

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 <ul style="list-style-type: none"> • Implementation framework – capital investment and funding methods

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	<ul style="list-style-type: none"> • Financial feasibility of proposals • Financial feasibility governance and management aspects may be explored
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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

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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.

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	<p>Based on the literature review and inputs from the colloquial arguments, the topics shall be finalised for thesis in the subsequent semester.</p> <p>Selection of study area, identification of extent and spread of intervention; collection of data for preparation of base map.</p> <p>Development of research thrust and work methodology. Identification of data sources.</p> <p>Secondary data collection and analysis: sample determination, data tabulation (coding, decoding, 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.</p> <p>Finalisation of topic; formulation of problem statement, literature review, working hypothesis, research brief, research methodology, sample determination, data collection and analysis, report structuring.</p> <p>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.</p>
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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

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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	--	--

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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

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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, housing, 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		

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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, Routledge 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 al, Finance Commission 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 al., Oxford University Press, 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 al., Oxford University Press, 2009

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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	

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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

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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
<p>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.</p>

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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.	

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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 Barnett, 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

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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.	

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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.	
<i>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.</i>	

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.

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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,	

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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: Routledge, 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, Routledge, 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.

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

- 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.

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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

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| 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.

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