

# **ANNA UNIVERSITY, CHENNAI**

# POSTGRADUATE CURRICULUM (NON-AUTONOMOUS AFFILIATED INSTITUTIONS)

**Programme:** M. Arch -Urban Design **Regulations:** 2025

Category Course Type

**PC –** Professional Core S - Studio

PE – Professional Elective T – Theory

**BS & AE** – Basic Sciences & Applied Engineering **TS –** Theory cum Studio

PAE - Professional Ability Enhancement IT - Internship Training

SD – Skill Development LIT – Laboratory Integrated Theory

SL – Self Learning

**HUM** – Humanities (including Languages and others) **TCP** – Total Contact Period(s)

**L** – Lecture **P** – Practical

**T –** Tutorials **S** - Studio

#### Semester I

S. No.	Course	Course Course Title	Туре		erio er w		ТСР	Credits	Category
	Code			L	L T P/S				
1.	MH25C01	Research Methodologies for Built Environment	Т	3	0	0	3	3	PC
2.	UR25101	History and Theory of Urban Design	Т	3	0	0	3	3	PC
3.	UR25102	Urban Planning: Policy and Practice	Т	3	0	0	3	3	PC
4.	UR25103	Urban Heritage and Conservation	Т	3	0	0	3	3	PC
5.	UR25104	Urban Analysis and Diagramming	TS	1	0	3	4	4	PAEC
6.	UR25105	Urban Design Studio I	S	0	0	0	10	10	PC
Total 26							26		

# Semester II (Prerequisite- Pass in Urban Design Studio I)

\	Course	Course Course Title	Туре	Periods per week			ТСР	Credits	Category
,	Code		1,460	L	Т	Р	101	Ground	July
1.		Social Theory and the City	Т	3	0	0	3	3	PC
2.		Urban Housing: Types and Practice	Т	3	0	0	3	3	PC
3.		Urban Form performance and Simulation Audit	Т	3	0	0	3	3	PC
4.		Geographical Information Systems for Built Environment	TS	1	0	3	4	4	PAEC
5.		Professional Elective I		Χ	Х	X	3	3	PE
6.		Industry Oriented Course		Χ	Х	Х		1	SD
7.		Urban Design Studio II	S	0	0	0	10	10	PC
					Т	otal	27	27	

# Semester III (Prerequisite- Pass in Urban Design Studio II)

S.	Course	(COURS LITIE II)	Туре		riods week	-	ТСР	Credits	Category	
No.	Code		. , po	L	Т	Р		o rounto		
1.		Sustainable Urban Development	Т	3	0	0	3	3	PC	
2.		Urban Design: Practice and Processes	Т	3	0	0	3	3	PC	
3.		Dissertation	Т	0	0	4	4	4	PC	
4.		Urban Design Studio III	S	0	0	10	10	10	PC	
5.		Professional Elective II		X	Х	Χ	3	3	PE	
6.		Professional Elective III		X	X	X	3	3	PE	
7.		Internship Training						2	SD	
					7	Γotal	26	28		

# Semester IV (Prerequisite- Pass in Urban Design Studio III)

S. No.	Course Code	Course Title	Туре	Periods per week		-		•		-		•		•		Credits	Category
NO.	Code		L T F		Р												
1.		Thesis Project	S	0	0	20	20	20	SD								
2.		Professional Elective IV		X	Х	Х	3	3	PE								

Total	23	23	
i Otal	23	23	

**Total Credits of** 

# **Professional Elective Courses (PEC)**

S.	Course	Course Title		erioc er we		Total Contact	Credits
No.	Code		L	Т	P/S	Periods	
1.		Culture of Public Spaces	3	0	0	3	3
2.		Quantitative Techniques and Data Representation	3	0	0	3	3
3.		Soft Skills	2	0	1	3	3
4.		City Form Development in Asia	3	0	0	3	3
5.		Human Settlements	3	0	0	3	3
6.		Urban Infrastructure: Resources And Resilience	3	0	0	3	3
7.		Coding for Urban Design	3	0	0	3	3
8.		Urban Economics, Sociology and Management	3	0	0	3	3
9.		Psychology of Learning and Development	1	0	2	3	3
10.		Urban Landscapes	3	0	0	3	3
11.		Urban Transportation Systems	3	0	0	3	3
12.		Disaster Prevention and Mitigation in Cities	3	0	0	3	3
13.		Theory of Architectural Education	3	0	0	3	3

# Semester I

MH25C01	Research Methodologies for Built Environment	Ш	Т	P/S	O
111120001	Nesearch Methodologies for Built Environment	3	0	0	3

- To give introduction to the importance of critical inquiry as a way of gaining knowledge and adding to it through research.
- To give exposure to the various forms of research and research methodologies/ processes.
- To understand research in the specific domain of built environment research.

**Introduction:** Basic research issues and concepts. Orientation to research process. Types of research: historical, qualitative, co-relational, experimental, simulation and modelling, logical argumentation, case study and mixed methods. Illustration using research samples including research in the domain of built environment.

**Research Process:** 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 including research in the domain of built environment.

**Researching and Data Collection:** Library and archives. Internet: New information and the role of internet. Finding and evaluating sources. Misuse. Test for reliability. Ethics.

Methods of data collection- Primary sources: observation and recording, interviews structured and unstructured, questionnaire, open ended and close ended questions and the advantages, sampling. Collecting data from secondary sources. Socio-economic research techniques such as focused group discussions, participant observation.

**Methods and Tools in Urban Research:** Space syntax: key concepts of space syntax and their development, spatial properties - connectivity, integration, intelligibility, etc. - of the built environment and explore their impact on user behavior, visual field/isovist characteristics - compactness, occlusivity, clustering coefficient, etc. - of the built environment and explore their impact on user behavior, analyse architectural and urban layouts using space syntax methods - convex analysis, justified graph, axial analysis and visibility graph analysis. Use of excel software for analyzing data; applications of features of excel- basic and selected advanced features. Data analysis: Advanced Excel, SPSS. Impact of 'Big Data' or statistics on interpretation of urban phenomena

**Report Writing & Case Studies:** Research writing in general and its components. Developing the outline, referencing, writing the bibliography, presentation, etc,. Case studies of competent research, from project inception to completion with a focus on research in the domain of built environment. Review of research publications.

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc

#### References:

- 1. Groat, L., & Wang, D. (2013). *Architectural research methods* (2nd ed.). John Wiley & Sons.
- 2. Booth, W. C., Colomb, G. G., & Williams, J. M. (2008). *The craft of research* (3rd ed.). University of Chicago Press.
- 3. Borden, I., & Ruedi, K. (2005). *The dissertation: An architecture student's handbook* (2nd ed.). Architectural Press.
- 4. Kumar, R. (2014). Research methodology: A step-by-step guide for beginners (4th ed.). SAGE Publications.
- 5. Creswell, J. W. (2013). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). SAGE Publications.
- 6. Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method and research* (1st ed.). SAGE Publications.
- 7. Ward, K. (2013). Researching the city. SAGE Publications.
- 8. Gaur, A. S. (2011). Statistical methods for practice and research: A guide to data analysis using SPSS (2nd ed.). Response Books.

- 1. Bell, J., & Waters, S. (2018). Doing your research project: A guide for first-time researchers (7th ed.). McGraw-Hill Education. ISBN 9780335243396
- 2. Sheppard, V. (2020). Research methods for the social sciences: An introduction. BCcampus & Open Textbook Library. https://open.umn.edu/opentextbooks/textbooks/1589
- 3. Schulman, J. S. (2024, March 28). An exploration of research methods (ResearchMethod.net). Manteio Company.https://researchmethod.net.
- Phelps, J. (2021). Engaging Research Communities in Writing Studies: Ethics, Public Policy, and Research Design (1st ed.). Routledge. https://doi.org/10.4324/9781003082002
- 5. Joore, P., Stompff, G., & van den Eijnde, J. (Eds.). (2022). Applied Design Research: A Mosaic of 22 Examples, Experiences and Interpretations Focussing on Bridging the Gap between Practice and Academics (1st ed.). CRC Press. https://doi.org/10.1201/9781003265924

	Description of CO	РО
	•	Mapping
CO1	Identify, decipher and interpret issues relating to architecture	PO1 (3)
	based on research enquiry methods.	PO2 (2)
CO2	Exemplify different methods of conducting research and	PO1 (3)
	research writing	PO2 (2)
CO3	Interpret specific research related to built environment.	PO1 (3)
		PO2 (2)

UR25101	History And Theory of Urban Design	L	Т	P/S	O
UKZSIUI	History And Theory of Orban Design	3	0	0	3

- To give comprehensive understanding of development of urban form and its determinant factors in global and Indian contexts.
- To introduce and enable understanding of various aspects of urbanism through historical and theoretical frameworks
- To understand historical significance of urban design interventions.

**Introduction:** Introduction to origin and evolution of cities: form and urbanism. Normative, positive theories; Cosmic, Machine & Organic Models; Descriptive & functional theories.

6 periods

**Evolution of Urban Form-Global Context**: Early Cities - classical urban form. Medieval towns. Renaissance urban form and ideal cities. Industrialization, colonialism and model settlements. Reconfiguration Paris, London, Vienna, Barcelona. Modernism, Modernity and ideal settlement form. American grid-iron planning-City Beautiful. Organic cities. CIAM IV and the zoned city. Post war, post-colonial city form, zoned city and place. Urban renewal and community. Mixed use. Development of suburbs, Impact of safety concerns, sustainability, globalization and technology on urban form.

10 periods

Evolution of Urban Form – Indian Context: Early settlements (Indus Valley, southern peninsula, Indo Gangetic plain). Indian notions of space from epics, literature and treatises. Temple towns and ports of Tamizhagam (Kanchipuram, Muziris). City form during Magadha and Gupta Periods (Pataliputra, Varanasi). Medieval cities (Hampi, Jaipur). Mughal urban form (Shahjahanabad, Srinagar). Early colonial settlements (Madras, Pulicat, Goa). Colonial space types and urban form (Calcutta, New Delhi, Darjeeling). Zoned cities (Bhubaneswar and Gandhi Nagar). Industrial towns (Jamshedpur). Zoned layouts (Anna Nagar-Chennai, Whitefield - Bengaluru). Globalization and Indian cities

Modern and Post-Modern Urbanist Theories: Theories of visual-artistic and socialist tradition - Cullen's townscape theories. Three theories of urban design: figure ground, networks and place. Lynch's ideas of good city form and image-ability. Phenomenology - architecture of the city - responsive environments. Claire Cooper Marcus and behavioral studies. Public and private domains. Suburbs and periphery- privacy, territoriality and proximities theory - responsive environments - defensible spaces-community design. Social life of urban spaces. Life between buildings - right to city - gender, class and city. Jane Jacobs - Death and life of great American cities. Futuristic cities. Charles Correa: Housing and Urbanization, National Commission for Urbanization report, 1989. New urbanism

**Contemporary Urban Interventions:** Contemporary Urban condition and future of cities: globalization and local culture, climate change, sustainability and urban resilience. Transportation and city infrastructure. Communication, big data and automation overlay - contemporary processes in urban design - place and public realm in the digital ageparticipatory design.

9 periods

45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

**Assessment Methodology**: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

#### References

- 1. Morris, A. E. J. (1996). *History of urban form before the industrial revolution*. Prentice Hall.
- 2. Carmona, M., Heath, T., Oc, T., & Tiesdell, S. (2010). *Public places, urban spaces: The dimensions of urban design* (2nd ed.). The Architectural Press.
- 3. Bacon, E. (1976). Design of cities. Penguin.
- 4. Cullen, G. (1978). The concise townscape. The Architectural Press.
- 5. Kostof, S. (2005). *The city assembled: The elements of urban form through history*. Thames & Hudson.
- 6. Kostof, S. (1991). The city shaped: Urban patterns and meanings through history. Thames & Hudson.
- 7. Lang, J. (2017). *Urban design: A typology of procedures and products*. The Architectural Press.
- 8. Correa, C. (1999). Housing and urbanization. Thames & Hudson.
- 9. Madanipour, A. (Ed.). (2009). Whose public space? International case studies in urban design and development. Routledge.
- 10. Chakrabarti, D. K. (1995). *The archaeology of ancient Indian cities*. Oxford University Press.
- 11. Waddell, L. A. (2013). *Report on the excavations at Pātaliputra*. Book on Demand Ltd.
- 12. Champakalakshmi, R. (1997). *Trade, ideology and urbanization*. Oxford University Press.
- 13. Lynch, K. (1984). Good city form. MIT Press.
- 14. Lynch, K. (1960). The image of the city. MIT Press.
- 15. Ritchie, A. (2000). Sustainable urban design: An environmental approach. Taylor & Francis.
- 16. Barnett, J. (1982). An introduction to urban design. Harper & Row.
- 17. Broadbent, G. (2003). Emerging concepts in urban space design. Taylor & Francis.
- 18. Gosling, D., & Maitland, B. (1984). *Urban design: The architecture of towns and cities*. St. Martin's Press.

- 1. https://ocw.mit.edu/courses/urban-studies-and-planning/
- 2. https://www.planetizen.com/
- 3. https://www.arch.columbia.edu/publications/reader/1-theory-of-urban-design
- 4. https://www.jstor.org/

	Description of CO	РО
	Description of CO	Mapping
CO1	Knowledge of evolution of global and Indian urban form	PO1 (1)
		PO2 (2)
		PO5 (3)
CO2	Ability to comprehend historical and theoretical frameworks to	PO1 (3)
	address contemporary urban issues.	PO5 (2)
		PO6 (2)
CO3	Understanding on the historical significance of urban design interventions in global urban scenario.	PO2 (1) PO3 (2)

UR25102	Urban Planning: Policy and Practice	L	Т	P/S	С
UK25102	Orban Flamming. Policy and Fractice	3	0	0	3

- To give awareness about the principles of urban planning
- To present a critical overview of relevant urban planning policies, techniques and methods, planning processes and their impact on urban growth, development & infrastructure.
- To give exposure to different aspects of data, planning standards, models and projections.

**Planning theories and Definitions**::Planning glossary. Planning theories and applications in settlement planning. Types of plans: Master Plans, development plans, structure plans, physical, economic and social plans. Planning scales: regional, city, zonal, area, planned unit development schemes. Theories of physical planning: centerplace theory, gravity model, primate cities.

9 periods

Data Base for Physical Surveys: Data base for physical surveys including land use, building use, density, building age, etc., and socio- economic surveys. Sampling and survey techniques. Land use classification or coding. Preparation of base maps: concepts of scales, components and detailing for various levels of plans (like regional plan, city plan, zoning plan, and local area plan). Classification, delineation and ranking of regions and settlements - Guttmann's Scalogram. Desire line diagrams, Threshold analysis. Input output analysis, SWOT analysis. Planning models (descriptive and decision making models). Methods of population forecasts and projections: urban-rural, urban concentration, metropolitan concentration, location dimensions of population groups— social area and strategic choice approach. Interconnected decision area analysis.

9 periods

**Spatial Standards:** Spatial standards, performance standards and benchmarks, and variable standards in applicable scenarios. URDPFI guidelines - Zoning regulations/ordinances and DCR and (development control rules and regulations). Emerging techniques in settlement planning: land management techniques, Land pooling, land assembly, PRT (Plot reconstitution techniques), land readjustment, transfer of development rights.

9 periods

**Techniques And Approaches in Urban Planning:** Various approaches to urban land zoning: mixed zone, floating zone, white zoning etc. TOD (Transit Oriented Development). New Urbanism and PIU (Principles of Intelligent Urbanism). Public participation in planning process. Regional urban resilient planning to address climate change and global emergencies.

9 periods

**Urban Infrastructure:** Concepts of urban infrastructure-social, physical, health Infrastructure. Urban form-size implications for services integration. Infrastructure overlay in PUDs - services and utilities network - qualitative and quantitative assessment for assessment of demand - supply - water supply, sewerage/drainage and waste management-communication and transit networks & urban social Infrastructure. Infrastructure development financing models and emerging options.

9 periods

Total: 45 periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations:60%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

#### References:

- 1. Kulshrestha, S. K. (2012). *Urban and regional planning in India: A handbook for professional practice*. Sage Publications.
- 2. Fainstein, S. S., & DeFilippis, J. (Eds.). (2016). *Readings in planning theory* (4th ed.). Wiley Blackwell.
- 3. Birch, E. L. (2008). *The urban and regional planning*. Routledge.
- 4. Faludi, A. (1973). A reader in planning theory. Pergamon Press.
- 5. Kueckeberg, D., & Silvers, A. (1974). *Urban planning analysis: Methods and models*. John Wiley.
- 6. Bracken, I. (2006). Urban planning methods. Routledge.
- 7. Ratcliffe, J. (1981). *An introduction to town and country planning* (Living Environment series). Nelson Thornes Ltd.
- 8. Keeble, B. L. (n.d.). *Principles and practice of town and country planning*. Estates Gazette Ltd.
- 9. [Author's first name missing] (n.d.). *An introduction to town planning techniques*. Hutchinson Educational.
- 10. Moughtin, C. (2003). Urban design methods and techniques. Elsevier.
- 11. Das, A. (2007). Urban planning in India (Illustrated ed.). Rawat Publications.
- 12. Government of India, Ministry of Urban Development. (n.d.). *Urban and regional development plans formulation and implementation (URDPFI) guidelines* (Vol. [volume number if known]).

- 1. https://niua.in/
- 2. https://mohua.gov.in/upload/uploadfiles/files/URDPFI%20Guidelines%20Vol%201.pdf
- 3. https://ocw.mit.edu/courses/urban-studies-and-planning/
- 4. https://www.lincolninst.edu/publications

	Description of CO	РО
	Description of CO	Mapping
CO1	Describe various urban planning principles, facets, types, scales,	PO1 (3)
	theories and regulations	PO2 (2)
	3	PO3 (1)
		PO5 (2)
		PO6 (2)
CO2	Summarize urban planning frameworks, tools, methodology and	PO1 (3)
	applications in contemporary situations.	PO2 (1)
	applications in contemporary situations.	PO3 (2)
		PO5 (3)
		PO6 (3)

UR25103	Urban Heritage and Conservation	L	Т	P/S	С
01(23103	Orban Hentage and Conservation	3	0 0	0	3

- To introduce the idea of conservation as value addition to city life, place, memory and identity
- To enable understanding of the importance of conserving building heritage, historic precincts & natural heritage
- To give awareness of conservation strategies & legislature, in preserving the essence of a heritage structure or precinct

**Introduction to Conservation:** Understanding the need for heritage conservation. Types of Heritage. Introduction to Conservation, preservation and adaptive reuse of buildings and historic districts.

10 periods

Conservation Strategies: Listing of monuments. Documentation of historic structures: assessing architectural character, building material audit. Historic report- Guidelines for preservation, rehabilitation and adaptive re-use of historic structures. Seismic retrofit. Differently- abled access /services additions to historic buildings. Heritage site management. Conservation management. Concepts of integrated conservation, sustainable conservation, in-situ conservation. Case studies of global and Indian projects.

**Historic Districts:** Understanding characteristics and issues of historic districts, places and cities. Mapping, documentation and development guidelines. Overlay with new age urban infrastructure. Heritage tourism circuits management and master plan. Case studies: Varanasi, Bodhgaya, Thanjavur, Goa, Pondicherry, Aleppo, Rome, Jerusalem, Bath, Beijing, Paris, Istanbul, Galle, Bhutan and Ladakh. **20 periods** 

**Urban Ecology and Natural Heritage:** Urban Ecology. Riparian corridors. Wetlands and urban lakes, urban forests. Coast preservation - code compliance. Case study of Nanmangalam, Guindy national park, Pallikaranai, Mambakkam Lake. Code compliance with Ministry of Environment's legislation and recommendations.

10 periods

**Conservation Legislation:** Central and state government policies and legislation. Role of Conservation Agencies and conventions: ICOMOS, ICCROM, UNESCO, ASI, INTACH, ICHN. Charters and trends in conservation: Florence Charter, Burra charter. Norms for conservation of heritage buildings and sites as part of development regulations, Heritage byelaws and special conditions. Heritage impact assessment. Community heritage leverage legislation such as LEASE Act, RENT Control Act & CESS and TDR. Government of India heritage programs such as HRIDAY and PRASAD.

9 periods

Total:45 periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

**Assessment Methodology**: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

#### References:

- 1. PEARL. (2015). Urban heritage in Indian cities. INTACH Publications.
- 2. Cody, E., & Siravo, J. (Eds.). (2019). *Historic cities: Issues in urban conservation*. Getty Publications.
- 3. Appleyard, D. (1979). The conservation of European cities. MIT Press.
- 4. Fitch, J. M. (1990). *Historic preservation: Curatorial management of the built world*. University of Virginia Press.
- 5. Fielden, B., & Stipe, R. E. (2003). *A richer heritage: Historic preservation in the twenty-first century*. University of North Carolina Press.
- 6. Feilden, B. M. (1994). *Conservation of historic buildings* (3rd ed.). Butterworth-Heinemann.
- 7. Brereton, C. (1995). *The repair of historic buildings: Advice on principles and methods* (Aspects of Conservation). Historic England.
- 8. Mathews, M. S. (1998). Conservation engineering (Restoration of historic monuments: Suggestions for practice). Universität Karlsruhe.

- 1. https://www.intach.org/
- 2. https://www.getty.edu/conservation/
- 3. https://www.unesco.org/en/culture/heritage
- 4. https://www.icomos.org/en/

	Description of CO	
	Description of CO	Mapping
CO1	Describe the role of conservation & identity in burgeoning cities.	PO1 (3)
		PO2 (2)
		PO6 (3)
CO2	Summarize the conservation types, strategies & legislation.	PO1 (2)
		PO3 (2)
		PO5 (2)
		PO6 (2)
CO3	Use critical conservation frameworks for evaluating historical	PO2 (2)
	buildings and districts, urban ecology and propose strategies for	PO5 (1)
	preservation, conservation and adaptive reuse.	PO6 (3)

UR25104	Urban Analysis and Diagramming	L .	Т	P/S	С
UK25104	Urban Analysis and Diagramming	1	0	3	4

- To provide knowledge on visualizing, diagramming, mapping and analyzing urban form and place
- To enable understanding of the importance of data mining and its various methods.

Introduction: Introduction to urban glossary. Basics of mapping- map types.Introductory exercise. Study of an urban transect with sketch-walks.12 Periods

Cognitive Diagramming and Base MAPS: Basics of mapping. Preparation of figure ground maps collating satellite images, GIS, area development maps, records and ground corroboration. Cognitive mapping of tangible and intangible layers: land-use, districts and boundaries, physical histogenesis, heritage fabric, program-movement, activity, nodes, thresholds-networks, pedestrian pathways, transit density, policy initiatives, population demographics, visual and non-visual clues, social memory, community narratives and place realms, soundscape, real estate dynamics, ecology and environmental factors, physical and social infrastructure.

12 periods

Mapping with Theory Overlays: Exploring and analyzing selected urban sites with mapping overlays of urban theories (as filters) on figure ground diagrams and base maps: imageability, permeability, variety, legibility, built, natural and cultural landscapes, perception, monuments and dwelling, spatial syntax, heritage urban form, social life of small urban spaces, life between buildings, FARMAX. Urbanism in the age of climate change, defensible space, and infrastructural urbanism, urban flows, e-cities, e-bodies, globalization and local culture, livability.

12 periods

**Data Visualisation:** Envisioning information. Graphical representation of data. Ben fry's seven steps in creating data visualization: Acquire, Parse, Filter, Mine, Represent, and Refine, Interact. Visual interconnection of facts& ideas: Relationship facts, contacts, connections, time-series, relational graphics, data maps, multivariate designs, scales. Quantitative; discreet; continuous; categorized data to be visualized with graphics software. Visualizing data for various urban development indices and quotients such as livability, walkability, mobility, commuting, off-peak travelling, local business, health, resilience, happiness, urban stress, surveillance and SDG, sustainable development goals.

**Data Analysis:** Detection of graphical deception: design variation vs. data variation. Sources of deception. Aesthetics and Data graphical displays. Urban data mining extracting meaningful information from raw data through simple programming software, iterative data analysis and refinement for various urban development indices and quotients. Social media data analysis as a complementary tool for urban design.

12 periods

**Total: 60 Periods** 

Weightage: Continuous Internal Assessment: 50%, End Semester Examinations:50%.

**Assessment Methodology**: Three Assessments with equal weightage.

One Assessment as Internal written Test /Examination (33.33%), other two assessment (each assessment weightage - 33.33%) as continuous marking of the work and performance during the particular assessment period such as drawings, models, study, seminar, etc.,

#### References:

- 1. Allen, S. (1999). *Points and lines: Diagrams and projects for the city*. The Architectural Press.
- 2. Bentley, I., Alcock, A., Murrain, P., McGlynn, S., & Smith, G. (1985). *Responsive environments: A manual for designers*. The Architectural Press.
- 3. Tschumi, B. (2014). Notations: Diagrams and sequences. Artifice Press.
- 4. McCandless, D. (2009). The visual miscellaneum: A colourful guide to the world's most consequential trivia. HarperCollins Publishers.
- 5. Chakrabarti, V. (2013). A country of cities: A manifesto for an urban America. Metropolis Books.
- 6. Montgomery, C. (2015). *Happy city: Transforming our lives through urban design*. Penguin.
- 7. Dodge, M., Kitchin, R., & Perkins, C. (2011). The map reader. John Wiley.
- 8. Lynch, K. (1960). The image of the city. MIT Press.
- 9. Norberg-Schulz, C. (1980). *Towards a phenomenology of architecture*. Rizzoli.
- 10. Mitchell, W. J. (1996). City of bits: Space, place and the infobahn. MIT Press.
- 11. Horan, T. A. (2000). Digital places: Building our city of bits. Urban Land Institute.
- 12. Watson, D., Szantoi, Z., & Uffelen, H. von. (2003). *Time saver standards for urban design*. McGraw-Hill Education.
- 13. Parolek, D., Parolek, K., & Cram, P. (2000). Form based codes. John Wiley.
- 14. Koolhaas, R. (Ed.). (2001). *Project on the city: Great leap forward*. Taschen.
- 15. Ingels, B. (2009). Yes is more. Taschen.
- 16. Calthorpe, P. (2011). *Urbanism in the age of climate change*. Island Press.
- 17. Banerjee, T., & Loukaitou-Sideris, A. (2014). Companion to urban design. Routledge.
- 18. Tufte, E. R. (2006). *The visual display of quantitative information* (2nd ed.). Graphics Press.

#### **E**-Resources

- https://senseable.mit.edu/
- 2. https://www.urbanobservatory.ac.uk/
- 3. https://informationisbeautiful.net/
- 4. https://www.edwardtufte.com/tufte/

	Deceription of CO	
	Description of CO	Mapping
CO1	Correlate and comprehend urban condition with mapping-	PO1 (2)
	diagramming tools and an array of urban glossary	PO2 (2)
		PO4 (2)
		PO6 (3)
CO2	Extract, visualize and analyse urban data using analytical tools, to	PO1 (3)
	understand and communicate urban development issues, indices	PO3 (2)
	and quotients.	PO4 (3)
	and quotionio.	PO5 (2)

		L	Т	P/S	C
UR25105	Urban Design Studio I	0	0	10	10

- To enable exploration of urban cores in flux and propose future scenarios for their development
- To enable exploration of opportunities to conserve, strengthen and revitalize city cores

Most often, city cores have substantial historic building stock and a network of places intertwined with local culture. It is imperative that old city cores - their networks, street life, and community spaces are taken into consideration in infrastructure up gradation, public projects and real estate development. New development, community infrastructure and amenities should be sympathetic to the context of the local community, architectural heritage and equity and enrich city cores.

This studio seeks to address the role of transformative place making in the context of city cores.

Students will explore the selected area of study, through experiential mapping, physical mapping, and interviews, review of policy and regulations, application of urban design theories, frameworks, data visualization and models.

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Students will explore the selected area of study, through experiential mapping, physical mapping, and interviews, review of policy and regulations, application of urban design theories, frameworks, data visualization and models.

Students will analyze various urban design parameters inclusive of:

the role of historic districts, urban morphology and building types, places and landform types, in a city's socio-cultural identity

urban design challenges in integrating transit, pedestrian, social, health and community infrastructure in historic fabric

relationship between a building and public realm

placing urban catalysts

local cultural aspirations and notions of space-place

safety, health and public space

Probable projects might include urban in-fills, urban catalysts, transit, and pedestrian and community infrastructure as modes for urban revitalization, conservation guidelines, and form-based code manuals for contextual transformation, cultural landscape and place making proposals.

90 Periods

Weightage: Continuous Assessment: 60%, End Semester Examinations: 40%.

Assessment Methodology: Three Assessments with equal weightage.

Each assessment shall incorporate continuous marking of the work and performance during the particular assessment period. Each assessment weightage - 33.33%.

#### References

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- 5. Gehl, J. (2011). Life between buildings: Using public space. Island Press.
- 6. Whyte, W. (2001). The social life of small urban spaces. Project for Public Spaces.
- 7. Lynch, K. (1960). The image of the city. MIT Press.
- 8. Broadbent, G. (2003). Emerging concepts in urban space design. Taylor & Francis.
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- 12. Goldsmith, A. S. (2010). What we see: Advancing the observations of Jane Jacobs. New York University Press.

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- 4. https://www.archdaily.com/tag/urban-design

	Description of CO	PO Mapping
CO1	Summarize the issues of transforming urban cores	PO1 (2), PO2 (2), PO3 (3), PO5 (2), PO6 (3)
CO2	Propose strategies for transformative contextual place making at historic precincts in flux.	PO1 (3), PO3 (2), PO5 (2), PO6 (2)