


UNIVERSITY OF MYSORE
Estd. 1916

VishwavidyanilayaKaryasoudha
Crawford Hall, Mysuru- 570 005

No.AC2(S)/319/2023-24

Dated: 08.11.2023

Notification

Sub:- Modification in the Regulations, Syllabus Architecture programmes with effect from the Academic year 2023-24.

- Ref:-**
1. Decision of Board of Studies in Architecture (CB) held on 08-02-2023.
 2. Decision of the Faculty of Science & Technology meeting held on 15-03-2023.
 3. Decision of the Academic Council meeting held on 24-03-2023.

The Board of Studies in Architecture (CB) which met on 08-02-2023 has recommended & approved the modification in the regulation of 2020-21 Batch [(8.5.1-“Professional Training” (Practical Training))] has been moved from Semester VII to Semester VIII as per the guidelines of Council of Architecture (CoA), New Delhi, The other classes remains ceraltered.

The Faculty of Science & Technology and Academic Council at their meetings held on 15-03-2023 and 24-03-2023 respectively has also approved the above said modified syllabus. Hence, it is hereby notified.

The syllabus contents may be downloaded from the University Website i.e., www.uni-mysore.ac.in.


Registrar
Registrar
University of Mysore
Mysore

To:

1. The Registrar (Evaluation), University of Mysore, Mysuru.
2. The Chairman, BOS/DOS in School of Planning & Architecture, Manasagangothri, Mysuru.
3. The Dean, Faculty of Science & Technology, DoS in Mathematics, MGM.
4. The Director, Distance Education Programme, Moulya Bhavan, Manasagangothri, Mysuru.
5. The Director, PMEB, Manasagangothri, Mysuru.
6. Director, College Development Council , Moulya Bhavan, Manasagangothri, Mysuru.
7. The Deputy Registrar/Assistant Registrar/Superintendent, Administrative Branch and Examination Branch, University of Mysore, Mysuru.
8. The PA to Vice-Chancellor/ Registrar/ Registrar (Evaluation), University of Mysore, Mysuru.
9. Office Copy.

SCHOOL OF PLANNING AND ARCHITECTURE
UNIVERSITY OF MYSORE,
Manasagangotri, Mysuru.



BOS in Architecture
08 February 2023

Welcome to all members

AGENDA

1. Curriculum and syllabus of 5th year (IX and X semester) (CBCS) of B. Arch course for the candidates admitted during 2020-21
2. Minor modification in the regulation of 2020-21 Batch (8.5.1 – Practical training / Professional training)
3. Panel of examiners of B. Arch and M. Arch –UD
4. Any other with the permission of the chair.

SCHOOL OF PLANNING AND ARCHITECTURE
UNIVERSITY OF MYSORE,
Manasagangotri, Mysuru.

BACHELOR OF ARCHITECTURE - Five Year Degree Programme

Detailed Syllabus of IX & X Semesters

CBCS 2020-21

IX AND X SEMESTERS CURRICULUM (CBCS) - 2020 - 21

SEMESTER-IX

Sl. No	Course Code	Course Title	L	T	P	C	Marks			Mode of Exam
							I	E	Total	
1	ARS901	Architectural Design - VII	0	12	6	15	100	100	200	Jury
2	ART902	Urban Design & Renewal	3	0	0	3	50	50	100	2hrs
3	ART903	Urban housing	3	0	0	3	50	50	100	2hrs
4	ART904	Pre-Thesis	0	3	2	4	100	-	100	Prog. Marking
5	ARE905	Elective - VI				2				
6	ARE906	Elective - VII				2				
TOTAL NO.OF CREDITS						29				

Courses which can be chosen during semester-IX in Elective-VI and Elective-VII

Sl. No	Course Code	Course Title	L	T	P	C	Marks			Mode of Exam
							I	E	Total	
Elective - IV										
1	ARE905-1	Disaster Mitigation & Management	2	0	0	2	50	50	100	2hrs
2	ARE905-2	Construction Technology & Management	2	0	0	2	50	50	100	2hrs
3	ARE905-3	Vastuvidya	2	0	0	2	50	50	100	2hrs
Elective - V										
1	ARE906-1	Green Building & Technology	2	0	0	2	50	50	100	2hrs
2	ARE906-2	Industrial Architecture	2	0	0	2	50	50	100	2hrs
3	ARE906-3	Road safety and civic sense2.	2	0	0	2	50	50	100	2hrs

SEMESTER -X

Sl. No	Course Code	Course Title	L	T	P	C	Marks			Mode of Exam
							I	E	Total	
1	ARS1001	Architectural Design Thesis	0	15	6	18	200	100	300	Jury

YEAR-5 SEMESTER-IX

Subject: ARCHITECTURAL DESIGN - VII		
Code : ARS 901	Credits : 15	Hours / Week: 15 hrs.
Progressive Marks : 100	Examination Marks : 100	Mode of Exam : Jury

OBJECTIVES

1. To learn about reading and documenting urban contexts and to understand the idea of urban space. To understand the difference between urban design and urban development.
2. To understand the role of architecture in shaping urban fabric and to create architecture which fits into a specific urban context.

COURSE OUTLINE

The role of urban space as a public realm and the need to create such spaces as extension of private domain in a public building shall be investigated and shall become one of the architectural goals of the project.

Students are exposed to the urban design exercise involved in inner city/ historic/ core area/ CBD/ heritage area/ precincts/ streets/ urban design elements/ old market studies or urban renewal projects etc. Study part of the studio shall be documented and shall be reviewed as part of the viva.

Example of **Projects**: Bus Terminal, Shopping Complex, Art galleries, Cultural centre, Sports stadium, Performing Arts Centre, Exhibition Pavilion etc.

Note: The design shall be sensitive to the needs of disabled, aged people and children. One major project and one minor/ time problem to be tackled in the semester.

REFERENCES

1. De Chiara and Callender, Time Saver Standards for Building Types, McGraw Hill Company, 1980
2. Neufert Architect's Data, Rudolf Herg, Crosby Lockwood and Sons Ltd, 1970
3. Carmona, M., Heath, T., Oc, T. and Tiesdell, S. (2010). Public Places Urban Spaces. Oxford: Architectural Press
4. Lang, J. T. (2005). Urban Design: A Typology of Procedures and Products. Oxford: Elsevier/Architectural Press.
5. Lynch, K. (1984). Good city form. Boston: MIT Press.

Subject: URBAN DESIGN AND RENEWAL		
Code : ART 902	Credits : 3	Hours / Week: 3 hrs.
Progressive Marks : 50	Examination Marks : 50	Mode of Exam : 2hrs Exam

AIM:

1. To introduce students to concepts in Urban Design & Renewal
2. To sensitize them on issues facing urban areas and the shaping and uses of urban public space

OBJECTIVES:

1. To introduce students to concepts in arrangement, appearance and functionality, the shaping and uses of urban public space.
2. To sensitize them on issues of Urban design that blends architecture, landscape architecture, and city planning together to make urban areas functional and attractive.

COURSE CONTENTS:

UNIT I

Definition and scope of urban design.

Introduction to the process and profession of Urban Design

Basic glossary of urban design terms and terminologies

Introduction to the concepts and implementation of Urban Design.

Relationship between Architecture, Urban Design and Town Planning.

Perception of city form and pattern – Townscape elements

Methods of urban design surveys

UNIT II

The Heritage of Urban Design: Roots of Urban Design from pre-history to modern times.

Role of Space in Historical Towns: Comparative analysis of public spaces, their organization and articulation in pre-history, early, medieval and renaissance periods in west and east.

Comparisons of the cities of ancient India and with medieval development, the colonial city and the modern city. Study and compare their social, cultural and geographical aspects.

UNIT III

Objectives of Urban Design: Character, Continuity & Enclosure, Quality of the public realm, ease of movement, legibility, adaptability and diversity and aspects of development form.

UNIT IV

Introduction to Public Spaces and Urban Spaces, Ideas of Good Cities, the essential qualities and values an effective public space possess

UNIT V

Renewal and redevelopment: Objectives, programs of urban renewal, public involvement and participation.

Comparative Practice: Townscape policies, Techniques, regulations and methods adopted for urban design

OUTCOMES:

At the end of the course, the students shall have knowledge of

- Basic glossary of urban design terms and terminologies
- Specific graphics and representation techniques for urban design
- Concepts of making a base map, cognitive mapping and layering
- Methods of urban design surveys

REFERENCES:

1. Kevin Lynch, *The Image of the City*, M.I.T. Press, 1964
2. Jan Gehl and Brigitte Svarre, *How to Study Public Life*, Island Press, 2013
3. Christopher Alexander, Sara Ishikawa, and Murray Silverstein, *A Pattern Language: Towns, Buildings, Construction*, Oxford University Press, 1976
4. Donald Watson, Alan Plattus, Robert G. Shibley, *Time-saver standards for urban design*, McGraw-Hill, 2003
5. Jon Lang, *Urban Design- A Typology of procedures and Products*, Architectural Press, 2005
6. Edmund Bacon, *Design of Cities*, Thames and Hudson, London 1967
7. Kevin Lynch, *Good City Form*, MIT Press, London, 1959
8. Jane Jacobs, *The Death and Life of Great American Cities*, Random House, New York

Subject: URBAN HOUSING		
Code : ART903	Credits : 3	Hours / Week: 3 hrs.
Progressive Marks : 50	Examination Marks : 50	Duration of Exam: 2 hrs.

AIM

To sensitize students about the need for, demand and supply of housing in India, to expose the role or function of various housing agencies, the typologies of housing and the delivery mechanism of housing along with basic environmental issues.

OBJECTIVES

- To understand the need, supply and demand for housing based on statistical data, various housing agencies in housing development, along with their activities.
- To know about the social and economic factor influencing housing design and the various schemes in housing promotion in the Indian context.
- To create awareness about the various standards backed by BIS, NBC, and DCR including layout conditions, Buildings rules related to housing.
- To understand different types of housing in housing design and pattern. The components in housing design, through case studies.
- To study about the various stages involved in development of housing, its management, and how to make the same user friendly through participatory approach.

COURSE CONTENTS

Unit I Housing Issues – Indian context

Definition & concept of Housing-Types of housing- Detached, semi-detached, row, town house, apartment Farmhouses - Form of Housing provision: Plotted, Group Housing, Cooperative, Self Help, Leasehold, Rental Housing -Need and Demand - National Housing Policy - Housing Agencies and their role in housing development - Impact of traditional life style.

Unit II Socio-Economic aspects

Social factors influencing Housing Design, affordability, economic factors and Housing concepts - Slum Up gradation and Sites and Services.

Unit III Housing standards

Standards and Regulations - DCR relevant to housing - Methodology of formulating standards - Performance standards.

Unit IV Housing Design

Traditional patterns - Row Housing and ClusterHousing - Layout concepts - Use of open spaces - Utilities and common facilities - Case studies - High Rise Housing.

Unit V Housing process

Various stages and tasks in Project Development - Housing Management - Community participation - Environmental aspects - Technology

OUTCOMES

Ability to understand issues relating to Housing policy and its impact on housing development in Indian context. Students also learn about Evolution of settlement pattern, Design for diversity, Costing etc for a cross section of income groups and design of Disaster resistant structures.

REQUIRED READINGS:

1. Richard Kintermann and Robert small, "Site planning for Cluster Housing", Van Nastrand Reinhold Company, Jondon /New York 1977.
2. Joseph de Chiara and others, "Time Saver Standards for Housing and Residential Development", McGraw Hill Co, New York 1995.
3. Forbes Davidson and Geoffrey Payne, "Urban projects Manual", Liverpool University Press, Liverpool 1983.
4. HUDCO publications – Housing for low income, sector model.

REFERENCES:

1. Christopher Alexander, "A pattern Language", Oxford University press, New York 1977
2. Leuris (S), Front to back: "A Design Agenda for Urban Housing", Architectural Press, 2006.
3. Mohanty. L.N.P., Mohanty. S, "Slum in India" APH Publications. 2005
4. Saxena A. K., "Sociological Dimensions of Urban Housing and Development ", Common Wealth Publications, 2004
5. Geol. S. L. Dhaliwal. S. S. "Slum improvement through participatory Urban based Community Structures", Deep & Deep Publications, 2004.
6. Karnataka state Housing Board - MANE - Publication - 1980

Subject: PRE-THESIS		
Code : ART904	Credits : 4	Hours / Week: 4 hrs.
Progressive Marks : 100		

AIM

To equip the students with the required architectural design research methods for the realization of their thesis projects of adequate complexity.

OBJECTIVES

- Understanding the importance of literature review / study and/or case - study methodology for a preparation of a Dissertation / Thesis report on any topic in architecture (relevant to any chosen objective or any aspect of the Thesis Project).
- Understanding of Presentation techniques [for presenting dissertation / outcome of the study] and techniques of Thesis / Dissertation / Project Report writing.
- Preparation of the initial synopsis for the selected thesis project.

COURSE CONTENTS

The course contents are so ordered that they enable students to understand the basic prerequisites of undertaking a Thesis project such as the difference between design thesis and design studio, selection of topics for architectural design thesis and selection of topics based on building typologies, preparation of Synopsis and methodology of design thesis.

Unit I: Identification of areas of Interest

The work involves students discussing with the faculty to identify an area of interest or specific types of buildings and thus arrive at a set of probable design problems of suitable scope and scale which can be considered for development into the Thesis project.

Unit II: Special Study

Each student shall prepare an Abstract on a topic in architecture relevant to their Thesis Project. It shall be submitted in the form of a report with appropriate referencing, bibliography etc. and the highlights shall be also presented as a seminar.

Unit III: Report writing and presentation

The following skills regarding Thesis report writing and presentation, essential in carrying out a successful Thesis project will be imparted to the students:

- Formats for presentation of data, case studies and analysis.
- Report Writing: Techniques for presentation of contextual information relevant to interpretation of the data collected; reporting the design development from concept to design solution, to convey the relationship between the design solution and the design problem through an eloquent yet precise Thesis report.

Unit IV: Synopsis

Each student shall submit three proposals for the project, he/she wants to undertake in order of preference from which the final topic may be selected. The project can either be a live one or it may be a hypothetical one subject to approval from the Head of the department.

Unit V: Project Introduction and Case studies

After the thesis topic is finalized, the student has to present a seminar on his/her topic. The introductory seminar will include a presentation on the topic detailing the design problem along with selection of relevant case studies and literature studies which are to be completed before the commencement of the thesis semester.

OUTCOMES

Upon the completion of the course, students will have acquired the skills necessary to collect, assimilate and analyze data relevant to handle a design thesis project independently.

The students will also have understood the optimum scale, context of setting and typologies of architectural design projects which decide the feasibility of a student Thesis project.

ELECTIVE – VI

Subject: DISASTER MITIGATION AND MANAGEMENT		
Code : ARE 905-1	Credits : 2	Hours / Week: 3 hrs.
Progressive Marks : 50	Examination Marks : 50	Mode of Exam : 2hrs Exam

OBJECTIVE

To create an understanding of the causes and consequences of disasters and increase awareness to disaster resistant design issues as a significant source of inspiration to facilitate the integration of structure and architectural design.

COURSE CONTENTS

Unit I- Introduction: Disaster Management & its necessity; Types, characteristics, causes & impacts; Natural disasters, Manmade disasters, Epidemics; Institutional & Legal arrangement; NDMA; Financial arrangement; Role of Architect at all stages of Disaster Management.

Unit II- Disaster Prevention & Mitigation: Risk Assessment & Vulnerability Mapping; Long-term measures; Review & revision of building bye-laws & codes; Hospital Preparedness; Retrofitting; Mitigation strategies, Trigger Mechanism; Capacity building; Awareness programs. Architectural Design considerations.

Unit III- Preparedness: Forecasting & Early Warning Systems: Plans of action for probable disasters; emergency, medical, casualty management systems; Resources needed; Training, Simulation & Mock Drills; Partnerships for Mitigation & Preparedness; Audit of buildings & infrastructure; Architectural Design considerations.

Unit IV- Response: Role of various agencies; Standard Operating Procedures (SOPs); Levels of Disasters; Incident Comm & System (ICS); First & Other Key Responders; Medical Response; Information & Media Partnership; Search & rescue; Architectural Design considerations.

Unit V- Relief & Rehabilitation: Temporary Relief Camps; Management of Relief Supplies; Provision of Intermediate Shelters; Relocation & reconstruction, repair & retrofitting of buildings & infrastructure; Socio-cultural-economic considerations; Capacity building for self-help construction; training & awareness programs. Architectural Design considerations.

REFERENCES:

1. Mary C Comerio; Disaster Hits Home, New policy for Urban Housing Recovery, Oxford University Press, London; 2001
2. Proceedings – Learning from practice- Joint US and Italy Workshop- October 18-23; 1992; National Science Foundation; US
3. Earthquake Resistant Design and Construction of buildings- Code of Practice- Bureau of Indian Standards; 1993
4. Encyclopedia of Disaster Management Policy and Administration, Vol. I, S. L. Goel, Deep of Deep Publication Pvt. Ltd., New Delhi, India.
5. Encyclopedia of Disaster Management Policy and Administration, Vol. II, S. L. Goel, Deep of Deep Publication Pvt. Ltd., New Delhi, India.

Subject: CONSTRUCTION TECHNOLOGY AND MANAGEMENT		
Code : ARE905-2	Credits : 2	Hours / Week : 3 hrs
Progressive Marks : 50	Examination Marks : 50	Duration of Exam : 2 hrs

OBJECTIVE:

To introduce modular and fabricated systems, green technology and new innovative materials.

COURSE CONTENTS

Unit I

Planning – Cast in situ construction (ready mixed pumped etc.) – Reinforcement concrete and prestressed concrete constructions pre-cast concrete– Structural schemes.

Unit II

Offsite and onsite conditions for prefabricated construction. Different types of precast elements, modular coordination, typification, finishes.

Unit III

Equipment for materials handling, transportation and erection. Uses of the following: Tractors, bulldozers, shovels drag lings, cableways and belt conveyors, batching plants – Transit mixers and agitator trucks used for ready mix concrete pumps. Gunitingequipments – Air compressors – welding equipment – cranes and other lifting devices Choice of construction equipment for different types of works

Unit IV

Construction management techniques, Construction Planning, Scheduling and Controlling Phases. Use of Management techniques – Project Cost Analysis using CPM

Unit V

Properties, Application, specification and standards (Indian and International) Teflon, special glasses, aluminum composite panel etc. - Nano technology applications in construction.

REFERENCES:

1. “Innovative Constructional Materials”, proceedings of seminar on Innovative Construction Materials, VeeramataJeejabai Technical Institute, Mathuga Mumbai, Jan 20-21, 2001
2. Directory of Indian Building Materials Products Building materials and Technology Promotion Council and Centre for Symbiosis of Technology, Environment Management, Bangalore, 2000-2001,
3. HenrikMissen, “Industrialized Building and Modular Design”, C&CA UK, 1972.
4. KonzT,“Manual of Precast concrete Construction”, Vol, I, II, III Banverlag GMBH, 1971.
5. William P. Spence, Construction Materials, Methods, and Techniques ,200

Subject: VASTUVIDYA		
Code : ARE905-3	Credits : 2	Hours / Week : 3 hrs
Progressive Marks : 50	Examination Marks : 50	Duration of Exam : 2 hrs

AIM:

To provide theoretical knowledge base on the uniqueness of Indian traditional Architecture principles, the meaning of space, the manifestation of energy etc.

To sensitize students about the purpose, nature and scope Vastu principles and its affect, art of building as per vastu.

OBJECTIVES:

- To expose the students to the importance of vastu and various theoretical and practical aspects of this area of architecture
- To expose to student on traditional understanding of a good site, the zoning of site to relate to human and how space could be articulated for bringing life into the building.
- To make students understand about the importance of orientation natural features in and around site and how the celestial grid types could be used at different context.

CONTENTS:

Unit I - Introduction

Traditional definition - Concepts of Vastuvidya; Definition; Resource materials: achievements in India - Meaning of Vastu and Vaastu - its classification - Relationship to earth. Planning, designing & construction aspects of traditional Architecture in India- evaluation with the Understanding of context- relevance.

Unit II – Space Theory

Classification of villages & towns; types of planned settlements, Land use patterns; position of temples & other uses, street patterns; Planning of residential buildings, Evolution of residential types from Vastupurusha Mandala.

Features of good building site - good building shapes - macro, micro, enclosed and material spaces - relationship between built space, living organism and universe - impact of built space on human psyche.

Unit III – Measurement and built space

Units of measurement - Tala system and Hasta system of measures - Musical measurements compared to space measurements - resultant ambience in built space

Unit IV – Vibration, Time, Rhythm Interface

Theory of vibration - vibration as time, equation of time and space - Time space relationship and measurement of the same

Unit V – Site Planning and Cosmo gram

Orientation of building, site, layout and settlement - positive and negative energies - importance of cardinal and ordinal directions - the celestial grid or mandala and its types. Concept of Mandala, technology in Vastuvidya, Assembly & joinery; Construction methods- Foundations. Walls, columns, utharam & roof structure, the system of proportional measurements & thumb rules. Sequence of construction as per Vaastu rules

OUTCOME

At the end of the course, the students shall have knowledge of

- Basic glossary of vasthu terms and terminologies,
- Concepts of making space as per Vastu principles and its affect.
- Case studies and practical remedies for houses and commercial building as per vastu etc.
- Vastu principles and modern architecture and its purpose nature and scope

REFERENCES

1. Dr.Prasanna Kumar Acharya Manasara - Oxford University Press 1927 (English version)
2. K.S.Subramanya Sastri - Maya Matam - Thanjavur Maharaja Sarjoji saraswathi Mahal Library - Thanjavur 1966.
3. Stella Kramresh - the Hindu Temple Vol. I & II Motital Banarsidass Publishers Pvt. Ltd., Delhi - 1994.
4. Bruno Dagens - Mayamatam, Vol.I & II IGNCA and Motilal Bamarsidars Publishers Pvt. Ltd., Delhi
5. Dr. V. Ganapathi Sthapathi - Sthapathy Veda - Dakshina Publishing House - Chennai – 2001
6. Hindu Architecutre(Vastu silpa sastra), Govind Krishna Pilai
7. Indian Architectural Theory and Practice: Contemporary Uses of Vastu Vidya, Vibhuti Chakrabarti

ELECTIVE - VII

Subject: GREEN BUILDING AND TECHNOLOGY		
Code : ARE906-1	Credits : 2	Hours / Week : 3 hrs
Progressive Marks : 50	Examination Marks : 50	Duration of Exam : 2 hrs

AIM

Enabling students on developing an understanding of environmentally responsible green buildings which will have minimum adverse impact on the natural environment. Emphasis will be given towards understanding the principles to achieve green building rating through innovative building solutions, technological initiatives and current practices.

OBJECTIVE

- Understand the principles, complexity, functioning and salient features of green buildings.
- Develop skill to invent eco-friendly materials, techniques and practices
- To make the student recognize rapidly emerging building solutions, technological innovations and current innovations to achieve human comfort and energy consumption goals.

COURSE CONTENTS

Unit I: Introduction

Basic understanding about Green Building, Green Building Materials and Equipment in India, the key Requisites for Constructing a Green Building, Green Building Movement in India, Opportunities and benefits experienced in Green Buildings, Launch of Green Building Rating Systems and its impact on Market Transformation, Green Building Features.

Unit II: Green Building Rating Categories

Various rating categories of Green buildings, Sustainable Sites, Water Efficiency, Energy efficiency, Materials and Resources, Indoor Environmental Quality (including Day lighting) etc. IGBC, ECBC, BEE, LEED and Griha rating systems.

Unit III: Material Conservation

Handling of non-process waste, waste reduction during construction, materials with recycled content, local materials, material reuse, certified wood ,Rapidly renewable building materials and furniture;

Unit IV: Indoor Environment Quality and Occupational Health:

Air conditioning, Indore air quality, Sick building syndrome, Tobacco smoke control, Minimum fresh air requirements, improved fresh air ventilation, Measure of IAQ, Reasons for poor IAQ, Measures to achieve Acceptable IAQ levels.

Unit V: Building Resources

Concepts of green field development, brown field development, environmental impact and ecological balance, sustainable site development, landscape elements, services and technologies, rain water harvesting, on site sewerage retention, treatment, recycle and reuse.

References:

1. Handbook on Green Practices published by Indian Society of Heating Refrigerating and Air conditioning Engineers, 2009.
2. Green Building Hand Book by Tomwoolley and Samkimings, 2009.
3. Complete Guide to Green Buildings by Trish riley
4. Standard for the design for High Performance Green Buildings by Kent Peterson, 2009
5. Energy Conservation Building code 2017, Ministry of power, Government of India

Subject: INDUSTRIAL ARCHITECTURE		
Code : ARE906-2	Credits : 2	Hours / Week : 3 hrs
Progressive Marks : 50	Examination Marks : 50	Duration of Exam : 2 hrs

AIM

This course attempts to create necessary awareness to student on the importance of Design of industrial structure as a specialization of architecture. It focuses on the need for it, the programming aspects involved, the importance of structural involvement to arrive at a new typology based on the materials, constructional technology AND requirements of industry.

OBJECTIVE

- The student will be able to understand the distinction between industrial architecture and industrialized building and get an exposure of all emergence of this typology in U.K, U.S.A and other Industrialized Countries.
- To students are exposed to factors which influence the design process such as storage, requirements, circulation, movement, areas, linkages and environment in a general manner.
- The students are exposed to the process and importance of programming aspects including waste management and various zoning, regulatory and legal framework in India.

COURSE CONTENTS

UNIT I Definition and historic context

Meaning of industrial architecture, scope, context and distinction between it and industrialized buildings – impact of industrial revolution – origin in the context of Britain and the United states – Impact of materials and technology in 1900's and emergence of new aesthetics in architecture.

Unit II Evolution and Process

Automation techniques and impact on process circulation and area requirements – influence on design – internal and external environment control – Precautions at site.

Unit III Pioneers and Architect's role

Study of examples of pioneer to include Peter Behrens, Max Berg, Hans Poelzig's and P.L.Nervi – impact of expressionism and international style – Responsibility of architects in – innovative corporate image, understanding building engineering and understanding industrial environments through Indian case – studies.

Unit IV Design principles and programming

Zoning principles, factories Act and Rules (1948) – in India – Role of pollution control boards, organizing principles – Programming aspects to include need, spatial relationships, Access, Layout and user facilities – Automation and its impact on space and performance – Environmental control to include working conditions, atmospheric control, visual factors and waste management.

Unit V Contemporary trends and future

Analytical approach involving – technical, social, geographical aspects, corporate philosophy, worker management relations, and manufacturing equipment, critical issues involving master plan, Material handling, Functional process, Time and cost and structural resolutions – Flexibility in planning, design and technology.

OUTCOMES

- The students get an exposure to various internationally known architects' contribution and the philosophy of functionalism and international style which contributed to this typology through case – studies.
- The students are made aware of the responsibilities of the architect and how to approach design with flexibility.

TEXT BOOKS

1. James F. Munce – Industrial Architecture – F. W. Dodge Corporation – New York - 1980
2. Grant Hildebrand – Designing for Industry – The M.I.T. Press, Cambridge, New York – 1984.

REFERENCES

1. United nation Volume – Trends in Industrialization of Buildings – New York – 1970.
2. Kenneth Reid – Industrial Buildings – F.W. Dodge Corporation, New York – 1961.
3. Friedmank Wild – Design and Planning Factories – Van Nostrand Reinhold / New York – 1982.

Subject: ROAD SAFETY AND CIVIC SENSE		
Code : ARE906-3	Credits : 2	Hours / Week : 3 hrs
Progressive Marks : 50	Examination Marks : 50	Duration of Exam : 2 hrs

AIM

To introduce the concepts, principles, tools and aids of Road Safety and Civic Sense to the students of B.Arch.

OBJECTIVE

- To acquaint them with the design and safety standards for roads.
- Also inculcate the practice of safe road behavior and civic sense among them.

COURSE CONTENTS

Unit I Introduction to Road Safety

Road as an active space, Types of Users, User Behavior, Sensory Factors like Vision and Hearing in user Behavior.

Types of Vehicles: Heavy Vehicles, Light Motor Vehicle, Two Wheelers, Auto-Rickshaw, Bicycles and Cycle Rickshaw, Non-Motorised Vehicles.

Vehicle Characteristics: Dimensions, Weight, Turning Radil, Braking Distance, Lighting System, Tyres, etc.,

Type of Hazards: Conflicts and Accidents.

Unit II Typology of Roads: Components and Design

Road Classification: National Highways, State Highways, District Roads (MDR and ODR), Village Roads,

Urban Road Classification: Expressways, Arterial, Sub-Arterial, Collector, Local, Service Roads, One-Way, Two-Way etc. Mountainous Roads. Speed Limits of the Road types.

Design of Roads: Cross-Sectional Elements-Right of Way, Carriageway, Median, Shoulders, Sidewalk, Lanes, Cycling Track, Green Strip, Curbs, Camber, etc. Spatial Standards for the Cross-Section Design. Relationship between Road Design and Road Safety.

Unit III Intersections

Types of Road Intersections: Basic Forms of at-grade Junctions (T, Y, Staggered, Skewed, Cross, Scissors, Rotary, etc. Grade Separated Junctions (with or without interchange): Three-Leg, Four-Leg, Multi-Leg, etc.

Design of Intersections: Design and Spatial Standards for Traffic Islands, Turns, Turning Radil, Directional Lanes, Pedestrian Crossings, Median Openings, Traffic Calming Components like speed Breakers and Table-Top Crossings etc.,

Design Considerations for Diverging, Merging and Weaving Traffic.

Location and Design for Traffic Signals.

Unit IV Pedestrian Circulation and Barrier Free Design

Requirement of Pedestrian Infrastructure: Sidewalks and Footpaths, Recommended Sidewalk Widths, Pedestrian Crossings, Pedestrian Bridges, Subways, Cycle Tracks etc.

Barrier free Design: Location and Design Standards for Ramps for Wheel Chair Access, Other Provisions like Tactile for Visually Challenged etc.

Safety Provisions: Pedestrian Railings, Anti-skid Flooring, Pedestrian Signal, Walk Button, etc.

Unit V Traffic Signs and Road Markings

Type for Traffic Signs: Principles and Types of Traffic Signs, Danger Signs, Prohibitory Signs, Mandatory Signs, Informatory Signs, Indication Signs, Direction Signs, Place Identification Signs, Route Marker Signs, etc. Reflective Signs, LED Signs, Static and Dynamic Signs.

Standards for Traffic Signs: Location, Height and Maintenance of Traffic Signs

Type of Road Markings: Centre Lines, Traffic Lane Lines, Pavement Edge Line, No Overtaking Zone Markings, Speed Markings, Hazard Markings, Stop Lines, Pedestrian Crossings, Cyclist Crossings, Route Direction Arrows, Word Messages, Marking at Intersections, etc.

Material, Colour and Typography of the Markings.

Unit VI Traffic Signals, Traffic Control Aids, Street Lighting

Traffic Signals: Introduction, Advantages and Disadvantages

Signal Indications: Vehicular, Pedestrian and Location of the Signals.

Signal Face, Illustration of the Signals. Red, Amber, Green Signals and its Significance, Flashing Signals

Warrant of Signals, Co-ordinated Control of Signals.

Traffic Control Aids: Roadway Delineators (Curved and Straight Sections), Hazard Markers, Object Markers, Speed Breakers, Table Top Crossings, Rumble Strips, Guard Rails, Crash Barriers etc.

Street Lighting: Need for Street Lighting, Type of Lighting, Illumination Standard, Location and Intermediate Distance.

Unit VII Road Accidents

Nature and Types of Road Accidents (Grievously) Injured, Slightly Injured, Minor Injury, Non-Injury, etc)

The situation of Road Accidents in India (Yearly) Fatality Rates, etc.

Factors (and Violations) that cause accidents, Prevention and First Aid to Victims

Collision Diagrams and Condition Diagrams exercises.

Traffic Management Measures and their influence in Accident Prevention

Unit VIII Road Safety and Civic Sense

Need for Road Safety, Category of Road Users and Road Safety Suggestions.

Precautions for Driving in Difficult Conditions (Night, Rain, Fog, Skidding Conditions, Non-Functional Traffic Lights, etc)

Types of Breakdowns and Mechanical Failures. Accident Sign (Warning light, Warning Triangle, etc)

Introduction to Concept of Civic Sense and its relationship to Road Safety: Importance of Civic Sense, Road Etiquettes and Road User Behavior, Rules of Road, Right of the Way. Providing Assistance to Accident

Unit IX Traffic Regulations, Laws & Legislations

Indian Motor Vehicles Act (Chapter VIII: Control of Traffic to be discussed in detail)
Regulations Concerning Traffic: Cycles, Motor Cycles and Scooters, Rules for Pedestrian Traffic, Keep to the Left Rule, Overtaking Rules, Turning Rules, Priority Rules, Hand Signals, etc.

Speed and Hazard Management. Penal Provisions.

National Road Safety Policy, Central Motor Vehicle Rules, State Motor Vehicle Rules

Introduction to Good Practices.

Suggestive Readings:

1. Introduction to Traffic Engineering, R Srinivasa Kumar
2. Traffic Engineering and Transport Planning, LR Kadiyali
3. Book on Road Safety Signage and Signs, Ministry of Road Transport and Highways, Government of India
4. MORT & H Pocketbook for Highway Engineers, 2019 (Third Revision)
5. Publications by UTTIPEC namely, Street Design Guildelines, UTTIPEC Guideline for Road Markings, UTTIPEC Guideline and Specification for Crash Barries, Pedestrian Railing and Dividers, UTTIPEC Standard Typical Crossing Design
6. Street Design Standards as provided in Times Savers, Neuferts etc
7. Publications by Indian Road Congress.

YEAR-5 SEMESTER- X

Subject: ARCHITECTURAL DESIGN THESIS		
Code : ARS 1001	Credits : 18	Hours / Week: 18 hrs.
Progressive Marks : 200	Examination Marks : 100	Mode of Exam : Jury

COURSE OVERVIEW

The semester is focused on getting the student to reflect the knowledge gained from all the courses undertaken by the student in all the previous semesters.

OBJECTIVES

- To demonstrate an ability to comprehend the nature of architectural problem and create a brief which sets the frame work for design.
- To develop design abilities for demonstration of research & base work studies done in Pre-Thesis stage for the identified domain.
- To develop the investigative skills of students, through researching one of the topic areas covered in the course.

COURSE CONTENTS

Unit I: Synopsis and Project Brief

Each student is expected to prepare a project brief based on the preliminary work undertaken during Pre-Thesis, under an approved guide/adviser by the department along with submission of the revised/updated synopsis undertaken in the previous semester.

Unit II: Preliminary Investigative analysis

Detailed Literature should be made in terms of facilities and areas along with Literature case studies and Primary case studies (Minimum 2) in order to draw inferences for application as design guidelines apart from preparing a detailed design Program.

Each student has to elaborate on the **special study** conducted and submit presentations showcasing its relevance to their topic, scope of influence and the inferences gained from the respective study.

Unit III: Design development

Design Development will have contents such as form development, stress on focus, development of spaces, aesthetics, services, Landscape, sustainability, barrier free etc. It will be represented through various mediums such as sketches, conceptual drawings, design drawings, technical drawings, models & report

The following are the basic guidelines for planning the thesis design project and its submissions:

1. Detailed site study of existing site conditions and context and evolving design directives and concept.
2. Case studies to be clubbed with library research and surveys.
3. Site restrictions should be followed as applicable for building byelaws of parking, FAR, fire, security and other services.

4. Initial concept stage to experiment with shapes and forms to evolve a built volume through block model studies.
5. Incorporating landscape to understand interaction between built and open space.
6. Study and address issues like movement of people and traffic, services, waste disposal management etc.
7. Develop details for use of materials, lighting, landscape and services.
8. Final proposal to include specialized aspects of service details, assessment of environmental impact, innovative structural systems and materials etc.

Unit IV: Finalization of project drawings/Submission of report-drawings

After finalization of the design process, Presentation drawings shall be prepared along with working drawings, detailed drawings and study model as part of the requirements for submission.

The department shall have a continuous system of evaluation through periodical reviews involving the thesis guides/ advisers, Thesis Coordinator, and HOD, after which the students shall proceed for the final jury to be held at the end of the semester.

The final jury will be conducted by a panel of internal and external examiners.

METHOD OF SUBMISSION

The student, at the end of the semester will have to submit **all original drawings** prepared as per the department's specifications with **three copies of the report** in the specified format along with **a model** and a soft copy of the entire project in a CD after obtaining the approval of the respective guides / advisers.