

DEPARTMENT OF ARCHITECTURE
J N T U, SCHOOL OF PLANNING & ARCHITECTURE
MAHAVEER MARG, HYDERABAD – 500 028.

Course Structure for
Master Degree in Architecture (Interior Design)

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FIRST SEMESTER

Course No	Course Title	Periods Per Week			Marks		
		Lectures	Tutorials	Studios	Internal	External	Total
I D 1.1.	Theory of Aesthetics and Design	3	--	--	40	60	100
I D 1.2	Interior Design Materials & Construction – I	2	--	--	40	60	100
I D 1.3	Environmental science for Interiors	2			40	60	100

I D 1.4	CAD and Visualization	1	3	--	40	60*	100
I D 1.5	Seminar	2	2	--	100	00	100
I D 1.6	Interior Design Studio – I	--	--	9	80	120*	200
I D 1.7	Workshop – I	1	2	--	100		100

Total		11	8	11	440	360	800
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SECOND SEMESTER

Course No.	Course Title	Periods Per Week			Marks		
		Lectures	Tutorials/Lab	Studios	Internal	External	Total
I D 2.1	Theory and History of Design	3	--	--	40	60	100
I D 2.2	Interior Design Materials & Construction	2	--	--	40	60	100
I D 2.3	Building Service systems for Interiors	3	--	--	40	60	100
I D 2.4	Furniture Design & Detailing	2	--	2	40	60	100
I D 2.5	Critical Research Seminars	2	2	--	100	00	100
I D 2.6	Interior Design Studio – II	--	--	9	80	120*	200
I D 2.7	Workshop – II	1	2		100	00	100

Total		13	4	13	440	360	800
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THIRD SEMESTER

Course No.	Course Title	Periods Per Week			Marks		
		Lectures	Tutorials/Lab	Studios	Internal	External	Total
I D 3.1	Practical Training	--	--	--	80	120*	200

FOURTH SEMESTER

Course No.	Course Title	Periods Per Week			Marks		
		Lectures	Tutorials/Lab	Studios	Internal	External	Total
I D 4.1	Design Presentation Through multi-media	2	4	--	100		100
I D 4.2	Interior Project Management & practice	4	--	--	40	60	100
I D 4.3	Elective	4	--	--	40	60	100
I D 4.4	Interior Design project Dissertation	--	--	16	200	300*	500
Total		10	4	16	380	420	800

* Practical Examination.

- Viva - voce

M.Arch (Interior Design)

FIRST SEMESTER

I D 1.1 Theory of Aesthetics & Design

- Defining design & aesthetics
- The purpose of design, various fields of design
- The nature of good design Discussion on the theoretical basis to all present day design disciplines
- Principles and vocabulary of design – Balance, symmetry, contrast , rhythm, harmony, unity, scale, proportion etc,

Space : elements of space making and their combinative principles

Form : elements of form and the resultant configurations

Scale : Human scale & its manifestations. Qualifiers of space & form: light, colour, material & texture.

Issues of idea & theme as ordering mechanisms – of space, material, form, colour & light. Perception and response to visual phenomena. Gestalts principles.

Design related cognitive learning. Colour theory & application to the interior environment, principal colour systems, methods of colour harmony.

Appreciation of various arts; painting, murals sculpture, architecture etc. Interior Design in the context of other arts.

I D 1.2 Interior Design Materials & Construction

Physical, behavioural and visual properties of the following materials and their use in the construction of floor, walls, ceilings, doors, windows, staircase, built in furniture and other components of interior architecture

Wood – Soft, hard, panelling, plywood, boarding

Metals – Steel, iron, aluminum, bronze, brass, copper

Masonry – Stone, concrete, brick, tiles, gypsum, plaster

Market surveys, case studies and site visits to understand the system of construction & details. Study of material application in the form of a portfolio.

I D 1.3 Environmental Science for Interiors

▪ Thermal Comfort:

Importance of human comfort in interior spaces. Heat flow within buildings. Thermal properties of materials. Climate and material choices for interior spaces Human response to the thermal environment.

▪ Lighting

Lighting in interiors. Lighting levels & criteria. Natural & artificial lighting. Selection of lighting. Lighting devices available in the market and their characteristics. Economic issues. Fixture selection and placement – floor, table, desk, wall & ceiling units. Psychological impact on human moods & emotions.

▪ **Acoustics:**

Behaviour of sound in enclosed spaces.

Understanding acoustics and its integration with interior design. Sound absorbents – porous materials, panel or membrane absorbers, resonators.

Absorption coefficient of various acoustical materials.

Human responses to the sensation of sound.

I D 1.4 CAD and Visualization

A brief review of computer hardware and software required for interior architectural applications. Working in AUTOCAD for preparing drawings including plans, elevations and sections. Construction of models: working in 3D to construct wireframe modeling, surface modeling, solid modeling etc.

Introduction to rendering

Hidden surface removal, assigning shades, limited to simple exercises.

I D 1.5 Seminar

This subject is intended to equip the students with some knowledge in areas which are not covered otherwise in the curriculum, but topics which are of interest or currently significant. Some possible subjects are:

- Role of an interior designer in a project
- Relation of an interior designer with other consultants
- Interiors as a response to social and technological forces
- User participation in design
- Decorative accessories in interiors
- Occupant health & safety in interiors
- Signage & Graphics
- Optical Illusions
- Modular Co-ordinations
- Kitchen & bath design
- Storage design
- New materials
- Basic structural systems

Each student would be required to select one or more of the above subjects and present a written paper and a seminar at the end of the semester for final assessment. This should be based on extensive literature reviews, case studies (wherever possible), interviews, market surveys etc.

Based on the expertise available in the field, colloquiums will be organized. Student will be required to submit a report based on the inputs received for assessment.

I D 1.6 Interior Design Studio – I

The Design exercise should reflect the inputs from other subjects. The design process may involve literature studies, case studies, site visits, data collections and analysis eventually resulting in a interior scheme where theme based design is emphasized. Two interior schemes of different functional types viz residential, commercial, banks, restaurants, café etc. and institutional (relating to education & health) will form the major design assignments.

The design exercise should address issues such as institution character through interior environment, corporate image, economic factors & behavioural patterns; integration of commercial activity etc.

Design portfolio should include furniture layout, electrical layout, false ceiling plan, partition designs & details, flooring plan, design of doors & windows, colour schemes etc, specifying materials usage and the related technical knowledge.

Two time problems to be included on specialized product display systems, show case windows at street levels, graphic & signage design etc

I D 1.7 Workshop – I

Wood & cane workshop.

Working with wood & wood products to understand material parameters. Wood joinery details, which are commonly used in timber construction in interiors.

Application of veneers / laminates on different types of timber surfaces i.e teak and commercial woods. Engraving and carving. Wood polishing, painting and other finishes.

Types of canes – its properties cane joinery and its strength finishes – colour and surface quality.

SECOND SEMESTER

I D 2.1 Theory and History of Interior Design

Land mark events in the history of International design movement. Historical development of artifact

Overview of the major styles like Regency, colonial, Art & crafts, Romanticism, Art Nouveau, Eclecticism, Art-Deco, Cubism, Post modernism, Late modernism and Deconstructivism

Industrialisation : changes in technology and production systems. Impact on life style and interiors.

The modern movement and its impact on India.

Shift from historical to modern methods of building spaces, change in the interior elements of design and interior architecture. Various schools of thought and design emphasis. Study of Interior Design in the Indian context, contemporary styles with particular reference to India.

Elements of Interior Design including floors, walls, ceiling, lighting, furniture, furnishings and indoor landscape. Indian elements of space making.

Anthropometrics, Ergonomics, Proxemics, and behavioural issues. Metaphor as a tool in the design process. Graphics & signage and its applications.

I D 2.2 Interior Design Materials & Construction – II

Physical, behavioural and visual properties of the following materials and their use in the construction of floor, walls, ceilings, doors, windows, stairs, built in furniture, fixtures and other components of interior architecture.

Glass – Window, plate, tempered, mirror, block etc.

Plastics – Transparent, laminate, tile etc.

Textiles – Drapery, upholstery, wall covering, carpets, durries etc.

Miscellaneous materials such as linoleum, asphalt, cork, rubber, leather, paper, rexine, paints & finishes.

Market survey, case studies and site visits to understand the system of construction. Study of material application in the form of a portfolio.

ID 2.3 Building Service Systems for Interiors

- Plumbing and drainage, implications on interior layouts
- Indian electricity rules, relevant provisions of N.B.C. Preparation of electrical layout scheme for a interior using standard electrical symbols
- HVAC – Air-conditioning, methods and equipment. Air distribution systems – ducts, air inlets. Calculation of AC loads, zoning – purpose & advantage Elevators & Escalators; Definition, application, location & arrangement conveyor belts.
- Fire safety; Role of an interior designer in ensuring fire safety. Study of fire safety regulations of NBC
- Provisions made for services like cable TV, PABX, burglar alarm, other security systems

ID 2.4 Furniture Design & Detailing

Analysis of the form, function & technical aspects of existing furniture.

Measured drawing of existing furniture – plan, elevations and details.

History of furniture from early days to industrial revolution. Study of various styles, systems and products available in market. Scientific way of designing any two types of furniture systems based on ergonomics, materials, working parameters and visual perception. Drawings details and models.

Cost criteria of design & mass production of furniture forms. Knowing and understanding of modern furniture designers such as Ward Bennet, Alvar Aalto, Owen Jones, Florence Knoll, Mies van der Rohe, George Nelson, Henri van de velde, Hans Wegner etc.

ID 2.5 Critical Research Seminars

Research Methods:

Introduction to the nature & purpose of research and its role in problem solving and theory in the field of interiors. Discussion of various principles & approaches to research.

Suggested areas for research

1. Studies of Indian art & craft. Influence of location, tradition, culture and socio-economic development on art & craft in rural & urban India. Visit to traditional craft pockets, documenting people, life, culture & craft and understand the materials, tools, technology, processes and forms. Suggest suitable changes in technology to improve the products so as to make it acceptable in today's context.
2. Studies of the work of different interior designers through observation, interview and research. Understanding of the concepts of space, structure, organisation, symbolism, form, colour, modes of presentation etc.
3. The student may chose any other area of interest in consultation with the concerned faculty for research. The study would be presented as a term paper with supporting illustrations. It will be periodically reviewed and presented as a seminar for final assessment.

I D 2.6 Interior Design Studio – II

The design exercise should reflect the assimilation of knowledge of various streams and follows the design process of data collection, analysis, review & study. Two interior schemes of different functional types viz commercial (shopping malls), recreational, (theatres, clubs etc). and public use complexes (airports, bus terminals, railways stations). The design exercise should address issues like design language, visual coordination, culture, traditions and behaviour patterns in the use of space.

Design portfolio should include furniture layout, electrical layout, false ceiling plan, partition design, flooring plans, design of doors & windows, colour schemes, surface treatments etc.

Time problems may be based on exhibition display or special purpose interiors such as barrier free interiors of public areas; interiors for children or the elderly

I D 2.7 Workshop – II

- Ceramic, metal & plastics workshop. Understanding of ceramic products for interior spaces. Processes and techniques of forming & decorating ceramics slab work, throwing, pinching, coil work and firing. Colour pigments and design qualities. Making ceramic tiles, plaster slab and carving
- Types of metals, properties, methods of working with metals, fixing and joinery in metals, finishing and treatment of metals. Metal products & furniture forms used in interiors
- Plastic, F.R.P and acrylic products – design process, tools & technology Development of innovative forms for interiors elements with colour variations.

THIRD SEMESTER

I D 3.1 PRACTICAL TRAINING

Periods:20 /Wks, Int:100, Ext:100, Tot:200, End exam: Viva-voce

Every student must work in an Architect's Office as a full-time trainee for a period of 20 calendar weeks (excluding Viva-voce) from the date of commencement of training. The Chief Architect in the firm should be registered with the Council of Architecture and have a minimum of five years of practical/professional experience after her/his graduation. The student should involve herself/himself in various aspects of work in an office like working drawings, presentation drawings, presentation drawings, quantity estimating, site supervision, municipal drawings, etc. Detailed instructions regarding the training will be issued at the end of the Ninth Semester, regarding the frequency of reporting to the department, etc., which the student must strictly follow.

After completion of training, every student will have to submit a detailed report with a set of drawings on at least two projects on which she/he has worked during the twenty two calendar weeks of the practical training period. This report will be evaluated at a viva-voce by a jury. After submission of the report the department at its convenience will arrange for the conduct of the viva-voce examination.

FOURTH SEMESTER

I D 4.1 Design Presentation through Multi-Media

Computers for documentation and presentation including graphic design, 3D modelling, color rendering, lighting effects, animation, image editing, video editing, sound editing, interactive simulation and web design.

Introduction to interactive multi-media technology and its use in interior architecture.

Use of suitable applications such as:-

- 3 D studio, Alias & character studio for modelling, rendering and animation
- Adobe photoshop & Adobe illustrator for graphic design & touch-ups
- Aldus photostyle, Adobe premiere, sound forge, Director & Razor pro for image editing, Audio-Video editing
- Power point for computer stills & slides.
- Alternative software applications such as Accu Render, Artisan, spotlight ray tracer & model view etc may also be used.

References:

1. Hyper realistic Computer Generated Architectural Renderings – Oscar Riera Ojeda
Lucastt Guerre
2. Virtual architecture – Giuliano Zampi Conway Lloyd Morgan

I D 4.2 Interior project Management & Practice

Introduction to interior project management, its objectives, resources and team.

Client contacts and relationship issues, Design development stage and co-ordination with various agencies. Execution of work – Planning, scheduling and control. Project monitoring, programming of works. Tools & techniques for project management; bar charts, network techniques.

Project cost analysis – methods of estimating, total budgeting and schedule of payment of various agencies.

Interior Design profession : Survey of various interior designers, working procedures. Fee systems, Professional Interior Design Societies; Licensing and Registering

I D 4.3 Elective

I D 4.3.1 Interior Landscaping

- Elements of interior landscape
- Types of indoor plants, plant characteristics; size, biology, soil, moisture, light, nutrient, atmospheric conditions, growing medium, pests & diseases. Market survey & costs.
- Flowers, its colours, texture and its visual perception in various indoor spaces. Science of flower arrangement.
- Manual versions automatic irrigation costing and installation of micro irrigation systems.
- Interior landscape application for residential, commercial and other public use spaces.

Ref: Building interiors, Plants and automation

I D 4.3.2 Ergonomics and Product Design

Introduction to ergonomics – its basic theory and relationship with human comfort criteria.

Ergonomic principles in design process and product design. Principles of product

design – user centric, theme, metaphor, contemporary trends – Fabrication and proto typing techniques, material & processes employed as per industry standards.

Computer aided product design – scope, areas of application, software available.

Creative engineering design - principle mechanisms & linkages.

Ref: Product Design: Tucker Veimeistu
Product Design & Manufacturing- John R Lindbeck

I D 4.3.3 Psychology & Human Behaviour

Analysis of human mind & his / her image world. Human being and social behaviour patterns in various public and private areas.

Human behaviour in a group of two, three and more. Activities and its relationship with grouping of people. Privacy, Territoriality & defensible space.

Modernization, change in society, change in thought process and behaviour patterns.

Behaviour patterns and its correlation to design elements.

Reflection of behaviour patterns of human being in space planning for public areas like theatre lounge, waiting rooms, hotel foyer, café and other spaces.

I D 4.4 Interior Design Project

Interior Design project is intended to evaluate the students maturity in the design of interiors and should reflect the knowledge gained from all the courses undertaken by the student in the previous semesters. The student is expected to submit a proposal for a project of his choice for approval, to the project co-ordinator. The proposal must clearly indicate the scope of work, methodology, objectives and case studies. Live projects should be taken up, wherever possible.

Periodic submissions must be made for review by the guide and a panel of internal examiners as per the schedule given by the co-ordinator. The final portfolio must contain comprehensive proposals for the interior supported by drawings, illustrations and models, which will be evaluated by a panel of external examiners. The client may also participate as an examiner in case of real projects.

I D 4.5 Dissertation

Each student is expected to prepare a dissertation under a department approved guide / adviser. The topic chosen should preferably relate to the design project and may involve the following areas of study:

- An in-depth investigation into any aspect of the chosen area
- Analysis of data, inferences to establish underlying principles
- Evaluation of existing theory in new concepts
- Establishment of a hypothesis and its substantiation.

The particulars of schedule, content presentation, format etc, as decided by the department from time to time, shall be strictly followed. The progress will be periodically reviewed by internal jury members.