

**FACULTY OF PHYSICAL PLANNING &
ARCHITECTURE**

SYLLABUS

FOR

M.ARCH. (URBAN DESIGN)
(Under Credit Base Continuous Evaluation Grading System)
(SEMESTER: I to IV)

Examinations: 2014-15



**GURU NANAK DEV UNIVERSITY,
AMRITSAR.**

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M.ARCHITECTURE (Semester System)
(Under Credit Based Continuous Evaluation Grading System)

Aims and Objectives

The rapid urbanization of the Indian landscape and the equally swift transformation of its cities create an urgent need in the region for design professionals, especially practicing architects and planners, to deal with problems of designing within existing urban fabrics and in the periphery of rapidly growing cities. Exposure to a wide scale of design issues ranges from the layout of towns and the restructuring of inner cities to the shaping of streets as settings for public life. The provision of open spaces that nurture civic consciousness also require in-depth consideration. The M. Arch. programme with specialization in Urban Design aims to offer a broad-based education in the theory and practice of urban design to enhance the knowledge and abilities of professional architects involved in the design, creation, and evaluation of urban spaces.

Aims

The aim of this course Programme is to provide knowledge, skills and values in sustainable urban design. The goal is to produce graduates with humanistic perspectives, professional qualifications and design capabilities, who will contribute to the processes of urban change, nationally and internationally. The following learning outcomes are designed to ensure the implementation of the course programme in line with these aims and goals. The course programme in sustainable urban design aims to create among urban designers, a human perspective in contributing to the process of urban change using their professional qualifications and design capabilities –initiate and implement urban development with the aim of creating long-term sustainable urban environments –build on their understanding and appreciation of the artistic basis of the profession to develop a professional attitude to urban design.

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Objectives

More specifically, the course hopes to achieve the following objectives:

1. Produce environmentally and socially responsible professionals who are committed to the provision of good urban public areas;
2. Develop analytical and methodological skills that are critical foundations to urban design processes.
3. Provide exposure, at an advanced level, to the full range of issues that bear upon the design and realization of large scale urban space.
4. Prepare students for advanced careers in urban design, consulting, research or public service, or in preparation for further academic training.

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Scheme of Course

M. Arch. Semester 1ST (Autumn Semester)								
Sr. No.	Course Code	Course Title	Course Type	Credits	L	T	U	Duration of Exam
1	ARL-601	History and Evolution of Urban Form	DC	04	03	01	0	03 hrs
2	ARL-602	Theory of Urban Design	DC	04	03	01	0	03 hrs
3	ARL-603	Urban Planning Process, Practice and Legislation	DC	04	03	01	0	03 hrs
4	ARU-604	Urban Design Studio – I	DC	10	02	0	08	Viva Voce
ELECTIVE SUBJECTS (ANY ONE OF THE FOLLOWING)								
5	ARL-605	Public Space Infrastructure and Landscape Design	DE	04	03	1	0	03 hrs
6	ARL-606	Computer Programming and Information Systems	DE	04	03	1	0	03 hrs
TOTAL:				26	14	4	08	
7	–	Inter – Disciplinary Course	ID	–	–	–	–	–

M. Arch. Semester 2ND (Spring Semester)								
Sr. No.	Course Code	Course Title	Course Type	Credits	L	T	U	Duration of Exam
1	ARL- 651	Socio–Economic– Cultural Aspects of Urban Realm	DC	04	03	01	0	03 hrs
2	ARL- 652	Urban Infrastructure	DC	04	03	01	0	03 hrs
3	ARL-653	Urban Housing	DC	04	03	01	0	03 hrs
4	ARU- 654	Urban Design Studio – II	DC	10	02	0	08	Viva Voce
ELECTIVE SUBJECTS (ANY ONE OF THE FOLLOWING)								
5	ARL- 655	Real Estate Development	DE	04	03	01	0	03 hrs
6	ARL- 656	Urban Design and Sustainable Development	DE	04	03	01	0	03 hrs
TOTAL:				26	14	4	08	
7	–	Inter – Disciplinary Course	ID	–	–	–	–	–

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M. Arch. Semester 3rd (Autumn Semester)								
Sr. No.	Course Code	Course Title	Course Type	Credits	L	T	U	Duration of Exam
1.	ARL-701	Urban renewal and Conservation	DC	04	03	01	0	3 hrs
2.	ARL-702	Project Planning & Finance for Urban Design	DC	04	03	01	0	3 hrs
3.	ARL-703	Research Methodology and Planning Techniques	DC	04	03	01	0	3 hrs
4.	ARU-704	Urban Design Studio III	DC	10	02	00	08	Viva Voce
ELECTIVE SUBJECTS:								
5.	ARS-705	Thesis Seminar on Urban Design	DE	02	00	00	04	Presentation & Report Submission
Total				24	11	03	12	
6.	–	Inter – Disciplinary Course	ID	–	–	–	–	–

M. Arch. Semester 4th (Spring Semester)								
Sr. No.	Course Code	Course Title	Course Type	Credits	L	T	U	Duration of Exam
1.	ARD-751	Thesis Project	DC	20	00	00	20	Viva Voce
Total				20	00	00	20	

M.ARCHITECTURE (Semester – I)
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ARL 601: History and Evolution of Urban Form

**Duration of Examination: 03 Hrs.
Credits : 04 (L=03, T=1,U=0)**

PART I

Emergence and evolution of early human settlements; Changing pattern and form of human settlements, Historic overview of urban form of early cities Greek and Roman cities

PART II

Historic overview of urban form from medieval period to colonial period, impact of industrial revolution on urban form

PART III

Urban form of modern cities, the study of physical form of a typical city, understanding the on-going transformation process, urban design case studies of various typologies, inner city areas, redevelopments, civil lines and new townships

Suggested Readings:

1. Bacon, Edmond N; "Design of Cities", Penguin Books, U.S.A. Inc., Revised, 1976.
2. Castagnoli, Ferdinando; "Orthogonal Town Planning in Antiquity", MIT Press, U.S.A., 1971.
3. Kostof, Spiro; "The City Assembled," Bulfinch Press Book, U.S.A., 1992.
4. Kostof, Spiro; "The City Shaped", Thames & Hudson, New York, 1991.
5. Malville & Gujral (Ed) ; "Ancient Cities, Sacred Skies," 1 GNCA and Aryan Book Int. New Delhi, 2000.
6. Morris, A.E.J.; "History of Urban Form", George Godwin Ltd, London, 1972.
7. Geoffrey and Susan Jellicoe; "The Landscape of Man: Shaping the environment from Prehistory to the present day." Thames and Hudson Ltd, London, 1975.

M.ARCHITECTURE (Semester – I)
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ARL–602: Theory of Urban Design

Duration of Examination: 03 Hrs.

Credits: 04 (L=03, T=1, U=0)

PART I

Explanations of Urban Design terminologies, definitions and methodologies for shaping and understanding of urban form; derived from both theory and empirical evidence.

Role of key Architects and Planners and their influence in the production of ideas and the evolution of urban design theories.

Scope and objectives of urban design; its relation with architecture and urban planning.

A critical analysis of urban design and planning in showing increasing complexity of factors and forms of built environment, built architectural forms to urban architecture. The various tangible and intangible factors which serve as the basis for urban design theories and principles.

PART II

Introduction and examination of established urban design concepts and principles by experts such as Camillo Sitte, Christopher Alexander, Daniel Burnham, Clarence Perry, Ebenezer Howard, C. Doxidadiadis, Mumford, Venturi, Rossi, F.L. Wright, Le Corbusier, Colin Rowe, Jane Jacobs, Rob Krier, Patrick Geddes, Kevin Lynch and Ben Hillier etc. will be examined. Post modern urban design as a product and process in the era of globalization.

PART III

This part shall cover city forms both in their entirety and as component parts. Focus on the physical components of cities and their design. Cognitive mapping –Image ability and Elements of urban design. Urban scale; Intimate, Urbane and Monumental. Human scale and Generic scale in Urban Design. Urban spaces – Concepts of place and space, Hierarchy and nature, geometrics and Typologies, sense of enclosure, detail design aspects; Building typology and its impact on urban form; Urban Massing in Built form – pattern, texture, grain and density. The integration of movement, activity and urban form. The impact of climate and land form on urban form.

The size, shape and structure of cities. Methods of urban design surveys, documentation and representation.

M.ARCHITECTURE (Semester – I)
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Suggested Readings:

1. Alexander, Christopher; “A New Theory of Urban Design” Oxford University Press, New York, 1987.
2. Bacon, Edmund N; “Design of Cities” Viking Press, New York, 1967.
3. Barnett, Jonathan; “An Introduction to Urban Design” Harper & Row, New York, 1982.
4. Broadbent, Geoffrey, “Emerging Concepts in Urban Space Design” Van Nostrand Reinhold (International), London, 1990
5. Cullen, Gordon; “Townscape” Reinhold, New York, 1961.
6. Jacobs, Jane; “The Death and Life of Great American Cities”, Random House, New York, 1961.
7. Kostoff, Spiro; “The City Shaped: Urban Patterns and Meanings Through History”, Thames and Hudson, London, 1991.
8. Krier, Rob; “Urban Space”, Rizzoli, New York, 1979.
9. Lynch, Kevin; “The Image of the City”, Technology Press & Harvard University Press, Cambridge, Mass, 1960.
10. Lynch, Kevin; “A Theory of Good Urban Form”, MIT Press, Cambridge, Mass, 1981.
11. Lynch, Kevin; “Good City Form”, MIT Press, Cambridge, Mass, 1984.
12. Mumford, Lewis; “The City in History: Its Origins, Its Transformations, and Its Prospects”, Martin Secker and Warburg, London, 1961.
13. Sitte, Camillo; “City Planning According to Artistic Principles”, Random House, New York, orig.1889, 1965.
14. Watson, Donald (ed.), “Time Saver Standards for Urban Design”, McGraw Hill, 2003.
15. Rossi, Aldo; “The Architecture of the City”, MIT Press, Cambridge, Mass, 1982.

M.ARCHITECTURE (Semester – I)
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**ARL–603: Urban Planning Process,
Practice and Legislation**

Duration of Examination : 3 Hrs.

Credits : 04 (L=3,T=1,U=0)

PART I

Urbanization process and its implications; Relationship between urban planning and urban design from practitioner's perspective; Urban Planning Process; Various urban planning tools – Perspective Plan, Master Plan, Development Plan, Zonal Plan, Project plans/schemes; Forms of control for urban development; Impact of planning regulations such as ground coverage, FAR, zoning, density norms, architectural controls, physical and social infrastructure provisions on emerging urban form.

PART II

Planning Surveys – Process and types; Land assembly through town planning schemes, transfer of development rights and accommodation reservation; Role of public participation in plan formulation and implementation; Public–private partnerships; JNNURM and urban governance.

PART III

Legal framework in which development takes place in India: Historical evolution of planning legislation in India; The Land Acquisition Act, 1894; The Punjab Municipal Corporation (Amendment) Act, 1994; The Punjab Town Improvement Act, 1922; The Punjab Regional and Town Planning and Development Act, 1995; The Seventy–Fourth Constitution (Amendment) Act, 1992; The Delhi Urban Art Commission Act, 1973.

Suggested Readings:

1. Catanese, A.J. and Snyder, J.C.; 'Introduction to Urban Planning', McGraw–Hill Inc., New York, 1979.
2. Das, A.K.; 'Urban Planning in India', Rawat Publications, Jaipur, 2007.
3. Greed, Clara; 'Introducing Planning: Introducing Planning', Continuum, London, 2004.
4. I.T.P.I.; 'Constitutional (Seventy–Fourth) Amendment Act, 1992– Suggested Changes in Municipal and Town Planning Acts', New Delhi, 1994.
5. Keeble, L.; 'Principles & Practice of Town and Country Planning', The Estates Gazette Ltd., London, 1972.
6. Kopardekar & Diwan; 'Urban and Regional Planning – Principles, Practice and Law', S.H Kopardekar, Talegaon – dabhade, 1994.
7. Kulshrestha, S.K. (ed.); 'Dictionary of Urban and Regional Planning', Kalpaz Publications, Delhi, 2006.
8. Ministry of Urban Affairs & Employment (GOI); 'Urban Development Plans Formulation and Implementation Guidelines', ITPI, New Delhi, 1996
9. Saini & Mahavir; 'Urban Development Planning Strategies and Techniques', Central Electric Press, Delhi, 1985.
10. Sengupta, B.K., 'Planning Legislation and Professional Practice', Reader volume, ITPI, New Delhi.
11. Thooyavan, K.R.; 'Human Settlements – A Planning Guide to Beginners', MA Publication, Chennai, 2005.
12. Ramachandran, R.; 'Urbanization and Urban Systems in India', Oxford University Press, New Delhi, 1991.
13. 'Urban Planning Guide' prepared by Urban Planning and Development Division, ASCE, New York.

M.ARCHITECTURE (Semester – I)
(Under Credit Based Continuous Evaluation Grading System)

ARU–604: Urban Design Studio–I

Duration of Examination: Viva Voce
Credits : 10 (L=02, T=0,U=08)

The urban design studio is where the synthesis of theoretical and practical aspects of urban analysis and design takes place. The course introduces the students to standards in urban/built environment design; and experiences through field surveys. The students will understand various issues, approaches, precedents and alternative design solutions for architectural/urban design problems for urban design analysis, problem solving and conceptual development.

1. Study and Design of Precinct/Campus level Area of a city by exploring the dynamics of built form–open space relationship, land use and movement integration. Collection of data on land use, activity pattern, traffic characteristics and volume, social infrastructure, density etc. followed by analysis and synthesis resulting in design solution.
2. Design layout and three dimensional modelling of uni–functional or mixed use development such as neighbourhood, commercial centre, socio cultural centre, educational campus etc. with emphasis on programme interpretation, preparation of design brief and optimization of area programme with respect to bye laws.

Suggested Readings:

1. Alexander, Christopher; “The Timeless way of Building”, Oxford University Press, 1979
2. Burton, Elizabeth and Mitchell, Lynne; “Inclusive urban design – street for life”, Elsevier, 2006
3. Halprin, Lawrence, “Cities”, The MIT Press, 1972
4. American Planning Association; “Planning and Urban Design Standards”, John Wiley and Sons, Inc, 2006
5. Watson, Donald; “Time Saver standards for Urban Design”, McGraw–Hill, 2003
6. Norbenschulz, Christian; “Genius Loci: Towards a Phenomenology of Architecture”, Rizzole International Publications, New York, 1979

M.ARCHITECTURE (Semester – I)
(Under Credit Based Continuous Evaluation Grading System)

**ARL–605: Public Space Infrastructure
and Landscape Design**

**Duration of Examination: 03 Hrs.
Credits: 04 (L=03, T=01, U=0)**

PART I

Introduction: space, public space; role of public space and trees in urban life, green infrastructure, social activities and their types, role of landscape design and planning, health and safety as important parameters, role of public space in creating active communities, the holistic approach of landscape ecology and its application in design of natural and urban landscapes/ecosystems; to promote interdisciplinary collaboration in landscape and urban design.

PART II

Importance of landscape design in urban design by referring to historical and contemporary examples, study of open space– built form relationship; various typologies of open space systems at macro and micro level; elements and principles of landscape design.

PART III

Expand design skills to address problems involving the creation of outdoor public space the use of landscape typologies to create diverse public spaces, the basic design of street typologies and transportation networks, the use of street furniture, lighting, graphics, signage and public art in enhancing the sense of place.

Suggested Reading:

1. Henry F. Arnold; “Trees in Urban Design”, Van Nostrand Reinhold Co., New York, USA, 1980
2. Marsh M. William; “Landscape Planning– Environmental Applications”, John Wiley and Sons, River Street, New Jersey, USA, 2005.
3. Gehl Jan; “Life Between Buildings”, Van Nostrand Reinhold Co., New York, USA, 1971.
4. Singh, Chhatar; Wattas, Rajnish and Dhillon, Harjit Singh; “Trees of Chandigarh”, B R Publishing Corp., New Delhi, 2010

M.ARCHITECTURE (Semester – I)
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**ARL–606: Computer Programming
and Information Systems**

Duration of Examination: 03 Hrs.

Credits : 04 (L=03, T=1,U=0)

PART I

This course provides an introduction to computer software, such as Geographical Information Systems (GIS), Space Syntax for urban designers

PART II

Teaching the basic skills, techniques, and interpretive capabilities to make effective maps, analyze data within an urban context.

PART III

Understand the pros and cons of different GIS techniques, databases, and software applications followed by practiced and hands–on training on the studio problem or other assignments.

Suggested Readings:

1. Kumar, Dr. S.; “Basics of GIS and Remote Sensing”, Laxmi Publishers, 2005
2. Shekhar, Shashi and Hui, Xiong; “Encyclopedia of GIS”, Springer Science & Business Media. New York, 2008
3. Korte, George. B.; “The GIS Book”, Onward Press, San, 2011.

M.ARCHITECTURE (Semester – II)
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ARL–651: Socio–Economic–Cultural Aspects of Urban Realm

Duration of Examination: 03 Hrs
Credits: 04 (L=03, T=1, U=0)

PART I

Concepts of place and space – An overview, social construction of space. Inter–relationship and influence of social and economic aspects on contemporary development issues which define an artificial environment in terms of fair/just urban form. The negative effects of colonialism, industrialization and globalization on the fabric of cities resulting in the disturbance in the quality of built environment and the quality of life. Overview of cross–cultural influences in city development, Contemporary culture – the metropolitan experience

Introduction to the exploration of the interface between the built environment and human behavior, Physical and psychological design determinants. Changing attitudes towards urban space at global level and special emphasis on Indian urban Space as contested domain – public private, concept and production of everyday space.

PART II

City as a human network – social structure and urban form. Social access – territoriality, exclusion and inclusion, minority groups and the disadvantaged, children and the geographies of disability– various norms and standards of barrier free environment and their applicability in built environment. Attitudes towards deviancy, accessible environments and persons with disabilities with emphasis on legal, ethical, human factors. The accessibility and use of an urban area for differently abled persons.

M.ARCHITECTURE (Semester – II)
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PART III

Urban life–style diversity and spaces of consumption– Relationship between major socio–economic issues like urban poverty, urban violence and breaking up of family structure as a result of urbanization and several other issues relating to urban design. Discoveries and implications of the post–metropolis, globalization and transnational urbanism. Contemporary trends in the Asian city, conflicts, contestations and hybridization within the multilayered urbanities of Indian cities.

Reading, analysis and investigation of urban areas and critical appraisal of the developments in form and space from the human perspective through discussion and case studies.

Suggested Readings:

1. Cullen, Gordon, “The Concise Townscape” Van Nostrand Reinhold, New York, 1971.
2. Gosling, David and Barry Maitland, “Concepts of Urban Design” St. Martin’s Press, New York, 1984.
3. Hall, Edward T.; “The Hidden Dimension” Anchor Books Editions, New York, 1990.
4. Hillier, Bill, Hanson, Julienne; “The Social Logic of Spaces” Cambridge University Press, 1989.
5. Kaus, Mickey, “The End of Equality–An Analysis of The Current Socioeconomic Crisis, as it can be partially remedied by traditional planning”, New York: Basic Books, 1992.
6. Kostof, Spiro; “The City Shaped: Urban Patterns and Meanings through History”, Little Brown, Boston Mass, 1991.
7. Lefebvre, Henri, “The Urban Revolution” University of Minnesota Press, 1970.
8. Lefebvre, Henri, “The Social Production of Urban Space” University of Texas Press, 1984.
9. Mumford, Lewis,, “The City in History: Its Origins, Its Transformations, and Its Prospects” Harcourt, Brace & World, New York, 1961.
10. Newman Oscar; “Defensible Space: Crime Prevention Through Urban Design”, New York: Collier Books, 1972.
11. Rowe, Colin and Koetter, Fred, “Collage City”, MIT Press, Cambridge, Mass, 1979.
12. Southworth, Michael, Alexander. C, S. Ishikawa and M. Silverstein, “A Pattern Language”, Oxford University Press, New York, 1977.
13. Steele Fritz, “The Sense of Place”, CBI Publishing Company Inc. Boston, 1981.
14. Trancik, Roger; “Finding Lost Space: Theories of Urban Design”, John Wiley & Sons, 1986.
15. Watson, Donald (ed.), “Time Saver Standards for Urban Design”, McGraw Hill, 2003

M.ARCHITECTURE (Semester – II)
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ARL–652: Urban Infrastructure

Duration of Examination: 03 Hrs.

Credits : 04 (L=03, T=1,U=0)

PART I

Infrastructure will include public works such as site evaluation, road geometrics and parking standards, drainage, sewerage, solid waste disposal, fire fighting, electricity. Introduction to the concepts of rain water harvesting.

PART II

Social facilities such as housing, healthcare, education, security, public spaces and economic facilities. The various aspects of pressures of urban growth, city limits/boundaries viz a viz new extension will be studied.

PART III

The critical role that transportation plays in structuring the city will be examined with respect to transport systems and their types; Travel and Traffic Characteristics including modal choice, journey lengths, purpose, trip distribution in time, traffic surveys, capacity factors etc. Introduction to transportation planning process, Comprehensive mobility plan.

Suggested Readings:

1. Jain, V.K., “Handbook of Designing and Installation of Services in Building Complex”, Khanna Publisher, New Delhi, 1998.
2. Gupta, J.B., “Electrical Installation, Estimating and Costing”, S.K. Kataria & Sons, New Delhi, 2002.
3. UDPFI Guidelines; “Centre for research, documentation & training”, 1996.
4. Kadiydali. L.R.; “Traffic Engineering and Transport plan”, Khanna publishers Delhi, 2002.
5. Lewis, Keeble; “Principles and Practice of Town Planning”, The Estates Gazette Limited, London TOWN PLANNERS, INDIA, 1969.
6. De Chiara, Joseph; “Time Saver Standards for Residential Development”, McGraw Hill Book Company, Singapore, 1978.
7. De Chiara, Joseph; “Site Planning”, McGraw–Hill Book Company, New York, 1986.

M.ARCHITECTURE (Semester – II)
(Under Credit Based Continuous Evaluation Grading System)

ARL–653: Urban Housing

Duration of Examination: 03 Hrs.
Credits: 04 (L=03, T=1, U=0)

PART I

Housing constitutes the major part of our cities, is produced in a variety of ways and is a reflection of a settlements ethnic, social and economic groups; the objective of the course is to develop an understanding of the dynamics of traditional and contemporary housing and the emerging housing scenario in India.

Concept of shelter, evolution of housing, suitable housing for the society, Indigenous and vernacular housing.

House form and its determinants: physical, cultural, behavioral, environmental considerations in housing design. (Theory of **Amos Rappoport, John FC Turner and John Habraken**).

Housing Scenario in India and other developing nations, effect of urbanization and industrialization on housing.

PART II

Traditional housing stock, its layout and design, social and economic considerations, environmental features, present condition, transformations issues and remedies. Relevance of traditional neighborhood and housing design in present context.

Housing as an economic good: housing demand and supply, housing market, housing finance system, role of various housing finance institutions like NHB, HUDCO, LIC etc. Role of real estate developers and private builders in the housing sector, housing as an investment, private public partnership and foreign direct investment their impact on the housing market.

Slums and low income settlements, up gradation and improvement programmes, incremental housing, and social housing programmes.

PART III

Housing policies and programmes in India : National Urban Housing and Habitat Policy (NUHHP),

Role of the Government & NGOs. **Housing layout and standards. Sustainable housing**, upcoming theories and efforts in the field of housing.

Suggested Reading:

1. Financing of Housing and Community Improvement Programmers / United Nation.
2. Housing Act / H.M.O.S
3. Abrams, C.; Housing and Town and Country Planning: Urban and Problems and Policies, Concept Publishing Company, 1974.
4. Modak, N.V.; Town and Country Planning and Housing, Saur, 1991.
5. Mathur, G.C.; Low Cost Housing in Development Countries, Oxford & IBH Publishing Company, 1993.
6. Edwards, Brian; Sustainable Housing: Principles and Practice, Taylor & Francis, New York, 2005.
7. Stafford, D C.; “The Economics of Housing Policy”, Croom Helm Publication, 1978.

M.ARCHITECTURE (Semester – II)
(Under Credit Based Continuous Evaluation Grading System)

ARU–654: Urban Design Studio – II

Duration of Examination: Viva Voce
Credits : 10 (L=02, T=0,U=08)

The course introduces the students to the complexity of a typical Indian city in terms of pressing issues such as conflict between old and new areas, fragmentation, transformations, lack of character and image. Students will be required to understand the tools and mechanism of development, the global versus local concerns, the importance of public participation in effecting the urban design process in an existing city.

Study of a town/city with respect to understanding of evolution of urban morphology in historic context, change and continuity, present issues and conflicts by analyzing the land use, movement pattern, socioeconomic and demographic patterns, visual environment, spatial structure and typology. Identification and design of action areas and implementation in light of prevailing government policies and programmes including socio-economic indices of development.

Suggested Readings:

1. Appleton, Jay, "The Experience of Landscape", John Wiley and sons, 1996.
2. Gindroz, Ray et al; "The Urban Design Handbook: Techniques and Working Methods" W.W. Norton and Company, New York, 2003
3. Hayward, Richard and Sne McGlynn (Ed), "Making Better Places Urban Design Now", Butterworth Architecture, 1993.
4. Whyte, Iain Boyd (Ed), "Modernism and The Spirit of The City", Routledge, London, 2003.
5. Broadbent, Geoffrey, "Emerging Concepts in Urban Space Design", Van Nostrand Reinhold, London, 1990
6. American Planning Association, "Planning and Urban Design Standards", John Wiley and Sons, Inc, 2006
7. Watson, Donald (ed) et all, "Time Saver standards for Urban Design", McGraw–Hill, 2003
8. Anderson, Stanford (ed.), "On Streets", MIT Press, Cambridge, Mass, 1991.
9. Gosling, David and Maitland, Barry, "Concepts of Urban Design", Academy Editions, St. Martin's Press, London and New York, 1984.
10. Unwin, Raymond, "Town Planning in Practice: An Introduction to the Art of Designing Cities and Suburbs", Princeton Architectural Press, New York, 1994.
11. Van der Ryn and Calthorpe, Peter, "Sustainable Communities: A New Design Synthesis for Cities, Suburbs, and Towns", Sierra Club Books, San Francisco, 1986.
12. Pushkarev, B.S., "Urban Space for Pedestrians", Cambridge: The MIT Press, 1975.
13. Adams, Thomas. "The Design of Residential Areas: Basic Considerations, Principals and Methods", Cambridge, Massachusetts: Harvard University Press, 1934.
14. Barnett, Jonathan; "The Fractured Metropolis: Improving the New City, Restoring the Old City, Reshaping the Region". Boulder, Colorado: Westview Press, 1995.
15. Bentley, I. Alcock, A. Murrain, P. McGlynn, S. Smith, G., "Responsive Environments: A Manual for Designers", Oxford, England: Butterworth Helnemann Ltd, 1985.
16. Calthorpe, Peter and Sim Van der Ryn; "Sustainable Communities: A New Design Synthesis for Cities, Suburbs and Towns", California: Sierra Club Books, 1986.
17. Congress for the New Urbanism. Charter of the New Urbanism, "Region / Neighborhood, District, and Corridor / Block, Street, and Building", New York: McGraw–Hill Books, 1999.
18. Gehl, Jan; "The Space between Buildings", New York, Van Nostrand Reinhold, 1986.
19. Wilson, William H.; "The City Beautiful Movement", Baltimore, John Hopkins, 1989.

M.ARCHITECTURE (Semester – II)
(Under Credit Based Continuous Evaluation Grading System)

ARL–655: Real Estate Development

Duration of Examination: 03 Hrs.

Credits : 04 (L=03, T=1,U=0)

PART I

Introduction and Definition of real estate – physical, financial and social perspectives. Comparison of real estate to other investment avenues. Real, local, national and global factors affecting real estate. History of development of real estate in Indian metros.

PART II

Key drivers of the metropolitan real estate market. Concepts of real estate analysis. Mapping supply to understand markets. Property grading, factors affecting grading and the relevance of such grading, relevance of design in grading. Demand factors affecting real estate development.

PART III

Real estate development and planning. Planning process abroad and in India, Overview of laws and regulations affecting real estate. Urban Land Ceiling, Rent Acts, DCR's etc. FDI policy in Townships and SEZ's. Short review of office markets in Delhi, NCR, Chandigarh and Punjab.

Suggested Readings:

1. Tiesdell, Steve, "Urban Design in the Real Estate Development", McGraw– Hill Professional, 2011.
2. Nathan S. Collier, Courtland A. Collier, "Construction Funding: The Process of Real Estate Development", John Wiley & Sons Publishers, 2008
3. CREDAI : The Confederation of Real Estate Developers Association of India

M.ARCHITECTURE (Semester – II)
(Under Credit Based Continuous Evaluation Grading System)

**ARL–656: Urban Design and
Sustainable Development**

Duration of Examination: 03 Hrs.

Credits : 04 (L=03, T=1,U=0)

PART I

Definitions of environmental planning terms. Strategies and concepts of sustainable development for resource conservation as relevant to settlement planning & design. Basic principles of sustainable development and the physical planning instruments that can be employed to achieve sustainable development. Identification of desired developments and intensities, site selection, planning, design and construction management, mitigation and augmentation of environmental impacts

PART II

Environmental Planning techniques – analysis of carrying capacity, ecological footprint and land suitability, vulnerability assessment and microzonation, pollution modeling, eco city development etc. Statutory Acts, regulations and Notifications (costal zone regulations, pollution control Act etc.).

Definition of Environmental Impact assessment, methods of EIA, procedures – formats, important clearances, time frame, legal framework of EIA.

PART III

Climate change and city form. International agreements agendas and protocol. Case studies of application of concepts at various scales – regional, settlement and buildings (emphasis on urban eco systems green buildings, pollution control, energy use, water harvesting, waste treatment, solid waste management etc.) Case studies of EIA as relevant to urban design projects

Suggested Readings:

1. Brande and Vale, Robert, "Green Architecture: Design for A Sustainable Future", Thames and Hudson Ltd., 1991.
2. Dober, Richard P.; "Environmental Design," Van Nostrand Reinhold Co., 1969
3. Evans, Peter, "Livable Cities?" University of California Press, 2002
4. Moughton And Shirley, "Urban Design: Green Dimensions", Elsevier, 2005 (2nd Ed)
5. Tolley, Rudney (Ed), "Sustainable Transport," Woodhead Publishing Ltd., 2003
6. Hough, Michael; "City form and Natural Process", Rontledge, 1989

M.ARCHITECTURE (Semester – III)
(Under Credit Based Continuous Evaluation Grading System)

ARL–701: Urban Renewal and Conservation

Duration of Examination: 03 Hrs.
Credits : 04 (L=03, T=1,U=0)

PART I

Historic overview of urban renewal, Concepts of urban renewal, Development strategies for regeneration of inner city areas, recycling, renewal, etc., Case studies of urban renewal, Adaptive reuse and Brown Field projects in India and abroad. Infrastructure up gradation, economic regeneration, financing and management of urban renewal schemes. Introduction to conservation, heritage, Concepts of historic zones and world heritage sites, Principles of conservation, Successful practices in conservation in India and abroad, Importance of Charters, Archaeological Acts, Conservation Acts and Legislation

PART II

Architectural and urban conservation, Historic enclaves and their values, present condition and context, Conservation planning procedures – evaluation criteria, Conservation – means, mechanisms, agencies and financing. Techniques used in preparation of Conservation Plans: Site visits, inventories, typology, analysis, physical & socio–economic surveys.

PART III

Concepts & approaches to urban conservation in India, UK & Europe, Integrated approach to conservation, urban renewal incorporating socio–economic and cultural context, landscape, planning process and tourism. Heritage tourism and conservation, Discussion on recent conservation practices by various agencies. Institutional framework for urban conservation and renewal strategies in India with special emphasis on JNNURM.

Suggested Readings:

1. M. Feilden, Bernard; “Conservation of Historic Buildings”, *Architectural Press, Burlington; 3rd edition, 2003.*
2. Ashworth, G.J. & Tunbridge, J.E.; “The Tourist – Historic City”, *Belhaven Press, London and New York; 1st edition 2000.*
3. Latham, Derek; “Creative Re–use of Buildings”, *Donhead, edition 2007*
4. W. Install, Donald & Associates; “Chester – A Study in Conservation”; *London Her Majesty’s Stationery Office, Edition 1968.*
5. K. Parajuli, Yogeshwar; “Bhaktapur Development Project – Experience in Preservation and Restoration in a Medieval Town”; *Edition 1974–85.*
6. Cohen, Nahoum; “Urban Planning Conservation and Preservation”, *Mcgraw Hill, edition 2001.*
7. Menon, A.G.K. & Thapar, B.K.; “Historic Towns and Heritage Zones”; *INTACH, edition 2002.*
8. Petruccioli, Attilio; “After Amnesia – Learning from the Islamic Mediterranean Urban Fabric”, *ICAR, edition 2009.*
9. J. Larkham, Peter; “Conservation and the City”; *Rout Ledge. London and New York, 1st edition 1996.*
10. Greffe, Xavier; “Managing our Cultural Heritage”, *Aryan Books International, N.D. 1st edition 2001.*
11. “The Future of Asia’s Past – Preservation of the Architectural Heritage of Asia”, *The Getty Conservation Institute, edition 1995.*
12. Pederson, Arthur; “Managing Tourism at World Heritage Sites”, *UNESCO World Heritage Centre, edition 2002.*
13. International Charters for Conservation and Restoration, *ICOMOS.*
14. Burrows, G.S.; “Chichester – A Study in Conservation”, *London Her Majesty’s Stationery Office; Edition 1968.*

M.ARCHITECTURE (Semester – III)
(Under Credit Based Continuous Evaluation Grading System)

**ARL–702: Project Planning &
Finance for Urban Design**

Duration of Examination: 03 Hrs.

Credits : 04 (L=03, T=01,U=0)

PART I

Financing urban development; tax and non-tax revenue of urban planning and development agencies; cost recovery of services; subsidy and cross-subsidy; loans and grants from financial institutions; remunerative projects; making urban development self-financing. Municipal finances; various sources of finance i.e. taxes, fees & charges, etc.; various items of expenditure for development and maintenance of infrastructure; resource mobilization from government and other external sources; public-private partnership in urban development. Urban financial institutions such as HUDCO, NHB, LIC, etc their structure, sources of funds and priorities of allocation.

PART II

Introduction to project planning, theories, concepts and management Life cycle of a project; Stages of project formulation and their significance – identification of a project, techno-economic analysis, feasibility analysis, design and network analysis, Norms, standards, aspects and methods of project appraisal and report, cost-benefit analysis, discounted cash-flow analysis; costs of conducting such analysis. Project funding, economic feasibility and methods of recovery.

PART III

Network techniques of project formulation – network logic, rules, forms of network, critical path method (CPM) & project evaluation and review technique (PERT); Time estimates and uncertainty; Work schedule– concepts & techniques. Implementation strategies, scheduling, activities, progress reviews, corrective actions etc. Special projects such as Special economic zones, export processing zones, townships etc. Mandatory legal and environmental approvals Case studies of successful projects and planning schemes are encouraged to be used as examples.

Suggested Readings:–

1. Mankar, V.G., “PUBLIC FINANCE– Theory and Practice”, Himalaya Publishing House, Bombay, 1992.
2. Sundharam, K.P.M., “Indian Public Finance and Financial Administration”, Sultan Chand and Sons, Delhi–6, 1972.
3. Andley, K.K. and Sundharam, K.P.M., “ Public Economics and Public Finance (With Special Reference to Underdeveloped Countries)”, Ratan Prakashan Mandir, Agra, 1974.
4. Jain, P.C., “Economics of Public Finance (Volume 1)”, Atlantic Publishers and Distributors, New Delhi, 1989.
5. Dalton, Hugh, “Principles of Public Finance,” George Routledge and Sons Ltd., Carter Lane, E.C., 1939.
6. AIYER, V.G Ramakrishna, “Public Finance–with special Reference to India,” Rawat Publications, Jaipur, 1978.
7. Musgrave, Richard A., “Classics in the theory of Public Finance”, MacMillan and Company limited, London, 1967.
8. Herber, Bernard P., “Modern Public Finance”, All India Traveller Bookseller, Delhi, 1994.
9. Pummia, B.C.; Khandelwal, K.K.; “Project Planning and Control with PERT and CPM”, Laxmi Publications (P) Ltd., New Delhi, 1987.
10. Shaghil, M.; Mushtaque, M.; “Project Formulation Concept and Approaches” Printwell, Jaipur, 1993.
11. Thakur, Devendra ; “Project Formulation and Implementation”, Deep and Deep Publications, New Delhi, 1992.

M.ARCHITECTURE (Semester – III)
(Under Credit Based Continuous Evaluation Grading System)

**ARL–703: Research Methodology
and Planning Techniques**

Duration of Examination: 03 Hrs.

Credits : 04 (L=03, T=1,U=0)

PART I

Definition and needs of Research in urban design, Scientific research and methods, Levels of research: micro and macro. Major steps in the conduct of scientific research. , induction, deduction and verification. Selection and formulation of research problems – reviewing of literature, designing a research in urban design, pre test and pilot study. Synopsis & components of Synopsis. Theory and Facts. Process of Theorization. Theory and facts , Research compilation and report – contents and style, factors in the organization of a research report, writing of foot notes, quoting styles, references, cross referencing and bibliography.

PART II

Data Collection & processing: Questionnaire, Sampling, Scaling, coding, classification & tabulation, editing; Analysis and interpretation. Hypothesis, formulation and testing of hypothesis; Tests of Hypothesis – meaning, importance and methods such as z–test, t–test, F–test. Analysis of data with respect to age, sex, religion, literacy, occupation and other socio–economic aspects; population projections.

PART III

Administration of field surveys; Preparation of Base Map, Drawing size and format, Map types, Map Scales and their applications, Data Base management. Aerial photography; Basic principles and techniques of photogrammetric, photo interpretation and remote sensing; Collection of data by photo interpretation and remote sensing techniques. Introduction to GIS and its application in urban design process

Suggested Readings:

1. Crotty, Michael, “The Foundations of Social Research: Meaning and Perspective in the Research”, Sage Publishers, London, 2003.
2. Gibbs, Jac P., “Urban research Methods”, D Van Nosttrand Co. Inc., New York, 1960.
3. Gomm, Roger, “Social Research Methodology: A Critical Introduction”, Palgrave Macmillian, Machester, 2003.
4. Goode, W.J. and Hatt P.K., “Methods in Social Research”, McGraw–Hill Inc., New York, 1982.
5. Gopal, M.H., “An Introduction to Research Procedures in Social Sciences”, ASIAN Publication House, Delhi, 1970.
6. Kothari, C.R., “Research Methodology–Methods and Techniques”, Wiley Eastern Limited, New Delhi, 1991.
7. Kumar, Ranjit, “Research Methodology–An Introduction”, Pearsons Education, Baba Balak Nath Printers, New Delhi, 2005.
8. T.S. Wilkiinson and P.L. Bhandarkar, “Methodology and Techniques of Social Research”, Himalaya Publishers, New Delhi, 1984.

M.ARCHITECTURE (Semester – III)
(Under Credit Based Continuous Evaluation Grading System)

ARU–704: Urban Design Studio–III

Duration of Examination: Viva Voce
Credits : 10 (L=2, T=0,U=08)

The studio focuses on training the students with the capacity to implement theory, concept and principles of urban design taught in previous courses into an Urban Design Program and exercise.

Students will carry out rational design process and review for a selected site and present to public for feedback in the final design. Students will be required to understand principles of site development as part of an urban design process. Students will be required to develop selected sites through observation and secondary data, problem solving through field observation, interviews with stakeholders, feasibility study based on facility, financial and pre–design capacities.

Study and design of special large scale areas such as satellite towns, suburbs, fringe areas, river front development, hilly areas etc. SWOT analysis with respect to physical, environmental, socio economic aspects of development with help of primary and secondary surveys, documentation, mapping etc. The design programme should include methodology of site selection, demographic characteristics, socio–economic viability, environmental impact etc. The design solution will include layout plan, zoning plan, layout of urban services, architectural controls and detailed three dimensional modeling of important zones.

M.ARCHITECTURE (Semester – III)
(Under Credit Based Continuous Evaluation Grading System)

ARS–705: Thesis Seminar on Urban Design (Elective) Presentation & Report Submission
Credits : 2 (L=0, T=0,U=4)

Discussions on specific topics on urban design. Collection of information and substantive studies on urban design. The seminar would focus on relevant urban issues and shall include social, economic, cultural, aesthetical & environmental and other related design aspects besides the physical aspects of urban realm. The candidate is expected to do in–depth primary and literature study to put forth relevant current or uses preferably in Indian contest. The Seminar work would be evaluated on the basis of periodical presentations at different stages followed by the final presentation and submission at the end of the semester.

M.ARCHITECTURE (Semester – IV)
(Under Credit Based Continuous Evaluation Grading System)

ARD-751: Thesis Project

Duration of Examination: Viva Voce
Credits : 20 (L=0, T=0, U=20)
(Weightage of Final/External Jury = 50%)

Independent study to write academic work based on research results. The Master's thesis project provides students with the opportunity to investigate a problem in depth under the supervision of experienced practitioners and researchers. The thesis accounts for one semester of full-time study. Two types of thesis projects will be available. The first group relates to practice (applied urban design) with the goal of developing student ability to analyze, sketch, formulate and present urban design proposals. The second group relates to theory (urban design theory) with the goal of enhanced understanding of specific features in the urban planning and design process – as a preparation for an academic or commercial research career. A topic may be chosen from one of the following Course Types: Design Technologies; History Theory & Criticism; Urban Studies.

- 1. Reviews and Internal Evaluations:** Each student will be assigned to a panel of thesis supervisors (hereafter referred to as panel). The panel will be responsible for monitoring the progress as well as evaluating various stages of the thesis project as mentioned below:

Sr. No.	Submission/Viva Voce	% weightage
1.	Data Collection	10
2.	Data Analysis & Literature Review	20
3.	Pre Final Evaluation	20

- 2. Final Submission:** Each student shall submit the final report, presentation drawings and model/s as part of the final submission which shall eventually be returned after the final evaluation process is over. In addition, each student shall also submit two identical copies of the final report along with a soft copy, complete in all respects along with one hard copy for each member of the panel. The copies of the final report must also include A-3 size copies of all final drawings and at least two photographs of the final model/s.
- 3. External Evaluation:** The Final Jury shall comprise of the Head of Department or his nominee and the external examiner/s. Weightage of marks assigned for external evaluation shall be 50% of the total marks. The final grades will be awarded by the Board of Control with all supervisors to be invited as special invitee, if they are not members of the Board of Control.