional assessment; socioeconomic assessment, Risk Mitigation and Risk Transfer; Causes and risk mitigation strategies for industrial, chemical and biological disasters.	

Vishal Rai

UNIT - II	14 Hours
Disaster Types and Impacts Disasters- Definitions, types and examples of disasters across the World; Natural disasters and manmade Calamities, Degree of Damage, Frequency of Occurrences and Other Historical Facts; Classification of Disasters in India; Impacts of disasters, land use planning, building bye laws and disaster safe construction practices for different types of disasters.	
UNIT-III	**14 Hours**
Disaster Vulnerability Preparedness Identification of Disaster prone areas; Forecasting and early warning systems for various types of disasters; communication and information technology in disaster management; Disaster Vulnerability Mapping; Disaster Preparedness, Response and Post Disaster Recovery and Rehabilitation Measures; Disaster management principles; local, district and State disaster management groups, structures and functions; prevention and preparedness activities; response and recovery activities; disaster declaration arrangements.	
UNIT - IV	**14 Hours**
Disaster Mitigation and Management Kyoto Framework of Disaster Mitigation and Management; Disaster Management Policies and Act – National and States; Select Global Practices. Disaster Coordination Centres – functions, logistics, operations and planning; Developing and Assessing Disaster Management Plans; Community engagement; Standard Emergency Warning Signal (SEWS); and the Emergency Alert System, Basic Principles of Incident Command System – Facilities, Resource Management, Event Planning Process, Emergency response management principles and concepts; ICT in emergency responses and management.	
The assignments may be based on understanding related to any of different kinds of disasters in India like, vulnerability mapping, study of social and physical aspects, Impacts of disasters on people, economy, vulnerable section of society, case studies, etc.	

REFERENCE BOOKS

1. Natural Hazards, Fifth Edition, Keller and DeVecchio, Routledge, 2019.
2. Natural Hazards and Disasters, 5th Edition, Hyndman and Hyndman, Brooks Cole Publisher, 2016.
3. Disaster Management Handbook, Pinkowski J., Taylor and Francis, 2008.
4. Disaster Recovery, Brenda D. Phillips, Auerbach Publications, 2009.
5. Earthquake Architecture: New Construction Techniques for Earthquake Disaster Prevention, Garcia, Belen, New York, Harper Collins Publications, 2000.
6. Environmental Hazards : Assessing Risk and Reducing Disaster, Smith, K., David P., London, Routledge Publications, 2009.
7. Handbook of Disaster Research, Rodriguez, H., ed., Quarantelli, E., ed., Dynes, R.R., ed., New York, Springer Science, 2007.

Vishal Rai

RESILIENT PLANNING			
Course Code	**MUP 217**	**Credits**	**02**
Contact Hours (Hrs/Week)	**04**	**Semester**	**03**
Course Category	**DEC**		

INTRODUCTION

This course will sensitize students on how through urban planning, more resilient cities can be planned for enhanced quality of life and response to disasters.

COURSE OBJECTIVES

The objective of this course is to:

- Enable the students to understand the spectrum of factors that create vulnerability.
- Familiarize students with disaster institutions, policies and politics
- Provide institutions with assessing and managing socio-economic-political processes associated with disaster planning and policies.

PREREQUISITE : NIL

COURSE LEARNING OUTCOMES

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

- Overview of risks, disasters, and vulnerabilities in cities
- Overview of government policies on building resilience in societies
- Methods, tools and strategies to build equitable and widespread resilience in communities
- Planning of cities which are resilient and have low carbon imprint

EVALUATION SCHEME:

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

CONTENT

UNIT - I	14 Hours
Urban Vulnerability Rapid-onset hazards and slow-onset changes threatening urban territories. Links between natural disasters and climate change impacts. Relevance of geographic location and main manifestations of disasters in cities. Increasing exposure and vulnerability of urban assets and populations, links to socio-economic welfare. Intra-urban differentials in various regional contexts. Case studies and practical assignments	
UNIT -II	**14 Hours**
Economic Valuation Methods and Tools Ex-post valuations of damages and losses from natural disasters. Costs of adaptation. Economic valuations of urban risk assessments: life loss, disabilities, public infrastructure, private properties,	

economic activities. Direct and indirect impacts of disaster events. Valuation of adaptation responses. Adaptation and mitigation cost-curves. Benefit-cost analysis in decision-making	
UNIT - III	**14 Hours**
Adaptation and Mitigation Planning for Resilient Cities Linkages between urban resilience and adaptation. Institutional response systems and civil preparedness. Resilient infrastructure planning, building and retrofitting. Urban planning for GHG mitigation: land-use, densities and urban form. Smart grid and smart cities. Energy efficiency. Designing and constructing the built environment. Transit oriented development. Walkable cities, non-motorized transportation. Mixed-use urban development. Water usage and waste management.	
UNIT -IV	**14 Hours**
Planning Resilient, low Carbon Cities Successful examples of urban innovations across cities worldwide. The role of urban planners in making resilient, low-carbon cities. Emerging urban innovations. Major international initiatives of resilient urban planning, policy frameworks.	

REFERENCE BOOKS

1. Good Economics for Hard Times, Banerjee Abhijit, Public Affairs, 2019.
2. Collapse: How Societies Choose to Fail or Succeed, Diamond Jared, Penguin Books, 2011.
3. The Vulnerability of Cities: Social Resilience and Natural Disaster. Pelling, *M.* London, UK: Earthscan, 2003.
4. Storms. Edited by R Pielke, Jr. and R Pielke, Sr. Vol 1. London, UK: Roultedge, 2000.
5. Social Nature. Edited by N. Castree, and B. Braun. Malden, MA: Blackwell, 2001.
6. At Risk: Natural Hazards, People's Vulnerability and Disasters by Blaikie, P., T. Cannon, I. Davis and B Wisner. London, UK, Roultedge,1994.
7. The Resilient City: How Modern Cities Recover from Disaster Edited by Lawrence J Vale, and Thomas J Camanella. New York,NY: Oxford University Press, 2005.

Vishal Rai

Generic Open Elective			
Course Code **Contact Hours (Hrs/Week)** **Course Category**	**GEC 201** **-** **GEC**	**Credits** **Semester**	**02** **03**

i. GEC enable exposure to some other discipline/ subject/domain or nurtures candidate's proficiency and skills in niche areas which are of interest to the students. GEC courses can be completed in-house (GEC courses offered by IGDTUW) or from any other university in online/offline mode or through MOOC (NPTEL, SWAYAM, edX, Coursera etc) or GIAN Courses.

ii. Variety of courses may include Creative Art Courses like (Dance, Yoga, Music etc), Social Welfare Courses like NCC, NSS, *Unnat Bharat*, *Swachh Bharat*, Fire Fighting etc and Women Empowerment Courses like Women Safety, Self Defence, Gender Sensitization etc) among several others.

iii. Student may also opt for subjects from Entrepreneurship category where she can enhance/groom her skills to pursue her career as successful entrepreneur. She will be evaluated based on her business plan, innovation involved in the idea, development and execution for the same. Student must be able to prove her sincere efforts in implementing her business idea and bringing it to the next level.

iv. For a student is interested in pursuing research career, she may opt for writing research paper and based on the quality of research paper published, she may be suitably awarded the marks/grade. The necessary consent / approvals from the department, as and when required may be obtained by the student.

v. Students, who are more inclined towards project development, may work on a live and sufficiently large project under the guidance of a faculty member or industry person. These students may be evaluated based the performance in the project development.

vi. If the student opts for a GEC course outside IGDTUW in offline/online mode, all the expenses including registration and certification fee shall be borne by the student. The duration of GEC course shall be minimum 8 weeks (Tentatively as per University Norms).

vii. For MOOC / GIAN / other courses department may prepare separate guidelines for conduct of the course and students must seek timely prior approval from department for registering course outside university (online/offline) and for any online / MOOC / GIAN / course.

Vishal Kai

THESIS STAGE 2			
Course Code	**MUP 202**	**Credits**	**24**
Contact Hours (Hrs/Week)	**24**	**Semester**	**04**
Course Category	**DCC**		

INTRODUCTION

This course will enable students to develop a project in great detail and develop nuanced understandings of master planning

COURSE OBJECTIVES

The objective of this course is to:

- Enable the students to understand how to conduct in depth literature review and identify appropriate research method and process to conduct research on topic of their choice.
- Enable students to finalise a topic for thesis based on well rounded arguments, comprehensive study and planning.

PREREQUISITE - NIL

COURSE LEARNING OUTCOMES

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

- Conduct indepth literature review on topics of interest and present in report
- Identify thesis topic based on comprehensive process involving literature survey, research process identification, objectives and scope of the thesis
- Identify appropriate research methodology including research methods, sampling, data source identification, data collection and analysis.
- Development of tools of data collection and piloting of the same.

PEDAGOGY

Classroom teaching may be supported by giving handouts, presentations, readings, short movies. Students may visit site for collecting context specific data for getting better understanding of real- life project details.

EVALUATION SCHEME:

Course Type			Examination		Relative Weights						
L	**P**	**S**	**TH**	**PR**	**CAT**	**CAS**	**MTET**	**MTES**	**ETET**	**ETIS**	**ETES**
0	0	24	--	--	--	50	--	--	-	--	50

CONTENT

1. The thesis project is to be undertaken independently by each student on a topic of his/her choice related to urban and regional planning, selected and approved by the faculty during the previous semester as part of course requirements of the subject.
2. The student is expected to go through a process of documentation, analyses and synthesis related to her specific topic and related area of work.
3. The student is required to work under the guidance of a supervisor allotted by the department

Vishal Rai

4. Progressive evaluation may be done by a panel of external and/or internal jurors during reviews held at intervals during the course of the semester.
5. The student may be required to defend thesis project reviews/jury through drawings, report, study sheets, models (if applicable), digital presentations and verbal communications.

REFERENCE BOOKS:

1. Craft of Research, 4th Edition, Booth and Williams, University of Chicago Press, 2016.
2. A Manual for Writers of Research Papers, Theses and Dissertations, 9th Edition, Turabian Kate, University of Chicago Press, 2018.
3. Research Methods, 5th Edition, Creswell and Creswell, SAGE Publications, 2018.
4. How to write a Thesis, Rowena Murray(4th Edition) Open University Press, 2011.
5. Thesis Writing. F. Abdul Rahim, New Age International Pvt Ltd Publishers, new Delhi, 2005.
6. Urban Planning Methods, Research and Policy Analysis, Bracken, I, Routledge, 2008.
7. Research Methods in Urban and Regional Planning, Wang,X, Von Hofpe,R.Springer Publications, 2007.
8. Theses and Dissertations: A Guide to Planning Research and Writing Brubkaer D.L. and Thomas Murray R., Sage Publications 2007.
9. Delhi Master Plan – 2021.

Vishal Rai