

COURSE STRUCTURE & SYLLABUS

FOR UNDER GRADUATE PROGRAMME OF BACHELOR OF PLANNING

COLLEGE OF ENGINEERING AND TECHNOLOGY, BHUBANESWAR



BIJU PATNAIK UNIVERSITY OF TECHNOLOGY

Course: B.Plan (Bachelor of Planning)

Duration: 4 years

COURSE: B. Plan. (Bachelor of Planning) Duration: 4 years (Eight Semesters)

Abbreviations Used:

L = Lectures

T= Tutorial

P = Practical or

Laboratory

SE = Semester Examination

IA= Internal Assessment

EA= External Assessment

1st SEMESTER

Sl. No.	Subject Type	Subject Code	Subject Name	Teaching Hours			Credit	Maximum Marks			
				L	T	P		IA	SE	EA	Total
1	PC	UPCPL101	Fundamentals of Urban & Regional Planning	3	0	0	3	30	70	-	100
2	ES	UESCE104	Fundamentals of Building components, estimation and local byelaws	3	0	0	3	30	70	-	100
3	ES	UESMH103	Statistical and Quantitative Methods in Planning- I	3	0	0	3	30	70	-	100
4	HS	UHSMH104	Report Writing & Communication	3	0	0	3	30	70	-	100
5	PC	UPCPL105	Site planning & Landscape	3	0	0	3	30	70	-	100
6	LC	ULCPL101	Planning Studio - I (Planning Communication)	0	0	9	4.5	50	-	50	100
Total				15	0	9	19.5				600

2nd SEMESTER

Sl. No.	Subject Type	Subject Code	Subject Name	Teaching Hours			Credit	Maximum Marks			
				L	T	P		IA	SE	EA	Total
1	HS	UHSMH201	Elements of Economics	3	0	0	3	30	70	-	100
2	ES	UESCE202	Surveying and Photogrammetry	3	0	0	3	30	70	-	100
3	ES	UESMH203	Statistical and Quantitative Methods in Planning- II	3	0	0	3	30	70	-	100
4	PC	UPCPL204	Utilities and Services Planning	3	0	0	3	30	70	-	100
5	ES	UESCE205	Applied Geology and Hydrology	3	0	0	3	30	70	-	100
6	LC	ULCPL201	Planning Studio - II (Neighbourhood Planning along with CAD)	0	0	12	6	50	-	50	100
Total				15	0	12	21				600

3rd SEMESTER

Sl. No.	Subject Type	Subject Code	Subject Name	Teaching Hours			Credit	Maximum Marks			
				L	T	P		IA	SE	EA	Total
1	PC	UPCPL301	Planning Theory	3	0	0	3	30	70	-	100
2	PC	UPCPL302	Techniques of Planning	3	0	0	3	30	70	-	100
3	PC	UPCPL303	Settlement Geography	3	0	0	3	30	70	-	100
4	PC	UPCPL304	Geo-Informatics for Planning	3	0	0	3	30	70	-	100
5	PC	UPCPL305	Traffic and Transportation Planning	3	0	0	3	30	70	-	100
6	LC	ULCPL301	GIS Lab for Planners	0	0	12	6	50	-	50	300
Total				15	0	12	21				600

4th SEMESTER

Sl. No.	Subject Type	Subject Code	Subject Name	Teaching Hours			Credit	Maximum Marks			
				L	T	P		IA	SE	EA	Total
1	PC	UPCPL401	Planning Practice	3	0	0	3	30	70	-	100
2	PC	UPCPL402	Demography and Urbanization	3	0	0	3	30	70	-	100
3	PC	UPCPL403	Housing and Community Planning	3	0	0	3	30	70	-	100
4	PC	UPCPL404	Environmental planning and management	3	0	0	3	30	70	-	100
5	PC	UPCPL405	Settlement Sociology	3	0	0	3	30	70	-	100
6	LC	ULCPL401	Planning Studio- IV (Transportation Planning)	0	0	12	6	50	-	50	100
Total				15	0	12	21				600

5th SEMESTER

Sl. No.	Subject Type	Subject Code	Subject Name	Teaching Hours			Credit	Maximum Marks			
				L	T	P		IA	SE	EA	Total
1	PC	UPCPL501	Planning Legislation	3	0	0	3	30	70	-	100
2	PC	UPCPL502	Real Estate Planning & Management	3	0	0	3	30	70	-	100
3	PC	UPCPL503	Introduction to Urban Design	3	0	0	3	30	70	-	100
4	PC	UPCPL504	Sustainable Urban Development	3	0	0	3	30	70	-	100
5	PC	UPCPL505	Rural Development and Management	3	0	0	3	30	70	-	100
6	LC	ULCPL501	Planning Studio-V (Local Area Planning)	0	0	12	6	50	-	50	100
Total				15	0	12	21				600

6th SEMESTER

Sl. No.	Subject Type	Subject Code	Subject Name	Teaching Hours			Credit	Maximum Marks			
				L	T	P		IA	SE	EA	Total

1	PC	UPCPL601	Regional planning	3	0	0	3	30	70	-	100
2	PC	UPCPL602	Urban Management and Governance	3	0	0	3	30	70	-	100
3	PC	UPCPL603	Urban finance	3	0	0	3	30	70	-	100
4	PC	UPCPL604	Project Formulation, Appraisal and Management	3	0	0	3	30	70	-	100
5	PC	UPCPL605	Planning and Management of Informal Sector	3	0	0	3	30	70	-	100
6	LC	ULCPL601	Planning studio - VI (Urban Development Plan)	0	0	12	6	50	-	50	100
Total				15	0	12	21				600

7th SEMESTER

Sl. No.	Subject Type	Subject Code	Subject Name	Teaching Hours			Credit	Maximum Marks			
				L	T	P		IA	SE	EA	Total
1	PC	UPCPL701	Disaster Risk Mitigation and Management	3	0	0	3	30	70	-	100
2	PE	UPEPL701 UPEPL702	Elective- I: A. Water Resource Management B. Climate Change and Human Settlements	3	0	0	3	30	70	-	100
3	PE	UPEPL703 UPEPL704	Elective- II: A. PPP in Urban Development B. Urban Renewal & Conservation	3	0	0	3	30	70	-	100
4	PC	UPCPL705	Thesis Programming and Research Techniques	3	0	0	3	30	70	-	100
5	PR	UPRPL701	Professional Training (Summer)	0	0	2	1	100	-	-	100
6	LC	ULCPL701	Planning Studio- VII (Regional planning)	0	0	12	6	50	-	50	100
Total				12	0	14	19				600

8th SEMESTER

Sl. No.	Subject Type	Subject Code	Subject Name	Teaching Hours			Credit	Maximum Marks			
				L	T	P		IA	SE	EA	Total
1	PC	UPCPL801	Professional Practice	3	0	0	3	30	70	-	100
2	PE	UPEPL801	Elective- II: A. Planning for special	3	0	0	3	30	70	-	100

		UPEPL802	Areas B. Metropolitan planning, development and management								
3	LC	ULCPL801	Seminar Presentation	0	0	3	1.5	100	-	-	100
4	PR	UPRPL801	Planning Thesis	0	0	18	9	50	-	50	100
			Total	6	0	21	16.5				400

Total Teaching Hours and Maximum Marks at a Glance

Semester	Teaching Hours				Credits	Maximum Marks
	L	T	P	Total		
1st Semester	15	0	9	24	19.5	600
2nd Semester	15	0	12	27	21	600
3rd Semester	15	0	12	27	21	600
4th Semester	15	0	12	27	21	600
5th Semester	15	0	12	27	21	600
6th Semester	15	0	12	27	21	600
7th Semester	12	0	14	26	19	600
8th Semester	6	0	21	27	16.5	400
Total	108	0	104	212	160	4600

NOTE:

- 1) Credits for Theory: One credit for one hour of teaching per week.
- 2) Credits for Practical: One credit for one and half hrs of practical per week.
- 3) Six Weeks Training after Second Semester during the summer vacation is mandatory for which the Review will be held in Third Semester.
- 4) Each student shall undertake training in planning (or related field) during summer vacation. The exact period and place of training will be decided in consultation with the coordinator in charge of training.
- 5) Review of Six Weeks Mandatory Training during Summer Vacation after Second Semester.

FIRST SEMESTER

UPCPL101: Fundamentals of Urban and Regional Planning

INTENT:

The intent of the course is to understand the theoretical basis for various concepts, terminology & definitions in urban and regional planning along with concepts of historical evolution of settlement & their planning principles and theories of urbanization.

COURSE CONTENTS:

Module 1: Introduction to Planning Discipline

Defining planning as a discipline; multidisciplinary nature; role of a planner, fields of planning- Urban, regional, environmental, transport and infrastructure;

Module 2: Definitions and Bases of Planning

Various definitions of town and country planning; Goals and objectives of planning; Components of planning; Benefits of planning; Arguments for and against planning; Economics and social planning as bases of physical planning; Types of plans: Definition of development plan; Types of development plans: master plan, city development plan, structure plan, district plan, action area plan, subject plan. Hierarchy of plans: regional plan, sub-regional plan; Sector plans and spatial plans; Town planning schemes.

Module 3: Evolution of Settlements & Planning in Post Industrial Revolution Era

The City in History; Settlement size, pattern and structure as a function of socio-cultural, economic, military and religious factors; Variations in civilizations- Egyptian, Mesopotamian, Greek, Roman; Town planning in Medieval times and in Renaissance Europe. Origin and evolution of civic planning; Impacts of Industrial Revolution on town and regional planning; Concepts of garden City, City beautiful, linear city etc., contributions of all leading masters in planning; Socio-economic impacts of growth of urban areas; rural-urban migration; Impact of technology on urban forms; urban structure and form- land use distribution.

Module 4: Theories of Urbanization

Theories of urbanization including Concentric Zone Theory; Sector Theory; Multiple Nuclei Theory and other latest theories; Land Use and Land Value. Theory of William Alonso on location and Land use; City as an organism: a physical entity, social entity and political entity.

Textbooks:

1. Rangwala, S. C., *Town Planning*.
2. Hirashkar, *Fundamental of Town Planning, Delhi*.
3. Yadav, C. S., *City Planning: Problems and Prospects*.
4. Andreas Faludi (1973), *Planning Theory, Pergamon Press Ltd, Oxford*
5. M. PratapRao (2001), *Urban Planning: Theory & Practice EBS Publishers & Distributors, New Delhi*.

References:

1. Hall, Peter, *Urban and Regional Planning*.
2. Gallion, Arthur B, and Simon Eisner. *The Urban Patter, City Planning and Design*.

3. Keeble, Lewis. *Town planning made Plain.*
4. McConnel, Shean, *Theories for Planning.*
5. Hall, Peter. *The Theory and Practice of Regional Planning.*
6. *URDPFI guidelines; Govt. of India*

UESCE102: Fundamentals of Building components, estimation and Local Bye Laws

INTENT:

The intent of the course is to make aware of the components of the building including its specification, estimation and costing considering the local Building Bye Laws.

COURSE CONTENTS:

Module 1: Introduction to Building Components

Details and dimensioning about building components from foundation to parapet along with the drawing tools.

Module 2: General & Detailed Specifications

General specifications for common building materials and building trades, earthwork, structure (framing), flooring, stonework, plasters, waterproofing of basements and terraces, roofing, doors and windows, elevators; Site development and earth works; Water supply net work and distribution systems; Sewer systems; Electrical and telephone networks; Landscaping, roads, pathways, boundary wall, pools, lighting

Module 3: Estimation

Cost estimation and determination of rates for different types of housing; Cost estimation and determination of rates of works involved in the infrastructure services (roads, water supply, sewer systems etc.); Costing procedure for different land use categories, development works, interest on investment, and phasing; Preparation of detailed Development Costs of a Planning Schemes for an approximate population of 5,000 as per Norms and standards

Module 4: Site Development & Local Building Bye Laws

Principles and components of site-development, setting out of buildings on site; Introduction to NBC; FAR/FSI, Setback, coverage, built up area, carpet area, Land use and development control regulations in context of study area.

Textbooks:

1. Kumar, S. (1988), *Building Construction, New Delhi, Standard Book House.*
2. Singh, G. (1980), *Building Construction Engineering.*
3. Bowles, J. E. (1988) *Foundation Analysis and Design, McGraw-Hill Book Company.*
4. M. Chakraborty; *Estimating, Costing, Specification & Valuation*
5. B.N. Dutta; *Estimating & Costing*
6. D.D.Kohli & R.C.Kohli; *A Text Book of Estimating and Costing*

References:

1. Aziz, M. A. (1990), *Engineering Materials, Dhaka Hafiz Book Centre.*

2. Khan, A. F. (1986), *Concrete Structure and Building Design*, Dhaka Sabdic Publisher.
3. D.D.Kohli & R.C.Kohli ; *Estimating and Costing*
4. V N Vazirani; *civil engineering estimating costing & valuation*
5. BDA Bye Laws, *development control regulations*.

UESMH103: Statistical and Quantitative Methods in Planning- I

INTENT:

The intent of the course is to understand the application of Quantitative Techniques in planning fields, learn to analyze data collected and to draw inferences from it along with forecasting of future trends and introduction of statistical software's application in planning field.

COURSE CONTENTS:

Module 1: Introduction

Statistical data and methods; collection of data, record, file, sources of data; questionnaire design, design of sample surveys; simple random sampling, stratified sampling, etc.; data coding, data verification

Module 2: Data Presentation

Statistical tables; types of tables, comparisons, methods of presentation, graphic presentation; types of charts; plotting a curve, rules for drawing curves; bar charts, pictography, pie charts, histograms/ use of presentation software.

Module 3: Statistical Methods & Correlation

Raw data, frequency distribution, selecting number of classes, class limits, curves, cumulative frequency distribution, measures of central tendency; arithmetic mean, median, mode, geometric mean and harmonic mean; measures of absolute dispersion, range, quartile deviation, average deviation, standard deviation, skewness and kurtosis.

Degree of correlation, correlation co-efficient, methods of concurrent deviation, co-efficient of rank correlation, partial correlation analysis and multiple correlation;

Module 4: Probability and Sample distribution

Introduction, addition rule, conditional probability, multiplication rule, random variables and probability distribution, mathematical expectation; Binomial distribution and normal distribution;

Note: Assignments shall be done using software packages for graphic presentations and software packages for statistical analysis such as Statistical Programme for Social Sciences (SPSS) genstat, systat and statisticia and its application for statistical methods.

Textbooks:

1. Miah, Md. and Miyan, Alimullah, *an Introduction to Statistics*.
2. Gupta, M. K. and Dasgupta. *Fundamentals of Statistics*.
3. Johnson, Robert. *Elementary Statistics*.

References:

1. Mostafa, M. G. *Methods of Statistics*
2. Henry and Altheon, *Statistics*.
3. Mian, M.A. & Miyan, M.A., *an Introduction to Statistics, Ideal Library, Dhaka*.

UHSMH104: Report Writing & Communication

INTENT:

This course intends to develop writing ability for Technical and Professional Reports and it envisage imparting writing skills, requirement of Technical Writing and contents followed in Professional Writing.

COURSE CONTENTS:

Module 1: Types and Classification of Reports

Types of reports, difference between technical, scientific, legal and other types of communications; specific characteristics of writing technical reports;

Module 2: Reporting communication & Computer Application

English comprehension and oral communication; Presentation techniques in digital and oral format for group discussion in seminars and meetings; Data processing, word processing, presentation software, spread sheets and data bases such as MS office applications (word, excel, excess, power-point)

Module 3: Format and Elements of Reports

Preface, acknowledgements, contents, indexing, key word indexing, introduction, body terminal section, appendices, References; Use of Word Processing software; Literature surveys: Use of libraries, knowledge of indexing and available References materials

Module 4: Business Communication

Special type of writing: articles and manuals; Planning and preparation of technical articles for publications; Popular articles; Formal letters and specifications: Business and official letters, styles and formats; Requests for specifications and other types of business enquiries; Replies to bidding for tenders and conduct of meetings; Agendas and minutes of official records and meetings.

Textbooks:

1. *Batws, Martin and Dudley- Evans, T. English for Science and Technology: general science.*
2. *Spotlight: Modern English for students.*
3. *Leeh, Geoffrey and Jan Savrtvik: A communicative grammar of English.*
4. *Glidden, H. K. (1964), Report, Technical Writing and Specification, McGraw Hill Book Co., New York*
5. *Swith, R. W., (1963), Technical Writing, Barnes & Noble Inc., New York*

References:

1. *English in physical science: in English in Focus series.*
2. *Lever, John and Hucheson, Sandy: Communication in face-to-face interaction.*
3. *Horby, A. S. Oxford Advanced Learners Dictionary of Current English.*
4. *Anderson, J., B. H. Durston and M. Poole, (1988), Thesis and Assignment Writing, Willey Eastern Pvt. Ltd., New Delhi*
5. *Gatner, E.S.M. (1970), Research and Report Writing, Barnes and Noble Inc., New York*
6. *Ingle, O. P. (1999), Scientific Report Writing, Sarala P. Ingle, Nagpur.*

UPCPL105: Site Planning & Landscape

INTENT:

This course intends to introduce fundamental concepts of site planning and landscape required for applications in planning field.

COURSE CONTENT:

Module 1: Landscape Elements

Landscape as an outcome of natural processes; Principles and techniques of design with landform, water and vegetation; The role of surface materials, outdoor fittings and structures; Manmade landscapes in history; A comparative study of the major traditions of landscape design in the east and the west in relation to concepts of space and variations in the use of landscape elements.

Module 2: Urban Landscape

Characteristics and components of open space patterns in towns and cities (traditional and contemporary) basic types: streets, squares, plazas, gardens, ghats and maidans, public parks at district, local and neighbourhood levels; Park systems; Landscape design related to landuse, circulation networks and activity; Street furniture as a component of urban landscape.

Module 3: Landscape Aspects of Site Planning

Principles of understanding and evaluating an existing landscape; Development as a response to constraints and opportunities offered by the site; the landscape concept and open space structure as a basic component of the site plan; The role of vegetation: environmental benefits, functional requirements, aesthetic considerations; Typical situations and criteria for design with plants and selection of species; grading in relation to existing contours, plinth levels, road alignment and storm water drainage; principles of cut and fill.

Module 4: Elements of Landscape Planning

Landscape assessment techniques; Landscape planning as a component of regional development proposals for industrial location, Environmental conservation, tourism, etc.;

Textbooks:

1. *Rubenstein, Harvey M. 1996, John Wiley & Sons Publications A Guide to Site Planning and Landscape Construction*
2. *Lynch. Kevin, Hack. Gary, 1984, MIT Press; Site Planning*
3. *Simonds, John O. 1997, McGrawHill Publications, Landscape Architecture: A Manual of Site Planning and Design*

References:

1. *Cliff Moughtin, "Urban Design--Street and Square", Third Edition, Architectural Press, Oxford 2003*
2. *Douglas Farr, John Wiley & Sons, "Sustainable Urbanism: Urban Design with Nature"*
3. *Michael Larice, Elizabeth Macdonald, Routledge, "The Urban Design Reader"*

ULCPL101: Planning Studio - I (Planning Communication)

INTENT:

The intent of the course that after completion the student will acquire the knowledge and develop the skills listed below:

- To present the fundamental principles of architectural graphics and presentation techniques along with its application.
- To cultivate student's skills of geometric drawing, develop their capability of ideation and modelling with instrumental sketching.
- To analyze and solve basic problems involving graphics and spatial manipulations for applications in presentation to represent the future forms of her/his projects.
- To use representation techniques and tools in the spatial concept.

COURSE CONTENTS:

Module 1: Drawing Equipments and Mediums

Introduction to drawing equipments and mediums, Importance of graphics and visual presentations; Graphic presentation of statistical data

Module 2: Base Maps and Key Maps

Techniques of preparation of base map at city and regional level, presentation of planning information through maps, thematic maps, Preparing power point presentations, Data visualization and development of infographics.

Module 3: Use of Shapes and Concepts of Scales, Proportions

Concept of scales and proportions; Graphic scales; Lettering; Composition of Drawings, Proportions of Lettering and Line thickness, Standard symbols, Line-styles, Colour coding; Legend, Drawing Formats; Built form models to understand the concepts, Introduction to Photography, Reading visual images, context of a photograph, photographs as evidence of reality, photography and cities (National and International), advance photography techniques

Module 4: Visual Communication Skills & Appreciation Studies

Visual studies of use of line, shape, form, texture, color, composition, scale, in cities and buildings, streets, cities, with special emphasis on rhythm, balance, harmony and proportion etc., sketching as a tool for communication. Appreciation studies of Residential, Commercial, Institutional areas in small urban and/ or rural settlements;

Textbooks:

1. *B. Gupta; A textbook of Engineering Drawing*
2. *N.D. Bhatt; Engineering Drawing*
3. *Hiram. E. Grant; Engg Drawing, Mc.Graw Hill Book Company*

References:

1. *Sherkey W, MORGAN; Architectural Drawing, Mc Graw Hill*
2. *Arthur L. Gupstill, Watson; Rendering in Pen and Ink,- Gupstill Publications, New York.*

SECOND SEMESTER

UHSMH201: Elements of Economics

INTENT:

The intent of the course to provide overview of economy of urban areas; urban resources, activities- types and extent and factors governing them. Economic base of cities and regions, basic concepts of economic resources and resource economics along with basic concepts in macro-economic and economic analysis.

COURSE CONTENTS:

Module 1: Definition and Scope of Economics

Central problems of economics; micro and macroeconomic decisions; use of economics in planning

Module 2: Theory of Demand and Supply and Theory of Firm Production

Law of demand and supply, elasticities of demand and supply, its use in planning; perfect and imperfect market types, market demand and supply; pricing under different market conditions, theory of production; factors of production, costs, scale of production, and economies of scale.

Module 3: Concept of Income, Employment and Money

Classical and modern approaches, growth and development indicators; measures of national income, defining development and under development;

Module 4: Introduction to Urban and Regional Economics

Use of economic concepts in urban planning, housing, transport, taxes, land use, location, etc.; use of economic; concepts in regional planning; location disparities in development, input-output techniques, sectoral development, etc.

Textbooks:

1. *Turner, R. Kerry and Clive Collis: The Economics of Planning.*
2. *Samuelson, P. A. and W. D. Nordhaus: Economics.*

References:

1. *Stanley Fisher and others: Economics.*
2. *Dominick Salvatore: Microeconomics*

UESCE202: Surveying and Photogrammetry

INTENT:

- To interpret the booking for field notes
- To apply the fundamental of chain and compass surveying for field survey
- To work out the contour surveying with the help of levelling instrument
- To define and classify the various types of modern survey techniques
- To provide the concept and application of photogrammetry in urban & regional planning.

COURSE CONTENTS:

Module 1: Fundamentals of Surveying

Definitions, classifications, use, objectives and basic principles of surveying; Classifications of measurements and units, concepts of scales, maps and plan and use of conventional symbols; Stages in surveying works - field works, office works, care and adjustment of the instruments; Errors in surveying - sources and kinds. Advanced survey techniques like GPS, DGPS, GIS etc.

Module 2: Chain Surveying and Compass Surveying

Definition, application, advantages and disadvantages, principles; Instruments used, steps in chain survey; Definition of framework of survey, survey lines, survey stations, base line, tie line, check line; Ranging and chaining a survey line, offsets - use and types; Errors and obstacles in chaining; Plotting chain survey to prepare a plan with practical examples.

Definition of compass surveying, traversing, types of traversing, applications, advantages and disadvantages, principles and instruments used in compass surveying; Concept of bearings, meridian and angles, designation of bearing, fore bearing and back bearing, local attraction; Plotting of compass survey data to prepare a plan of a small area.

Module 3: Plain Table Surveying and Computations of Areas

Definition, application, advantages and disadvantages of plane table survey; Instruments used, working operation, methods of plane table survey; Preparation of map of a small area with plane table survey. General methods of determining area; Instrument used and their principles for computing area; Determination of area from the plotted map with different methods and comparing them; Use of Digital Planimeter.

Module 4: Levelling, Contouring & Photogrammetry

Definition, principle, methods and application of levelling; Instruments used and the principles of their work; Concepts of level surface, level line, horizontal plane, horizontal line, vertical line, datum, bench marks; Theory of direct levelling, differential levelling and reduction of levels, classification of levelling and errors in levelling. Definition and application of contouring; Characteristics and interpretation of contour lines; Methods of locating contours; Photogrammetry as an Alternative Tool for Surveying; Introduction to Aerial Remote Sensing and Aerial Photographs, Classification; Principles of Stereoscopic Vision; Basic instruments Stereo-pair, Pocket and Mirror Stereoscopes, Parallax Bars; Principles of Photogrammetry, Measurement of Heights and Depths; Introduction to Digital Photogrammetry; Introduction to GPS; Introduction to Total Stations; Applications in urban and regional planning; Laboratory Exercises.

Textbooks:

1. Punmia, B. C. *Surveying Vol. 1, 2, 3, Laxmi Publication, Delhi.*
2. Burrough, P. A.: *Principles of Geographical Information System*
3. Curran, P.: *Principles of Remote Sensing*
4. Aziz, M. A. and Shahjahan, M. A. *Textbook of Surveying, BUET, Dhaka.*
5. Punmia, B. C. *Surveying Vol. 1, 2, 3, Laxmi Publication, Delhi.*

References:

1. Aziz, M. A. and Shahjahan, M. A. *Textbook of Surveying, BUET, Dhaka.*

2. Kanetker, T. P. and Kulkawrni S. V. *Surveying and Leveling*; A. V. Griha Publication, Poona, India.
3. Heywood, I. (et. al): *An Introduction to Geographical Information System*
4. Kennedy, M.: *The Global Positioning System and GIS: An Introduction.*
5. Heywood, I. (et. al): *An Introduction to Geographical Information System*
6. Kennedy, M.: *The Global Positioning System and GIS: An Introduction.*

UESMH203: Statistical and Quantitative Methods in Planning-II

INTENT:

The intent of the course is to understand the application of Quantitative Techniques in planning fields, learn to analyze data collected and to draw inferences from it along with forecasting of future trends and hypothesis testing.

COURSE CONTENTS:

Module 1: Linear Regression Analysis

Linear and non-linear regression, lines of regression, coefficient of regression; Applications in planning;

Module 2: Time Series Analysis & Index Number

Variation in time series, trend analysis, cyclical variation, seasonal variation, irregular variation, time series analysis forecasting; Applications in planning.

Defining an index number, types and use of index numbers; construction of index number; simple aggregate method etc. cost of living index number and its construction; Applications in planning.

Module 3: Estimation and Testing of Hypothesis

Types of estimation; point, interval, testing of hypothesis, statistical hypothesis, simple and composite tests of significance, null hypothesis, alternative hypothesis, types of errors, level of significance, critical region; Applications in planning.

Module 4: Large Sample Test, Chi-Square Test

Test for single proportion: test of significance for single mean, chi-square distribution: applications of chi-square distribution; test of goodness of fit; Applications in planning.

Textbooks:

1. Gupta, Santosh (1997). *Research Methods and Statistical Techniques*. New Delhi: Deep & Deep Publications.
2. Kothari, C. R. (2004). *Research Methodology: Methods & Techniques*. 2nd edition. New Delhi: WishwaPrakashan.
3. Dooley, David (2003). *Social Research Methods*. 3rd edition. New Delhi: Prince Hall of India Ltd.

References:

1. Mian, M.A. & Miyan, M.A., *An Introduction to Statistics*, Ideal Library, Dhaka.
2. Sufian, A.J.M. (1998). *Methods and Techniques of Social Research*, the University Press Limited, Dhaka.

UPCPL204: Utilities and Services Planning

INTENT:

This course is intended to provide a general understanding of various issues and approaches to planning, designing, and maintenance of Infrastructure. The major emphasis in this course will be on water supply, sewerage, storm water drainage, roads and solid water management.

COURSE CONTENT:

Module1: Introduction, Basic Concepts & Theories and Storm Water System

Role of physical planner in planning of utilities and services, objectives of utilities and services planning and its implications for public health and environmental protection, familiarizing to CPHEEO manual and guidance; Definition of Hydrology, classification, hydrological cycle, urban water cycle; Types precipitation, measurement of precipitation, intensity duration frequency relationships, rainfall formula, rainfall maps, significance of interpretation and presentation of rain fall data; Surface water runoff, rational method for estimating run off, unit hydrograph and its application, definition of watershed; Flood frequencies, flood protection measures in urban areas. Estimating storm runoff, runoff co- efficient, rainfall intensity, time of concentration; Gravity flow, hydraulic gradient line, Manning's formula and nomographs, layout and design of storm water system; General considerations, inlets, self cleansing velocity, non scouring velocity, physical layout design principles, data requirement; Hydraulic design of storm water system and computation procedure.

Module 2: Water Supply Systems

Surface and ground water sources, quality and quantity requirements, collection and conveyance of water, water requirement for various land uses, factors affecting water demand, per capita requirement and its relationship with population sizes, variation of water consumption, treatment methods, treatment plant location, planning of water supply system and their zoning with respect to urban structure, basic design guidelines and layout of water supply distribution system, water distribution systems in buildings and their design, financing water supply systems, case study discussion on innovative methods and successful urban water supply system, significance and methods and advantages of water harvesting system, government initiative for water harvesting system and case study discussion.

Module 3: Sanitation and Sewer System

Sewage disposal methods and their advantages and disadvantages, quantity of sewage, low cost appropriate technologies for sanitation, standards for Indian cities, characteristics of waste water, Industrial pollutants and their effects, sanitary sewer system network and layout, procedure of planning, sewer appurtenances, case study of innovative approaches of sewage disposal in urban area.

Module 4: Solid Waste Management

Elements of solid waste management, classification and characteristics of solid wastes, on site collection, storage, transportation and disposal of solid wastes, processing and treatment of solid wastes, incineration, pyrolysis, land filling and cost aspects of different methods of solid waste, solid waste management issues in Indian Cities. Various social aspects of the solid waste management, community participation and involvement of NGOs in efficient solid waste management

Textbooks:

1. Yadav, Satish, *Water Problems and its Management*, 2004, Hope India Publications..
2. Bandela, N.N.; Tare, D.G., *Municipal Solid Waste Management*, 2009, B.R. Publishing.
3. Tchobanoglous. George & Kreith .Frank, *Handbook of Solid Waste Management*, 2002, Mc Graw Hill.
4. Jain. Sharad K., Aggarwal. Pushpendra & Singh. Vijay, *Hydrology and Water Resources of India*, 2007, Springer.

References:

1. *Report on Indian Urban Infrastructure and Services*, 2011, Government of India – NIUA.
2. Gathe Donald E.; Billings, R. Bruce; Buras, Nathan, *Managing urban water supply*, 2003, Dordrecht, Kulwer Academic Press.
3. W'Mays Larry, *Urban Water Supply Handbook*, 2002, McGraw Hill Handbook.
4. Butter. David, *Urban Drainage*, 2004, David Butter & John W. Davis Spon Press (11nd Edition) London & New York, 2004.
5. *Status of Water Supply, Sanitation and Solid Waste Management in Urban Areas*, 2005, National Institute of Urban Affairs.

UESCE205: Applied Geology and Hydrology

INTENT:

The main formative intent of the course is to provide students the overview of Geological Structure, Land Forms, Weathering, Landslides and Mass Wasting , parameters affecting earthquake along with study of role of ground water in selecting site & foundation in framework of urban & regional planning concepts.

COURSE CONTENTS:

Module 1: Geological Structure, Land Forms, Weathering, Landslides and Mass Wasting

composition of the earth; the earth processes, geological cycles, igneous activities, volcanoes, minerals and their properties; rock types and their character; rock cycle; geological and time scale; Indian stratigraphy. Description and classification of folds, faults, joints, unconformities, fault planes, geometrical destruction, etc. land form types; erosional, depositional fluvial, glacial, deolian and marine; rock weathering and climate; mechanical and chemical processes, soil formation, landslides, sources and causes of crystal displacements, soil formation, landslides, sources and causes of crystal displacements, types, characters and effects, instability of hill slopes, prevention.

Module 2: Earthquakes

Historical account, tectonic behaviour and seismic belts; causes, intensity and magnitude of earthquakes, seismic zoning in India, earthquake waves and their character, particle motion and behaviour in various geological formations; seismography, accelerograms and their interpretation, prediction and prevention; earthquake resistant structures.

Module 3: Selection of Site and Foundations

General considerations, sources of preliminary geological data particularly related to Indian stratigraphic sequences and the types of foundations, nature and preparation of foundation for road, bridge, building and other geo-technical structures; geophysical explorations.

Module 4: Ground Water

Concept and role in town planning of different types of terrain, hydrologic cycle, vertical distribution of groundwater; Groundwater bearing properties of different lithological formations, porosity, permeability, specific yield, specific retention, transmissivity and storage coefficient; ground water in igneous, sedimentary and metamorphic rocks; aquifers; types and classification (geological), water table and piezometric surface; surface water reservoirs and springs; artificial recharge and ground water mound hydrological features in relation of seepage, fluctuation of water table and hydrographs, geological structure and underground passages for water supply.

Textbooks:

1. C.W. Fetter Jr.- *Applied Hydrogeology*
2. George H. Davis- *Structural Geology of Rocks and Regions*

References:

1. David R. Maidment & Larry Mays; *applied hydrology*
2. C.W.Fetter Jr. ; *Applied hydrogeology (4th edition)*

ULCPL201: Planning Studio - II (Neighbourhood and Site Planning)

INTENT:

The primary intent of the course is to provide conceptual clarity and practices regarding neighbourhood and site planning along with study of a neighbourhood involving location, salient features, spatial characteristics, facilities and amenities, road circulation patterns, spatial & non spatial linkages to surrounding areas, comparison with standards, building byelaws etc; special consideration will be given for site analysis, development standards, and preparation of the design brief, various consideration for the layout, conceptual approach to site planning, preparation of preliminary layout and area analysis. Final layout showing the circulation and basic infrastructure; the expected outcome of the course will be in the form of concept design for a neighbourhood unit (design brief, drawings, analytical charts etc ;)

COURSE CONTENT:

Module 1: Designing & Planning

Introduction to neighbourhood: mapping of a neighbourhood and appreciating the basic characteristics of a neighbourhood. Creation of base map, recording and presenting information on the map-manually and digitally. Design and preparation of plans and elevation of low rise and high rise buildings taking into account the building byelaws and zoning regulations; Preparation of presentation drawings;

Module 2: Preparation of Land use Plan of Site

Preparation of site plan with Landuse classification considering the topographical, hydrological, climatological factors etc.

Module 3: Site Analysis & Layouts

Site analysis, development standards and preparation of the design brief; various considerations for site layout, conceptual approach to site planning; Preparation of preliminary layout and area analysis; Final layout showing the circulation and basic Infrastructures

Module 4: Costing

Rough costing of the scheme, preparation of the model to an appropriate scale;

Textbooks:

1. James A. LaGro; *Site Analysis: Informing Context-Sensitive and Sustainable Site Planning and Design*
2. *A Handbook of Planning of office building*; CPWD

References:

1. *UDPFI Guidelines*; Govt. Of India
2. *URDPFI Guidelines*; Govt of India
3. Nick Gallent/ Steve Robinson; *Neighbourhood Planning: Communities, Networks and Governance*

THIRD SEMESTER

UPCPL301: Planning Theory

INTENT:

The basic objective of this course is to introduce to the students of planning the various theories of planning and city design along with necessary details in terms formulation of activity structure, formulation of goals and objectives for any planning work to be carried out. This course is also aimed at students getting enough theoretical background to carry concurrent laboratory exercise in area planning and city planning.

COURSE CONTENTS:

Module 1: Defining Planning Theory

Definitions of theory in general; Definitions and significance of planning theory. Definition of paradigm and its various stages of development by Kuhn.

Module 2: Scientific Rationalism, Advocacy Planning, Equity Planning, Collaborative Planning

Chief characteristics of Comprehensive Rational Planning Model and implications for planning practice; Purposes of Advocacy Planning Model; Main features of Advocacy Planning Model; Equity and its various definitions; Major components of the Equity Planning Model; Various components of Collaborative Planning Model; Contributions of Patsy Healey and Judith Innes.

Module 3: Political Economy Theories and the City,

Defining the term political economy; Role of the state in planning; Contributions of David Harvey, Manuel Castells and Richard Foglesong.

Module 4: Theories of City Development & Planning, Evaluation, Implementation

Compact city approach: concept, advantages and limitations; Forms of cities in developing world,; Forms of cities in the former and present socialist countries; Planning theories and evaluation; Need for evaluation Methods of evaluating development plans; Inseparability of planning and evaluation; Significance and methods of public participation; Theories of implementation of planning policies.

Textbooks:

1. McConnel, Shean, *Theories for Planning*.
2. Melville C. Branch. *Urban Planning Theory*. 1975. Pennsylvania: Hutchinson.

References:

1. Keeble, Lewis. *Town planning made Plain*.
2. Steven Seidmann and Jeffrey Alexander; *The New Social Theory Reader 2001*, (eds.) New York: Routledge

UPCPL302: Techniques of Planning

INTENT:

The primary intent of this course is to provide understanding of the application of quantitative research methods and techniques to analysis of planning problems.

COURSE CONTENTS:

Module 1: Techniques of Preparing Base Maps

Choice of appropriate scale for region and settlement level plans; town development plans, zonal development plans, layout plans; graphical, linear and areal scales; contents of base maps at various scales, notations - basic disciplines of maps; Measurement of Areas;

Module 2: Data Base for Planning and Socio - Economic Surveys

Data requirements for urban and regional planning; sources of primary and secondary data; Questionnaire design, measurement scale and their application, sampling techniques, types of socioeconomic surveys; self surveys, interviews, mailed questionnaires and observer participation

Module 3: Physical Surveys

Techniques of conducting surveys for land use, building use, density, structural condition of buildings, heights of building, land utilization and physical features of land; Data requirement for various types of regional plans; Techniques for conducting regional surveys

Module 4: Techniques of Graphic Presentation of Statistical & Spatial Data

Tabulation of data, graphical presentation of data; pie diagrams, histograms, bar charts, normal, semi log and double log graphs and their uses; colour, black and white presentation techniques; basic disciplines of illustration and tables. Land use classification, coding and analysis; residential and non-residential density patterns and analysis; colour, black and white presentation techniques; basis disciplines of illustration; Presentation of spatial data, analysis and proposals.

Textbooks:

1. *Peter Geoffrey Hall; Urban & regional Planning*
2. *Hemchandra ; Urban & Regional planning*

References:

1. *URDPFI guidelines by Gov. Of India;*
2. *Urban Planning methods: research and Policy analysis by Ian Bracken, Methuen and Co. Ltd. London ISBN0-416-74870-8*
3. *Urban Land Use Planning by F. Stuart Chapin Jr., Harper 7 Brothers, Publishers, New York, USA*

UPCPL303: Settlement Geography

INTENT:

Achieve an overview and general understanding of the main factors involved in and the many changes during the evolution of settlements around the world during different time periods. The main basis of the course can best be captured in words of Peter Hall; As elsewhere in human affairs, we too often fail to realize that our ideas and

actions have been thought and done by others, long ago; and that we should be conscious of our roots (Hall, 1988).

COURSE CONTENTS:

Module 1: Introduction

Need for study of settlement geography; definition of settlement; ranking of towns; site and situation patterns; settlement morphology.

Module 2: Spatial Distribution of Settlements

Settlement in regional; context; spatial models of location, size and spacing of settlements; Central Place Theory; Characteristic of rural-urban fringe; rural-urban continuum; inter-urban inequalities; Interaction among settlements; Gravity model, classification of settlements.

Module 3: Urban Land Use Studies

Classification of land use in urban area; analysis of location and structure and models of growth patterns of CBD, industrial areas and residential areas; intra - urban inequalities;

Module 4: Image of the City and Regions

Typology of urban perception, impact of socio-economic status of people on the image of a city; components forming the image of a city; land marks, edges etc.

Types of regions, delineation of regions, city region, structure of city region, area of influence and dominance, shadow regions Trickle down effect and Trickle down effects, rural-urban fringe, its structure and growth.

Textbooks:

1. Ghosph, S. *Introduction to Settlement Geography*.
2. Lynch, K. *Image of the city*.
3. Glasson, J. *An Introduction to Regional Planning*.
4. Misra, R. P. *Regional Planning and Development*.
5. *Institute of Town Planners India. Regional Planning Development*.

References:

1. Doxiadis. C. A. *Ekistics: An Introduction to the Science of Human Settlement*.
2. Daniel. P and Hopkinson, M. *The Geography of Settlement*.
3. Roberts, B. K. *Landscape of Settlement*.
4. Baqui, Abdul. *Grameen Basati Bhugol*.
5. Foth, H. D. and J. W. Schafer, *Soil Geography and Land use*.
6. *United Nations. Guidelines for Rural Center Planning*.

UPCPL 304: Geo-Informatics for Planning

INTENT:

The primary intent of this course is to provide understanding of Remote Sensing and its use in planning along with GIS as a planning tool.

COURSE CONTENT:

Module 1: Remote Sensing

Limitations of traditional surveys for planning; Remote sensing definition, aerial and satellite remote sensing, aerial remote sensing;

Module 2: Photo Interpretation

Aerial photo-interpretation, qualitative and quantitative elements of photo interpretation; Satellite remote sensing, geostationary and sun-synchronous satellites, principles of electromagnetic radiations, resolutions; Introduction to digital image processing; Salient features of popular remote sensing satellites; Applications in planning; Laboratory exercises.

Module 3: Planning Information Systems

Systems approach to planning as basis for planning information systems; Systems, hierarchy, types; Data and information, value of information, information flows, loops; Information security and sharing; Information systems, types, limitations.

Module 4: Human Settlements and Planning Information Systems in India

Human settlements' information needs, scales and levels, pre conditions for using planning information systems; Introduction to various planning information systems; Planning information systems NNRMS, NUIS, national urban observatory, municipal information systems, land information systems, cadastre systems; Applications and Limitations; Tools for spatial data handling, introduction to GISs.

Textbooks:

1. Sabins, F. F. Jr, *Remote Sensing Principles and Image interpretation*, W.H. Freeman & Co, 1978
2. Lo. C P and Yeung, Albert K W, "Concepts and Techniques of Geographic Information Systems", Prentice Hall of India, 2002.
3. Peter A Burrough, Rachael A Mc. Donnell, "Principles of GIS", Oxford University Press, 2000.

References:

1. Lilles and T.M. and Kiefer R.W. "Remote sensing and Image interpretation", John Wiley & Sons, New York, 2000.
2. John R. Jen, *Introductory Digital Image Processing: A Remote Sensing Perspective*, 2nd Edition, 1995.
3. Keith P.B. and Thompson et.al. "Remote sensing and water resources management", American Water Resources Association, Urbana Illinois.
4. R.N. Cowel "Manual of Remote Sensing, Volume I & II", American Society of Photogrammetry and Remote Sensing, Falls Church, Va.
5. Allan Brimicombe, *GIS Environmental Modelling and Engineering*, Taylor & Francis, 2003.

6. Hall, George Brent. *Open source approaches in spatial data handling. Vol. 2. Berlin Heidelberg New York: Springer, 2008.*

UPCPL 305: Traffic and Transportation Planning

INTENT:

The course strives to give students the basic skills and knowledge base about transportation planning practice. After discussing basic terminologies and concepts, transportation problems etc., the course will focus on the transportation planning methodologies and techniques available to planners along with environmental, financial and policy formation aspects;

COURSE CONTENT:

Module 1: Evaluation of Urban Structures

Transport systems, infrastructure and management, transport systems and their types, design and operating characteristics, urban road hierarchy, planning engineering and management criteria for road and junction improvements, arterial improvement techniques.

Module 2: Planning and Management of Transport System

Study area definitions, surveys and their types, sampling of travel methods, survey techniques; programming and scheduling, processing of travel data, analysis and interpretation of traffic studies; introduction to transport planning process; trip generation, trip distribution, trip assignment, model split, land use transportation models; existing organizational and legal framework, traffic and environmental management techniques; review of the existing traffic management schemes in case cities. Importance of accessibility in regional transport planning, role of road, rail, air and water transport systems, regional transport systems planning; road network planning for micro regions.

Module 3: Transport and Environment

Traffic noise, factors affecting noise, noise abatement measures, standards; air pollution standards; traffic safety; accident reporting and recording systems, factors affecting road safety; transport planning for target groups- children adults, handicapped and women; norms and guidelines for highway landscape; street lighting types, standards and design considerations.

Module 4: Economic - Evaluation and Transport Policies

Pricing and funding of transport service and systems, economic appraisal of highway and transport projects; techniques for estimating direct and indirect road user costs benefits, value of time; review of national, state and local level transport policies and their relevance in spatial and economic planning, pricing and funding of transport systems; energy and environmental implications in transport; transport policy planning; Transport planning in developing countries.

Textbooks:

1. *Khanna & Justo: Highway Engineering*
2. *L.R. Kadiyali: Traffic and Transportation Planning*
3. *Vazirani and Chandola Transportation Engineering, New Delhi*
4. *Kadiyali; Traffic and Transportation planning & engineering*

References:

1. *Road Development Plan of India 2021 – Indian Road Congress*
2. *Michael J Bruton; Introduction to transport planning*
3. *Hutchinson ;Principal of Urban transport system planning*
4. *Ortuzer & Williumson; Transport modelling*

ULCPL301: GIS Lab for Planners

INTENT:

The primary intent of the course

- Students will introduce to GIS and its use in planning
- Students will learn GIS as a planning tool.
- Students will carry out spatial analysis using GIS.

COURSE CONTENT:

Module 1: Need for GIS

Maps and spatial information, limitations of typical DBMS packages and CAD packages; Need for GISs.

Module 2: Introductions to GIS

Geographic information systems, introduction, components, benefits; Computerized GISs, input and output devices; Spatial Data Entry into GIS, spatial information security and sharing; Data structure for GIS, Vector and raster data structures, comparative advantages and disadvantages; Maps, base maps and thematic maps, mapping and spatial analysis software, linking of attribute data, spatial data aggregation; Spatial data generalization; Limitations of GISs.

Module 3: GIS Modelling & Specific packages

Overlay functions in GIS; using attribute over spatial data in modelling; Case study based land suitability analysis; Modelling service area for social infrastructures; Impact analysis; Introduction and laboratory exercises on selected GIS Packages (e.g. ArcInfo, ArcView, Geo-Concept, Geo-Media, ILWIS, MapInfo, etc.); Comparative advantages and disadvantages; Planning applications.

Module 4: Advanced Concepts in GIS

Introduction to Dynamic GIS; Integration of GIS and Digital Image Processing; Integration of GIS and GPS;

Textbooks:

1. *Tor Bernhardsen: Geographic Information Systems (An Introduction)*
2. *Keith C. Clarke: Getting Started with Geographic Information Systems*
3. *Dixon, W.J. and Massey, F.J., Introduction to Statistical Analysis, 1951, McGraw Hill, New York.*

References:

1. *Longley Paula, et al, Geographic Information Systems and Science, 2001, John Wiley and Sons Ltd., Newyork.*
2. *Dixon, W.J. and Massey, F.J., Introduction to Statistical Analysis, 1951, McGraw Hill, New York.*
3. *Roger Tomlinson: Thinking about GIS; Stephen Wise: GIS Basics*

FOURTH SEMESTER

UPCPL 401: Planning Practice

INTENT:

The main intent of the course is to enable the students a set of professional planning skills. Professional planning practice requires a range of knowledge and skills beyond what can be covered within a limited number of regular credit courses.

COURSE CONTENT:

Module 1: Framing Planning Policies

Role of Town and country planning organization at central level and town and country planning department at state level; Actors framing public planning policies; Influences of various stakeholders on policy formulation; Implementation of public policies;

Module 2: Development Authorities & Development Regulations

Types, functions and spatial jurisdictions of development authorities; Reasons for the establishment of development authorities; Place of development authorities in local government; Working of building bye-laws in planning practice; Requirements for grant of building permissions; Streamlining the development control regulations; Making development control regulations work for the poor; UDPFI Guidelines; National Building Code and its implementation.

Module 3: Coordination in Planning Practice

Meaning and types of coordination; Mechanisms of coordination; Case examples of coordination from planning practice;

Module 4: Privatization of Planning Practice

History of privatization of planning; Special Economic Zones; Retail sector developments; Infrastructure development by the private sector;

Textbooks:

1. Arthur C. Nelson; *Advancing Planning Practice: A Guide for Planner's Notebook Contributors*
2. *A Handbook of Planning of office building; CPWD*

References:

1. *URDPFI Govt. Of India*
2. *A Handbook of Planning of office building; CPWD*

UPCPL 402: Demography and Urbanization

INTENT:

The intent of this course are to introduce students to the population studies that seek to define the role of planners in urban societies and provide students with opportunities to develop planning approaches in dealing with management and decision making in industrialized communities.

Upon successful completion of this course, the student will be able to:

- explain population growth and distribution;
- understand the demographic and cultural characteristics;
- recognize types and causes of population movement;
- identify the environmental resources;
- understand the relationship between population and urbanisation;
- carry out efficient management and decision making in urban planning.
- use population studies to establish urban growth pattern;
- carry out studies on human and environmental resources;
- plan for human environment based on population structure;
- determine suitable facilities or infrastructure for human communities;
- analyze population and urbanisation relationship; and
- conduct literature search on all the above in the Internet.

COURSE CONTENTS:

Module 1: Study of Population

Demographic variables: fertility, mortality, migration; evolution of population study, contribution of Malthus; mortality-trends, biological and social factors and mortality-gender, race, social structure, life style, social status, occupation etc; measures of mortality-crude and age-specific death rates; infant mortality, adjusted or standardized death rates; neonatal mortality rate; fertility-fertility trends, fertility and social and biological behaviour; differential fertility, ethnic groups, socio-economical group mobility, location etc.; measures of fertility, crude birth rate; Age-specific fertility rate; total fertility rate, net reproduction rate; migration-causes and consequences of population movement; reasons and types of migration trends; methods of measuring volumes of migration; direct and indirect measures; effect of migration of composition of population.

Module 2: Study of Demography & Urbanization in India

Source of demographic data; census of India and its role as a data warehouse population structure and composition, age sex composition, sex ratio, dependency ratio, child woman ratio; measures of age-sex structure, age-sex pyramid, population composition; marital status, cast region, literacy level, etc; life table techniques; techniques in preparing life table, abridged life table; population estimation, projection and population forecasting; basic cohorts survival model, inter regional cohorts survival model. A brief history of urbanization in India; Mughal and British influences of India cities; post-independence urbanization; urbanization process as influenced by socio-cultural, political, economic and administrative factors; definition of urban centres, concepts of rural-urban continuum and dichotomy; census definition of urban places town, cities, town groups, urban agglomeration, standard urban area metropolis, megalopolis etc. functional classification of urban places.

Module 3: Settlement Systems and Role of Urban Area

Settlement system, senses classification of settlements, primate city, rank-size rule, central place concept, concepts of complementary area, central goods and services, range,

threshold etc; city-region relationship; structure of city regions, area of influence, dominance; rural-urban fringes; its structure, stages of growth, its role in urban growth; urbanization, industrialization and urban development; push and pull factors; migration trends and impacts on urban and rural development.

Module 4: Policies and Strategies for Directing Urbanization Trends in India

Over view of world urbanization, National Urbanization policy, basic issues in urbanization policy; role of national and state level policies; five year plans, latest attempts at urbanization policy formulation in the country; salient features of the report of the national commission of urbanization.

Textbooks:

1. *Bogue, D. J. 1984, Principle of Demography, New York: John Wiley.*
2. *Petersen, W. 1984, Population. New York. McMillan.*
3. *Siddhartha, K. Cities Urbanization & Urban systems; Kisalaya Publication Pvt. Ltd.*

References:

1. *Cerna, M. M. 1988 Involuntary Resettlement in Development Projects. Washington D.C.: World Bank.*
2. *International labour organization 1986. Internal Migration. Geneva: ILO.*

UPCPL 403: Housing and Community Planning

INTENT:

Objective of this course is to provide theoretical understanding and relevant techniques for formulating urban housing strategies.

- Students will learn operation of Housing Market in a given social fabric.
- Students will learn policy approach to meet housing requirements & community planning within given constrain.

COURSE CONTENT:

Module 1: Introduction to Housing

Significance of housing in National Development Goals; Equity and efficiency parameters of housing; Current issues in housing; Existing Housing Statistics; definitions; urban and rural housing statistics; Introduction to concepts of Housing Shortage, Housing Need, quantitative and qualitative aspects of housing; Housing Demand - Understanding current methods of demand assessment; Knowledge of data sources and their use and interpretation; census, NSSO and other data; Limitations of existing methods of assessments.

Module 2: Housing Development Process

Understanding of factors affecting residential location, theoretical knowledge of ecological, neoclassical, institutional approach to housing; Housing subsystems and their characteristics: formal and non-formal housing; Process of Public and private sector housing development process; policy context, actors and their interrelationships; Inner city housing, Slums, Squatter housing, Unauthorized Housing; Role of different institutions in housing; International agencies, NGOs, State, Financing Organizations, Private developers, cooperatives.

Module 3: Housing Standards and Design

Factors determining residential densities; Densities, costs and development control regulations; Housing designs parameters and their relationship to costs; Housing design and climate; Housing for disaster prone areas. Communities; its characteristics and housing; socio-economic implication of slums, clearance/ improvement of slum; sites and services schemes, squatter upgrading, incremental approach;

Module 4: Housing Policy Analyses

Understanding and evaluation of Housing Policy and programmes in India; five year plans, Central Government policy; Policy framework for urban and rural housing; Comparative policy analysis; Housing for the low income groups; Cooperative housing, objectives and principles; management and financing of housing projects; investment in housing in public and private sectors.

Textbooks:

1. *Sam Davis; The architectural of affordable housing*
2. *Jingmin Zhou; Urban housing form*

References:

1. *Norman Tyler, Robert M. Ward; Planning and Community Development: A Guide for the 21st Century*
2. *Eric Damian Kelly; Community Planning: An Introduction to the Comprehensive Plan, Second Edition*

UPCPL 404: Environmental Planning and Management

INTENT:

The proposed course focuses on the interrelationship between the ecological, social and economic aspects of environment to ensure environmental conservation. Emphasis will be on how to achieve better environment conservation through detailed planning and professional management. Environment, being a multidisciplinary subject, draws upon the physical, social, biological, cultural, economic and legal issues. In this course, students will learn; how all these issues interact and problems can arise because of differing perspectives, needs and biophysical limitations. This understanding of various facets of environment will help in developing analytical skills needed for performing the assigned task related to planning of environment. The course contents of this programme would enable the students to understand the practicality and congeniality of living environment and current environmental concerns.

COURSE CONTENT:

Module 1: Introduction

Meaning and scope of ecology; evolution of ecology; man, environment and ecosystem; components of nature and basis concepts and processes of ecology; flow of material water energy, invasion, succession, predation, regulatory forces, adaptation, trophic levels, food chain, food web, ecological pyramids; Environmental zones.

Module 2: Ecosystem and its Relevance to Environment

Resources and human settlements impact of advanced agricultural methods, urbanization and industrialization on nature; urban ecosystem approach evolution and significance; soil, water, land, vegetation and solar, biomass, wind, hydro energy resources; settlement planning and energy conservation; development and management;

Module 3: Quantitative Ecology

Introduction to quantitative ecology, identification of ecological parameters for planning at different levels; site planning, settlement planning and regional planning; data needs and format for data collection; types of analysis required to evolve ecological parameters. Planning for environmentally sensitive areas;

Module 4: Environmental Impact Studies & Policies

EIA - meaning, significance and framework; Methodologies - checklist, matrices, network and social cost benefit analysis; sources and acquisition of environmental information; Environmental land use Classification; Environment impact studies of development projects. Global and national policies on environment; Five year plans in relation to environmental aspects; Legal measure for protection of environment; Environmental awareness and education in India; Agencies involved in environment protection; Public participation; Role of planners in shaping the future environment.

Textbooks:

1. Fuller moore ;*Environment science*
2. *Environmental Impact Assessment, Canter, L.W., Mc. Graw Hill, New York*
3. *Handbook of EIA, Kulkarni V. S., Kaul S. N., Trivedi R. K., Scientific Publishers, India*
4. Eugene P. Odum, "*Principle of Ecology*".
5. Pramod Singh, "*Ecology of Urban India*".

References:

1. *Koinsberger; Tropical design of buildings*
2. *Environmental Impact Assessment, Biswas A.K. and Agarwala S.B.C., Butterworth-Heinmann, Oxford*
3. *The Sustainable Urban Development Reader, Wheeler S.M. and Beatley T., Routledge*
4. *Handbook of EIA, Kulkarni V. S., Kaul S. N., Trivedi R. K., Scientific Publishers, India*
5. *EIA Manual, Ministry of Environment and Forests, Govt. of India.*

UPCPL 405: Settlement Sociology

INTENT:

The primary objective of the course in Settlement Sociology is to train the students in the sociological study of life and human interaction. The course is so designed as to enable the students follow the sociological interpretations of the structures, processes, changes and problems of an urban area and by doing so providing inputs for planning and policy making.

COURSE CONTENT:

Module 1: Understanding Sociology, Sociological Perspective and Organizing Social Life

Sociology as a science; Sociological imagination and rethinking; Applied sociology; Functionalist perspective, Conflict perspective, Internationalist perspective; Culture of space and cultural ecology; Social structure and social control; Stratification and social inequality; Social mobility and Social defiance;

Module 2: Social Institutions

Family, kinship pattern and authority; Religion as social work and significance in planning; Voluntary associations (identifying NGOs and involving them as partners of development, operational issues); Groups (primary, secondary and References groups);

Module 3: Community Development

Development induced displacement (anthrop-social considerations); Resettlement and Rehabilitation; Neighbourhood pattern and development strategy; Rural and urban issues; Community based and workshop based methods; Qualitative data Analysis; Report writing;

Module 4: Gender and Development

Gender and sex; Gender sensitive; Gender and development planning; Gender and implications for spatial planning;

Textbooks:

1. Ahuja: *Social problems in India* (2ed; Adams Sydie: *Sociological Theory*)
2. *Sociology*, John J. Macionis, Pearson
3. *Urban Sociology : Images and Structure*, Flanagan, William G., Prentice Hall
4. *Sociological Thought*, Abrahm M. F. and Morgan J. H., MacMillan India, Madras
5. *Social Change in Modern India*, Srinivas M. N., Oxford University Press, Delhi.
6. *Inclusive Growth In India*, R.U. Singh A.K. Thakur, Deep and Deep Publications
7. *Sen's Capability Approach and Gender Inequality: Selecting Relevant Capabilities.*

References:

1. Schaefer: *Sociology Brief Introduction* (Fourth Edition)
2. K.Motwani, R.D. Saxsena: *Encyclopedia of Sociology of Politics*
3. *Sociology*, Anthony Giddens, Wiley
4. *The Metropolis and Mental Life*, Simmel, Georg, New York: Free Press
5. *Key Concepts in Urban Studies*, M. Gottdiener, Sage London
6. *A Subaltern Studies Reader*, Guha R., Oxford University Press, New Delhi
7. *The Sage Handbook of Sociology*, Bryn Turner et all, Sage

ULCPL 401: Planning Studio - IV (Transportation Planning)

INTENT:

The course strives to give students the basic skills and knowledge base about transportation planning practice. After discussing basic terminologies and concepts, transportation problems etc., the course will focus on the transportation planning methodologies and

techniques available to planners. Students will be required to undertake four exercises designed for the purpose.

COURSE CONTENT:

Module 1: Classification of Roads

Understanding of functional and geometric classifications of urban and rural roads and their cross-sectional elements

Module 2: Types of Transport Surveys

Methods, surveys, analysis, presentation of data and also to prepare reports relating to different types of transport surveys

Module 3: Road Geometries and Surveys & Road Layouts

Road geometries and road components, traffic volume, origin destination, spot speed, speed and delay, parking and pedestrian; Design and preparation of layout for road intersections, rotaries and signalized intersections

Module 4: Area Circulation Plan

Preparation of an area circulation plan by studying the existing land use, existing circulation pattern, Geometric design, level of services for a small area through networks improvement and low cost traffic management measures;

Textbooks:

1. *Khanna & Justo: Highway Engineering*
2. *L.R. Kadiyali: Traffic and Transportation Planning*
3. *Vazirani and Chandola Transportation Engineering, New Delhi*
4. *Kadiyali; Traffic and Transportation planning & engineering*

References:

1. *Road Development Plan of India 2021 – Indian Road Congress*
2. *Michael J Bruton; Introduction to transport planning*
3. *Hutchinson ;Principal of Urban transport system planning*
4. *Ortuzer & Williamson; Transport modelling*

FIFTH SEMESTER

UPCPL 501: Planning Legislation

INTENT:

The main objectives of this course are to familiarize the students with both the use of legislation as a planning tool in general as well as the details of important planning, housing and environment related legislation as well as to impart knowledge of various Legislations on Urban Planning and Development and to expose students to basic concept of Law and Indian Constitution in general and 73rd and 74th Constitution Amendments, Development Control Rules, Zoning Laws;

COURSE CONTENT:

Module 1: Concept of Law & Indian Constitution

Sources of law (Legislation, delegated legislation and precedent); Significance of law and its relationship to planning; Benefits of statutory planning; Brief contents of Indian Constitution with special reference to fundamental rights and duties of citizens, directive principles of state policy, distribution of legislative powers for enactment of laws; Right to property; Constitutional provision to protect and improve the natural environment;

Module 2: Laws and Acts for Planning and Development

Evolution of Urban and regional planning Legislation in India; 73rd and 74th Constitutional (amendment) Acts; Model Town and Country Planning Acts & UDPFI Guidelines, Proliferation of Laws (Municipal Acts, Urban Development Authority Acts, Housing Board Acts, Improvement Trust Acts, Slum Improvement Acts etc); Environmental & Pollution Control Acts.

Module 3: Land Acquisition Act

Introduction to Land Acquisition Act, 1984; Eminent Domain and police powers; Case laws in respect of land acquisition and compensation.

Module 4: Organizations for Plan Implementation

Role of different state agencies for plan implementation; Methods of coordination between planning and implementation agencies; Statutory town planning schemes, contemporary Model schemes of some states; Significance of enforcement and single window system.

Textbooks:

References:

1. *UDPFI Guidelines*
2. *Master Plan Approach: Efficacy & Alternatives*
3. *ITPI, Planning Legislation and professional Practice, ITPI, New Delhi.*
4. *Bijlani, H.U. & Balachandran, Law and Urban Land, 1978, IIPA, New Delhi.*
5. *Gol, URDPFI Guidelines Vol. 2A, 2014, ITPI, New Delhi.*
6. *Gol, Indian Contract Act 1872; Indian Contract Act 1872; The Arbitration and Conciliation Act 1996. Constitution of India; Constitution (73rd & 74th Amendment) Acts*

1992; Model Rent control Legislation; Slum (Improvement and Clearance) Act 1956; Land Acquisition Act 1894 and amendments thereof, Environment (Protection) Act 1986; Model Town Planning and Regional Planning Development Law; and other acts.

7. Edgar F N Ribeiro, *Reassessment of Urban Planning and Development Regulations in Asian Cities*, 1999, United Nations Centre for Human Settlements.

8. Das. Amiya Kumar, *Urban Planning in India*, 2007, Rawat Publishers and Distributors

UPCPL 502: Real Estate Planning and Management

INTENT:

The primary intent of the course is to provide an introduction to the fundamental concepts and techniques applied in the real estate development process, examining both the broader economic and social context in which real estate development is situated as well as how various professions interact within this context.

The overall objective of the course is to provide students with useful framework for analysis of real estate development projects, weighing the economic, social, and environmental costs and benefits for a community.

COURSE CONTENT:

Module1: Developments of Land and Land &Property Valuations

Economic concepts of land, objective and scope of land economics; relevance for spatial planning; economic principles of land uses; economic rent, land use and land value, market mechanism and land use pattern;

Process, cost of development, source of finance, and financial calculation for real estate developer;

Module 2: Real Property Markets

Heterogeneity and imperfections, valuation of real property - principles and practices; private ownership and social control of land; disposal of land; land development charges and betterment levy; land use restrictions, compensation and requisition taxation of capital gain on land versus public ownerships, economic aspects of land policies at various levels of decision making.

Module 3: Factors Influencing Locational Decisions

Analysis of location of specific uses like residential, industrial, commercial and institutional in the light of location theories in intra-regional and inter-regional context; Techniques of cost benefit analysis of urban development programme.

Module 4: Case Studies

Case studies of real estate development in public private partnership sectors; real estate as a facilitator of development; development of real estate as a tool for controlling land and property prices; transaction and renting of real estate, lease deeds/sale deeds, sale documents, registration; mortgage and pledging;

Textbooks:

1. Irwin McGraw Hill; *Urban Economics*
2. R.L. Nelson; *Real Estate & City Planning*

3. *Real Estate Development--Principles and Process (4th Edition 2007)*, by Mike E. Miles, Gayle

References:

1. *Mill & Hamilton; Urban Economics*
2. *Evans; Urban Economics*
3. *B.L. Mathur; Economic Planning & Development Theory & Practice*
4. *Real Estate Development--Principles and Process (4th Edition 2007)*, by Mike E. Miles, Gayle
5. *Berens Mark J. Eppli and Marc A. Weiss, ULI-the Urban Land Institute: Washington, D.C.*

UPCPL 503: Introduction to Urban Design

INTENT:

This course will explore the fundamentals of urban design as they relate to all scales of the built environment - including regions, cities, districts, neighbourhoods, blocks and parcels - and will reinforce the basics of sound community planning. Focusing on the neighbourhood and public space as the quintessential building blocks, we will explore how these cities and areas have changed, and how the advent of the automobile, rapid suburbanization, and past planning practices have created challenges for today's planners and urban designers.

- To introduce students to the application of basic urban design;
- To gain practice in the basic skills of urban design analysis;
- To gain an appreciation of both the process and product of the design of the built environment;
- To emphasize the need for planners to learn design, and designers to learn planning;
- To provide practice in visual, graphic and spatial literacy

COURSE CONTENT:

Module: 1 Introduction to Urban Design Theory

Urban design as interface between architecture and planning; city as a three dimensional entity; Study of volumes and open spaces at all spatial levels; A brief historic review of the development of the urban design discipline and principles;

Module: 2 Elements of Urban Design

Urban form as determined by inter - play of masses, voids, building typology; Scale, harmony, symmetry, colour, texture, light and shade; Dominance, height, urban signage and graphics; Organization of spaces and their articulation in the form of squares, streets, vistas and focal points; Image of the city and its components such as edges, paths, landmarks, street features, sky - line, etc; Urban transportation.

Module: 3 Physical and Non - Physical Determinants of Urban Forms

Activity and the morphology of places; Form, size and structure of cities and the related geometry co - related with their determinants; Case studies of urban design characteristics of cities in India and abroad; Related issues for public intervention.

Module: 4 Controls of Urban Design & Contemporary Practices

Urban design and its control; Control of visual pollution; Agencies responsible for ensuring better urban design, their roles, powers and limitations; Townscape policies, building byelaws and regulations for existing and emerging areas of development; Special rules for heritage and hill areas.

Textbooks:

1. *Kevin Lynch: Image of City*
2. *Geoffery Broadbent: Emerging Concepts in Urban Space Design*
3. *Broadbent, Geoffery. Emerging Concepts of urban Design*
4. *Gosling, David & Maitland, Barry, Concepts of Urban design*
5. *Jon Lang , Urban Design Typology and procedures, Architectural Press*

References:

1. *Edmond Beckons: Design of cities Rob Krier: Urban space*
2. *Bacon, Edmund, N. Design of Cities*
3. *Morris, Anthony, J.E. History of Urban Form*
4. *Spiro Kostof, the City Assembled, Thames and Hudson.*
5. *Spiro Kostof, the City Shaped, Thames and Hudson.*
6. *A.E.J. Morris , History of Urban Form, Longman Scientific and Technical*

UPCPL 504: Sustainable Urban Development

INTENT:

The basic intent of the course is to introduce sustainability concept in details along with relevance of sustainability and application of sustainability concepts in planning.

COURSE CONTENT:

Module 1: Concept and Issues

Changing perspectives in man-environment relationship with focus on issues of population, urbanization, resource depletion and pollution; Limits to growth vis-a-vis sustainable economy; Growth and environmental imperatives of developing vs. developed countries; Definitions, concepts and parameters in sustainable development with particular reference to Brundtland Commission, Agenda 21, Eco-City approach, the Paris Agreement on climate change, commitment to the New Urban Agenda etc;

Module 2: Methods and Techniques

Application of ecological principles in sustainability: energy and resource cycles, food webs, ecological pyramids and evolution and succession of natural ecosystems; Carrying Capacity based planning: concept, parameters and indicator measures, models and case studies in urban and regional development; Environmental impact and strategic environmental assessment for urban areas; Ecological footprint analysis of cities; Sustainable lifestyle assessment and behavioural modifications at household levels.

Module 3: Land, and Energy Resources

Land capability and suitability analysis in location and planning of urban land uses; Implications of urban form, density, land use pattern and transportation system in land and energy conservation.

Module 4: Role of Water, Air Quality & Solid Waste Management

Urban interference in hydrological cycle, with particular reference to water pollution, water resources, drainage and natural ecosystems; Urban water treatment, recycling and harvesting; Use of non-conventional energy sources in urban development; Sources, types and effects of air pollution and solid waste disposal in cavities, urban industrial processes and land use and transportation implications in air and solid waste pollution; Norms, standards, laws, organizations and policies in urban air quality control and solid waste management; Examples of best practices.

Textbooks:

1. John Tillman Lyle , *“Regenerative design for Sustainable Development”*, 1994. New York, John Willy & Sons
2. Joe Ravetz , *“City-Region 2020”*,2000 London, UK, Earthscan
3. Bimal N. Patel; *Sustainable Development and India: Convergence of Law, Economics, Science and Politics*
4. R.B. Singh & Sagar Khetwani; *Environment & Sustainable Development: Emerging Challenges*

References:

1. Beatley, Timothy and Kristy Manning , *“The Ecology of Place: Planning for Environment, Economy, and Community”*, 1997 Washington, D.C. Island Press
2. Cedric Pugh, *“Sustainable Cities in developing Countries”*, 2000 London, UK. Earthscan
3. Stephen M. Wheeler; *Sustainable Urban Development Reader (Routledge Urban Reader Series) 2nd Edition*

UPCPL 505: Rural Development and Management

INTENT:

To help students to understand rural society within the context of rural development and change in the post-independence period and be able to contribute positively in planning for overall development of the social institutions, human behaviour and economy of the rural population;

COURSE CONTENT:

Module 1: Introduction to Rural Development & Roots of Rural Development in India

Meaning, nature and scope of development; Nature of rural society in India; Hierarchy of settlements; Social, economic and ecological constraints for rural development; Rural reconstruction and Sarvodaya programme before independence; Impact of voluntary effort and Sarvodaya Movement on rural development; Constitutional direction, directive

principles; Panchayati Raj beginning of planning and community development; National extension services.

Module 3: Post Independence Rural Development

Balwant Rai Mehta Committee - three tier system of rural local Government; Need and scope for people's participation and Panchayati Raj; Ashok Mehta Committee - linkage between Panchayati Raj, participation and rural development; Five Year Plans and Rural Development; Planning process at National, State, Regional and District levels; Planning, development, implementing and monitoring organizations and agencies; Urban and rural interface - integrated approach and local plans; Development initiatives and their convergence; Special component plan and sub-plan for the weaker section; Micro-eco zones; Data base for local planning; Need for decentralized planning; Sustainable rural development.

Module 3: Post 73rd Amendment Scenario

73rd Constitution (Amendment) Act - XI schedule, devolution of powers, functions and finance; Panchayati Raj institutions - organizational linkages; Recent changes in rural local planning; Gram Sabha - revitalized Panchayati Raj; Institutionalization; resource mapping, resource mobilization including social mobilization; Information Technology and rural planning; Need for further amendments.

Module 4: Government Schemes

Overview of contemporary government schemes for rural development. Rural development schemes plans and policies for sectors of development as agriculture and allied industries, Transport, employment, child and women development, Rural electrification, etc.

Textbooks:

1. *Satish Tiwan: Rural Development*
2. *Ashok Kumar: New Approaches is Rural Development*

References:

1. *Robins, W Tansly & K G Wills: Rural Resources Development*
2. *Vivender Singh K: Socio – Economic Planning for Rural Development*

ULCPL501: Planning Studio V (Local Area Planning)

INTENT:

Exercises to build awareness of design issues related to planning of small areas within a city, - to understand the implication of socio-economic and demographic characteristics of the population on the physical plan. Issues related to provision of infrastructure services, it's costing, financing and implementation strategies especially defining the role of various agencies in realising the plan need to be addressed.

COURSE CONTENT:

Module 1: Approaches to plan making

The different approaches to plan making; the concepts of master plan, comprehensive development plan - the structure plan, the sector plan, the area/ zonal plan, and other types of plan making processes

Module 2: Relationship among Plans

Relationship of higher order plans with lower order plans

Module 3: Framework for Zonal Plans

The approach to developing the area/ zonal plan within the framework of Master Plan

Module 4: Planning Standards & Zonal Plans / Area Plans

The study and development of the relevant planning standards for different land uses; detailing of specific sites in the proposed Zonal Plans / Area Plans, covering different land uses.

Textbooks / References:

URDPFI Guidelines; Govt. of India

SIXTH SEMESTER

UPCPL 601: Regional Planning

INTENT:

To study Concepts, types and delineation of Regions and Regional development & interaction model and to expose students with various Regional Planning and development approaches in India along with providing theoretical background for Regional Planning studio in next (7th) semester.

COURSE CONTENT:

Module 1: Introduction to Region & Interactions within a Region

Concept of regional planning: nature, objectives, levels and aims; Concept of a region, types, and regionalization; Regional interaction: Rank Size Rule, Settlement patterns; Central place theory; Loschian theory; Regional networks.

Module 2: Regional Developments

Regional development; Balanced and unbalanced development; Under development; Regional multiplier, input output model; Linear programming applications; Cumulative causation theory; Core periphery model; Growth poles and centres.

Module 3: Planning Processes

Regional planning processes: Identification of plan objectives; collection, classification and analysis of data; Norms and standards for regional planning; Formulation of alternative plan proposals with respect to population distribution, location of new regional economic activities, infrastructure, plan implementation, etc. planning process under DPC and MPC.

Module 4: Case Studies

Selected case studies in regional development: Rajasthan Canal Area, South-East Resource Region, Western Ghats Region, National Capital Region, Mumbai Metropolitan Region, etc.

Textbooks:

1. *Misra. R.P., Regional Planning, Concept, Techniques, Policies and Case Studies, 2002, Concept Publishing Company, New Delhi.*
2. *John Glasson and Tim Marshall, Regional Planning, 2007, Routledge, Oxford shire.*
3. *Peter Hall and Mark Tewdwr John, Urban and Regional Planning, 2008, Routledge, New York.*

References:

1. *Wang, X., Von Hofpe, R., Research Methods in Urban and Regional Planning, 2007, Springer.*
2. *McLaughlin, J., Urban and Regional Planning. A systems approach, 1969, Faber and Faber, London.*
3. *John Glasson and Tim Marshall, Regional Planning, 2007, Routledge, Oxford shire.*
4. *Jayasri Roy Choudhuri, an Introduction to Development and Regional Planning, 2001, Orient Longman Ltd, Kolkata*

UPCPL 602: Urban Management and Governance

INTENT:

To understand the administration, planning and implementation process of urban local government; the basic concepts of, and actual practises of public finance, issues related to sustainability of urban local bodies and also equip the students with key management techniques.

COURSE CONTENT:

Module1: Introduction to Players and Processes Involved in Managing Urban Development

Urban development as a decision making process and corporate activity; Relevance of policies, role of administration, structure of organizations and application of management techniques in urban development; Definition and scope of the concepts introduced- holistic overview of management Urban Management;

Module2: Public Administration

Policy and administration; Policy formulation in India; Centralization and decentralization; Various national, state, regional, district and local level organizations involved in urban development in India, their background, functions, powers, organization structure and resources (departments, boards and commissions, public undertakings etc.) Historic development of the organizational set up of local bodies in India; Recommendations of various committees; Politics and progress of decentralization; Changing role of local governance in urban development; Case studies.

Module3: Governance and Urbanization & Urban Management

Government, governing and governance; Determinants and indicators of good governance; Citizens charter and other instruments; Decision making processes; Processes of urbanization, developmental conflicts, resource constraints, systems deficiencies; Urban poverty and exclusion from development process; Sustainable development; Impact of globalization and economic reforms; Social diversities; Defects in planning approaches, multiplicity of organizations and authorities; Evolution of development and management systems; Types of organisations, Scope of development management at the National, state and local levels; Institutions and organizations; Improving management of public systems; Stakeholders, their perceptions and role in urban management. People's participation, collaborative management;

Module 4: Decision Making & Leadership

Decision-making; definition, features, factors, essentials and hindrances in sound decision-making; Structure of decisions and types of decisions; Theories of decision-making: rational theory, incremental theory, systems theory, game theory, conflict theory; Decision makers and decision making bodies related to urban and regional planning at national, state and local level. Planner's functions as a leader, urban development manager, public bureaucrat, policy analyst and social reformer; Approaches to study leadership; Trait-approach, behavioural approach and situational approach; Role of the planner in the decision-making process; Generalists vs. Specialist;

Textbooks:

1. S.L.Goel & S.S. Dhaliwal: *Urban Development & Management*
2. Shri Bhagwan Dahiya: *Theoretical Foundations of Development Planning*
3. *URDPFI Guideline; Govt. of India*

References:

1. *URDPFI Guideline; Govt. of India*

UPCPL 603: Urban Finance

INTENT:

The main intent of the course is to enable students

- To understand the budgetary process of a local jurisdiction;
- To identify linkages (or lack thereof) between a local jurisdiction's budgeting and planning processes;
- To understand the role of short- and long-term debt in financing public infrastructure and services;
- To critically evaluate the impact of various public finance tools on urban development; and
- To use program evaluation tools like fiscal impact analysis and cost-benefit analysis

COURSE CONTENT:

Module: 1 Multiple Finance

Nature and composition of income and expenditure, limitations and need for revenue enhancements; Expenditure control methods and mechanisms; Budgetary allocation from Central and State Governments for urban development; Assistance from foreign donors and Multi National agencies; Non-traditional sources of funding; Market access; Pool finance and prerequisite conditions for accessing non-traditional funds.

Module: 2 Additional Funding sources

Types of partnership approaches; Privatization of civic services; Public private partnership mechanisms; Types of contracts and ownerships; Emerging cost effect technology interventions; User charged projects; Pricing of services.

Module: 3 Resources Based on Achievement of Urban Reforms

Role of state government and urban local bodies; City's challenge fund; urban reforms; Implications on resources, incentive fund and state level pooled finance development fund;

Module: 4 Institutional Capacity Enhancements & Plan forms and Indices

Better finance management, management process; Accounting and budgeting, asset management, receivables management, cost centre approach; Computerization as tool for resource enhancement; Role of Management Information Systems; Financial operating plan, city corporate plan; Development of urban indicators; Infrastructure pricing and financing -

financing mechanisms in addition to tax and grants; private public partnerships like BOT, BOOT, BOLT etc.; Impact fee, subsidies;

Textbooks:

1. H. L. Bhatia; *Public Finance*; Vikas Publishing House Pvt. Limited, 2009
2. Amit singh sisodiya, N. janardhan rao; *Urban Public Finance concepts and experiences*
3. S.K.Singh; *Public Finance in Theory & Practice*
4. Rosen; *Public Finance (India reprints)*

References:

1. URDPFI Guidelines; Govt. of India
2. Richard A.Musgrave & Peggy B.Musgrave; *Public Finance in Theory and Practice*
3. *Urban Public Finance concepts and experiences; India Public Finance and Policy Report 2016: Fiscal Issues and Macro Economy*
4. D K Srivastava; *Development and Public Finance - Essays in Honour of Raja J Chelliah*
5. Nand Dhameja & K.S.Sastry; *Public Sector Restructuring and Privatisation - Including Urban Infrastructure and Public Service Finance*
6. Dr. Anil Kumar Thakur & Dr. Md. Abdus Salam (Eds.); *Indian Public Finance and the Twelfth Finance Commission*

UPCPL 604: Project Formulation Appraisal and Management

INTENT:

To introduce various principles, methods and techniques of undertaking project appraisal, and project management principles going through financial and economic analysis of the project, from the stage of inception to implementing the project.

COURSE CONTENT:

Module 1: Introduction to Project Formulation, Appraisal and Management

The concept of projects, Importance of project formulation, appraisal and management; Reasons for shortfall in its performance; Scientific management, life cycle of project; Detailed project report, and feasibility studies; Techniques of financial appraisal, payback period, IRR, DCF, NPV, CBR.

Module 2: Project Formulations

Project formulation: definition, objectives; Stages of project formulation and their significance; Methodology for project identification and formulation; Feasibility studies, input analysis, financial cost-benefit analysis, social-cost benefit analysis; Project appraisal and report.

Module 3: Project Appraisal

Project formulation: definition, objectives; Need for project appraisal; Project formulation: definition, objectives; Stages of project form Network analysis; CPM, PERT, resource levelling and allocation, time-cost trade off aspects; Bar charts, milestones, standard oriented cost control techniques; Techno-economic analysis of projects.

Module 4: Project Implementation and Monitoring & Project Evaluations

Project implementation, stages of implementation, teamwork, actors in project implementation; Project monitoring: meaning objectives and significance; Monitoring techniques: integrated reporting, milestones, time and cost overrun and under runs, unit index techniques; Project evaluation: meaning, objectives, scope, stages, approach and steps, Life of a project; Techniques of project evaluation: input analysis, financial cost-benefit analysis, social-cost benefit analysis; case studies in urban and regional development projects.

Textbooks:

1. Dr. B.C. Punmia, K.K. Khadelwal: *Laxmi Publications (P) Ltd: Project Planning and Control with PERT & CPM*
2. L.S. Srinath: *PERT and CPM Principles and Applications, Affiliated East-West Press Pvt. LTd.*

References:

1. Dr. A.N. Sachithanandan: *Reading Material on Project Formulation and Appraisal, Institute of Town Planners, India, New Delhi.*

UPCPL 605: Planning and Management of Informal Sector

INTENT:

The primary intent of the course is to enable students to understand the Problems and Issues of Informal Sector and their Housing Conditions and to study various Strategies of Government and NGOs for the Improvement of Slums.

COURSE CONTENT:

Module 1: Urban Poverty

Dimensions of urban poverty, magnitude of problem, urban poverty alleviation programmes, impact of macro-economic structural adjustment policies on poor urban households;

Module 2: Basic Needs

Development of the concept of basic needs; identification of basic needs and their provision for various target groups and informal sectors; Standards for basic needs, NGO's and voluntary organizations associated with provision of basic needs; Alternative Approaches for Delivery of Basic Services to the Urban Poor Community planning approach, low cost alternatives and institutional reforms approach.

Module 3: Migratory Impulses and Impact on Informal Sector

Characteristics of migrants and their association with growth of informal sector; Socio-economic deprivation and informal sector; Development of informal sector concept; Role of informal sector in housing stock, economy, commercial activities, etc.; Implications in physical planning.

Module 5: Consequences of Spontaneous Growth

Study of major aspects; Spontaneous living and working, their characteristics and functions in urban context, actions for improvement; Appraisal of the role of government, private and voluntary organizations; Existing management; Their organizational set-up and limitations; Planning and development of urban settlements in respect of the spontaneous growth; Case studies from India and other developing countries.

Textbooks:

1. *M.S. Ramanujam Employment promotion on the Urban Informal Sector - New age international publishers*
2. *Satish Tiwari: Urban Development, Anmol Publications, and New Delhi*
3. *Dr. D Goswami, Housing and Urban Poverty Alleviation, 2012, SAAD Publications, Delhi.*
4. *Kishor C Samal, Informal Sector: Concept, Dynamics, Linkages & Migration ,2008, Concept Publishing Company, New Delhi*

References:

1. *Ravinder Singh: Sustainable Human Settlements – The Asian Experiences, Sandhu Rawat publication*
2. *Penelope J. Brooke: Infrastructure for poor people – Public policy for private participation*
3. *Amitabh Kundu: On the name of Urban poor – Access to Basic Amenities,*
4. *UNHS Programme, the Challenge of Slums Global Report on Human Settlements, 2003 UN-Habitat Earthscan Publishing, London.*
5. *Kalpna Sharma, Rediscovering Dharavi: Stories from Asia's Largest Slum, 2000, Penguin Books.*
6. *Davis.Mike, Planet of Slums, 2006, Verso books publisher, London.*

ULCPL 601: Planning Studio VI (Urban Development Plan)

INTENT:

The proposed Planning studio exercise attempts to enable the planners to understand the complex nature of urban development, legislative tools available for achieving sustainable development, methods and models of planning through hands on experience.

COURSE CONTENT:

Module1: Studying Development Plans & Selecting the Case City or Town

The study shall involve understanding of contents of various types of development plans and explore their foci; Identification and preparation of secondary source information of the towns or cities selected for the study.

Module 2: Organization of Field Surveys

Visit to the case study area, collection of primary and secondary data and information on various aspects such as demography, social, economic, housing, transportation, etc.; Conduct of primary and secondary surveys.

Module 3: Analysis and Synthesis

Analysis and synthesis of data and information collected on various aspects; Projections of population and workforce; Trends and issues identification.

Module 4: Plan, Policies and Proposals

Preparation of policies and proposals with different scenarios and identification of priorities and action areas; Phasing and monitoring; Governance structures for implementation; Land use plan and the plan document;

Note: Each student will be required to undertake training and planning (or related) during summer vacation. The exact period and place of training will be decided in consultation with the coordinator in charge of training.

Textbooks:

1. S.L.Goel & S.S. Dhaliwal: *Urban Development & Management*
2. Shri Bhagwan Dahiya: *Theoretical Foundations of Development Planning*

References:

1. *URDPFI Guideline; Govt. of India*

SEVENTH SEMESTER

UPCPL 701: Disaster Risk Mitigation and Management

INTENT:

The primary intent of the course is to provide overall understanding about concept, management, mechanism, risk mitigation strategy, preparedness of disaster and also about post disaster management & cross cutting issues in order to integrate the Spatial Planning/Designing and Disaster/Mitigation Management.

COURSE CONTENT:

Module 1: Basic Concepts of Disaster Management

Disaster - definitions, concept and perceptions; Different types of disasters; Recent initiatives at national and state level; Kyoto Framework of disaster mitigation and management; Sendai Framework for Disaster Risk Reduction ,Disaster management policy - national and states; Disaster Management Act - national and states;

Module 2: Disaster Management Mechanisms & Disaster Risk Mitigation

Disaster management mechanisms - national, state and district levels; Select global practices; disaster and development; Physical planning and disaster management plans; Various role players in disaster management - NGOs / CBOs and Armed Forces; Community Based Disaster Preparedness (CBDP); Natural Disasters - physical phenomenon, causes and consequences mitigation and management practices - cyclones, floods, earthquakes, landslides etc.; Causes and risk mitigation strategies at the master plan for industrial, chemical and biological disasters; Sendai Framework for disaster risk reduction; Land use planning, building bye laws and disaster safe construction practices for different types of disasters.

Module 3: Disaster Preparedness

Forecasting and early warning systems for various types of disasters; Communication and information technology in disaster management; Disaster education and awareness; Documentation and case studies on natural disasters; Urbanization, land requirements, social and affordability issues of land use, climate change and its implications in disaster mitigation.

Module 4: Post Disaster Management and Cross Cutting Issues

Post disaster management; Rehabilitation and reconstruction of disaster affected areas; Urban disaster mitigation; Natural resource management for disaster safe habitation; Relationship between disaster and environment; safe hill area development guidelines and coastal zone regulations for safe habitation; Human settlement planning for consequence mitigation of global warming and climate change through.

Textbooks:

1. R. K. Sahoo; *Management and Mitigation of Natural Disasters.*
2. Kramer, William M., 2009, *Fire Engineering Books, Disaster Planning and Control*

References:

1. *Annual Report of NIDM*
2. *ToT Module on Gender and Disaster Management*

3. *W.Nick Carter; A Disaster Manager's Handbook, Asian Development Bank*
4. *URDPFI Guidelines; Govt. of India*

UPEPL701: Water Resource Management (Elective –I)

INTENT:

The primary intent of the course is to provide an overall understanding of water resources, regulatory framework of legislation for development, allocation & monitoring and efficient water management strategy.

COURSE CONTENT:

Module 1: Introduction

Sources of fresh water; Need of water; Uses of fresh water; Health and Environmental concerns related to availability and quality of water resources;

Module 2: Water Resources

Water crisis and water stress due to Population growth, urbanization and Climate change. Depletion of aquifers; Pollution etc; integrated water resources perspective for social, economic, environmental, and technical dimensions in the management and development of surface waters;

Module 3: Legislation & Strategies

The laws, regulations and institutions required for managing water resources. Legislation for preventing water pollution; Water strategies in different regions and countries; Water sharing across state and country boundaries; Water security;

Module 4: Water Management

Development and management of infrastructure for annual and multi-year flow regulation, for floods and droughts, for multi-purpose storage, and for water quality and source protection. Dams and environmental effects;

Textbooks:

1. *S.K.Garg; Water supply engineering; environmental engineering vol. 1*

References:

1. *S.K.Garg; Water supply engineering; environmental engineering vol. 1*
2. *S.B.Verma; Water Resource Management, Pentagon press 2009*

UPEPL702: Climate Change and Human Settlements (Elective –I)

INTENT:

The main intent of the course is to provide an overall understanding of relationship between climate change and human settlement along with national & international efforts for climate change and evolving adaptation strategies for making settlement more resilient/ risk resistant.

COURSE CONTENT:

Module 1: Understanding Climate Change

Greenhouse Gases, Anthropogenic causes, Carbon Cycle, Global Warming, Inventory of GHGs, Urban Heat Islands.

Module 2: International and National Efforts

United Nations Framework Convention on Climate Change, Conference of Parties, Kyoto Protocol, Intergovernmental Panel on Climate Change, National Communication Process, Indian Network of Climate Change Assessment, Global Environment Facility, Clean Development Mechanism.

Module 3: Role of Human settlements & Impacts of Climate Change

Contribution to GHGs, sectoral Contributions, Mitigation Possibilities, Low Carbon Settlements; Climate as forcing Variable, locational Attributes, Sensitivity and Vulnerability of different sectors, Extreme events and their effects;

Module 4: Adaptation Strategies

Resilience, Threshold variables, Risk Avoidance, Risk Mitigation, Risk Coverage, Mitigation and Adaptation Linkage, Case studies of Adaptation approaches.

Textbooks:

1. *Jane Bicknell, David Dodman; Adapting cities to climate change*
2. *Jorge Enrique Hordoy; Environmental Problems in an Urbanizing world*

References:

1. *Global report on human settlements 2011: Cities and Climate Change*
2. *Jane Bicknell, David Dodman; Adapting cities to climate change*

UPEPL703: Public Private Partnerships in Urban Development

(Elective-II)

INTENT:

The intent of this course is to examine partnership approaches in urban renewal and urban development projects in the India. The study looks at how important public-private partnerships have been in city planning and how they have affected urban revitalization in the India. To develop an understanding of public-private partnerships in the India, it is useful and necessary to explore the forms these processes have taken, their legal structure, primary sources of funding, and their leadership arrangements. This leads to consideration of specific strategies and planning tools that have been used by development partnerships. The study attempts to catalogue specific partnership activities.

COURSE CONTENT:

Module 1: Urban Sector

The urban sector; existing attributes and changing scenario; Problems associated with urban sector development, Basis and need for PPP; Guidelines for successful PPP. International and domestic experiences for PPP.

Module: 2 Role and Trends, Forms of Partnerships in PPP

Challenges of developing PPP projects in urban sector; recent trends of increasing private participation; possible partners and their possible roles; possible forms of partnerships such as DB, DBM, DBO, BOOT, Concessions, Service contract etc.; Strengths and weaknesses of PPPs and their funding structures; degree of maturity of PPP; Project Financing mechanism; indicators – NPV, IRR etc.

Module 3: Partnerships, Alliances and Urban Development

Various approaches of PPP in housing - Virtual land approach, slum rehabilitation approach, Rental approach etc, Direct/Cross Subsidy approach etc; Role of PPP in housing and urban development. PPP life cycle process. Scope of Coverage – Policy level, Transaction Level; Pre feasibility analysis. Preconditions for partnerships; Advantages of collaborating; Using partnerships for improving urban development in small and medium size cities; Meeting the needs of the urban poor through public-private partnerships.

Module: 4 Mechanisms of PPPs

Processes, procedures and mechanisms in partnerships: Regulations and administrative procedures, competitive bidding, selection of bidder; regulatory authority; Key features of Procurement, RFQ, RFP; Capacity building of municipalities for undertaking partnership efforts. Project risk management – Risk allocation, assessment and mitigation measures in PPP projects. Good governance in PPP. Role of Govt. as partner, regulator & facilitator in PPP.

Textbooks:

1. R N Joshi; *Public Private Partnership in Infrastructure*

References:

1. *URDPFI Guidelines; Govt. of India*
2. *Brooks, H.; Liebman, L.; Schelling, C. S. (1984): Public-Private Partnership- New Opportunities for Meeting Social Needs*
3. *Barnekov, T.; Boyle, R.; Rich, D. (1989): Privatism and Urban Policy in Britain and the US*
4. *R N Joshi; Public Private Partnership in Infrastructure*

UPEPL704: Urban Renewal and Conservation (Elective-II)

INTENT:

The primary intent of the course is that students will learn importance, various methods / techniques used in Conservation along with significance, approaches & strategy for various issues involved in Urban Renewal.

COURSE CONTENT:

Module 1: Introduction

Overview and introduction of the basic concepts of conservation; values, attitudes and principles for judging the conservation importance of sites, areas and related typology; scope and basic technique of urban conservation; Urban renewal as a part of metropolitan plan; identification of urban renewal areas; conservation, rehabilitation and redevelopment urban renewal policies and strategies.

Module 2: Economic, Financial and Management Aspects

Economic and spatial implications of urban renewal programs mobilization of resources; incentive zoning -management of urban renewal areas;

Module 3: Conservation and Development

Economic and social aspects of conservation, traffic and management issues; Conservation policies - case studies;

Module 4: Slum & Legal and Administrative Aspects

Clearance and improvement schemes, planning aspects, land management, social economic issues, public participation, government schemes and their critical evaluation; National and international experience in implementing urban renewal programs; Legal and administrative aspects, archaeological acts/ charters pertaining to conservation, development and conservation; Case studies of proposals for urban conservation of sites/ areas in India and abroad.

Textbooks:

1. *Bernald Fieldon, "Guidelines For Conservation"*
2. *Roger Kaine., "Planning For Conservation"*
3. *Alan Dobby , "Conservation Planning"*
4. *Conzen, " Urban Landscape"*

References:

1. *Reports on Fort Area in Mumbai, Booklet Of HUDA.*
2. *Compendium in town and urban planning Gehi, J.Gemzoe, L. 1996*
3. *Urban regeneration in Europe*
4. *Designing high-density cities, edited by Edward Ng. Eathscan*
5. *JNNURM, Govt of India*

UPCPL705: Thesis Programming and Research Techniques

INTENT:

To introduce students to basic literature, research process, techniques and colloquial arguments, so as to help them finalise a topic for their thesis in the subsequent semester;

COURSE CONTENT:

Module 1: Thesis Programming

Identification of topic of interest having relevance to planning profession, integration and application of the learnt research process to the pre-thesis work; planning colloquium: Exposure to the colloquial arguments by the stakeholders, decision makers, urban managers, advocates, technocrats, user groups, etc. Based on the inputs from the colloquial arguments, the topics shall be finalised for thesis in the subsequent semester.

Module 2: Research Techniques I

Data collection and analysis: Sample determination, data tabulation (coding, de-coding, etc.), quantitative and qualitative data analysis. Introduction to advanced statistical techniques such as Focussed Group discussions, ethnography, Likert scale etc.

Module 3: Research Techniques II

Testing of hypothesis: Statistical hypothesis, simple and composite tests of significance, null hypothesis, types of errors, level of significance, critical region, chi-square distribution, goodness of fit, applications in planning;

Module 4: Research Process

Problem identification, formulation of problem statement, literature review, working hypothesis, research brief, research methodology, sample determination, data collection and analysis, report structuring.

Note – The students shall collect background material, identify potential participants, organise colloquium, record minutes and submit report.

Textbooks:

1. *C.R. Kothari; Research methodology*
2. *S.Gupta; Research Methodology and Statistical Techniques*

References:

1. Newman .Isadore, Benz. Carolyn R., *Qualitative-quantitative Research Methodology: Exploring the Interactive Continuum*, 1998, Southern Illinois University Press.

UPRPL701: Professional Training (summer)

INTENT:

To develop an understanding of the process and methods of undertaking live planning projects and participate in multi- disciplinary teams undertaking various aspects of spatial planning including exploring specialised fields.

Contents:

- Students are required to undertake training in a planning organization during summer vacation between the sixth and Seventh semester.
- The period of training will be six weeks. The exact period and place of training will be decided in consultation with the Coordinator-in-charge of training. The students are expected to submit a 'Satisfactory' certificate from the relevant Planning Organization after completion of training.
- The students are expected to work on project/s related to urban planning or any specialization such as infrastructure planning, environmental planning, transportation planning, real estate, housing etc.
- The students will submit a report, highlighting the profile of the organization, its structure, key work areas, and an introduction to project(s) currently being undertaken.
- Thrust of the Report would be on specific projects that the student may be part of, describing then background, context, methodology, policy framework and proposals (if any) of the project.
- The involvement of the student in the organization during training would need to be specified, supported and verified by the supervisor in the organization.
- The students would be evaluated on the basis of the report submitted and presented as a seminar at the time of Viva-Voce and the report received from the organization.

ULCPL701: Planning Studio - VII (Regional Planning)

INTENT:

The Regional Planning course attempts to understand the theoretical basis for various concepts and analytical tools borrowed from social science and regional science and learn the practice of regional planning in the Indian context. The course tries to provide an in-depth understanding of the issues of regional disparity and the need for balanced regional development in the country. The spatio-economic basis of regional planning is supplemented by detailed discussion of sectoral issues like agriculture, industry, etc. Regional policies and sectoral policies are also discussed.

COURSE CONTENT:

Module 1: Context of Regional Plans

Role and relevance of regional plan at district or block level for regional planning, critical appraisal of district or block level plans; Understanding the contents of various types of regional plans and their linkages with higher and lower order plans.

Module 2: Constitutional Provisions & Organization of Field Surveys

District planning in the context of constitution 73rd and 74th amendment acts; district planning committees; Metropolitan planning committees; Formulation of goals, objectives, methodologies; Identification of data and sources of information; Collection of secondary and primary data for sectoral and spatial planning; Detailed data analysis.

Module 3: Analysis and Synthesis

Identification of development issues, potential thrust areas and constraints: Sectoral and spatial; designing of alternative planning strategies, settlement patterns and development strategies; Sectoral and spatial prioritization, phasing, financial plans, institutional mechanisms, legislative framework, management plans.

Module 4: Plan, Policies and Proposals

Preparation of regional plan document along with drawings, etc; Preparation of policies and proposals with different scenarios and identification of priority areas; Phasing and monitoring; governance structures for implementation; Regional land utilization plan and the plan document;

Textbooks:

1. *Kulshrestha, S. K., Urban and Regional Planning in India: Handbook for Professional Practice, 2012, Sage Publications, New Delhi.*
2. *Misra. R.P., Regional Planning, Concept, Techniques, Policies and Case Studies, 2002, Concept Publishing Company, New Delhi.*

References:

1. *Wang, X., Von Hofpe, R., Research Methods in Urban and Regional Planning, 2007, Springer.*
2. *McLaughlin, J. B , Urban and Regional Planning. A systems approach, 1969, Faber and Faber, London.*
3. *John Glasson and Tim Marshall, Regional Planning, 2007, Routledge, Oxford shire.*
4. *Peter Hall and Mark Tewdwr John, Urban and Regional Planning, 2008, Routledge, New York.*

EIGHTH SEMESTER

UPCPL 801: Professional Practice

INTENT:

The primary intent of the course is to make students familiar with a firm grasp of the challenging issues in planning professional, about administration techniques and professional ethics, develop competency in working in varying planning organizations with various responsibilities.

COURSE CONTENT:

Module 1: Role of Planner

Planner's input as professional at various levels and organizations, his role in decision making processes, relevant issues: Generalists vs. specialists, professionals vs. technocrats, planner as decision maker vs. advisor to decision maker, relationship with client, developers, institutions and contractors; Relationship with other experts such as engineers, architects, sociologists, economist, lawyers, etc. for specialized studies related to planning.

Module 2: Organization, Scope and Scale of Charges

Aims and objectives of professional institutes, sister bodies; Professional roles and responsibilities of planning consultants; Responsibilities towards clients, fellow professionals and general public; Scope of services for different projects like master plan for urban area, zonal district plan, sector/neighbourhood, layout for group housing schemes, commercial centres, industrial estates, etc.; Consultancy agreements and safeguards; Fees and scales of professional charges.

Module 3: Social Systems and Planning

Democracy and planning, socialism and planning, fascism and planning; Tribal society, peasant society, industrial society; Spatial segregation in India;

Module 4: Conflicts, Resolutions and Ethics

Nature and mode of resolution of conflicts; Public participation in planning as an aid to better understanding planning and implementation; Political nature of planning and implementation problems in India; Case studies: examples from the other parts of the world highlighting situations where such problems have been minimized; Canons of ethics; Ethics of virtue; Ethics of duty; Ethics of responsibility; Work ethics; Professional ethics; Ethics in planning profession, research and education.

Textbooks:

1. *Namavati ;Legislation and Planning practice*
2. *Institute of Town Planners, "India Planning Legislation and Professional Practice", New Delhi*

References:

1. *URDPFI Guidelines; Govt. of India*
2. *M. L. Jhingan , "The Economics of Development & Planning"*

UPEPL801: Planning for Special Areas (Elective I)

INTENT:

The primary intent of the course is to enable student in making planning strategies for special area by identifying their socio, economic and resource potential.

COURSE CONTENT:

Module 1: Location and Types

Definition and Location of Special areas, special areas in different countries; Typology of formal and functional special areas; types of areas based on economic, social administration and geographical characteristics.

Module 2: Characteristics

Process of formation of Special areas/ zones like SEZ, CRZ , industrial corridor etc; Characteristics of special areas, special areas and national economy;

Module 3: Governance & Infrastructure

Organisation of Special areas Institutional structure of special areas -government, and Private; Quasi-government agencies Laws and acts rules and regulations for special Areas; Land acquisition for special areas; Basic services and transport; Medical and education facilities; Systems for performance monitoring of special areas;

Module 4: Development Finance of Special areas

Capital investments, foreign investments, public, private partnership in special areas and zones.

Textbooks:

1. *Urban Development and Management: S.L. Goel, S.S. Dhaliwal: Deep and Deep Publications Pvt. Ltd.*
2. *Urban Infrastructure Development in Small and Medium towns: Dr. S. S. Dhaliwal; Deep and Deep Publications Pvt. Ltd.*
3. *Urban Development, Satish Tiwari; Anmol Publications Pvt Ltd, New Delhi*

References:

1. *Reading Material on Development Management: N S Saini Institute of Town Planners, India New Delhi.*

UPEPL802: Metropolitan Planning, Development and Management

(Elective- I)

INTENT:

The intent of the course is to enable student for making planning strategies on the basis of settlement size hierarchy along with morphology, governance and infrastructure development.

COURSE CONTENT:

Module 1: Location and Evolution

Criteria of identification and evolution of Mega, Metropolitan Cities and Small and Medium Towns; Urbanization trends, global city index, typology, pull and push factors;

Module 2: Characteristics of Mega and Metro cities and Small and Medium Towns

Social, economic, political and cultural characteristics of Mega and Metro Cities and Small and Medium Towns;

Module 3: Urban Governance & Infrastructure Development

Schemes, programmes, policies towards the urban management and governance of urban centres (Mega and Metro Cities and Small and Medium Towns) Infrastructure Development – water supply, electricity, sewage disposal, transportation network and communication networking in urban centres (Mega and Metro Cities and Small and Medium Towns)

Module 4: Planning Strategies

Planning Strategies for the development of urban settlements in the context of development of state/nation; Study of carbon footprint of the cities, Assessment of sustainability and quality of Life Index for Mega cities.

Textbooks:

1. *K Siddharth & S Mukherjee; Cities urbanization and urban system*
2. *Gallion ;Urban Pattern*

References:

1. *K Siddharth & S Mukherjee; Cities urbanization and urban system*
2. *Gordan McLeod ;Urban Governance*
3. *URDPFI Guidelines; Govt. Of India*

ULCPL801: Seminar Presentation

INTENT: Presentations and discussions by faculty, guest speakers, and students on current topics in the areas of Urban & Regional Planning. The oral dissemination and defence of

scientific and logical concepts in planning is a fundamental communication tool that students will employ throughout his/her professional career. In this course, students will participate in five activities that will hone his/her oral presentation skills: observation, question, critique, research, and presentation.

Observation: One of the most effective means of gaining an appreciation for the art of presentation is to observe the performance of others. The mannerisms and appearance, the voice, and the visual aids employed by a speaker may be viewed in light of what works and what doesn't.

Question: The formulation of relevant questions that probe a speaker's knowledge, experimental methods, assumptions, and interpretations is an important part of any presentation, and of the scientific method.

Critique: The critique offers the opportunity for observers to indicate areas within the presentation that were well-done, and areas within the presentation that could be improved upon.

Research: It is an expectation and goal of the Faculty of Planning that this seminar series will be a forum for our students and faculty to dispense and gain insight into the current and cutting edge activities in areas of Urban & Regional Planning. Students will be required to make presentations on areas related to his/her Thesis topics.

Presentation: Public speaking is not normally a pleasant experience, particularly for those who are new to the activity; but, it can become so. To attain confidence and comfort on the podium requires practice. Seminar Presentation enable students an opportunity to practice within the friendly confines of the department, observed by the faculty and your peers.

UPRPL801: Planning Thesis

INTENT:

The students are required to undertake a thesis on a topic of their choice, finalised in the previous semester in the subject Research Methods and Thesis Programming. At this level the thesis project should essentially culminate in a spatial planning solution in addition to social, economic and strategic inputs.

COURSE CONTENT:

Module 1: Development of Methodology

Clear goals and objectives along with scope of each objective should be outlined before establishing the need for conducting a research study; Substantive limitations of the research work should also be stated.

Module 2: Literature Search & Primary/Secondary Data Collection

Previous published work on the subject area has to be critically examined for finding out existing thought processes of other authors and trends. Depending on the research topic,

field surveys have to be designed and field work has to be done after conducting appropriate sample surveys.

Module 3: Synthesis of Data and Information and Findings

Field data and information and literature search findings should be synthesized to make final arguments and identification of planning issues.

Module 4: Proposals and Recommendations

Final specific planning proposals and recommendations should be made at various geographical levels. Proposals should directly emanate from analysis and should not be generalized. Thesis should contain a list of references as per international standards.

NOTE:

Thesis will be completed under the guidance of an approved research supervisor allotted by the department. Thesis will be prepared by the student as per Thesis Manual prepared by the department. The students will be required to present thesis orally, graphically and through written report. The student will also be required to present his/her thesis before the external examiners appointed by the school.