

**Master of Urban Design
(M.U.D)**

**Course Structure and Detailed Syllabus
2022**

**(As approved by the 14th Senate meeting held on December 14, 2022 and
approved by the 37th BoG meeting held on March 30, 2023)**



योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

Introduction

School of Planning and Architecture Vijayawada shall offer a Two year Four Semester Master's Program titled "**Master of Urban Design**" (MUD) in line with the Gazette of India notification by University Grants Commission (Specification of Degrees) with the approval dated March 03, 2022 of the Government of India, mentioning Master of Urban Design (Minimum duration 2 years) as a New Specified Degree.

Curriculum Brief

Urban Design course emerged in recent years globally to broaden the perspectives on Urban interventions in complex urban environments considering various social, behavioural, environmental, historical factors for formulating design and development strategies. Today, cities are under immense morphological transformation, triggered by various factors both planned and unplanned. The course offers documentation of dynamic aspects of growth and transformation in various cities and provides direction for further Urban development, Urban Redevelopment, Urban Renewal, Urban Conservation and new growth strategies at varying scales through broad range of subjects and interactive design studio projects.

India being in the forefront of immense Urbanization in the current years, the most important challenges would be to provide the basic amenities without disturbing the ecological balance. In this context, Urban Design programme becomes essential and relevant to deal with design issues at Urban scale. This condition poses great challenges to the existing approach to design of public domain in cities, creating an opportunity to imagine the future scenarios of Indian cities with focus on design with rationality, inclusivity, functionality, liveability and sustainability. Urban Design programme encourages multidisciplinary approach and ideologies through dissemination of various theories and concepts of urban interventions.

OBJECTIVES

- 1) To demonstrate the critical understanding, documenting and researching cities through various initiatives as part of the curricular Studios and Labs
- 2) To equip students the students with required theoretical and practical knowledge in the realm of Urban Design
- 3) To develop a Multi-disciplinary learning environment for the students and engage them in diverse ways of learning
- 4) To develop a professional interface and engagement with the cities to contribute to societal needs
- 5) To periodically develop the teaching learning process and pedagogical initiatives through diverse environments
- 6) To strengthen the research base in the Urban context, contribute to the research ecosystem and add value to the body of knowledge

Till date, there is no course offered from the regional colleges and institutions in the newly formed state of Andhra Pradesh or even Telangana. Hence, introduction to the course will not only benefit many Architects in the region but will also encourage learning and research focused towards urban development in the cities around. Through its demonstration in various projects, it shall guide the local authorities and development organizations towards achieving wholeness in the complex built environments. Involvement of Government Institutions like SPA Vijayawada will also direct a continuous systematic enquiry into the rapid urban development in this particular region which will further make it culturally responsive and people-centric in nature.



CURRICULUM STRUCTURE

The overall structure of the Curriculum is designed to focus on the Student centric and diverse learning that is required for the program with scope for research and exploration. Strong theoretical foundation is very much essential to inform students about various dimensions and theories of Urban Design.

The curriculum is equipped with scope for more theoretical learning in the initial semesters. Core learning is through Studios and Labs in the course which first orients students to various types of urban issues of varying scales and then develop guided Urban interventions at these varying scales. Role of Lab at the second semester is to equip the students with the ongoing research worldwide and to instill a sense of research and inquiry into cities. The idea is to have higher emphasis on Theoretical learning in the initial semesters and Core learning as well as research in the later semesters.

Summer Internship at the end of Second Semester (during the summer break) is an opportunity to connect to the practising world, where the students can engage and co-learn with urban local bodies like Municipal Corporations, Development Authorities and / or NGO's so as to learn more about the organic or guided city development and social initiatives. Third Semester focus is to strengthen the core learning and research through community engagement in the Studio, advanced knowledge on digital tools to support the research ecosystem of the school.

Table: Overall Curriculum Structure

	Semester I	Semester II	Semester III	Semester IV
Theoretical Foundation	Urban History, Theory and development	Planning techniques for Urban Design	Urban Mobility	
	Imagining Cities-I	Imagining Cities-II		
	Urban Ecology and Site Planning			
Core Learning and Research	Urban Design Studio-I	Urban Design Studio-II	Urban Design Studio-III	Urban Design Thesis
		Urban Design Research Lab-I	Urban Design Research Lab-II	Urban Design Seminar
			Thesis Methodologies	Report writing
Practise based learning		Summer Internship		
Choice based Diverse Learning	Humanizing Cities	Liveable Cities	Advanced Digital Tools and techniques	Urban Criticism
	Geoinformatics for Urban Design	Research Methodology	Urban Policy and Management	Project Planning and Finance
	Communication in Urban Design	Real Estate management for Urban Design		
	Urban Conservation	Environmental Impact Assessment		

The course culminates into the design and research thesis, in the final semester, which is an independent design or research on a topic or area of interest structures to address the current global issues that the cities are facing.

The diverse learning, as elaborated in the **National Education Policy 2020**, through allied subjects are offered through electives (12) across all semesters, with more options in the first two semesters.

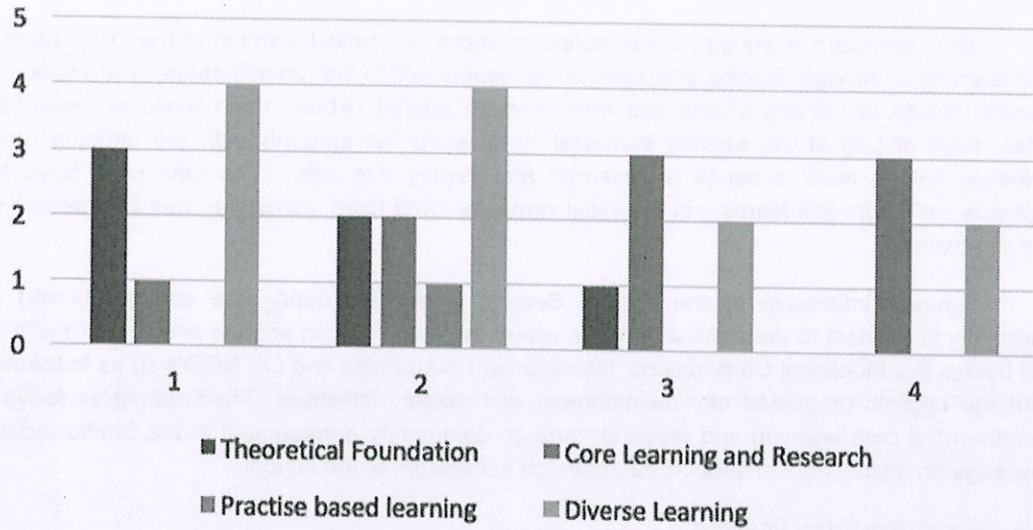


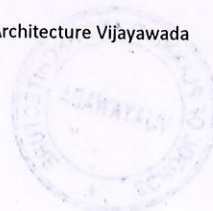
Figure 1: Conceptual Structure of the Syllabus

The above graphic shows the conceptual structure of the curriculum and the way students are equipped with various means of learning as they progress upwards in the course.

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**Course Structure for
Master of Urban Design with effect from A.Y. 2022-23 onwards**

FIRST SEMESTER

SUBJECT CODE	SUBJECT TITLE	Distribution of Periods per week			Total periods per week	CREDITS
		L	S/P	T		
MUD 111	Urban History, Theory and development	1	-	2	3	3
MUD 112	Imagining Cities -I	1	-	2	3	3
MUD 113	Urban Design Studio- I*	2	13	-	15	15
MUD 114	Urban Ecology and Site Planning	1	2	-	3	3
MUD 115	Humanizing Cities	1	-	2	3	3
MUD 116	Geoinformatics for Urban Design	1	-	2	3	3
MUD 117	Communication in Urban Design					
MUD 118	Urban Conservation					
	TOTAL:	7	15	8	30	30

SECOND SEMESTER

SUBJECT CODE	SUBJECT TITLE	Distribution of Periods per week			Total periods per week	CREDITS
		L	S/P	T		
MUD 121	Planning techniques for Urban Design	1	-	2	3	3
MUD 122	Imagining Cities -II	1	-	2	3	3
MUD 123	Urban Design Studio- II*	2	13	-	15	15
MUD 124	Urban Design Research lab-I	1	-	2	3	3
MUD 125	Liveable Cities	1	-	2	3	3
MUD 126	Research methodology (MSA)					
MUD 127	Real Estate management					
MUD 128	Environmental Impact Assessment (MBEM)	1	-	2	3	3
	TOTAL:	7	13	10	30	30



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THIRD SEMESTER

SUBJECT CODE	SUBJECT TITLE	Distribution of Periods per week			Total periods per week	CREDITS
		L	S/P	T		
MUD 211	Urban Mobility	1	-	2	3	3
MUD 212	Urban Design Studio- III*	2	13	-	15	15
MUD 213	Urban Design Research lab-II	1	-	3	4	4
MUD 214	Thesis Methodologies	-	-	3	3	3
MUD 215	Summer Internship (6 weeks)	-	-	-	-	2
MUD 216	Advanced Digital Tools and techniques	1	-	2	3	3
MUD 217	Urban Policy and Management					
	TOTAL	5	13	10	28	30

FOURTH SEMESTER

SUBJECT CODE	SUBJECT TITLE	Distribution of Periods per week			Total periods per week	CREDITS
		L	S/P	T		
MUD 221	Urban Design Thesis	1	8	12	21	21
MUD 222	Seminar and Report Writing	2	-	4	6	6
MUD 223	Urban Criticism	1	-	2	3	3
MUD 224	Project Planning and Finance					
	TOTAL:	4	8	18	30	30



DETAILED SYLLABUS

FIRST SEMESTER

MUD 111 - Urban History, Theory and development	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

The objective of the course is to equip students with required theoretical knowledge from the history, theory and development and provide an understanding of theories and the circumstances in which they evolved. It traces the historical path of urbanization as a process and examines the spatial correspondence between urban patterns through space and time and connected development paradigms focusing on pre-industrial settlements and urban centres, especially with regard to Asia and South Asia.

Content:

Unit – I Theory of urban development **9**

The notion of 'Development', theories of development, debates on development versus growth.

Unit – II Spatial Dimensions of Economic Thought **12**

History of economic thought and spatial dimensions of economic thought. Economic Thinkers- Adam Smith, Karl Marx, John Stuart Mill, Thomas Robert Malthus, John Maynard Keynes, etc. Great Depression of 1929: Economic consequences, economic exigencies of the 2nd World War.

Unit – III Socio-Economic change in India **6**

Overview of social and economic change in India. Evidences of socio-economic changes on urban patterns through time

Unit – IV City systems – types & form **9**

City as a complex system in History, continuity and transformation. City types and form - evolution of city form.

Unit – V Evolution of city **9**

Medieval cities, Renaissance and Baroque cities, Colonial Cities. Evolution of city from architecture to public space.

Total: 45 Periods

Learning Outcome:

Students are equipped with an exposure of the historical evolution of urban settlements and connected development theories towards a clear understanding of the morphological dimensions of urban patterns and spaces.

References:

1. Alexander, Christopher; Sarah Ishikawa and Murray Silverstein, A pattern language: Towns, buildings, construction, New York, Oxford University Press, 1977
2. Bacon, Edmund. Design of Cities. London: Penguin, 1976
3. Barnett, Jonathan. An Introduction to Urban Design. New York: Harper Row, 1982



4. Broadbent, Geoffrey. Emerging Concepts in Urban Space Design. Abingdon: Taylor & Francis, 2003.
5. Carmona, Mathew et.al. Public Places Urban Spaces: The Dimensions of Urban Design. Oxford: The Architectural Press, July 2010
6. Correa, Charles. Housing and Urbanization. London: Thames & Hudson, 1999
7. Cullen, Gordon. The Concise Townscape. Oxford: The Architectural Press, 1978
8. Gosling and Maitland. Urban Design. New York: St. Martin's Press, 1984
9. Kostof, Spiro. The City Assembled. London: Thames & Hudson, 2005
10. Kostof, Spiro. The City Shaped. London: Thames & Hudson, 1991
11. Morris, A.E.J. History of Urban Form before the Industrial Revolution. Prentice Hall, 1996

MUD 112 - Imagining Cities I-Cities in Literature, Visual Arts & Performing Arts.	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

The objective of the course is to explore the representation of city narratives through diverse literary forms – prose, poetry, script, etc. from selected writings across the world, including Indian/Asian works.

Content:

UNIT I Cities in Literature- Contemporary definition of city & Semiotics: 9

The comparative analyse and contrast between terms like Metropolis and Post- colonial city, Agency and Colonialism, Punjabi Baroque and modernism, Hybridity and Diversity, Mimicry and orientalism, Urban design as creative Expression, Hasan Fathy and critical regionalism, idea of development.

UNIT II City through Semiotics 9

Meaning of semiotics using diagrams by Saus Sure and pierce. Icon, Index and Symbol. City from a semiotic perspective, semiotics of national pavilion.

UNIT III Cities in articles- Global and Indian: 9

Understanding how the expression of cities is changing in articles published by urbanists, architects, designers and planners. Examples are Taffe model in colonies, Delhi durbar and spectacle, Junkspace by Rem Koolhas, Memoir and the city, Planning mentality, Splintering Urbanism etc, global norms in urban forms in the age of tourism. Critique on representation of British dealings with India, Analysis and critique of articles published on India city example by Rahul Mehrotra, KT Ravindran etc.

UNIT IV Art theories, art movement, public art festivals and urbanism: 9

Definition of art theories by critics and philosophers where subject of the art work is Urbanism; "way of seeing" by John Berger. Art movement depicting the character about the city and their impact on the context, like Cubism, Dadaism, Arte Povera, Land art, Surrealism etc. Initiatives, challenges and outcome of a public art festival from the perspective of an urban designers. Example Kochi Biennale, Documents and 48 degree Celsius.

UNIT V Role of photography & aesthetics in urbanism: 9

Photography as "a social rite, a defence against anxiety and a tool of power". Photography as national desire and how it has changed in the age of digital media.' Susan Sontag perspective on photography and the world. Concepts of aesthetics and how it continue to impact social life and urbanism e.g. Walter Benzamin's concept of "phantasmagoria".

Total: 45 Periods



Learning Outcome:

Students are exposed to a wide range of imaginaries and representations of the city through selected readings and discussions and through different media. This exposure forms the foundation of critical appraisal of urban patterns and city formations and leads to a deeper understanding of the city as context.

References:

1. Hall Peter, Cities of Tomorrow, Blackwell publishing
2. Hall, Peter Geoffrey. 1980. Great planning disasters. Berkeley: University of California Press, 1996. Cities of tomorrow. Rev. ed. Oxford, UK: Blackwell.
3. Jacobs, Jane. 1961. The death and life of great American cities. New York: Vintage
4. Jacobs, Jane. 1969. The Economy of Cities. New York: Vintage Press.
5. Kostof Spiro (1992), City Assembled The Elements of Urban Form Through History, Bulfinch Press, 1999
6. Krier Rob, Urban Form and Space, Academy Editions, 1979
7. Lang Jon, The American Experience, Paperback 1994
8. Lang Jon, Urban Design, A Typology of procedures and products, The Architectural Press, 2005
9. Lynch Kevin, The Image of the city, MIT Press, 1960
10. Lynch, Kevin, Good City Form, MIT Press, Cambridge MA and London 1984
11. Between wonder, intuition and suggestions : Rasa in Ray by Say
12. Of other spaces: Utopia and Heterotopias by Michel Foucault in Architectural movement Continuite, October 1984
13. The rise of planning mentality in Dreaming the rational city; the myth of American city Planning by M. Christine Boyer
14. Why Planning failed by KT Ravindran
15. Splintering Urbanism, by Stephen graham & Sumon Marvin, 2003
16. Valorisation & Devalorization by Sasiki Sasen
17. Saskia Sassen and the Sociology of Globalization: A Critical Appraisal by William I. Robinson
18. The power of Place Urban Landscapes as Public History By Dolores Hayden
19. Fortified enclave: The new urban segregation, Teresa P.R. Caldeira
20. The condition of postmodernity by David Harvey
21. Whose city is it? Globalizations and the formation of new claims
22. Consuming tradition, manufacturing heritage- Global norms in urban forms in the age of tourism by Nezar AlSayyad
23. 'Can the Subaltern speak?' by Eleanor Ross
24. The builder by The Delhi by Khuswant Singh

MUD 113 – Urban Design Studio-I	Subject Category	SC
	Number of Credits	15
	Lecture Periods per Week	2
	Practical/Studio/Workshop Periods per Week	13
	Total Periods per Week	15

Objective:

The studio is the introduction of the student to the realm of urban design. The objective is to expose them to the complexities of the design process. To create an understanding of the role of various physical, social, economic and infrastructural components and decision making processes; the contribution of related disciplines associated with the production of the city. The studio will also familiarize the student with urban design terminologies, methods of surveys and site analysis.

The design workshop will assist the students in acquiring skills of documentation, analysis and presentation of human networks urban design projects and typological studies. The workshop will include interactive seminar sessions with invited professionals who will demonstrate design development process of projects, their funding, management, implementation and any other relevant issues pertaining to design and development.

Total: 225 Periods

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USA

Learning Outcome:

Students will appreciate, understand and analyse real site conditions in an urban area, learn survey and documentation techniques, assessing needs and programming for design intervention.

References:

1. Bacon Edmund, Design of Cities, Thames and Hudson, London, 1974
2. Cliff Moughtin et al (2006): Urban Design Methods and Techniques, Architectural Press, London
3. Correa Charles, The New Landscape: Urbanization in the Third World, Butterworth Architecture 1989
4. Giedion. S, Space Time and Architecture
5. Hall Peter, Cities of Tomorrow, Blackwell publishing
6. Hall, Peter Geoffrey. 1980. Great planning disasters. Berkeley: University of California Press, 1996. Cities of tomorrow. Rev. ed. Oxford, UK: Blackwell.
7. Jacobs, Jane. 1961. The death and life of great American cities. New York: Vintage
8. Kostof Spiro (1992), City Assembled The Elements of Urban Form Through History, Bulfinch Press, 1999
9. Krier Rob, Urban Form and Space, Academy Editions, 1979
10. Lang Jon, The American Experience, Paperback 1994
11. Lang Jon, Urban Design, A Typology of procedures and products, The Architectural Press, 2005

MUD 114 – Urban Ecology and Site Planning	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Seminar/Practical Periods per Week	2
	Total Periods per Week	3

Objective:

To develop skills that enables an urban designer to deal with ecology and biodiversity and large sites in a comprehensive manner from ecological considerations to the design of services and related infrastructure.

Content:

Unit – I Introduction to ecology & site planning	12
Importance of Ecology and Biodiversity in city design. Introduction to site and context. Site planning as 'process' and 'theory' – Objectives of site planning	
Unit – II Site Reconnaissance	9
Site reconnaissance - Surveys and overlays & Ecological factors in site evaluation - processes, theories and approaches	
Unit – III Site Resource Systems	9
Site resource systems; Physiography, Geology and soils, Hydrology, Micro-climate, Vegetation, Wild life, terrestrial and aquatic.	
Unit – IV Cultural Resource Systems	6
Cultural resources, Geographical settings and siting.	
Unit – V Aspects of Site Planning	9
Urban vegetation, planning & maintenance, Road layout and parking, Site grading and drainage, Sewerage, water supply and electricity	

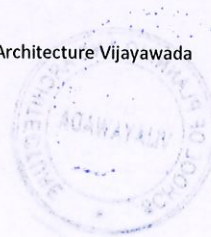
Total: 45 Periods

Learning Outcome:


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Students will be enabled to deal with varying site-based natural and ecological systems with reference to urban design projects and the city at large.

References:

1. Design with Nature: Ian L. McHarg.
2. Gary.O.Robinette (Ed), Landscape Planning and Energy Conservation. Van Nostrand Reinhold.
3. Geography of Settlements. Author: R.Y. Singh. ISBN,
4. Kevin Lynch and Gary Hack, Site Planning, MIT Press, Cambridge.
5. Kevin Lynch, Good City Form, MIT Press, Cambridge
6. Peter Jacobs and Douglas Way, Visual Analysis of Landscape Development, Harvard Press.
7. The Landscape of Man: Geoffrey Jellicoe an Susan Jellicoe.

MUD 115 – Humanizing Cities	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

To develop skills that enables an urban designer to understand the various static and kinetic dimensions in which people engages with the city.

Content:

- | | |
|---|----------|
| Unit – I City and its contestations | 9 |
| City as a contested Place-Concept of Space and Place: City as a human network. Public private sector interests: Public Space as a contested domain. Minority groups and poverty | |
| Unit – II City and its Agendas | 9 |
| Child in the city. Gender and the City. New technologies and the City. Communicating the hidden agenda and the city | |
| Unit – III City and its communities | 9 |
| Community participation, advocacy planning; A new professional role. Pedestrian infrastructure and pedestrianization. | |
| Unit – IV Universal Design | 9 |
| Designing public spaces for differently abled. Accessibility, Signage, Lighting, Parking | |
| Unit – V Non-motorized transport infrastructure | 9 |
| Cycles and related infrastructure. Non-motorized Facility Management and Maintenance. Pedestrian oriented land use and building design | |

Total: 45 Periods

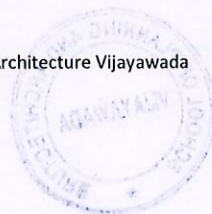
Learning Outcome:

Students will be enabled to understand demand of people and how to translate them into taking suitable design decision for the city.

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References:

1. "B. Bhattacharya"; "Urbanization, Urban Sustainability and the Future of Cities".
2. "Graham Haughton, Colin Hunter"; " Sustainable Cities".
3. "Jane Alison, Barbican Art Gallery"; "Future city: experiment and utopia in architecture".
4. "Rachel Cooper, Graeme Evans, Christopher Boyko"; "Designing Sustainable Cities"
5. "Richard K. Morgan"; "Environmental Impact Assessment: A Methodological Approach".
6. "UNHABITAT"; "The Future of Cities".
7. Bio polis: Patrick Geddes and the City of Life by Welter, Volker, MIT Press.
8. Car free Cities by Crawford, J. H., International Books.
9. Cities for a Small Planet by Rogers, Richard, Westview Press.
10. The City After the Automobile: An Architect's Vision by Safdie, Moshe, Westview Press.
11. The City in Mind: Notes on the Urban Condition by Kunstler, James Howard, Touchstone Books

MUD 116 – Geoinformatics for Urban Design	Subject Category	JC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

To develop an understanding of the land and its designed modifications, with an integration of Earth sciences. To develop understanding and capacity building to use information science in Urban Studies to address various problems of geography, cartography, geosciences and related branches of science and engineering in urban design.

Content:

Unit – I Basics of Remote Sensing 6

Concept and Foundation of Remote Sensing, Elements of Photographic System Types of Aerial Photographs: Vertical Photographs, Oblique Photographs, Satellite Imagery.

Unit – II Photography and Photogrammetry 9

Introduction to Air Photo Interpretation, Photogrammetry for Map Making: Introduction /Definition, Geometric Elements of a Vertical Photograph, Relief Displacement, Ground Control for Aerial Photography

Unit – III Mapping Processes and Applications 9

Digital Image Processing, Applications: Geologic & Soil mapping, Land-use / land cover Mapping. Land use Classification, Agriculture Applications, Forestry Applications, Water resource Applications: Water Pollution Detection, Flood Damage Estimation, Urban & Regional Planning Applications, Wetland mapping.

Unit – IV Geographical Information Systems (GIS) 9

Geographical Information Systems: Definition, Composition of Geographical Information System, Computer Hardware Module, GIS Software Module, Data Input, Data Storage, Data Output, Database Structures

Unit – V Digital data management and analysis 12

Presentations / Workshop Application of GIS & Remote Sensing, Automated Mapping / Facility Management. (AM/FM), 3-D GIS Digital Elevation Model & Digital Terrain Model, Digital Image Processing and Editing; Error Detection and Correction, Geo Spatial Analysis: Turning Data into

Learning Outcome:

Understand basics of geoinformatics, data acquisition, processes and interpretation. Students shall learn GIS software package over different exercise to understand all the themes discussed in the syllabus.

References:

1. G.S Srivastava – 'An Introduction to Geo-informatics', McGraw Hill Education (India) Pvt. Ltd, 2014.
2. Goodchild M.F. and Kemp K – 'Developing a curriculum in GIS: The NCGIA Core Curriculum Project', University of California, Santa, Barbara 1990.
3. Heywood I, et al, An Introduction to Geographical Information System, Longman, New Delhi, 1998.
4. Ian Haywood Cornelius and Steve Carver – An introduction to GIS, Longman, New York, 2000.
5. Lo CP & Young AKW, Concepts & Techniques of Geographical Information System, Prentice Hall of India, New Delhi – 2003.
6. Misra HC – A Handbook on GIS, GIS India, Hyderabad, 1995.
7. Smith T.R. and Piquet, GIS, London Press, London, 1985.
8. Taylor DRF – GIS: The Micro computer and Modern Cartography, Pergamon Press, Oxford, 1991.

MUD 117 – Communication in Urban Design	Subject Category	JC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

To develop skills that can critically reflect upon and re-present the semester's work of the MUD Program in a creative, compelling format which can contribute to the urban design culture.

Content:

Unit – I Techniques of communication in design 6

Introduction to different ways and effective techniques used for graphic, written and verbal communication in different stages and aspects in the field of urban design. Learning the aesthetic, technical and conceptual techniques which are essential for the creative outcome, enabling students with skills and tools to solve complex problems in various fields of urban design.

Unit – II Tools and software 6

Experimenting with various media which can be further enriched with experimental learning. Application of software's like Photoshop, CorelDraw, Illustrator, movie maker can be part of the course.

Unit - III 2D and 3D Representation of cities 12

Graphical Communication in 2D-Representation of Cities through Nolli's plan and other iconographic means. Map making through the ages, evolution of city representation. Graphical Communication in 3D- Latest techniques of physical model making, 3D printing, 3D Representation techniques in virtual mode

Unit – IV Literary & Artistic representation of cities 12

Introduction of articles, poems, prose, stories, visual and performing arts, short movies, digital illustration can be introduced. Thematic representation of Cities in Literature and Cities in Cinema.

Verbal Communication- through Extempore and debates. Written Skills- Writing articles about issues in the cities or cities in general. Write persuasive arguments probably stemming out of the Studio exercise, well-structured text and express critical standpoints.

Total: 45 Periods

Learning Outcome:

Students shall learn about various communication techniques to express their ideas in urban design.

References:

1. Evergreen, Stephanie DH. Effective data visualization: The right chart for the right data. New Delhi: Sage Publications, 2019.
2. F. Punch, Keith. Introduction to Social research: Qualitative and Quantitative Approaches. London: Sage Publications, 2013
3. Interpersonal Communication, Steven A. Beebe, Susan J. Beebe, Mark V. Redmond, Pearson 2011.
4. Soft Skills, Hariharan S, Sundararajan N, Shanmugapriya S.P, MJB Publishers 2010.
5. Soft Skills, K.Alex, S.Chand, 2010
6. The ACE of Soft Skills, Gopaldaswamy Ramesh, Mahadevan Ramesh, Pearson 2010.
7. Understanding Interpersonal Communication, Richard West and Lynn H.Turner, Cengage Learning, 2010.

MUD 118 – Urban Conservation	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

To develop skills and better understanding of environment and heritage of cities across world

Content:

Unit – I Notion of Heritage

6

Understanding the notion of Heritage – tangible and intangible aspects of heritage in urban areas and an overview of urban renewal and its linkages to conservation

Unit – II Urban Conservation in India

9

Conservation and Development – Trajectory of Urban conservation in India. Urban Conservation principles, UNESCO Recommendations, International and national charters and legislations.

Unit – III Strategies for urban conservation

12

Conservation led regeneration and regeneration strategies of inner city areas. Government schemes and policy for urban conservation

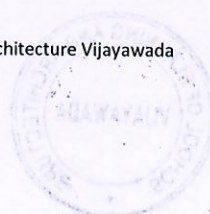
Unit – IV Cultural resources in the city

9

City as living cultural resource. Use of heritage resources for sustainable urban development through policy directives, capacity building, exchange programmes and technical assistance.

Unit - V Challenges in urban conservation

9



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Current implementation and management challenges in urban conservation. Scarcity of knowledge in planning and management of heritage resources in the urban context. Present context in Heritage

Total: 45 Periods

Learning Outcome:

Students finishing this course will be able to understand the Urban Heritage, Conservation and related management of the cities.

References:

1. A.G. K. Menon ed. Conservation of Immovable Sites, INTACH Publication, New Delhi.
2. Glendinning, Miles. (2013). The Conservation Movement: a History of Architectural Preservation, ROUTLEDGE.
3. Feilden, Bernard M. (1982). Conservation of Historic buildings. Butterworth Co. London.
4. Hollis, Malcolm. (2000). Surveying Buildings. RICS Business Services Limited. Coventry. UK.
5. Oxley, R. (2003). Survey and Repair of Traditional Buildings. Donhead Publishers. Dorset. UK.
6. Tandon, Rajeshwari, A Case for National Policy for Heritage Conservation & Management. New Delhi: INTACH, August 2002.
7. Feilden, Bernard.,Guidelines for Conservation: A Technical Manual. New Delhi: Indian National Trust for Art and Cultural Heritage (INTACH), 1989.
8. Indian National Trust for Art and Cultural Heritage (INTACH), Architectural Heritage Division, New Delhi. Conserving the Heritage of Our Historic Cities: Pre Seminar Working Document. New Delhi: INTACH, 1999.

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SECOND SEMESTER

MUD 121 – Planning techniques for Urban Design	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

Students will acquire knowledge regarding methods and techniques used in the process of planning. They shall also learn more about the various survey methods in planning.

Content:

Unit – I Introduction to Planning	6
Planning principles, terms and their definitions	
Unit – II City classification	6
Classification of cities; city region; spheres of influence, urban rural fringe; internal structure of urban areas; density patterns; land use classification and Form based codes	
Unit – III Basics of socio-economic surveys	12
Conceptual understanding of 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 socio-economic surveys.	
Unit – IV Survey Techniques	9
Overview of techniques of conducting surveys for land use, building use, density, structural condition of buildings, heights of building, land utilization and physical features of land	
Unit – V Policies and Norms for planning in India	12
Planning norms in Indian cities, Formulation of spatial standards for residential, industrial, commercial and recreational areas; space standards for facility areas, utilities and networks; population, distance criteria; performance standards; case studies: residential and non-residential density patterns and analysis	

Total: 45 Periods

Learning Outcome:

Students shall be equipped with knowledge of Urban Planning principles, techniques, theories and methods.

References:

1. Douglass B. Lee - Models and techniques for Urban Planning.
2. Thomas Telford - Design: Urban Design in the Planning System.
3. Roberts Margaret, 1974, An Introduction to Town Planning Techniques, Hutchinson & Co Ltd, London.
4. Planning Techniques, Reader volume, ITPI, New Delhi.
5. Kruckerberg and Silvers, 1974, Urban Planning Analysis: Methods and Models, John Wiley & Sons, New York.
6. UDPFI Guidelines, 1996, Ministry of Urban Development, Government of India, New Delhi.
7. James Suther, 1959, Technical Report Writing, John Wiley & Sons, New York.
8. Kothari CR, 1986, Research methodology, Methods and Techniques, Wiley Eastern, New Delhi.

MUD 122 – Imagining Cities II – Cities in Digital Media	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

The objective of the course is to explore and discuss city imagery through various media. Students are exposed to a wide range of imaginaries and representations of the city through different media.

Content:

Unit – I City as theatre

12

Theatre as a total work of art, City as Durbar: Theatre and power in Imperial Delhi, concept of relief stage, street theatre, stage craft. Small town imaginaries with example of ' Superman of Malegaon', the cinema of Satyajit Ray(Apu trilogy)and the discussion of 'Chamatkar' in the context of Urban spaces.

Unit – II Concept of utopia, Dystopia and heterotopia

12

Examples from movies Brazil & Blade runner to emphasis on concept of memory, technology and bureaucracy, 'Quatsi trilogy' and globalization. Six principles by Foucault's "of other spaces". Contemporary examples as productive urban imaginaries.

Unit – III Machine and metropolis

9

The Historical Digression, the ultimate technological fantasy in city, Analysis of Andreas Husseyn to discuss the role of technology, male domination and performative role of the vamp, division of labour.

Unit – IV New conditions in Contemporary Urbanism

6

Salient features of "Still life" and "In the mood for love", essay by Ackbar Abbas describing Chinese Urbanism, Diegetic and Non diegetic, agency, inclusive urbanism and film Noir.

Unit – V Public spaces as expressive spaces

6

Public spaces as spaces for expression- With examples from public spaces in the French New Wave, 'cleo from 5 to 7' into a female flaneuse.

Total: 45 Periods

Learning Outcome:

Students are sensitized to a deeper understanding of the city as context.

References:

1. Krier Rob, Urban Form and Space, Academy Editions, 1979
2. Lang Jon, The American Experience, Paperback 1994
3. Lang Jon, Urban Design, A Typology of procedures and products, The Architectural Press,2005
4. Lynch Kevin, The Image of the city, MIT Press, 1960
5. Lynch, Kevin, Good City Form, MIT Press, Cambridge MA and London 1984
6. Lynch, Kevin, What Time is this Place?, MIT Press, Cambridge MA 1972
7. Marshall, Stephen. 2009. Cities design and evolution. Abingdon, Oxon ; New York, NY: Routledge
8. Mumford Lewis (1972) The City in History: Its Origins, Its Transformations, and Its Prospects, paperback publishing
9. SchirmbeckEgon, Idea, form and Architecture- Design principles in contemporary architecture
10. Spreiregen Paul D., Architecture of Towns and Cities, Mc.GrawHill Book, Co. 1965.



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11. Affective spaces in Hongkong/ Chinese cinema by Ackbar Abbas
12. Cinema: perception, time and becoming by Gille Deluze in Desire, Ideology and Simulacra By Claire Colebrook
13. The exhilaration of Dread: Genre, Narrative form and film style in contemporary urban action films
14. Various movies which are there as part of Unit will be used as resource

MUD 123 – Urban Design Studio-II	Subject Category	SC
	Number of Credits	15
	Lecture Periods per Week	2
	Practical/Studio/Workshop Periods per Week	13
	Total Periods per Week	15

Objective:

The objective of this studio is to hone the theoretical knowledge of the student from the first semester in resolving a design problem on a Green Field site preferably outside an existing city.

Content:

The first part of the studio will be an introduction to urban design city study, analysing the various factors that determine the morphology of the city and the referencing of selected sites to the study. As far as practicable, the project should be a live problem carried out with the active participation of the client. The studio tutorial will assist the students in the methodology of conducting an urban design city study, techniques of surveys, analysis of information and presentation, typological studies and designs.

Total: 225 Periods

Learning Outcome:

Students are enabled to conceive urban design projects for green-field sites preferably for live and real urban conditions, thereby understanding client dynamics as well as tangible deliverables.

References:

1. Bacon Edmund, Design of Cities, Thames and Hudson, London, 1974
2. Cliff Moughtin et al (2006): Urban Design Methods and Techniques, Architectural Press, London
3. Hall Peter, Cities of Tomorrow, Blackwell publishing
4. Jacobs, Jane. 1961. The death and life of great American cities. New York: Vintage
5. Kostof Spiro (1992), City Assembled The Elements of Urban Form Through History, Bulfinch Press, 1999
6. Krier Rob, Urban Form and Space, Academy Editions, 1979
7. Lang Jon, The American Experience, Paperback 1994
8. Lang Jon, Urban Design, A Typology of procedures and products, The Architectural Press, 2005
9. Lynch Kevin, The Image of the city, MIT Press, 1960
10. Lynch, Kevin, Good City Form, MIT Press, Cambridge MA and London 1984
11. Lynch, Kevin, What Time is this Place?, MIT Press, Cambridge MA 1972
12. Marshall, Stephen. 2009. Cities design and evolution. Abingdon, Oxon ; New York, NY: Routledge
13. Mumford Lewis (1972) The City in History: Its Origins, Its Transformations, and Its Prospects, paperback publishing
14. Rogers, Richard (1998) Cities for a small planet, Icon editions, Paperback publishing, UK.
15. Rossi Aldo, The Architecture of the City, L' ArchitetturadellaCitta in 1966
16. Spreiregen Paul D., Architecture of Towns and Cities, Mc.GrawHill Book, Co. 1965.

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MUD 124 – Urban Design Research Lab-I	Subject Category	JC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

The objective of urban form laboratories is to allow free experimentation and in-depth inquiry into the patterns and processes of urbanism as well as connected production of urban form and space. These laboratories are to provide platforms for inter/multi-disciplinary engagement of participants from varying backgrounds towards engaging with selected aspects of built environment conditions and/or project future scenarios of urban form.

The laboratories will conduct short or long duration design experiments/research programs that will be offered to students.

Content:

- The research topic/areas shall have direct linkage with the studio program.
- The lab is also aimed to provide research platforms for inter/multi-disciplinary engagement of participants from varying backgrounds towards engaging with selected aspects of built environment conditions and/or project future scenarios of urban form.
- The Lab will extend possibilities of self-driven explorations on urban form as also collective pursuits of design and allied explorations.
- The expected outcome might be in form of research publications on the explorations.

Total: 45 Periods

Learning Outcome:

Students will be enabled to explore the aspects related to urban form and space

References:

1. Batty, M. (2001). "Exploring isovist fields: space and shape in architectural and urban morphology," Environment and Planning B: Planning and Design 28, 123-150.
2. Becker, Lucinda M. (2015). Writing Successful Reports and Dissertations. Los Angeles. SAGE
3. Gaur, Ajai S (2011). Statistical Methods for Practice and Research: A Guide to Data Analysis Using SPSS. Response books, New Delhi
4. Hillier, B. & Hanson, J. (1984). The social logic of space. Cambridge: Cambridge University Press.

MUD 125 – Liveable Cities	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

To broaden the knowledge about ecological and liveability aspects of a city for devising a sustainable future.

Content:

Unit – I Eco-city and its qualities

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Introduction to eco-city, economic, social, and environmental qualities of an eco-city, carbon-neutral and renewable energy production, Public transportation systems, Resource conservation (water and energy), waste management and its reuse.

Unit – II Sustainable city factors 9

Urban Farming, Urban Infill, Walkable Urbanism, Obstacles, Social factors of Sustainable Cities, discussion on international and national eco cities.

Unit – III Sustainable Communities 9

Sustainable communities: Basic principles and strategies, systems thinking and strategies; race, class, and equity; place-based learning and planning; and social capital and community empowerment.

Unit – IV Healthy Community Systems 9

Urban Eco-Design, Integrating Nature and Urban life, Building healthy Community Systems, Transforming Community Systems.

Unit – V Sustainable city development 9

Sustainable city development: Sustainable Development Goals, Liveability, participatory planning, land use, poverty and racism, green economy, local food systems, nature in the city, healthy neighbourhoods, transportation/access, housing, energy systems, bio diversity etc., Green Urbanism, Learning from Existing Cities. Liveability indices, ranking of cities.

Total: 45 Periods

Learning Outcome:

Students will be able to comprehend their understanding of ecological qualities of a city in the perspective of co-existing with the demands for sustainable future.

References:

1. Bacon, E 1976, Design of Cities, Penguin Books, Philadelphia
2. Berke, PR 2002, 'Does sustainable development offer a new direction for planning? Challenges for the twenty-first century', Journal of planning literature, vol. 17, no. 1, pp. 21-36.
3. Blewitt, J 2014, Understanding sustainable development, Routledge. London
4. Dobbins, M 2009, Urban design and people, John Wiley & Sons Inc., New Jersey
5. Hempel, LC 1999, 'Conceptual and analytical challenges in building sustainable communities', Toward sustainable communities: Transition and transformations in environmental policy, pp. 43-74.
6. Marshall, S 2009, Cities design and evolution, Routledge, New York
7. Newman, P & Thornley, A 2005, Planning World Cities, Planning Environment Cities, Palgrave Macmillan, Basingstroke, Hampshire, UK
8. Robert, KW, Parris, TM & Leiserowitz, AA 2005, 'What is sustainable development? Goals, indicators, values, and practice', Environment: science and policy for sustainable development, vol. 47, no. 3, pp. 8-21.
9. World Bank 2010, Cities and Climate Change - An Urgent Agenda, World Bank, Washington D.C.
10. World Bank 2010, Ecological cities as Economic cities, World Bank, Washington D.C.

MUD 126 – Research Methodology (MSA)	Subject Category	JC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

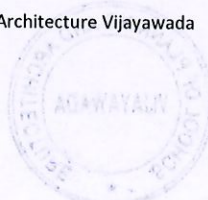
Objective:

To impart the basics of research methods to enable students, to write research papers and to equip students with skills to articulate findings of their research

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Content:

Unit - I

Introduction to Research: What is research? Research versus faith, research versus project, philosophical and theoretical basis; Research philosophies – positivistic, phenomenological, anthropological; Research terminology; Types of Research – exploratory, descriptive, analytical, predictive; Research approaches – quantitative/ qualitative/mixed, basic/ applied, deductive/ inductive.

Unit - II

Research Components: Elements of research process: finding a topic - Writing an introduction - Stating a purpose of study identifying key research questions and hypotheses - Reviewing literature using theory, defining, delimiting and stating the significance of the study, advanced methods and procedures for data collection and analysis - illustration using research samples.

Unit - III

Review of Literature: Library and archives - Internet: new information and the role of internet, finding and evaluating sources of misuse - Test for reliability ethics.

Unit - IV

Data Collection and Analysis: Methods of data collection - From primary sources: observation and recording, interviews structured and unstructured, questionnaire, open ended and close ended questions and the advantages, sampling - Problems encountered in collecting data from secondary sources, processing and analysis of data.

Unit - V

Technical Writing : Writing & publishing the research work in journals - Research writing in general - Components: referencing (in-text and end-text) - Writing the bibliography - Developing the outline – presentation etc. - Case studies - illustrating how good research can be used from project' inception to completion - Review of research publications. Ethics in Research – Plagiarism – Thesis Chapter Development – Time Schedule – Publication and Peer Review Process related to particular subject domain.

Total: 45 Periods

Learning Outcome:

Students shall learn about the different research methods application and relevant for them. Reading and writing papers and research proposals shall also be discussed.

References:

1. Wayne C Booth, Joseph M Williams, Gregory G Colomb, The Craft of Research, 2nd Edition, Chicago guides to writing, editing and publishing, 1995
2. Iain Borden, Kaaterina Ruedi, The Dissertation: An Architecture Student's Handbook, Architectural Press, 2000
3. Ranjith Kumar, Research Methodology - A step by step guide for beginners, Sage Publications, 2005
4. John W Creswell, Research design: Qualitative, Quantitative and Mixed method approaches, Sage Publications, 2002
5. Linda N. Groat, David Wang, Architectural Research methods, Wiley, 2nd edition, 2013

MUD 127 – Real Estate Management	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

To understand the gamut of real estate development, particularly in the Indian context and the extent of market driven concerns in urban development process.

Content:

Unit – I Real Estate Scenario in India **6**

Real Estate scenario of India, contribution to GDP, stakeholders and participants. The RERA Act – promulgation, applicability and role of legislation in sustainable Real Estate

Unit – II Real Estate Asset Classes **6**

Real Estate Asset Classes – Residential, Commercial, Retail, Hospitality, Education, Logistics and Warehousing, Senior Living, Co-working and Co-living spaces, Cap' values.

Unit – III Real Estate field verticals **12**

Real Estate field verticals (end-to-end services): Advisory, Land procurement, Transaction (Sale and Lease, Bid Process management), Capital Markets, Project / Construction Management, Asset / Property Management (Housekeeping and Facilities' management).

Unit – IV Real Estate advisory studies **12**

Real Estate advisory studies – Highest and Best Use option, Market demand assessment, Feasibility (market and Financial). Real Estate project proposals – EoI, RFP and Development agreement for entrepreneurial and PPP modes

Unit – V Methods of property valuation **9**

Property Valuation – methods of Valuation, reach and relevance to real estate sector and Taxation and Registration – influencing factors, Ready Reckoner Rate/s

Total: 45 Periods

Learning Outcome:

Students will be able to view a built or unbuilt entity in its stake at the city level, beyond being a mere physical identity. Students will also be able to develop a rational perspective while proposing urban interventions and pave ways for sustainable development.

References:

1. Arnott, R., ed., Regional and Urban Economics, Volume 1-2; Harwood Academic Publishers, 1996
2. Fujita, M., Urban Economic Theory: Land Use and City Size; Cambridge University Press, 1989.
3. Fujita, M., Thisse, J.F., Economics of Agglomeration, Cambridge University Press, 2002.
4. Papageorgiou, Y., Pines, D., An Essay on Urban Economic Theory, Springer, 1999.
5. Tolley, G., Diamond, D. (eds.), The Economics of Urban Amenities, Academic Press, 1982.
6. Handbook of Regional and Urban Economics, Volume 1-4.
7. Barron's real estate handbook V edition; Haupaage, NY, Baron, 2001



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MUD 128 – Environmental Impact Assessment (MBEM)	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

To expose students to understand the impact of large scale development on the environment and to acquire knowledge on Environmental Impact Assessment concepts, methodology and regulations.

Content:

Unit – I Introduction to Environment Aspects: 6

Definition, basic concepts and principles of EIA. Regulatory frame work in India. Environmental inventory, base line studies, over view of EIA studies.

Unit – II Assessment and Methodologies: 12

Physical, biological assessment, Socio economic and cultural environmental assessment, EIA methodologies– Adhoc, matrix, checklist approaches. Economic evaluation of impacts-cot benefits of EIA, Public participation in environmental decision making. Procedures for reviewing EIA analysis and statement.

Unit – III Environmental Assessment: 9

Introduction, process, Basic steps involved, Description of environmental setting – Base line data collection, possible impacts due to water resources projects. Impact prediction and assessment – methods of impact assessment, Matrix and check list method, Selection of proposed action. Preparation of environmental impact statement.

Unit – IV Legislations and Regulations: 9

Rationale, concerns, legislative data systems, safe drinking water act, clean water act, clean air act, noise control act, resource conservation and recovery act, comprehensive environmental response, compensation and liability act.

Unit – V Municipal Solid Wastes: 9

Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/recycle, energy recovery, treatment and disposal).

Total: 45 Periods

Learning Outcome:

The student will gain knowledge on Environmental Impact Assessment concepts, methodology and regulations

References:

1. Canter, L.W. (1996), 'Environmental Impact Assessment', McGraw- Hill Book Company, New York.
2. Corbitt Robert A. (1999), 'Standard Hand Book of Environmental Engineering' McGraw Hill Book Company, New York.
3. Marriott, 'Environmental Impact Assessment: A Practical Guide', McGraw-Hill Book Company, New York.
4. Sabins F.F. Jr. (1978), 'Remote Sensing Principles and Interpretations' W.H. Freeman and Company, San Francisco
5. Jensen John R. (1986), 'Introductory Digital Image Processing', Prentice-Hall of India, New York
6. A K Srivastava, Environment impact Assessment, APH Publishing, 2014 2.
7. Larry W Canter, "Environmental Impact Assessment", McGraw Hill Inc., New York, 1995.
8. Ministry of Environment & Forests, Govt. of India 2006 EIA Notification.



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THIRD SEMESTER

MUD 211 – Urban Mobility	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

The aim of this course is to expose the student to urban mobility network(s) and how the movement corridors directly influence the urban design of different classes of cities in India. At the same time a more nuanced understanding of issues related with urban mobility especially related to public transport, pedestrian spaces and emerging trends are to be provided in this course.

Content:

UNIT-I Urban Mobility Systems 9

Introduction to Urban Mobility- Importance and role of transport in urban design, Accessibility vs. mobility. Urban Transport and Types of Urban Mobility Systems

UNIT-II Sustainable Urban Mobility 9

Land Use and Transport, Sustainable and planning and design for Mobility
Urban form and Movement networks, Environmental and Social Sustainability in Transport, Sustainable Urban Mobility Plan (SUMP), Street design guidelines

UNIT-III Transport Modes in cities 6

Transport Modes in Cities – from pedestrian and NMV, IPT to public transport options – BRT, MRTS, LRTs, etc. Issues of public vs. private modes of travel

UNIT-IV Transit Design 9

Design for transit – T.O.D, Last mile connectivity, Walkability and Pedestrian environments. Mobility systems and ITC interfaces – smart transportation

UNIT-V Case-Studies and design tool applications 12

Case studies of successful mobility options adopted/ implemented in various cities across world, Accessibility in the context of universal design. Design tools and methods that deliver urban mobility for everyone and its benefit. Application of Geo-informatics and space syntax for transport.

Total: 45 Periods

Learning Outcome:

A critical overview of urban mobility and its impact on achieving a liveable city.

References:

1. Comprehensive Mobility plans of case cities.
2. Hutchinson, B., (1974). Principles of Urban Transport Planning. USA: McGraw-Hill Inc.
3. IRC Codes, UTTIPEC and ITDP Street Design guidelines
4. Jain, A. K., (2008). Urban Transport: Planning and Management. New Delhi: APH
5. Kadiyali, L. R., (2011). Traffic Engineering and Transport Planning. New Delhi:
6. National Urban Transport Policy, (2014), Govt. of India
7. Papacostas, C. S., (2000). Transportation Engineering and Planning. Pearson. Publishing Corporation.



MUD 212 – Urban Design Studio - III	Subject Category	SC
	Number of Credits	15
	Lecture Periods per Week	2
	Seminar/Practical/Workshop Periods per Week	13
	Total Periods per Week	15

Objective:

To sensitize the students towards the role of people's participation in Urban Design project

Content:

Local Area Planning (LAP)

The studio will be divided in three parts. Part 1 where students will study the concept and importance of people's participation/planning (bottom up approach), types and relevance, existing system and scope and its role in planning process. Part 2 where an urban design study will be done for a specific area of the selected city. The study will focus on identification of stake holders, issues and interactions, institutionalization of people participation. Part 3 where the design proposals and interventions will be discussed and modified by conducting public meetings with Stakeholders/NGOs/Municipal Commissioner/ Politicians/ RWA and the locals of the place. Note: Taking stakeholders viewpoints, conducting public meetings, presentation given to people in their local languages are the key role which students will be doing in this studio.

Total: 225 Periods

Learning Outcome:

Students are equipped to tackle urban design projects on practical ground using public participation.

References:

1. Barnett, J., (1974). Urban design as Public Policy: Practical Methods for Improving Cities. Michigan: Architectural Record Books.
2. Krier, L. (1978) Urban transformations (Special Issue) The Architectural Design, 48(1).
3. Trancik, R. (1986) Finding Lost Space – Theories of Urban Design. New York: Van Nostrand Reinhold.

MUD 213 – Urban Design Research Lab-II	Subject Category	JC
	Number of Credits	4
	Lecture Periods per Week	1
	Tutorial Periods per Week	3
	Total Periods per Week	4

Objective:

To allow students to explore research areas which are contemporary and can address global as well as local issues, critical analysis and interpretation of urban phenomena and data. It will guide both studio and non-studio based enquiries of students towards structured, systematic and targeted research yielding qualitative and quantitative outputs.

Content:

- The research topic/areas shall have direct linkage with the studio program.
- The students shall be allowed to have free experimentation and in-depth inquiry into the patterns and processes of urbanism as well as the connected production of urban form and space.
- The lab is also aimed to provide research platforms for inter/multi-disciplinary engagement of participants from varying backgrounds towards engaging with selected aspects of built environment conditions and/or project future scenarios of urban form.
- The expected outcome might be in form of research papers/ research projects with active engagement with the research organisations or alike.
- Students shall be encouraged to collaborate with National and international agencies who work on research related with Urban studies like UN-HABITAT, Centre for Policy Research (CPR), India Institute of Human Settlement (IIHS, DUSP/MIT) etc. to see the current trend of research and streamline their work accordingly.



Learning Outcome:

Students will appreciate the complexity of urban phenomena and will be better equipped to decode and interpret them. This will in turn help them in developing a more evidence based design approach.

References:

1. Batty, M. (2001). "Exploring isovist fields: space and shape in architectural and urban morphology," Environment and Planning B: Planning and Design 28, 123-150.
2. Becker, Lucinda M. (2015). Writing Successful Reports and Dissertations. Los Angeles, SAGE
3. Gaur, Ajai S (2011). Statistical Methods for Practice and Research: A Guide to Data Analysis Using SPSS. Response books, New Delhi
4. Hillier, B. & Hanson, J. (1984). The social logic of space. Cambridge: Cambridge University Press.
5. McClelland D. (2003). Photoshop 7 Bible Professional Edition. New York Wiley Publishing.
6. Tal, Daniel. (2009). Google SketchUp for site design: a guide for modeling site plans, terrain and architecture. John Wiley

MUD 214 – Thesis Methodologies	Subject Category	JC
	Number of Credits	3
	Lecture Periods per Week	-
	Tutorial Periods per Week	3
	Total Periods per Week	3

Objective:

The course aims to equip students with methodological and management tools to undertake an individual, self-driven design/research exploration on a thesis topic of their choice as an assimilation of the learning process in the urban design program.

Content:

The course is seen as a pre-thesis preparatory engagement involving tasks related to the following:

UNIT-I Establishing need for research	9
Exploring and articulating areas of topical interest, raising questions for design and research inquiry, Establishing relevance and need	
UNIT-II Literature study	9
Identifying and reviewing connected literature and case examples	
UNIT-III Critical Analysis	9
Developing critical positions on urban conditions concerning the chosen interest area	
UNIT-IV Methodology Formulation	9
Articulating a well-established case for urban design engagement and connected outcomes, Formulating a methodological path for conducting the thesis, defining the scope and objectives	
UNIT-V Detailed proposal writing	9
Writing a detailed thesis proposal for consideration and approval	

Total: 45 Periods

Learning Outcome:

Students are equipped with the necessary tools and methodological processes for exploring and defining individual thesis inquiries and writing an informed proposal for the same.

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MUD 216 – Advanced Digital Tools and Techniques	Subject Category	JC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

Engage with varying computational methods to better understand what constitutes a 'design problem' and to identify the most efficient digital tools and techniques to formulate the problem and to generate the most optimal results.

Content:

UNIT-I Software for Complex design solutions 12

Using 3D software (Rhino 3D), parametric software (Grasshopper 3D) and generative and evolutionary software (Wallacei), students explore the challenges associated with solving complex design problems that are inherent to the design of urban settlements.

UNIT-II Advanced mapping applications 12

Creating maps- spatial-visual analysis, symbology and visualization, advanced mapping applications like GIS, LIDAR, Drone survey, annotations, web mapping etc.

UNIT-III Techniques for urban analysis 6

Common analytical tasks – visibility analysis, grid-cell analysis, compartment analysis

UNIT-IV Data Processing 9

Working with data- raster data, CAD data, POI, Remote sensing images and hydrology data

UNIT-V Practical applications 6

Practical urban design exercises. Students shall take the approach that prioritises the process (i.e. how the design problem is formulated) rather than the end product (i.e. the actual design solution). This approach starts by exploring the processes of adaptation in biological systems in nature, where continual change is the norm. This will allow them to reflect on the nature of the design problem in the city and its evolution.

Total: 45 Periods

Learning Outcome:

Students are equipped with the necessary digital tools and techniques for exploring and generating solutions for complex design problems.

References:

1. Ayeni, Bola. Concepts and Techniques in Urban Analysis (Volume 17). Abingdon-On-Thames: Routledge, 2017



2. Tedeschi, Aruturo. AAD Algorithms-Aided Design: Parametric Strategies using Grasshopper. Paris: Le Penseur, 2014
3. Charytonowicz, Jerzy and Falcão, Christianne. Advances in Human Factors, Sustainable Urban Planning and Infrastructure: Proceedings of the AHFE 2018 International Conference on Human Factors in Intelligent Systems and Computing). New York: Springer, 2018
4. William J. Mitchell, City of Bits: Space, Place and the infobahn, Cambridge: MIT PRESS, 1996.
5. Portmann Edy, Designing Cognitive Cities (Studies in Systems, Decision and Control Book 176) .New York: Springer, 2018.

MUD 217 – Urban Policy and Management	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

This course aims to inform the student about the process of formulation of urban design policies, integration and implementation of the same in city planning, to inform the student about the process of formulation of urban design policies, integration and implementation of the same in city planning.

Content:

UNIT-I Role of urban design in city planning	9
Role of urban design in city planning; historical overview and case examples of policy; visioning process; urban design plans, policies and developmental strategies.	
UNIT-II Conservation & Development	9
Conservation and Development - Urban conservation in India, Conservation principles, charters and legislations, Conservation led regeneration and regeneration strategies of inner city areas, Overview of urban renewal and conservation	
UNIT-III Impacts of development controls	9
Case studies of impact of development controls and zoning; analysis of urban design issues; current innovations in development regulations; alternative types of zoning.	
UNIT-IV Urban design plan implementation	9
Implementation of urban design plans, policies and concepts – tools and methods; local-level plans; design guidelines; design review and concept of design review boards.	
UNIT-V Participatory Design	9
Role of Government, private parties and other stakeholders; participatory design.	

Total: 45 Periods

Learning Outcome:

Students would be exposed to issues related to two important dimensions of cities- Housing and heritage as well as associated legal, policy and management frameworks.

References:

1. Barnett, Jonathan. Introduction to Urban Design, Icon (Harpe); 1st edition, 1982. ISBN: 978-0064303767.
2. Barnett, Jonathan. Urban Design as Public Policy, McGraw-Hill Inc.,US, 1974. ISBN: 978-0070037663.
3. Bureau of Indian Standards. National Building Code, 2010.
4. Gerald E. Frug. City Making: Building Communities without Building Walls. Princeton University Press, 1999. ISBN: 978-0691007410.



5. Hall, Tony. Turning a Town Around: A Proactive Approach to Urban Design. Oxford, United Kingdom: Blackwell Publishing, 2008. ISBN: 978-1405170239.
6. Jacob, Alan. Making City Planning Work, American Planning Association, 1980. ISBN: 978-0918286123
7. Lang, Jon. Urban Design: A Typology of Procedures and Products. Oxford, United Kingdom: Architectural Press, 2005. ISBN: 978-0750666282.
8. Master Plans of Bangalore, New Delhi, Mumbai and other metropolitan Indian cities.
9. Steve Tiesdell, David Adams. Urban Design in the Real Estate Development Process. Wiley-Blackwell, 2011. ISBN: 978-1405192194


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FOURTH SEMESTER

MUD 221 – Urban Design Thesis	Subject Category	SC
	Number of Credits	21
	Lecture Periods per Week	1
	Seminar/Practical/Workshop Periods per Week	8
	Tutorial Periods per Week	12
	Total Periods per Week	21

Objective:

As the culmination of academic work, to provide an opportunity to carry out an independent design or research on a topic defined by the student.

Content:

The design thesis is an independent design on a topic defined by the student, leading to the development of a clear design proposal to be supervised by a faculty team and evaluated by an external jury. The tutorial will assist the students to strengthen the theoretical base of the thesis and analyse relevant successful design demonstrations through case studies. The thesis by research is an independent research on a topic defined by a student, to be completed in the form of a comprehensive report under the supervision of an advisor and evaluated by an external jury. The tutorial will assist the student in research methodologies, conducting of surveys, identifying case studies etc.

Total: 315 Periods

Learning Outcome:

Students demonstrate cumulative learning of theoretical pursuits and design techniques for chosen areas of enquiry and intervention in urban areas.

MUD 222 – Seminar and Report Writing	Subject Category	JC
	Number of Credits	6
	Lecture Periods per Week	2
	Tutorial Periods per Week	4
	Total Periods per Week	6

Objective:

The course will run parallel to the design/research thesis with intent to help students to progressively present their Thesis in the form of seminar and refine technical writing in the form of thesis report.

Content:

- The course will help students to write technically about the various theoretical explorations undertaken in the thesis.
- This thesis report will include the title page, abstract, table of content, list of tables, illustrations, graphs, diagrams, introduction, literature review, methodology, precedents – exemplars – best practice, design: site, analysis, design, exploration, options, conclusions, further studies, bibliography, annexes and appendices.
- Report writing techniques will be part of the learning.
- The above list is just indicative. Students may use different terminology to name the different parts/sections of their research or the general structure may differ from the above mentioned due to the nature of the research.
- Evaluation will be based on Seminars conducted at critical stages of the Thesis

Total: 90 Periods



Learning Outcome:

Students shall learn to present their Thesis in the form of Seminar at critical stages and also learn report writing skills essential to publish their design and research work.

References:

1. Anderson, J. and Poole, M. (1998). Thesis and assignment writing. Brisbane : John Wiley.
2. Borden, I. and Ray, K. R. (2006). The dissertation: an architecture student's handbook. 2 nd Ed. Oxford : Architectural Press.
3. Fink, A. (1998). Conducting research literature reviews: from paper to the Internet. Thousand Oaks : Sage.
4. Murray, R. (2005). Writing for academic journals. Berkshire: Maidenhead, Open University Press

MUD 223 – Urban Criticism	Subject Category	JC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

To examine, appreciate or criticise the urban development process and also to introspect into the emerging theories, recent developments, smart cities, global technologies etc.

Content:

UNIT-I Future cities	6
Utopian ideas for future cities, smart cities, satellite towns	
UNIT-II Current trends and concerns	12
Current development trends across the world. Environmental concerns and global development	
UNIT-III Visions for futuristic design	12
City visions, resilient cities, smart cities, Kinetic cities etc. Megastructures and implication on cities, City consumption patterns	
UNIT-IV Sustainable City	9
Ecological city, compact cities, Eco cities etc., urban ecology, sustainable planning aspects, linear city planning, ecological corridors	
UNIT-V Criticism	6
Criticism on new theories of urban development	

Total: 45 Periods

Learning Outcome:

Students shall learn to understand, introspect and criticise the development patterns in cities.

References:

1. Asian Development Bank. (2008). Managing Asian Cities: Mandaluyong City, Philippines. Hamnett, S. and Forbes, D. (2011). Planning Asian Cities. Routledge.

2. MeeKam, N. and Hills, P. (2003). World cities or great cities? A comparative study of five Asian metropolises. Cities. Vol. 20, No.3, pp. 151-165.
3. Srivastava, S. (2014). Entangled Urbanism: Slum, Gated Community and Shopping Mall in Delhi and Gurgaon. New Delhi : Oxford University Press India.
4. UN Habitat. (2011). The State of the Asian Cities. 2010/11.
5. Weightman, B. A. (2011). Dragons and Tigers. A Geography of South, East and Southeast Asia. Wiley.
6. World Bank. (2010). Coastal Risks and Adaptation in Asian Coastal Megacities - A Synthesis Report. Washington DC : World Bank.
7. Lang, J. T. (2005). Urban Design: A Typology of Procedures and Products. Oxford: Elsevier/Architectural Press.

MUD 224 – Project Planning and Finance	Subject Category	TC
	Number of Credits	3
	Lecture Periods per Week	1
	Tutorial Periods per Week	2
	Total Periods per Week	3

Objective:

The objective of the course is to educate the students about the various methodologies, policies and financial frameworks of urban development projects.

Content:

- UNIT-I Introduction to Development Planning** **9**
 Introduction to Development Planning and management; Society, State and Market; Privatization, Liberalization and Decentralization; Equity and Development
- UNIT-II Project Planning – Introduction & Methodologies** **12**
 Introduction to project planning, theories, concepts and management. Overview of the various methodologies of planning. Project formulation, definition, Norms, standards, aspects and methods of project appraisal
- UNIT-III Project Management** **6**
 Concepts of Project management, systems, frameworks and techniques, Implementation strategies, scheduling, activities, progress reviews, corrective actions etc
- UNIT-IV Economic feasibility and Project Funding** **9**
 Economic and financial feasibility concepts and methods: Project funding, estimation, economic feasibility and methods of recovery. Mandatory legal and environmental approvals
- UNIT-V Case-studies and special projects** **9**
 Special projects such as Special economic zones, export processing zones, townships etc. Case studies of successful projects and planning schemes are encouraged to be used as learning models.

Total: 45 Periods

Learning Outcome:

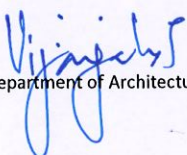
Students will be equipped with necessary procedures to propose, evaluate and manage urban design projects at various scales including finance options and partnership models for implementation.

References:

1. Nicholas, J. M., Steyn, H. (2020). Project Management for Engineering, Business and Technology. United Kingdom: Taylor & Francis.
2. Gray, C. F., Larson, E. W. (2017). Project Management: The Managerial Process. United Kingdom: McGraw-Hill Education.
3. Desai, V. (2020). Project Management and Entrepreneurship. United States: Himalaya Publishing House.
4. Patel, B. (2012). Project Management, 2nd Edition. India: Vikas.



5. Chitkara, K. K. (2019). Construction Project Management: Planning, Scheduling and Controlling. India: (n.p.).
6. Schexnayder, C. J., Schmitt, R., Peurifoy, R. L., Shapira, A. (2018). Construction Planning, Equipment, and Methods, Ninth Edition. Greece: McGraw-Hill Education.
7. Callahan, M. T., Quackenbush, D. G., Rowings, J. E. (1992). Construction Project Scheduling. United States: McGraw-Hill.
8. Cleland, D. L., Cleland, D., Ireland, L. R. (2002). Project Management. United Kingdom: McGraw-Hill Education.
9. Fisk, E. R. (1978). Construction Project Administration. United Kingdom: Wiley. K Wakye, A.A., Construction Project Administration: Adisson Wesley Longman, London.


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