

# Shri Govind Guru University

( Established by Government of Gujarat Vide Gujarat Act no 24/2015 )

*Towards Smart Quality Education*

## SYLLABUS

FOR

## B. Des.

**Bachelor of Design (Interior Architecture)**

**2020-21**

**SEMESTER- I**

IA101	<b>DESIGN STUDIO - I</b> <b>Anthropometry &amp; Ergonomics</b>	<b>L</b>	<b>F</b>	<b>S</b>	<b>T</b>
		0	2	8	10

**PURPOSE:**

- Familiarising students about the various factors that affect the aesthetic and functional aspects of design through training in two-dimensional and three dimensional design compositions.

**OBJECTIVES:**

- To understand various design principles such as emphasis, balance, contrast, harmony, unity etc., and applying them in two-dimensional and three-dimensional compositions.
- To understand and apply design elements such as point, line, shape, colour, texture, area, mass, volume etc.
- To be able to critically analyse the design of existing manmade objects, aiding self-criticism of design.
- To draw inspiration from nature as a source for design.
- To develop an understanding of various degrees of enclosure and various types of relationships between spaces. To be able to understand the various effects that can be created by manipulating the enclosing elements of walls, roofs etc.

**UNIT I: WALL PLANES**

- Use of wall planes to create architectural effects - Natural patterns and textures obtained in masonry walls - articulation of openings in wall planes - effect of tilting the vertical axis of wall planes - niches and alcoves - cornices and mouldings etc.

**UNIT II: ROOF PLANES**

- Different types of roof planes and their visual impact - articulation of skylights and roof apertures - false ceiling - materials, finishes and patterns - types of false ceiling - various types of lighting.

**UNIT III: FLOOR PLANES**

- Various types of flooring - mosaic, tile, stone etc. - aesthetic effects created by flooring material and pattern - graphic patterns and their visual effects - construction details - skirting, moulding, embossing etc. Floor finishes and floor coverings.

**UNIT IV: COMPOSITIONS**

- Designs involving various elements such as point, line, shape, colour and texture - applied to compositions such as mural design, fabric design, mosaics, stained glass, engraving, block printing, collage etc - involving all the principles of composition.

**UNIT V: ANTHROPOMETRICS**

- Definition, standard dimensions based on human figures for activities, functions, circulation, furniture design, spatial requirements etc.
- Study of ergonomic design of furniture for living, dining, kitchen, office etc.

**REFERENCES:**

1. Paul Laseau. *Graphic thinking for architects and designers*. John Wiley & Sons.
2. Trewin Copplestone. *Arts in society*. Prentice Hall Inc.
3. H. Gardner. *Art through ages*.
4. David Fair. *Design graphics*. Hodder and Stoughton.
5. Guild Source Books. *Architectural arts and sculpture*.

**SEMESTER - I**

IA102	MATERIAL AND CONSTRUCTION - I	L	F	S	T
		2	3	2	7

**PURPOSE:**

- Understanding of basic building elements, building materials and construction processes.
- Developing skills to communicate construction techniques through the introduction of construction terminologies and through drawings and model making.

**OBJECTIVES:**

- To understand the basic building components for small buildings such as foundations, openings, walls, floors, roofs and finishing materials.
- To gain knowledge of the basic construction materials such as wood and glass.
- To understand different structural systems.

**UNIT I: BASICS OF BUILDING COMPONENTS (e.g. a small building)**

- Building Elements :
  - a. Functions and Design
  - b. Important Building Components
  - c. Foundation, Plinth and Superstructure
  - d. Typical Wall Section
- Understanding of basic construction drawing.
- Openings in brickwork with sill, lintel, sunshades etc.
- Slab detailing along with parapet, coping, water proofing etc.

**UNIT II: STRUCTURAL SYSTEMS**

- Introduction to Load Bearing and Frame Structure and their components.

**UNIT III: MASONARY**

- Brick and Stone masonry.

**UNIT III: MATERIALS AND ITS APPLICATION PROCESS**

- Wood as a material and its by products (hardwood, softwood, properties, manufacturing of by products, uses and applications).
- Glass (manufacturing processes, uses, properties and application).

**REFERENCES:**

1. Francis D. K. Ching. (1975). *Building construction illustrated*. Van Nostrand Reinhold.
2. W.B. Mckay. (1981). *Building construction Vol 1*. UK: Longmans.
3. W.B. Mckay. (1981). *Building construction Vol 3*. UK: Longmans.
4. S.K. Duggal. *Building materials*.
5. S.C. Rangwala. *Engineering materials*.

**SEMESTER - I**

IA103	TECHNICAL REPRESENTATION OF DRAWING - I	L	F	S	T
		2	0	4	6

**PURPOSE:**

- Improving students' sketching skills and drawing abilities.

**OBJECTIVES:**

- To help students understand and explore the techniques of various methods of drawing.

**UNIT I: ORTHOGRAPHIC PROJECTION**

- Projection of lines, planes and solids

**UNIT II: SURFACE DEVELOPMENT AND SECTION OF SOLIDS**

- Surface development of various forms (3D).
- Section of primary solids such as pyramid, cone, cylinder, prism, sphere, cuboid, etc.

**UNIT III: ISOMETRIC AND AXONOMETRIC PROJECTIONS**

- Isometric projection of all platonic solids such as cubes, cuboids, hexagonal prisms, pyramids, cones, spheres etc.
- Isometric or Axonometric of tables, chairs, stools etc.

**REFERENCES:**

1. Francis D. K. Ching. *Drawing - A creative process*. NY: John Wiley Sons.
2. Ernest R. Weidhaas, Allyn and Bacon. (1981). *Architectural drafting and design* (4<sup>th</sup> ed.). Boston.
3. N. D. Bhatt. *Engineering drawing*.
4. Arthur. L. Gupthill. *Rendering with pen and ink*.

**SEMESTER - I**

IA104	COMMUNICATION AND PRESENTATION SKILLS - I	L	F	S	T
		3	0	0	3

**PURPOSE:**

- Providing adequate knowledge of communicative English language, training primarily in all the four major language skills - listening, speaking, reading and writing.

**OBJECTIVES:**

- To introduce to the student, Interior Architecture vocabulary, communication and verbal presentation skills.

**UNIT I: GRAMMAR**

- General English Grammar: Direct and reported speech, active and passive voice, tenses and propositions, condition sentences.

**UNIT II: VOCABULARY**

- Interior Architecture vocabulary, presentation skills (verbal).

**UNIT III: INTERACTION**

- Body language and speaking skills - methodology: lectures, group discussions, films, presentations.

**REFERENCES:**

1. Raymond V. Lesikar, John D. Pettit and Mary E. Flatley. (1999). *Basic communication*. Tata McGraw Hill.

**SEMESTER - I**

IA105	BASIC DESIGN	L	F	S	T
		0	0	3	3

**PURPOSE:**

- Developing an understanding of point, line and planar elements in defining an interior space.

**OBJECTIVES:**

- To develop an understanding of various degrees of enclosure, various types of relationships between spaces. Understanding of the various effects that could be created by manipulating the enclosing elements such as walls, roof etc.
- To understand the use of colours and their effects in drawing.

**UNIT I: FREE HAND DRAWING AND SKETCHING**

- Basic line exercises, still life, basic forms, effect of lines to represent textures.
- Outdoor sketching including lawns, bushes, water bodies, plants and trees in different media. Indoor sketching of furniture, lights, corridor, lobby, class room etc.

**UNIT II: BASICS OF COLOUR SCHEMES - THEORY**

- Fundamentals of colour theory, colour wheel, tints, shades etc.
- Types of textures, their uses and application.

**UNIT III: DESIGN VOCABULARY**

- Form - point, line, volume, shape, texture and colour - in relation to light, pattern etc. and application of the same in designing interiors.

**UNIT IV: - DESIGN PRINCIPLES**

- Ratio, proportion - golden section, relationships, scale, balance - symmetry, radial, harmony, unity, variety, rhythm, emphasis.

**REFERENCES:**

1. Francis. D. K. Ching. *Interior design Illustrated*. Van Nostrand Reinhold.
2. Harold Linton. *Colour in architecture*. McGraw Hill.
3. Jonathan Poore. *Interior colour*. Design. Rock Port Publishers.
4. Johanness Itten. *The art of colour*. John Wiley and Son.

**SEMESTER- I**

<b>IA106</b>	<b>WORKSHOP - I</b>	<b>L</b>	<b>F</b>	<b>S</b>	<b>T</b>
		0	0	4	4

**PURPOSE:**

- Workshop activity enhances skill development. Handling different materials provides better understanding of the use of that material.

**OBJECTIVES:**

- To enable students to explore the use different materials in their design.
- To have a proper understanding of the joinery used in various types of materials.
- To be able to select the appropriate material and detailing.

**UNIT I: OTHER TYPES OF NATURAL WOOD**

- Introduction to cane, bamboo, working with them and their products to understand material parameters.
- Bamboo and cane joinery and their strength. Polishes and other finishes. Understanding the material by making objects which allow students to explore forms, surfaces, textures and patterns.
- Exploration of woven surfaces and different kinds of joinery.

**UNIT II: TYPES OF WOOD - ARTIFICIAL**

- Engineered wood – plywood, MDF, HDF, etc.
- Working with wood derivatives and wood products to understand material parameters. Joinery, strength, polishes and finishes - colour and surface quality. Laminates should also be treated as one of the finishes complete with lipping and detailing.
- Making of interior space making elements in scale to the built form, such as furniture, partitions and artifacts.

**UNIT III: GLASS**

- Working with glass and understanding, edge polishing, sand blasting, acid wash, etching, stained glass.
- Hardware and its fixing
- Understanding the properties and usage of glass. Exercises in 3d model making.

**REFERENCES:**

1. Carol Stangler. (2009). *The crafts and art of bamboo*. (Revised updated edition). Lark books.
2. Dr. Angelika Tasche. (2006). *Bamboo style: Exteriors, Interiors, Details*, (illustrated edition).
3. Albert Jackson & David Da. (1996). *The complete manual of wood working*. Knopf publishers.

4. Lonnie Bird, Jeff Jewitt & Thomas Lie Nielsen. (2005). *Taunton's complete illustrated guide to woodworkin*. Taunton.
5. Peter Korn. (2003). *Wood working Basics: Mastering the essentials of craftsmanship*. Taunton.

**SEMESTER- II**

IA201	DESIGN STUDIO - II Space Making	L	F	S	T
		0	2	8	10

**PURPOSE:**

- Introduction to design parameters, human activity and the use of space.

**OBJECTIVES:**

- To develop knowledge in spatial planning, scale, spatial dynamics and composition; analysis and manipulation of interior space including material, texture and pattern.
- To develop an understanding of scale and function in the designing of small-scale spaces.

**UNIT I: SPACES**

- Importance of design
- Function in relation to form, realization of dimension and related proportion.
- Importance of human dimension in working out the size and volume of spaces for various activities.

**UNIT II: MATERIALS, PROPORTION AND SCALE**

- The use of different materials to address varied objectives. Understanding scope of designing with these materials.
- To develop an understanding of space through three dimensional visualization.
- The aim is to create various prototypes that bring together anthropometric understanding, design and construction, while handling proportion, scale, materials etc.

**UNIT III: ACTIVITIES**

- Introduction of activities.
- Activity mapping and documentation.
- Updating presentation and model making skills.

**REFERENCES:**

1. Paul Laseau. *Graphic Thinking for architects and designers*. John Wiley & Sons.
2. Trewin Copplestone. *Arts in society*. Prentice Hall Inc.
3. H. Gardner. *Art through ages*.
4. David Fair. *Design graphics*. Hodder and Stoughton.

**SEMESTER- II**

<b>IA202</b>	<b>MATERIAL AND CONSTRUCTION - II</b>	<b>L</b>	<b>F</b>	<b>S</b>	<b>T</b>
		2	3	2	7

**PURPOSE:**

- Introducing students to the principles and elements of interior architecture - structures and skins.

**OBJECTIVES:**

- To understand the construction of basic elements of an interior space

**UNIT I: BUILDING COMPONENTS**

- Openings - door and windows etc.
- Staircases
- Floors
- Types of roof and roof coverings

**UNIT II: FINISHES**

- Paint s- enamels, distempers, plastic emulsions, and cement based paints - properties, uses and applications - painting on different surfaces - defects in painting, clear coatings and stains - varnishes, lacquer, shellac and wax polish.
- Special purpose paints - bituminous, luminous, fire retardant paints - properties, uses and applications

**UNIT III: BUILDING MATERIALS**

- Metals (ferrous and non - ferrous - iron, steel, market forms of steel, application in buildings and uses).
- Plastics.
- Fabrics.

**REFERENCES:**

1. W.B. Mckay. (1981). *Building Construction Vol 1- 4*, UK: Longmans.
2. B.C. Punmia. (1993). *Building Construction*. ND: Laxmi Publications Pvt. Ltd.

**SEMESTER- II**

IA203	TECHNICAL REPRESENTATION OF DRAWING - II	L	F	S	T
		2	0	4	6

**PURPOSE:**

- Acquiring knowledge of various drawing techniques used to effectively communicate design.

**OBJECTIVES:**

- To train students in the field of interior Perspective drawing and Sciography.
- To be able to use presentation skills as a tool towards effective visualization.

**UNIT I: MEASURE DRAWING**

- Measure Drawing of simple objects like cupboards, cabinets, beds etc. and building components like columns, doors, windows, cornices etc.

**UNIT II: PERSPECTIVE**

- Perspective View: principles and visual effect of three dimensional objects, study of picture plane, station point, vanishing point, eye level etc.
- One point perspective for interiors.
- Two point perspective for interiors.

**UNIT III: SCIOGRAPHY**

- Sciography: principles of shade and shadow- architectural elements in interiors.
- Shadows of circular, cylindrical and spherical elements.

**REFERENCES:**

1. Shankar Mulik. *Perspective and sciography*. Allied Publishers.
2. Mary Gilliat Coyran. *Interior design course*. London: Octopus Ltd.
3. Francis D.K. Ching. *Interior design*. NY: John Wiley & Sons.

**SEMESTER- II**

<b>IA204</b>	<b>COMMUNICATION AND PRESENTATION SKILLS - II</b>	<b>L</b>	<b>F</b>	<b>S</b>	<b>T</b>
		3	0	0	3

**PURPOSE:**

- Providing adequate knowledge of communicative English language, training primarily in all the four major language skills - listening, speaking, reading and writing.

**OBJECTIVES:**

- To impart quality training to students to enable them to acquire skills required to meet the demands of the job market.

**UNIT I: TYPES OF COMMUNICATION**

- Forms of communication (formal, informal), factors facilitating communication (written, audio, video), communication channels, four types of language skills (LSRW), barriers to communication.

**UNIT II: COMPOSITION**

- Composition, types and formation of sentences, paragraph writing, essay writing, note making, summarizing.

**UNIT III: BUSINESS COMMUNICATION**

- Business communication - circular, agenda and minutes, emails, enquiries, quotations, placing orders, clarification and complaints, job applications, cover letters and resume.

**UNIT IV: PRESENTATION**

- Presentation skills - meetings, conducting and attending meetings.

**UNIT V: ADVERTISEMENT**

- Preparing advertisements, brochures, flyers, etc.

**REFERENCES:**

1. Raymond V. Lesikar, John D. Pettit & Mary E. Flatley. (1999). *Basic communication*. Tata McGraw Hill.

**SEMESTER- II**

FD205	HUMANITIES	L	F	S	T
		3	0	0	3

**PURPOSE:**

- Understanding of the evolutionary process, and the connection of humankind to the larger universe.
- Understanding unity within the diversity.
- Understanding self in the context of values and culture.

**OBJECTIVES:**

- To sensitize students about the realization and value of the self.
- To provide exposure to students about their individual role in the larger realm.
- To enable students to be able to make value judgements.

**UNIT I: PHYSICS AND METAPHYSICS**

- Emergence of universe - The formless and its formation in to the physical form of Duals and Plurals. The overlaps of Physics and Metaphysics in appreciation of “The Mind Matter” synonyms.

**UNIT II: TOOL MAKING**

- Tool making - a natural human evolutionary process, tools for extension of man to reach universal scales: tools for mental efficiency extensions, work efficiency extensions and management efficiency extensions (Mantra – Yantra - Tantra )

**UNIT III: VALUE JUDGEMENT**

- The Eco - systems and Eco - cultures, their context and formation of value judgements at global, regional and local scales. Formation of cultures and civilizations as a process of “Feel and Thoughts”.

**REFERENCES:**

1. Jacob Bronwsky. *The ascent of man*.
2. David Leakey. *The making of man*.
3. Ram Krishna Mission. *Vedanta and modern physics*.
4. Kapra Fritjot. *The turning point*.
5. Kapra Fritjot. *The tao of physic*. Space.
6. Seigfrid. *Time and architecture*. Gideon.

**SEMESTER- II**

IA206	WORKSHOP - II	L	F	S	T
		0	0	4	4

**PURPOSE:**

- Workshop activity enhances skill development. Handling different materials provides better understanding of the use of that material.

**OBJECTIVES:**

- To enable students to explore the use of different materials in their design.
- To have a proper understanding of the joinery and methods of application used in various types of materials.
- To be able to select the appropriate material and their detailing.

**UNIT I: METAL**

- Types of metals, their properties, definitions of terms with reference to properties and uses, various methods of working with them, fixing and joinery details, treatments and finishes. Standard specifications.
- Metals used in interiors - horizontal, vertical and inclined surfaces, doors and windows, screens, staircases and railings, etc.
- Furniture and other products - form and joinery.

**UNIT II: FABRIC**

- Introduction to fibres and yarns, table loom and floor loom, preparing warp, setting up loom for weaving. Basic weaves and their variations.
- Design quality - weaves as light controlling devices, for upholstery, curtains, floor coverings etc.
- Rugs and durries - motif design, patterns and colour variations.

**Note:** Extensive market survey for interior spaces - manufacturers and product specifications.

**REFERENCES:**

1. John .F. Pile. (1995). *Interior design*. NY: Harry Abrams Inc.
2. Ron Fournier. (1990). *Metal fabricator's handbook*. (rev. ill. ed.) HP Books.
3. Stanford Hohausen. (1970). *Architectural and interior models*. Van Nostrand Reinhold.
4. Deoborah Chandler. (2009). *Learning to weave*. (rev. ed.). Interweave Press.
5. Kirsten Glasbrook. (2002). *Tapestry weaving*. Search Press.

**SEMESTER III**

IA301	DESIGN STUDIO - III Residential Interior	L	F	S	T
		0	3	8	11

**PURPOSE:**

- Introduction to the basics of designing for residential interiors and to develop skills required for the same.

**OBJECTIVES:**

- To develop an understanding of function and scale in the design of small spaces in residences.
- To develop ideas with regard to openings, flooring, wall panelling, false ceiling, floor coverings, fixed and loose furniture, soft furnishings etc.

**UNIT I: KITCHEN**

- Work triangle, planning for activity - anthropometrics, types of kitchens - custom made, modular. Materials used in counters, shelves, worktops, washing areas and their comparative study. Lighting - natural and artificial light. Colour schemes.

**UNIT II: TOILETS**

- Anthropometrics - various types of sanitary fixtures and fittings and their use - types of layouts - concepts in modern day toilet interiors - materials and finishes - colour, texture and pattern.

**UNIT III: BEDROOMS AND LIVING ROOMS**

- Concepts in bedroom and living room interiors - various layouts - use of furniture and accessories to create ambience - materials and finishes – lighting - colour and texture.

**UNIT IV: RESIDENCES**

- Concepts in residential interiors - ability to integrate various individual spaces into one theme - treatment of patios, courtyards, verandas and other semi covered spaces - integration of built form and open spaces.

**REFERENCES:**

1. Fiona Leolie. (2000). *Designs for 20th century interiors*. London: VH Publications.
2. Barbaralec Diamonstein. (1982). *Interior design: The new freedom*. NY: Rizzoli International Publications.
3. Jonathan Poore. (1994). *Interior colour by design*. Rockport Publishers.
4. International Federation of Interior Architects & Designers. (1987). *Worldwide interiors*. Japan Rikuyo-Sha.

**SEMESTER III**

IA302	MATERIAL AND CONSTRUCTION-III	L	F	S	T
		2	3	2	7

**PURPOSE:**

- Introducing students to materials and construction methodology.

**OBJECTIVES:**

- To understand the construction of basic elements of an interior space such as walls, partitions, floors and roofs.

**UNIT I: FLOORING**

- Floor coverings - softwood, hardwood, resilient flooring - linoleum, asphalt tile, vinyl, rubber, cork tiles, terrazzo, marbles and granites. Properties, uses and laying methods.
- Floor tiles - ceramic, glazed, mosaic and cement tiles. Properties, uses and laying methods. Details for the differently abled.

**UNIT II: PARTITIONS AND PANELLING**

- Partitions - details of fixed, sliding, sliding and folding partitions - with wood, steel, aluminium frames and panels of glass, particle board, MDF, gypboard, plywood etc.
- Panelling - using wooden planks, laminated plywood, cork sheets, fibre glass etc. with glass wool, fabric etc. for sound insulation and thermal insulation.

**UNIT III: COUNTERS AND CABINETS**

- Different type of counters and cabinets (shops, residences, offices) in different materials with joinery details.

**UNIT IV: FALSE CEILING**

- Construction of various kinds of false ceiling using thermocol, plaster of paris, gypboard, metal sheets, glass and wood.
- Construction of domes, vaults and other special ceilings.

**REFERENCES:**

1. Francis D.K. Ching. *Interior design*. NY: John Wiley & Sons.
2. David Kent Ballast. *Interior construction & detailing for designers & architects*. (6<sup>th</sup> ed.). Kaplan.

**SEMESTER III**

IA303	ENVIRONMENTAL STUDIES-I	L	F	S	T
		2	2	0	4

**PURPOSE:**

- Inculcating environmental values in design.

**OBJECTIVES:**

- To enable students to realise and understand the multidisciplinary nature of the environment, its components, interrelationships between man and environment and their impact on the built environment.

**UNIT I: MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES**

- Definition, scope and importance, need for public awareness.

**UNIT II: NATURAL RESOURCES AND ECOSYSTEM**

- Natural resources like forest, water, food, energy etc. and their inter-linkages.
- Role of an individual in conservation of natural resources.
- Equitable use of resources for sustainable lifestyles.
- Introduction, types, characteristic features, structure and function of the following ecosystem: Forest, Grassland, Desert, Aquatic (ponds, streams, lakes, rivers, oceans, estuaries).

**UNIT III: SOCIAL ISSUES AND ENVIRONMENT**

- Urban problems related to energy.
- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people; its problems and concerns.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust.
- Sustainable development.

**UNIT IV: BUILDING ENVELOPE**

- Desirable conditions for body heat exchange, thermal balance, human comfort conditions, comfort chart, comfort zone, effective temperature, humidity, solar gain, radiation, wind, precipitation etc.

**REFERENCES:**

1. Erach Bharucha. *Text book for environmental studies*. (UGC).
2. Otto S. Koenisberger. *Manual of tropical housing and building*.

**SEMESTER III**

IA304	HISTORY OF INTERIOR DESIGN - I	L	F	S	T
		3	0	0	3

**PURPOSE:**

- Providing students with knowledge of various developments in Interior Design through the ages.

**OBJECTIVES:**

- To help students understand design development from Prehistoric Period to the Middle Ages.
- To understand the influence of modern movements in the design of interiors from the beginning of the 20th century.

**UNIT I: EARLY CLASSICAL PERIOD**

- Prehistoric cave paintings - primitive designs - interiors during Egyptian, Greek, Roman, Gothic, Early Christian and Renaissance Periods.

**UNIT II: MIDDLE AGES**

- Interiors in Romanesque, Gothic, and Renaissance periods.

**UNIT III: COLONIAL TO THE BEGINNING OF THE 20TH CENTURY**

- Colonial, Victorian, Arts & Crafts movement, Art Nouveau, Eclectism.

**UNIT IV: BAUHAUS TO POST WAR MODERNISM**

- Frank Lloyd Wright, Walter Gropius - Bauhaus, De Stijl, Mies Van der Rohe, Le Corbusier, Art Deco, Post-war Modernism.

**REFERENCES:**

1. Mary Gilliat Coyran. *Interior design course*. London: Octopus Ltd.
2. Francis D.K. Ching. *Interior design*. NY: John Wiley & Sons.
3. Joseph De Chiara. *Time saver standards for interior design*. NY: McGraw Hill.

**SEMESTER III**

IA305	FURNITURE DESIGN AND DETAILING	L	F	S	T
		2	0	3	5

**PURPOSE:**

- Familiarizing students with materials used in furniture design and their construction and detailing.

**OBJECTIVES:**

- To use knowledge of state of-the-industry procedures and equipment in the design of furniture.
- To understand wood and its allied products as a construction medium.

**UNIT I: THE BASICS OF FURNITURE CONSTRUCTION AND TOOLS**

- Measurement and measurement systems.
- Furniture construction with detailing for living, dining, bedroom, study spaces etc. Specifications and finishes.
- Working drawings of all of the above furniture items.

**UNIT II: PLYWOOD CONSTRUCTION TECHNIQUES**

- Plywood as a building material, layout techniques and machining plans.
- Fabrication techniques - stapling, gluing.
- Furniture Joinery - screw joinery, nail joinery, mortise and tenon joints, dovetail joints, dowel joints, edge joints etc.

**UNIT III: KITCHENS**

- Components, basis of construction involving, layouts, carcass, hardware selection, fixing details, finishes and special types such as tall units, grain trolleys, carousels, fold outs etc.
- A detailed project involving the design of a small kitchen.

**UNIT IV: FURNITURE MODEL MAKING**

- Preparation of block models of furniture using wood, boards, leather, fabric, thermocol, clay, soap, wax etc.

**REFERENCES:**

1. Francis D. K. Ching. (1975). *Building construction illustrated*. Van Nostrand Reinhold.
2. Brian Lutz. *Eero Saarinen: Furniture for every man*.
3. Stuart Lawson. (2013). *Furniture design: An introduction to development, material & manufacturing*. London: Lawrence King Publishing.

**SEMESTER III**

IA306	ARTS AND CRAFTS	L	F	S	T
		3	0	0	3

**PURPOSE:**

- Providing students with a foundation in various aspects of art and craft, which can be applied in the design of interiors.

**OBJECTIVES:**

- To understand the characteristics of Indian arts and crafts and their application in interiors.

**UNIT I: INTRODUCTION TO CREATIVE ARTS AND CRAFTS**

- Traditional arts and crafts of India - Folk arts of India - Art movements through history , application of art and craft in interior design.

**UNIT II: REGIONAL ARTS AND CRAFTS**

- Traditional arts and crafts of various states of India.

**UNIT III: ART MOVEMENTS IN POST MODERN INDIA**

- Art Movements in Post Modern India and their influence in interiors - Abstract Expressionism, Pop art, Minimal art, Conceptual art, Neo Expressionism, Computers in Art.

**UNIT IV: CREATIVE ART OBJECTS**

- Study of art objects - picture framing, macramé, decoupage, wall hangers, ceramic painting, murals etc.

**REFERENCES:**

1. Francis D.K .Ching. (1987). *Interior design illustrated*. NY: Van Nostrand Reinhold.
2. Edith Thomory. *A history of fine arts in India and the west*. New Delhi: Orient Longman Publishers Pvt. Ltd.
3. Ministry of Handicrafts Development, Government of India. *Publication on traditional arts and crafts on India*. ND: Author.
4. Johhanes Itten. (1973). *The art of colour*. USA: John Wiley and Sons.

**SEMESTER IV**

<b>IA401</b>	<b>DESIGN STUDIO - IV Institutional Interior</b>	<b>L</b>	<b>F</b>	<b>S</b>	<b>T</b>
		0	3	8	11

**PURPOSE:**

- Introduction to the basics of designing for institutional interiors and to develop skills required for the same.

**OBJECTIVES:**

- To look at large scale spaces with an emphasis on planning for Institution interiors.
- To develop visually literate students who are proficient at analytical thinking, conceptualization and problem solving.
- To enable students to examine abstract design principles and their connection with the physical environment.

**UNIT I: ADMINISTRATION AND LOUNGE**

- Over all planning of administration area along with its service areas - Private and Public spaces, furniture layout, lighting, colour scheme, interior landscape etc.

**UNIT II: OFFICE**

- Planning for individual offices - layouts, furniture detail, natural and artificial lighting, colour scheme, soft furnishings etc.

**UNIT III: THEMATIC CONCEPTS**

- Thematic concepts in Institutional spaces - ability to integrate various individual spaces into one theme – treatment of passages, courtyards, other semi covered spaces - integration of built form and open spaces.

**REFERENCES:**

1. Fiona Leolie. *Designs for 20th century interiors*. London: VH Publications.
2. Barbaralec Diamonstein. (1982). *Interior design: The new freedom*. NY: Rizzoli International Publications.
3. Jonathan Poore. (1994). *Interior colour by design*. Rockport Publishers.

**SEMESTER IV**

<b>IA402</b>	<b>MATERIAL AND CONSTRUCTION - IV</b>	<b>L</b>	<b>F</b>	<b>S</b>	<b>T</b>
		2	3	2	7

**PURPOSE:**

- Understanding the importance of fabric and fine furnishings in the design of interiors and their role in creating elegant rooms. Understanding their designs, processes of manufacture and methods of marketing.

**OBJECTIVES:**

- To study materials and textiles used as furnishing - natural and manmade - their scope and limitations and their impact on interiors.

**UNIT I: CURTAINS, DRAPES AND BLINDS**

- Characteristics of different materials and their uses.
- Accessories, fixing details and maintenance.
- Appropriateness for different functions and spaces.

**UNIT II: WALL FINISHES**

- Types of wall paints and their application.
- Wall papers, tapestries etc.

**UNIT III: UPHOLSTERY AND SOFT COVERINGS**

- Different types of upholstery and their suitability.
- Maintenance of upholstery
- Other soft coverings used in furniture.

**UNIT IV: NEW MATERIALS**

- Market survey of new materials for interior spaces - manufacturers and suppliers, product specifications.

**REFERENCES:**

1. David Kent Ballast. *Interior detailing: Concept to construction*. Wiley.
2. Drew Plunkett. *Construction & detailing for interior design*. (2<sup>nd</sup> ed.).
3. David Kent Ballast. *Interior construction & detailing for designers & architects*. (6<sup>th</sup> ed.). Kaplan.

**SEMESTER IV**

IA403	ENVIRONMENTAL STUDIES - II	L	F	T	T
		2	2	0	4

**PURPOSE:**

- Inculcating environmental values in design.

**OBJECTIVES:**

- To enable students to understand how comfort levels are maintained in interiors.
- To understand the importance of eco-friendly materials.
- To be able to evaluate the performance of a project for future reference.

**UNIT I: INDOOR ENVIRONMENT**

- Waste Management (Reduce, Reuse, Recycle and Regenerate).
- Indoor Air Quality (Indoor air pollutants, regulations, models, assessments and quality control).
- Indoor comfort.
- Energy efficiency.

**UNIT II: INTERIOR FINISHES AND ITS IMPACT ON INDOOR ENVIRONMENT**

- Use of eco-friendly materials and their impact (glass, plastics, fixtures, paints, floors etc.).

**UNIT III: POST OCCUPANCY EVALUATION (POE)**

- A broad awareness of the scope of different methodologies applicable to POEs.
- Develop and implement methods within a POE project.
- Analyze the results from a POE.
- Application of results of the strategic issues the POE seeks to address.
- Develop a concise report which communicates the POE process and strategic recommendations.

**REFERENCES:**

1. Erach Bharucha. *Text book for environmental studies*. (UGC).
2. Otto S. Koeinisberger. *Manual of tropical housing and building*.
3. Building Research Board. *Building diagnostics: A conceptual framework*. . Washington: National Academy Press.
4. Parshal S.A. & W. M. Pena. *Evaluating facilities: a practical approach to post occupancy evaluation*. Total Workplace.

**SEMESTER IV**

<b>IA404</b>	<b>HISTORY OF INTERIOR DESIGN - II</b>	<b>L</b>	<b>F</b>	<b>S</b>	<b>T</b>
		3	0	0	3

**PURPOSE:**

- Providing students with knowledge of Interior Design trends from the latter part of the 20th century and of traditional Indian styles.

**OBJECTIVES:**

- To enable the student to understand the Modern movement in design during the latter part of the 20th century.
- To familiarize students with the traditional styles of ornament and design used in various parts of India.

**UNIT I: RECENT DIRECTIONS**

- Design movements such as Late Modernism, Post Modernism, De Constructivism and Minimalism.

**UNIT II: NON EUROPEAN TRADITIONS**

- Interiors in China, Japan and the Islamic World - Influences of Pre - Columbian American art and culture, African influences in interiors.

**UNIT III: SCANDINAVIAN TRADITIONS**

- Interior Design in Sweden, Finland, Norway. Contributions of Architects such as Alvar Aalto, etc.

**UNIT IV: INDIAN TRADITIONAL DESIGNS**

- Traditional styles of embellishment and design of homes and accessories across the states of India.

**REFERENCES:**

1. John .F. Pile. (1995). *Interior design*. NY: Harry Abrams Inc.
2. Mary Gilliat Coyran. *Interior design course*. London: Octopus Ltd.
3. Francis D.K. Ching. *Interior design*. NY: John Wiley & Sons.
4. Joseph De Chiara. *Time saver standards for interior design*. NY: McGraw Hill.
5. Ministry of Handicrafts Development, Government of India. *Publication on traditional arts and crafts on India*

**SEMESTER IV**

IA405	BUILDING SERVICES - I	L	F	S	T
		1	1	2	4

**PURPOSE:**

- Introducing students to concepts and principles of various building services that form a part of interiors.

**OBJECTIVES:**

- To enable students to integrate various services effectively with the interior.

**UNIT I: ELECTRICAL LAYOUT**

- Introduction to electrical systems as applicable to interior spaces.
- Design of electrical systems including materials, specifications and types.
- Residential lighting, fittings, fixtures and switches.
- Preparation of electrical layouts, symbols etc.
- Introduction to automation in lighting industry.

**UNIT II: PLUMBING AND DRAINAGE SYSTEM**

- Cold and hot water distribution systems, types of water supply pipes and joints, fixtures and fittings.
- Soil and waste water disposal systems, types of sanitary pipes and joints.
- Plumbing works for kitchens, toilets, baths, washing machines, dishwasher, refrigerator, tanks in lofts, etc.
- Detail for bath tubs, rain showers and other shower system, jacuzzis etc.
- Water distribution and waste water disposal layout.

**REFERENCES:**

1. Pratap R.M. (1988). *Interior design principles and practice*. Delhi: Standard Publishers Distribution.
2. F. Hall. *Plumbing technology*. British Library Cataloguing in Publication Data.
3. Shubhangi Bhide. *Building services and equipments*. Rudra Offset.

**SEMESTER IV**

<b>IA406</b>	<b>ADAPTIVE REUSE AND RECYCLING</b>	<b>L</b>	<b>F</b>	<b>S</b>	<b>T</b>
		2	0	0	2

**PURPOSE:**

- Exposing students to the basics of adaptive reuse and recycling.

**OBJECTIVES:**

- To enable the student to understand the need for adaptive reuse of old heritage buildings and applications for using recycled materials.

**UNIT I: NEED FOR CONSERVATION**

- Architectural conservation - conservation of heritage and important buildings, levels of intervention - structural, construction related, finishes etc. Revival of old building techniques and finishes.

**UNIT II: NEED FOR ADAPTIVE REUSE**

- Cultural inheritance - heritage buildings and old structures - ascertaining their structural stability, estimation of the prolonged life of the building, strategies of adaptive reuse, investigation into material finishes etc.

**UNIT III: NEED FOR RECYCLING OF MATERIALS**

- The logic behind recycling - recycling of steel, wood, glass etc., estimation of the quality of recycled timber, criteria for recycling of steel, glass etc.

**UNIT IV: CONCEPT OF SUSTAINABILITY**

- Earth summit declaration - definition of sustainability, economic, social and environmental issues, green rating of buildings - criteria for LEED and GRIHA rating.

**REFERENCES:**

1. Harimohan Pillai. (2002). *Heritage conservation and cultural continuity*. Saraswatham Publishers.
2. TERI publication. ( 2004). *Sustainable building design manual*. Delhi: Author.
3. Sandra F. Mendler. (2002). *The HOK guide book for sustainable design*. Canada: John Wiley and Sons.
4. DTCP, Pondicherry, INTACH 2000. *Conservation guidelines for Pondicherry*. Pondicherry: Author.

**SEMESTER IV**

<b>IA407</b>	<b>WINTER SCHOOL Traditional Crafts</b>	<b>Duration</b>
		Two Weeks

**PURPOSE:**

- Exposing to students to the different traditional crafts of the country.

**OBJECTIVES:**

- To get a better understanding of various mediums that may be inculcated in the design of interiors.

**PROCESS:**

- Crafts play a very important role in representing the culture and tradition of any region or country. They are a medium of expression of talent and skills and preserve the rich heritage associated with the history of that place and people's lifestyles.
- Through the study of traditional crafts, students get a better understanding of various materials, designs and colour schemes that may serve as inspiration in the design of interiors.
- Students will have to observe and document any traditional craft of their choice with emphasis on material, process and the final product.
- The duration of the study is two weeks.
- Students will have to document their learning experience in the form of a report and participate in a joint exhibition of all the students' Winter School project work.

**NOTE:** The result of this subject will be reflected in the mark sheet of Semester IV, as Satisfactory (S). Satisfactory completion of the winter school, a satisfactory report and participation in the exhibition will earn the student the required credits.

**SEMESTER V**

IA501	DESIGN STUDIO - V Commercial Interiors - I	L	F	S	T
		0	3	8	11

**PURPOSE:**

- Introducing the basics of designing for retail spaces.

**OBJECTIVES:**

- To look at different types of commercial spaces with an emphasis on planning for health and hospitality.
- To develop visual literacy in students and make them proficient at thinking analytically, at being able to resolve problems and being able to conceptualize.
- To enable students to examine abstract design principles and apply them in physical and visual environments.

**UNIT I: HEALTH CARE INTERIORS**

- Designing of health care spaces such as consulting rooms and treatment rooms in hospitals.
- Designing of diagnostic facilities - study of special requirements, furniture detailing, services, acoustics etc.

**UNIT II: RESTAURANT INTERIORS**

- Designing of functional hospitality spaces such as restaurants and banquet halls - planning of all areas including service areas, design and detailing of workspaces, interaction zones etc.
- Designing of theme based hospitality spaces such as interiors of restaurants, corporate banquet halls, venues etc.

**REFERENCES:**

1. Fiona Leolie. *Designs for 20th century interiors*. London: VH Publications.
2. Barbaralec Diamonstein. (1982). *Interior design: The new freedom*. NY: Rizzoli International Publications.
3. Jonathan Poore. (1994). *Interior colour by design*. Rockport Publishers.

**SEMESTER V**

IA502	COMPUTER APPLICATIONS - I 2D AND 3D Modelling	L	F	S	T
		2	0	2	4

**PURPOSE:**

- Providing students with a foundation in the techniques of drafting using computer as a tool.

**OBJECTIVES:**

- To introduce terminology used in computers and enable students to understand their technology.
- To develop an understanding about the applications of software and graphic systems.

**UNIT I: 2D DRAFTING SOFTWARE AND PRESENTATIONS**

- Understanding the use of drawing tools, drawing objects, object editing, filing and setting of drawing units, scales, size and dimensioning, lettering etc.
- Advance command programming - transparent overlays, hatching utilities, usage of layers (assigned colour and line type), use of multi-line, style, block, symbol library for accuracy in drawings and incorporating the above mentioned utilities.
- Introduction to tools of productivity - blocks, slide facilities, script files and attributes.
- Understanding concepts of view port, model and layouts.

**UNIT II: 3D MODELLING SOFTWARE AND PRESENTATIONS**

- Introduction to 3D modelling techniques, construction planes, drawing objects, 3D surfaces, setting up elevation and thickness, and use of dynamic projections.
- Solid modelling with driving, primitive command.
- Use of region modelling and solid modifiers.

**REFERENCES:**

1. V. Rajaraman. *Principles of computer programming*. Prentice Hall of India.
2. Byron S. Gottfried. *Theory and problems of programming with C. Schaum's outline series*. McGraw Hill Publishing Co.
3. Autodesk UNC. (1998). *Auto CAD reference manual*.
4. Sham Tickoo. *Understanding Auto CAD - 14*.

**SEMESTER V**

IA503	BUILDING SERVICES - II	L	F	S	T
		1	3	2	6

**PURPOSE:**

- Introducing concepts and principles of various building services that need to be taken care of while designing interiors.

**OBJECTIVES:**

- To enable students to integrate various services effectively with the interior.

**UNIT I: HVAC SYSTEMS**

- Principles of thermal comfort parameters for humans.
- Principles of natural ventilation, heat load calculations.
- Introduction to air conditioning systems, methods of air conditioning, equipment and components used in air conditioning, selection criteria for air conditioning systems.
- Ducting principles, layout schemes and placement of air conditioning outlets in central air conditioning system.
- Mechanical ventilations and their applications.

**UNIT II: FIRE FIGHTING**

- Introduction and main components
- Fire fighting layout design
- Approvals and codes

**UNIT IV: HOME AUTOMATION**

- Introduction and main components
- Layout design
- Approvals and codes

**UNIT IV: ACOUSTICS**

- Introduction to Acoustics and its application in interiors.
- Room acoustics - resonance, reverberation, reverberation time, echo etc. Simple exercises using Sabine's formula. Acoustical requirements of different types of building - sound absorption, absorption co-efficient and their measurements, absorbing materials used and their choices. Exercises involving reverberation time and absorption co-efficient. Sound insulating materials.

**REFERENCES:**

1. Pratap R.M. (1988). *Interior design principles and practice*. Standard Publishers Distribution.
2. Rangawala .S.C. *Water supply and sanitary engineering*. Roorkee: Publishing House.

**SEMESTER V**

<b>IA504</b>	<b>ESTIMATION AND COSTING</b>	<b>L</b>	<b>F</b>	<b>S</b>	<b>T</b>
		2	0	2	4

**PURPOSE:**

- Facilitating transfer of knowledge and skills to students on estimating, costing, analysing rates and processes of tendering for practicing the profession of Interior Architecture.
- Enabling students to prepare estimates and work out cost of overall project.

**OBJECTIVES:**

- To equip students to prepare the estimate in order to foresee the cost of the interior design project to be implemented and to be able to monitor and control the project cost.

**UNIT I: TO ESTIMATION**

- Estimation - definition, purpose, types of estimates, procedures for estimating the cost of work in order to implement an interior design project, estimates of products related to interiors e.g. furniture, artefacts etc.

**UNIT II: RATE ANALYSIS AND ESTIMATION FORMAT**

- Rate Analysis - definition, method of preparation, quantity and labour estimate for woodwork, steelwork, aluminium work, glass etc. including laying of tiles, wall panelling, walls and ceilings. Rates for different thicknesses, sections and finishes (enamel paint, Duco paints, melamine, PU coats, hand polishing, veneering, laminating etc.).
- Electrical and plumbing products, wiring, ducting etc.

**UNIT III: DETAILED ESTIMATE**

- Detailed Estimate - data required, factors to be considered, methodology of preparing abstract of estimate, contingencies, labour charges, bill of quantities, different methods of estimate for interior design works, methods of measurement of works.

**UNIT IV: COSTING**

- Cost of different interior items like electrical fittings, paints, plumbing equipment, false ceiling, wall panelling, furniture etc.

**UNIT V: INTRODUCTION TO SPECIFICATION**

- Specification – definition, purpose, procedure for writing specification for the purpose of calling tenders, types of specification.

- Specifications for different items related to interior design project - woodwork for furniture, window frames and pelmets, partitions etc. - materials like steel, aluminium, glass of various kinds etc. - wall panelling and false ceiling of materials like aluminium, steel, wood etc.
- Specifications for electrical, plumbing, air conditioning and fire fighting equipment.

**REFERENCES:**

1. Roshan Namavati. *Professional practice (estimation & valuation)*. Lakhani Book Depot.
2. Roshan Namavati. *Architectural detailing in residential interiors*. Lakhani Book Depot.
3. C. M. Pitrowski. *Professional practice in interior design*. Van Nostrand Reinhold.
4. Harry Siegel, CPA, & Alan Sige. *A guide to business principle and practices for interior designers*. Whitney Library of Design.
5. William R. Hall. *Contract interior finishes*. Whitney Library of Design.
6. William Rupp. *Construction materials of interior design*. Whitney Library of Design.
7. Theo Susan. *The interior designers guide: to pricing, estimating, budgeting*.

**SEMESTER V**

IA505	LIGHTING AND COLOUR	L	F	S	T
		2	0	3	5

**PURPOSE:**

- Equip students with knowledge of various types of lighting and understanding their effect on colours and textures.

**OBJECTIVES:**

- To help students understand the concept of day lighting and the technology of artificial lighting.
- To equip students to understand and successfully apply lighting techniques.

**UNIT I: INTRODUCTION TO DAY LIGHTING**

- Nature of light - wavelength, photometric quantities - intensity, flux, illumination and luminance, visual efficiency, sources of light, day light factor concept, design sky concept, day lighting requirements etc.

**UNIT II: ARTIFICIAL LIGHTING**

- Electric lamps - incandescent, fluorescent, sodium vapour, mercury, halogen, neon and LED.
- Different types of lights in interiors and exteriors - task lighting, special purpose lighting.
- Calculation of artificial lighting, guidelines for lighting design, glare in artificial lighting.

**UNIT III: EFFECT OF COLOUR IN LIGHTING**

- Colours, colour schemes - monochromatic, analogous, complementary colour schemes, triadic and tetradic schemes, effects of colour, colour temperature, psychological effects of colour in interiors, factors affecting colour.
- Prang theory – Colour wheel, Munssel system and Oswald system.

**UNIT IV: LUMINARIES & FIXTURES**

- Definition, types of luminaries, lighting control systems - benefits and applications.
- Impact of lighting, fixture types - free standing or portable, fixed, light fixture control.
- Lighting accessories - switches, sockets, fused connection units, lamp holders, ceiling roses etc.

**REFERENCES:**

1. Gary Gordon. *Interior lighting for designers*. John Wiley & Sons Inc.
2. Randall Whitehead. *Lighting design, source book*.
3. M.K. Halpeth, T. Senthil kumar, G. Harikumar. *Light right*.
4. Torquil Barker. *Concepts of lighting, lighting design in architecture*.

**SEMESTER V**

IA506	ELECTIVE I - ACOUSTICS	L	F	S	T
		3	0	0	3

**PURPOSE:**

- Exposing students to the basic principles of acoustics in interiors.

**OBJECTIVES:**

- To understand the need and application of acoustics in buildings.
- To provide exposure to students on various systems, methods and fixtures.

**UNIT I: INTRODUCTION TO ACOUSTICS**

- Definition, theory of sound generation, transmission, reception of sound, terms related to acoustics, sound waves, frequency, intensity, wavelength, measurement of sound.

**UNIT II: ROOM ACOUSTICS**

- Characteristics of speech, making of sound, human ear characteristics, behaviour of sound in enclosed spaces, reverberation, optimum reverberation, simple exercise using Sabine's formula.

**UNIT III: SOUND ABSORPTION, INSULATION, AND SOUND REINFORCEMENT**

- Sound absorption, absorption co-efficient and their measurements, sound absorbing materials, sound insulating materials, sound amplification and sound reinforcement.

**UNIT IV: NOISE CONTROL**

- Sources and types of noise, effect on human behaviour, noise curves, transmission of noise, noise control, materials and techniques.

**UNIT V: ACOUSTICS IN BUILDINGS**

- Design and detailing - basic principles in designing of lecture halls, auditoriums, theatres, broadcasting studios, recording studios etc.

**REFERENCE:**

1. Lawrence E. Kinsler, Austin, R. Frey, Alan B. Coppens & James V. Sanders. (2000). *Fundamentals of acoustics* (4th ed.). Wiley.
2. L. Berarek . *Acoustics*. McGraw-Hill.

**SEMESTER V**

IA507	ELECTIVE I - AUTOMATION	L	F	S	T
		3	0	0	3

**PURPOSE:**

- Enabling students in the understanding of types of Building Control Systems and providing knowledge on the underlying concepts of intelligent buildings.

**OBJECTIVES:**

- To understand the applications of automation and how to seamlessly integrate them with the design of interior components.

**UNIT I**

- Control systems for various building services.
- Home automation.
- Developments in service control system.
- Working principles of building automation systems, office automation systems, and communication systems.
- Basic knowledge of the construction and installation of structured cabling, system enabling and integrated system connections.

**REFERENCES:**

1. Derek Clements. *Intelligent Buildings: An introduction*. Croome.
2. Derek Clements. *Intelligent Buildings: Design, Management and Operation*. Croome.

**SEMESTER V**

IA508	ELECTIVE I - PHOTOGRAPHY	L	F	S	T
		3	0	0	3

**PURPOSE:**

- Exposing students to the basic principles of photography in interiors.

**OBJECTIVES:**

- To develop an understanding of basic principles and technologies of photography.
- To enable students to understand the applications of photographs in interior.

**UNIT I: PRINCIPLES OF COMPOSITION**

- Rule of perspective - worm's eye view, normal eye view, bird's eye view, one-point perspective, two-point perspective, three point perspective, exercises in composition etc.

**UNIT II: PRINCIPLES OF PHOTOGRAPHY**

- Technical definitions, understanding a camera, anatomy of an SLR camera, technical setting in an SLR camera, different types of lenses.

**UNIT III: PRINCIPLES OF INTERIOR LIGHTING**

- Technical definitions, lighting sources, types of lighting fixtures, types of lamps, calculating lighting levels, flash photography, types of flashes, controlling lighting levels with flash photography. Exercise in interior lighting photography with artificial light and black and white photographs.

**UNIT IV: PRINCIPLES OF COLOUR**

- Colour rendering in photographic medium, colour rendering in photographs under different lighting condition, lighting colours and its effect on a photograph, colour filters in a camera. Exercise on colour photography of interiors.

**UNIT V: INTEGRATION**

- Project work integrating all the units.

**REFERENCE:**

1. E.Manny & A. Ballan. *Point view - The art of architectural photography*. VNR.
2. David Wilson. *Professional photography - photographing buildings*. Rotovision.

**SEMESTER VI**

IA601	DESIGN STUDIO - VI Commercial Interiors - II	L	F	S	T
		0	3	9	12

**PURPOSE:**

- Imparting knowledge about interior design possibilities in auditoriums.
- Exposing students to design standards for the hospitality industry.
- 

**OBJECTIVES:**

- To study and develop innovative ideas for hotel and auditorium interiors along with the knowledge of preparation of working drawings.

**UNIT I: AUDITORIUM**

- Spatial and environmental standards for various auditoriums: performing arts, movie halls and convention centres.
- Detail schematics of wall panelling, false ceiling and carpeting to fulfil acoustic requirements.
- Lighting study to develop ideas for foyer, auditorium and stage requirements.

**UNIT II: HOTELS**

- Spatial and service standards for hotels - integration of interior design schemes for rooms, restaurants, bars, health clubs, shopping arcade and other guest areas with the general theme of the hotel.
- Special ideas for suites and banquet halls - contemporary interior schemes to integrate new concepts in lighting and materials.

**REFERENCES:**

1. Fiona Leolie. *Designs for 20th century interiors*. London: VH Publications.
2. Barbaralec Diamonstein. (1982). *Interior design: The new freedom*. NY: Rizzoli International Publications.
3. Jonathan Poore. (1994). *Interior colour by design*. Rockport Publishers.

**SEMESTER VI**

IA602	COMPUTER APPLICATIONS - II	L	F	S	T
		2	0	2	4

**PURPOSE:**

- Enhancing the visualizing skills of students by exposing them to the latest modelling software.

**OBJECTIVES:**

- To familiarize students with the concepts of 3D modelling.
- To enable students to experiment with forms, mapping, rendering and presentation techniques.

**UNIT I: INTERFACE**

- An overview of GUI, types of modelling, transforming objects, compound objects, modifiers and modifier stack.

**UNIT II: MODELLING**

- Lathing, displacement, lofting, Boolean operations using standard and compound primitives, modelling with lofts, low polygon modelling and nurbs modelling.

**UNIT III: TEXTURES**

- Using material editor, material browser, mapping textures

**UNIT IV: RENDERING**

- Lighting, cameras and render effects, environment atmospheres.

**UNIT V: PHOTOSHOP**

- Photoshop interface, creating and saving images, basic image editing
- Photoshop tool box and tools, using layers, special effects.

**REFERENCES:**

1. V. Rajaraman. *Principles of computer programming*. Prentice Hall of India.
2. Byron S. Gottfried. *Theory and problems of programming with C. Schaum's outline series*. McGraw Hill Publishing Co.
3. Autodesk UNC. (1998). *Auto CAD reference manual*.
4. Sham Tickoo. *Understanding Auto CAD - 14*.

**SEMESTER VI**

IA603	GREEN BUILDING RATING SYSTEM	L	F	S	T
		1	0	2	3

**PURPOSE:**

- Understand green building rating systems applied and considered across the world.

**OBJECTIVES:**

- To get a complete overview of various kinds of green building rating systems and their uses in industry.

**UNIT I: INTRODUCTION TO GREEN RATING SYSTEMS**

- History of Green Rating Systems - LEED, GRIHA, BREEAM, IGBC. Need and use of green rating systems, structure of the rating systems, market response to various rating systems, selection of the appropriate rating system.

**UNIT II: GREEN RATING SYSTEMS IN INDIA**

- In-depth study of requirements of IGBC, LEED and GRIHA rating systems. Cross comparisons between the various requirements, their intents and ability of a project to meet the requirements.
- Other rating systems such as eco house, green mark, green pearl, living building challenge.

**UNIT III: APPLICATION OF RATING SYSTEM**

- Applying green rating systems in a project, role of green building consultant, determining various green points, green accreditation examinations.

**UNIT IV: THE FUTURE OF RATING SYSTEMS**

- Upcoming rating systems - auditing after rating, material certifications and stewardships, energy modelling and energy auditing in green building rating, consultancy scope and services for green rating systems.

**REFERENCES:**

1. Linda Reeder. (2010). *Guide to Green Building Rating Systems: Understanding LEED*. Green Globes.
2. Jerry Yudelson. (2007). *The Green Building Revolution*. Island Press.

**SEMESTER VI**

IA604	PROJECT MANAGEMENT	L	F	S	T
		2	2	0	4

**PURPOSE:**

- Impart knowledge to students about the methodology of executing a project to enhance their professional ability.

**OBJECTIVES:**

- To expose students to the prevalent techniques in planning, programming and management of a project.

**UNIT I: INTRODUCTION**

- Project planning, project scheduling and project controlling, role of decision in project management, method of planning and programming, human aspects of project management, work breakdown structure, life cycle of a project, disadvantages of traditional management systems etc.

**UNIT II: ELEMENTS OF NETWORK**

- Event, activity, dummy, network rules, graphical guidelines for network, numbering of events etc.

**UNIT III: CRITICAL PATH METHOD AND PERT ANALYSIS**

- CPM network analysis and PERT time estimates, time computation and network analysis.

**UNIT IV: PROJECT TIME REDUCTION AND OPTIMIZATION**

- Project cost, indirect project cost, direct project cost, slope of the direct cost curve, total project cost and optimum duration, contracting the network for cost optimization, steps in cost-time optimization.

**UNIT V: PROJECT UPDATING AND ALLOCATION**

- Data required for updating, steps in the process of updating resource usage profile: histogram, resource smoothing and resource levelling, computer applications in project management.

**REFERENCES:**

1. Dr. B. C. Punmia et al. *Project planning and control with PERT and CPM*. Laxmi Publications.
2. Jerome D. Wiest & Ferdinand K. Levy. (1982). *A management guide to PERT, CPM*. New Delhi: Prentice Hall of India Publishers Ltd.
3. R.A. Burgess & G. White. (1975). *Building production and project management*. London: The Construction Press.

#### 4. SEMESTER VI

IA605	RESEARCH METHODOLOGY	L	F	S	T
		2	0	2	4

##### PURPOSE:

- Understanding the fundamentals of the theoretical aspects of studying interior spaces based on varying situations and conditions as part of research, with reference to its objectives and its essential methodologies.
- Creative ability of data collection and documentation, critical analysis and evaluation.
- Developing attitudes for critical thinking on various aspects of the study and its analysis, and for developing a disposition, skills and abilities for assessment and recognizing obstacles or barriers to critical thought.

##### OBJECTIVES:

- To understand research terminology.
- To become aware about the ethical principles of research, ethical challenges and approval processes.
- To understand quantitative, qualitative and mixed method approaches to research.
- To be able to identify the components of a literature review.
- To critically analyze published research.

##### UNIT I: CONCEPTS AND CHARACTERISTICS

- Foundations of Research: meaning, objectives, motivation, utility.
- Concept of theory, empiricism, deductive and inductive theory.
- Characteristics of scientific method - Understanding the language of research - concept, construct, definition, variable - Research Process

##### UNIT II: RESEARCH QUESTION

- Problem Identification and Formulation: research question - investigation question - measurement issues - hypothesis - qualities of a good hypothesis - null hypothesis and alternative hypothesis - hypothesis testing - logic and importance.

##### UNIT III: RESEARCH DESIGN

- Research Design: concept and importance in research - features of a good research design
- Exploratory Research Design - concept, types and uses.
- Descriptive Research Design - concept, types and uses.
- Experimental Design - concept of independent and dependent variables.

##### UNIT IV: TOOLS AND TECHNIQUES

- Use of tools and techniques for research: methods to search required information effectively.
- Reference Management Software like Zotero, Mendeley etc. Software for paper formatting like LaTeX, MS Office etc. Software for detection of Plagiarism

##### REFERENCES:

1. Aday, L. A. & Cornelius, L. J. (2006). *Designing and conducting health surveys: A comprehensive guide* (3<sup>rd</sup> ed.). S F: Jossey - Bass.

2. Bowman, A., Wyman, J. F. & Peters, J. (2002). *The operations manual: A mechanism for improving the research process.*

**SEMESTER VI**

IA606	ELECTIVE II - INTERIOR CODES	L	F	S	T
		3	0	3	6

**PURPOSE:**

- Exposing students to the various problems and issues encountered in the practice of Interior Architecture as a profession, and the methods of legal redressal.

**OBJECTIVES:**

- To develop an understanding of the duties and liabilities of an Interior Architect along with knowledge of bye-laws that relate to the building and the environment, in the Indian context.

**UNIT I: FIRE SAFETY CODES**

- Fire – combustibility, NBC, fire resistant rating of materials, fire fighting requirements, wet riser, dry riser, fire zones, fire escape staircases, fire alarms, smoke detectors and fire lifts.

**UNIT II: CODES FOR LIGHTING**

- Measurement of illumination and luminous intensity - day light factor, sky luminance, ERC, IRC, light output ratio
- Recommended illumination levels for various spaces such as library, class room, garment factory, etc. Energy conservation in lighting.

**UNIT III: CODES FOR VENTILATION**

- Ventilation rates - air changes per hour, relative humidity, cross ventilation, stack effect,
- Recommended ventilation rates for kitchen, toilet, etc.

**UNIT IV: CODES FOR ELECTRICAL LAYOUT**

- Typical electrical layout for a building - location requirement for switch rooms and distribution panels, codes for fan points, power points and light points, PVC sheathed wiring system, protective earthing, earth electrode.

**UNIT V: CODES FOR BARRIER FREE ENVIRONMENT**

- Requirement of toilets, corridors, etc. for differently abled persons, wheel chair clearances, ramps for wheelchairs, etc. according to ISO 9001 Standards.

**REFERENCES:**

1. Bureau of Indian Standards. (2005). *National building code of India*. ND: Author.
2. V.K.Jain. (2007). *Fire safety in buildings*. Chennai: New Age International (Pvt. Ltd) Publishers.
3. Bureau of Indian Standards. *IS 9668: 1990, Fire fighting code of practice*. ND: Author.

**SEMESTER VI**

IA607	ELECTIVE II - INTERIOR LANDSCAPE	L	F	S	T
		3	0	3	6

**PURPOSE:**

- Understanding the concepts of interior landscaping and their application in the design of interior spaces.

**OBJECTIVES:**

- To develop an understanding about the design of interior landscape with special emphasis on the choice and care of plant materials used in interior spaces.
- To study various landscaping elements and their application in interior spaces.

**UNIT I: INTERIOR LANDSCAPE**

- Definition, classification of plants, indoor plants and their functions, layout and components, floriculture – commercial, ornamental, selection of plants, pest control.

**UNIT II: PHYSICAL REQUIREMENTS OF PLANTS**

- Physical requirements of plants - impact of light, temperature.
- Water requirement, planting medium, soil separator, weight of plants, acclimatization and maintenance.

**UNIT III: INTERIOR LANDSCAPING ELEMENTS AND PRINCIPLES**

- Various interior landscaping elements like water bodies - pools, fountains - cascades plants, rocks, artefacts, paving and lighting etc. and their design guidelines.
- Indoor plant texture and colour, plant height, plant spacing.

**UNIT IV: ROOF AND DECK LANDSCAPE**

- Protection of the integrity of the roof and structure, provisions for drainage, light weight planting medium, irrigation, selection of materials, water proofing, provision for utilities and maintenance.

**UNIT V: EXERCISE ON INTERIOR LANDSCAPE**

- Courtyard design.
- Outdoor room design.
- Terrace garden design.

**REFERENCES:**

1. Time saver standards for landscape architecture.
2. Theodore D. Walker. *Planting design*. NY: VNR Publications.
3. Jack E. Ingels. *Landscaping principles and practices*. Delmar Publishers.

**SEMESTER VI**

IA608	ELECTIVE II - SIGNAGE AND GRAPHICS	L	F	S	T
		3	0	3	6

**PURPOSE:**

- Creating awareness about signage and graphics for better communication, as a means to inform, direct, advertise and market and as an important element in creating first impressions on people's minds.

**OBJECTIVES:**

- To understand the importance of signage, their contents and their legibility.
- To be exposed to the different types and mediums of signage and their suitability.
- To be familiarized about the types of contracts and management of signages.

**UNIT I: INTRODUCTION**

- Environmental graphic design, way finding, need, importance etc.

**UNIT II: INFORMATION CONTENT SYSTEM**

- Kinds of sign information, hierarchy of content, development of sign information content, hierarchy and proximity for better communication, other factors affecting sign information content, pictorial information content, signage master plans.

**UNIT III: THE GRAPHIC SYSTEM**

- Typography overview, choosing a typeface, typographic treatment, typographic considerations in signage for non-sighted and low-sighted people, symbols and arrows, other graphic elements, colour, layout, overview of signage graphic process.

**UNIT IV: THE HARDWARE SYSTEM**

- Shape, connotations of form, sign mounting considerations, sign size considerations, sign lighting overview, sign materials overview, basic sign materials, electronic message displays, stock sign hardware systems, sign materials and codes, overview of coatings and finishes applied to signs.

**UNIT V: SIGNAGE DESIGN**

- Eyelevel, light, fonts, typographical systems and type area, pictograms, arrows, colour – contrast, language, systems, tones, coding, privacy and protection, room identification.

**UNIT VI: SIGNAGE PLANNING**

- Contract, obtaining information, preliminary design, design, construction, work plan and prototypes, tenders, specifications, on-site management, completion.

**REFERENCES:**

1. Joseph De Chiara, Julius Panero & Martin Zelnik. (2001). *Time Saver Standards for Interior Design and Space Planning*. (2nd ed.) McGraw Hill Professional.

2. Andreas Uebele. (2007). *Signage systems and information graphics*. Thames and Hudson.
3. Chris Calori. (2007). *Signage and wayfinding design: A complete guide to creating environmental graphic design systems*. Wiley and Sons.
4. David Gibson. (2009). *The wayfinding handbook: Information design for public places*. (1st ed.) Princeton Architectural Press.

**SEMESTER VII**

IA701	OFFICE TRAINING	L	F	S	T
		0	0	33	33

**PURPOSE:**

- Familiarizing students about the work environment in an office and the areas of involvement.

**OBJECTIVES:**

- To enable students to understand the various types of drawings required in a project.
- To understand the various documents that are required to invite a tender, and its process.
- To understand how coordination between the various agencies involved in a project is carried out.
- To understand how site supervision of a project is done.

**PROCESS:**

- Every student must work in an office that handles Interior Architecture projects, as a full time trainee, for a period of 16 calendar weeks (excluding viva voce) from the date of commencement of training. The Principal Designer or Architect of the firm should have a minimum of five years of professional experience in the field, after graduation.
- The student should involve in various aspects of work in an office like working drawings, presentation drawings, quantity estimation, site supervision etc. Students should understand professional practice methods, design process from client contacts to production documents, tender documents, production drawings for various works, site supervision etc. They should also be involved in the coordination of various agencies - client, members of design team, consultants, contractors, craftsmen and construction supervisors.
- Detailed instructions regarding the training, the frequency of reporting to the department etc. will be issued at the end of Seventh semester, which the student must strictly follow.
- After completion of training, every student will have to submit a detailed report with a set of drawings of at least two projects handled during the sixteen calendar weeks of the practical training period. This report will be evaluated at viva voce by a jury consisting of one external, one internal and head of the department or his nominee. After submission of the report, the department, at its convenience, will arrange for the conduct of the viva voce examination.

**SEMESTER VIII**

IA801	PROFESSIONAL PRACTICE	L	F	S	T
		3	0	0	3

**PURPOSE:**

- Equipping students with the knowledge and skills needed to run a professionally managed office, such as current practices and codes of conduct required to enhance skills and techniques of managing small and large scale projects.

**OBJECTIVES:**

- To understand the hierarchy and responsibilities of members that makes up a design team.
- To be familiar with the legalities applicable to the profession.
- To understand how projects are managed.
- To understand the entire process of tendering.
- To understand the entire process of contracting.

**UNIT I: OFFICE COORDINATION**

- Working of interior design studio and ideal office structure, distribution of work, authority, duties and responsibilities, reporting etc.
- Work ethics - Acts applicable, basis for professional fees and scales of fees, accounting, maintenance of books of accounts and records.
- Basic principles of management and application to Interior Architecture projects.

**UNIT II: TENDERING**

- Introduction, definitions and tender types.
- Tendering Procedure: tender document preparation, types of invitation (public notice, private invitation and negotiation), floating of tender, opening and award of tender.
- Aspects of Tender: units of measurement and modes of measurements; specifications of raw material (introduction only), schedule writing.
- Contents of Tender Document: undertaking from contractor, prequalification of tender, general and special conditions of tender, bill of quantities, general specifications, material specifications, special specifications, set of working drawings.
- Contractual Procedures: work order letter and acceptance letter, interim bills and final bills, bill certifications.

**REFERENCES:**

1. Gupta C.B., & Srinivasan N.P. (2004). *Entrepreneurship development in India*. ND: Sultan Chand & Sons.
2. Chunawalla S. A. (1991). *Sales management*. ND: Himalayan Publishing House.
3. Vasant Desai. (2000). *Project management and entrepreneurship*. ND: Himalaya Publishing House.
4. David H. Moll. (1999). *Entrepreneurship*. ND: Prentice Hall of India.
5. Frank Jerkins. (2000). *Advertising*. ND: Prentice Hall of India.

**SEMESTER VIII**

<b>IA802</b>	<b>THESIS</b>	<b>L</b>	<b>F</b>	<b>S</b>	<b>T</b>
		0	0	30	30

**PURPOSE:**

Presenting comprehensively, the knowledge and skills gained, for evaluation.

**OBJECTIVES:**

To showcase the knowledge gained during the course of study, the skills acquired and the understanding achieved to resolve design issues pertaining to Interior Architecture.

**PROCESS:**

Each student is expected to prepare a Design Thesis based on the preliminary work undertaken in the Interior Architecture studios, under an approved guide.

- Thesis should reflect the knowledge gained from all the courses undertaken by the student in all the previous semesters. The particulars of the schedule, content, presentation, format etc. is to be decided by the department from time to time and shall be strictly followed.
- At the end of the semester each student is expected to submit all original drawings prepared as per the department specifications.
- Three copies of the report in the specified format should be submitted to the department after the approval of the respective guides.
- The department shall schedule the viva voce at its convenience only after the receipt of the thesis by the student.
- The performance sheet submitted by the guide and thesis committee should be the basis for allowing the student to appear for the final viva voce.
- The end exam is to be conducted by a jury comprising of an external examiner.