

MAHAKAUSHAL UNIVERSITY, JABALPUR

**As per model syllabus of U.G.C. New Delhi, drafted
by Central Board of Studies and Approved by Higher
Education and the Governor M.P.**



कला एवं समाज विज्ञान संकाय

**Faculty of Art & Social Science
Syllabus & Prescribed Books
Subject-Interior Designing
B.A. Semester Examination**

**Mahakaushal University, Jabalpur
(M.P.)**



Scheme & Syllabus

For

B.A./ Bsc. with

Research/honors

INTERIOR DESIGNING

2021-22

Duration of Course: 4 Years

Examination Mode: Semester

Examination System: CBCS

**Mahakaushal University
Village-Aithakheda, Mukunwara Road, Post- Tilwara Jabalpur (M.P.) 482003**

semester - I (MAJOR)

BBAI0101-T

Design Fundamentals

UNIT 1: Introduction to Design

Topics:

- Definition and scope of design
- History and evolution of design
- Types of design (Graphic, Product, Fashion, Interior, UX, etc.)
- Role of a designer in society
- Design thinking: Empathize, Define, Ideate, Prototype, Test
- Overview of the design process

Outcomes:

- Understand what design is and its importance across domains
- Recognize the role of creativity, research, and problem-solving in design

References:

- Brown, Tim. *Change by Design*
- Cross, Nigel. *Design Thinking: Understanding How Designers Think and Work*

UNIT 2: Elements and Principles of Design

Topics:

- Elements: Line, Shape, Form, Color, Texture, Space, Value
- Principles: Balance, Contrast, Emphasis, Rhythm, Unity, Proportion, Hierarchy
- Composition and layout basics
- Visual organization and Gestalt principles

Outcomes:

- Identify and apply design elements and principles in practical exercises
- Improve visual communication and aesthetics

References:

- Wong, Wucius. *Principles of Two-Dimensional Design*
- Lauer, David. *Design Basics*

UNIT 3: Color Theory and Application

Topics:

- Color wheel, primary, secondary, tertiary colors
- Color harmony and schemes
- Psychological effects of color
- CMYK, RGB, Pantone – color in print vs digital
- Color in branding and storytelling

Outcomes:

- Use color purposefully to communicate ideas and emotions
- Understand digital and print color management

References:

- Albers, Josef. *Interaction of Color*
- Birren, Faber. *Color Psychology and Color Therapy*

UNIT 4: Form, Function, and Aesthetics

Topics:

Relationship between form and function
Material, texture, and tactile quality
Ergonomics and user-centered design
Visual vs functional design
Case studies in product, architecture, and UX

Outcomes:

- Create designs that are both usable and visually appealing
- Evaluate design solutions for functionality and beauty

References:

Rams, Dieter. *Ten Principles for Good Design*
Norman, Donald. *The Design of Everyday Things*

UNIT 5: Design Process and Creative Problem Solving

Topics:

Research and analysis in design
Ideation techniques: Mind mapping, SCAMPER, Brainstorming
Sketching and prototyping
Critique and iteration
Portfolio building and documentation

Outcomes:

Demonstrate an understanding of the iterative design process
Build foundational work for a design portfolio

References:

Lawson, Bryan. *How Designers Think*
Kelley, Tom. *The Art of Innovation*

INTERIOR DESIGNING Syllabus

Program Outcome (PO)

Graduates of the Interior Designing program will be able to:

1. **Apply fundamental principles of interior design**, including space planning, color theory, materials, and lighting to create functional and aesthetic interior environments.
2. **Demonstrate proficiency in using design software and tools** such as AutoCAD, SketchUp, Revit, Adobe Creative Suite, and 3D visualization tools to produce professional design documents and presentations.
3. **Conduct research and apply knowledge of human factors, ergonomics, and accessibility standards** to develop inclusive and user-centered interior spaces.
4. **Integrate knowledge of building materials, construction methods, and environmental systems** to develop detailed interior design solutions that are feasible and sustainable.
5. **Exhibit strong creative, critical thinking, and problem-solving skills** to conceptualize and realize innovative interior designs.
6. **Understand and comply with legal, ethical, and safety standards** related to interior design practice including building codes and fire regulations.
7. **Communicate design ideas effectively** through verbal, written, and visual means to clients, contractors, and multidisciplinary teams.
8. **Manage interior design projects** from concept through completion, including budgeting, scheduling, and coordinating with other professionals.
9. **Demonstrate awareness of global, cultural, and social contexts** influencing interior design and incorporate these considerations into their work.
10. **Commit to lifelong learning and professional development** to adapt to evolving trends, technologies, and sustainable practices in interior design.

BBAI0101-P : Design Studio: Form and Space / Foundation in Spatial Language Lab

Unit I — Elements of Form

- Point, line, plane, volume
- 2D–3D transformation exercises
- Shape grammar and composition

Unit II — Principles of Space

- Spatial relationships
- Positive & negative space
- Scale and proportion studies

Unit III — Spatial Perception

- Human scale and ergonomics basics
- Spatial hierarchy
- Movement and circulation exercises

Unit IV — Form Development Studio

- Model making with paper/board
- Abstract spatial compositions
- Light–shadow exploration

Unit V — Studio Project

- Concept to spatial model
- Portfolio sheets and jury presentation

References:

- Francis D.K. Ching — *Architecture: Form, Space and Order*
 - Wucius Wong — *Principles of Form and Design*
 - Paul Zelanski — *Design Principles and Problems*
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semester - I (MINOR)

BBAI0102-T

Construction Material-I

UNIT 1: Introduction to Construction Materials

Topics:

Classification of construction materials: natural vs manufactured
Factors affecting the choice of materials (strength, durability, cost, availability, sustainability)
Physical and mechanical properties of materials
Sustainability and environmental impact of materials
Role of building codes and standards (IS, ASTM)

Outcomes:

Understand the types, classifications, and selection criteria of construction materials
Evaluate materials based on performance and sustainability

References:

Varghese, P.C. *Building Materials*
Rangwala, S.C. *Engineering Materials*

UNIT 2: Cement, Concrete, and Lime

Topics:

Types of cement and their properties (OPC, PPC, rapid hardening, etc.)
Ingredients of concrete (cement, aggregates, water, admixtures)
Mix design and grades of concrete (M15–M40)
Types of concrete (reinforced, pre-stressed, ready-mix, lightweight)
Properties and testing of concrete (slump test, compressive strength)
Lime: types, uses, and setting process

Outcomes:

Identify and use different types of cement and concrete
Analyze properties and mix proportions for desired performance

References:

Shetty, M.S. *Concrete Technology*
Gambhir, M.L. *Concrete Technology*

UNIT 3: Bricks, Stones, and Blocks

Topics:

Classification and properties of bricks
Manufacturing of bricks (traditional and modern)
Types of stones used in construction and their properties
Stone masonry and its applications
Concrete blocks, fly ash bricks, AAC blocks – comparison and uses

Outcomes:

Understand traditional and alternative masonry materials
Select appropriate walling materials based on use-case

References:

Rangwala, S.C. *Engineering Materials*
Hauser, G. *Building Construction Materials*

UNIT 4: Timber, Steel, and Glass**Topics:**

Types of timber, defects, seasoning, and preservation
Uses of engineered wood (plywood, MDF, particle board, etc.)
Structural steel: types, properties, and applications
Corrosion of steel and prevention methods
Glass types (annealed, tempered, laminated, etc.) and applications in buildings

Outcomes:

Evaluate structural and aesthetic uses of timber, steel, and glass
Understand deterioration and treatment of materials

References:

Duggal, S.K. *Building Materials*
R. Chudley, *Construction Technology, Vol. 1*

UNIT 5: Modern and Sustainable Building Materials**Topics:**

Green building materials and certifications (LEED, IGBC)
Smart materials: self-healing concrete, phase-changing materials
Geosynthetics, fiber-reinforced composites
Recycled and waste-based materials in construction
Case studies on sustainable material use

Outcomes:

Explore innovative and sustainable materials
Apply knowledge in eco-friendly construction practices

References:

Jagadish, K.S. *Alternative Building Materials and Technologies*
Givoni, B. *Man, Climate and Architecture*

BBAI0102-P : Construction Material — Lab

Unit I — Basic Building Materials

- Stone, brick, lime, cement
- Physical properties tests

Unit II — Wood and Wood Products

- Timber types
- Plywood, MDF, laminates

Unit III — Metals and Glass

- Steel, aluminum applications
- Glass types and uses

Unit IV — Finishing Materials

- Paints, polishes, coatings
- Flooring and cladding samples

Unit V — Material Testing & Sample Boards

- Lab testing methods
- Material display boards

References:

- Arora & Bindra — *Building Construction*
 - S.K. Duggal — *Building Materials*
 - Rangwala — *Engineering Materials*
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Drawing Techniques and Graphics

UNIT 1: Fundamentals of Drawing

Topics:

Introduction to line, tone, texture, and shape
Drawing tools and materials (pencil, pen, charcoal, etc.)
Observation drawing: still life, nature, objects
Contour, gesture, and tonal drawing
Composition and layout basics

Learning Outcomes:

Build confidence in freehand drawing and visual observation
Develop control over line, shading, and proportion

References:

Nicolaides, Kimon. *The Natural Way to Draw*
Edwards, Betty. *Drawing on the Right Side of the Brain*

UNIT 2: Geometric and Technical Drawing

Topics:

Geometric constructions and drawing conventions
Orthographic projections: plan, elevation, section
Axonometric drawing: isometric, dimetric, trimetric
Line types, lettering, dimensioning (as per BIS/IS codes)
Scale drawing and use of drafting tools

Learning Outcomes:

Master precision in geometric and orthographic drawing
Interpret and create scaled technical drawings

References:

Ching, Francis D.K. *Architectural Graphics*
Bhatt, N.D. *Engineering Drawing*

UNIT 3: Perspective Drawing

Topics:

Basics of visual perception and vanishing points
One-point, two-point, and three-point perspectives
Interior and exterior perspective views
Eye level, picture plane, station point
Perspective drawing from imagination and reference

Learning Outcomes:

Construct accurate perspective drawings for spatial visualization
Communicate depth, scale, and proportion effectively

References:

Ching, Francis D.K. *Design Drawing*
Gill, Robert. *Rendering with Pen and Ink*

UNIT 4: Shade, Shadow, and Texture Representation

Topics:

- Light source, shadow casting in plan and elevation
- Shades and shadows in isometric and perspective views
- Rendering materials: wood, glass, brick, metal, etc.
- Techniques: hatching, cross-hatching, stippling, scribbling
- Drawing textures and tonal values manually

Learning Outcomes:

- Enhance depth and realism in drawings using shadows and textures
- Simulate materiality through rendering techniques

References:

- Laseau, Paul. *Graphic Thinking for Architects and Designers*
- Ching, Francis D.K. *Drawing: A Creative Process*

UNIT 5: Visual Communication and Graphic Composition

Topics:

- Visual hierarchy and page layout
- Fonts, labels, symbols, title blocks, legends
- Diagrams, exploded views, and conceptual sketches
- Drawing for presentations and portfolios
- Integration of manual and digital graphics (introductory)

Learning Outcomes:

- Compose and present design ideas graphically and clearly
- Develop skills in layout, annotation, and storytelling through visuals

References:

- Wong, Wucius. *Principles of Form and Design*
- Krause, Jim. *Design Basics Index*

BBAI0201-P : Drawing Techniques and Graphics Lab

Unit I — Freehand Drawing

- Line control
- Object sketching

Unit II — Technical Drawing

- Orthographic views
- Dimensioning

Unit III — Perspective Drawing

- One & two point perspective
- Interior views

Unit IV — Rendering Techniques

- Pencil, ink, color media
- Texture rendering

Unit V — Graphic Presentation

- Sheet composition
- Visual hierarchy

References:

- Francis D.K. Ching — *Architectural Graphics*
 - Alan Jefferis — *Technical Drawing*
 - Koos Eissen — *Sketching*
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BBAI0202-T

semester - II (MINOR)

Art and Drawing

UNIT 1: Introduction to Art and Drawing

Topics:

- Definition and purpose of art
- History of drawing – from cave art to contemporary
- Drawing as a tool for expression and communication
- Introduction to tools: pencil, charcoal, ink, pastels
- Types of drawing: freehand, observational, imaginative

Learning Outcomes:

- Understand the role and evolution of drawing in art
- Familiarize with basic drawing tools and their handling

References:

- Edwards, Betty. *Drawing on the Right Side of the Brain*
- Sayre, Henry M. *A World of Art*

UNIT 2: Elements and Principles of Art

Topics:

- Elements: Line, Shape, Form, Texture, Color, Space, Value
- Principles: Balance, Contrast, Rhythm, Unity, Emphasis, Proportion
- Composition techniques
- Visual rhythm and harmony
- Negative and positive space

Learning Outcomes:

- Apply elements and principles in creating balanced artworks
- Develop awareness of visual composition

References:

- Lauer, David & Pentak, Stephen. *Design Basics*
- Ocvirk, Otto G. et al. *Art Fundamentals: Theory and Practice*

UNIT 3: Observation and Representation

Topics:

- Still life drawing: organic and geometric objects
- Human figure drawing (basic anatomy and proportions)
- Landscape and nature drawing
- Indoor and outdoor sketching
- Perspective basics (one and two-point)

Learning Outcomes:

- Develop skills in observational drawing and realistic representation
- Gain confidence in line, proportion, and perspective

References:

- Nicolaides, Kimon. *The Natural Way to Draw*
- Loomis, Andrew. *Figure Drawing for All It's Worth*

UNIT 4: Techniques and Medium Exploration

Topics

Pencil shading techniques (hatching, cross-hatching, blending)
Dry media: charcoal, graphite, pastels
Wet media: ink, brush, watercolor (introductory)
Mixed media experiments
Texture creation and visual effects

Learning Outcomes:

Explore different drawing media and techniques
Create expressive and visually dynamic artworks

References:

Gill, Robert. *Rendering with Pen and Ink*
Mendelowitz, Daniel M. *A Guide to Drawing*

UNIT 5: Creative Expression and Thematic Work

Topics:

Drawing from imagination and memory
Symbolism and narrative in art
Thematic compositions (emotion, social issues, fantasy, culture)
Portfolio development
Presentation and critique

Course Outcomes:

Express personal and social ideas through creative drawing
Prepare a coherent portfolio of original artworks

References:

Arnheim, Rudolf. *Art and Visual Perception*
Read, Herbert. *Education Through Art*

BBAI0202-P :. Art and Drawing Lab

Unit I: Drawing Fundamentals

- Line, shape, form, texture
- Perspective drawing
- Proportion and scale
- Composition basics

Unit II: Sketching Techniques

- Freehand sketching
- Object and interior sketching
- Rapid visualization
- Concept sketching

Unit III: Color & Rendering

- Color theory
- Media exploration (pencil, ink, watercolor)
- Material rendering
- Light and shadow

Unit IV: Design Visualization

- Interior views and perspectives
- Furniture and object drawing
- Presentation sheets
- Graphic layout skills

Unit V: Studio Portfolio

- Thematic art project
- Interior sketch portfolio
- Creative composition work
- Final jury presentation

References:

- Ching, F.D.K. — *Drawing for Interior Design*
 - Ching — *Design Drawing*
 - Powell — *Presentation Techniques*
 - Zelanski & Fisher — *Color*
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Interior Design - II

UNIT 1: Fundamentals of Interior Design

- Definition and scope of interior design
- Elements of design: Line, shape, form, color, texture, space
- Principles of design: Balance, rhythm, emphasis, contrast, harmony, proportion
- Types of interior spaces: Residential, commercial, institutional
- Interior design process and planning stages

UNIT 2: Space Planning and Furniture Layout

- Understanding human dimensions and ergonomics
- Anthropometry and circulation space
- Functional space planning (residential and commercial)
- Zoning: Public, semi-private, private areas
- Furniture arrangement and design

UNIT 3: Materials and Finishes

- Classification of materials: Natural and synthetic
- Materials for floors, walls, ceilings, partitions
- Soft furnishings: Fabrics, drapes, upholstery
- Sustainable and eco-friendly materials
- Finishing techniques and surface treatments

UNIT 4: Lighting, Color, and Accessories

- Basics of lighting design: Natural vs artificial lighting
- Types of lighting: Ambient, task, accent, decorative
- Color theory and psychology
- Color schemes and their application in interiors
- Decorative elements: Art, plants, accessories

UNIT 5: Design Presentation and Professional Practice

- Manual and digital drafting techniques
- Mood boards and sample boards
- AutoCAD/SketchUp/Photoshop basics (optional depending on level)
- Client interaction and project briefing
- Ethics and career opportunities in interior design

Course Outcomes:

1. Define and explain the scope and role of design in society.
2. Identify and apply the elements and principles of design.
3. Understand and use color theory effectively in design work.
4. Evaluate the relationship between form, function, and aesthetics.
5. Apply the design process and creative problem-solving methods.

6. Develop design outputs and compile them into a basic portfolio

References:

- *"Interior Design Illustrated"* by Francis D.K. Ching
- *"Time-Saver Standards for Interior Design and Space Planning"* by Joseph DeChiara, Julius Panero, Martin Zelnik
- *"Materials for Interior Environments"* by Corky Binggeli
- *"Interior Design Materials and Specifications"* by Lisa Godsey
- *Architectural Drafting and Design* by Alan Jefferis
- *"Professional Practice for Interior Designers"* by Christine Piotrowski

BBAI0301-P : Interior Design — II Lab

Unit I — Residential Space Planning

- Zoning and layouts
- User analysis

Unit II — Furniture Layout

- Functional planning
- Circulation diagrams

Unit III — Color & Lighting Concepts

- Mood boards
- Lighting layers

Unit IV — Studio Project Drawings

- Plans and sections
- Material concepts

Unit V — Model & Presentation

- Scaled model
- Design portfolio sheets

References:

- Neufert — *Architects' Data*
 - Francis Ching — *Interior Design Illustrated*
 - Julius Panero — *Human Dimension & Interior Space*
-

UNIT 1: Introduction to Building Materials

- Classification of materials: Natural, artificial, composite
- Physical and mechanical properties: Strength, weight, durability, thermal conductivity
- Criteria for material selection: Cost, aesthetics, sustainability
- Role of materials in construction systems

UNIT 2: Masonry and Foundation Construction

- Brick masonry: Bonds (English, Flemish), types of brick walls
- Stone masonry: Ashlar, rubble
- Hollow block construction
- Foundations: Shallow and deep foundations
- Damp-proof courses and basement construction

UNIT 3: Flooring, Walls, and Ceiling Systems

- Types of flooring: Timber, ceramic, marble, granite, vinyl, concrete
- Wall systems: Load-bearing, partition, cavity walls
- False ceilings: Gypsum, POP, wooden panels, metal tiles
- Wall cladding: Stone, tile, laminate, wood
- Floor buildup layers and cross-sections

UNIT 4: Openings – Doors, Windows, and Stairs

- Types of doors: Flush, panelled, sliding, pivot, folding
- Types of windows: Casement, louvered, fixed, clerestory, bay
- Construction and fixing details of frames, shutters, and hardware
- Stairs: Components, types (dog-legged, open-well, spiral), materials

UNIT 5: Interior Fixtures, Fittings & Sustainable Materials

- Built-in furniture: Wardrobes, kitchen cabinets, modular fittings
- Fixture integration into interiors (electrical, plumbing points)
- Surface finishes: Paints, laminates, veneers, polish
- Green building materials and eco-friendly alternatives
- Introduction to smart materials and building automation components

Course Outcomes (COs):

1. **Identify and classify** various construction materials based on their properties, applications, and sustainability.
2. **Understand the behavior** of materials under different environmental and structural conditions.
3. **Interpret and produce** basic construction drawings and technical details according to industry standards.
4. **Analyze and select** appropriate materials for specific design contexts, considering aesthetics, cost, function, and durability.

5. **Apply knowledge of joinery, connections, and assembly techniques** in designing construction details for interiors, furniture, or architectural elements.
6. **Evaluate material combinations** and detailing methods for functionality, constructability, and design integrity.
7. **Communicate technical concepts** effectively through annotated sketches, detailed drawings, and specifications.

Recommended Books & References:

1. **"Building Construction"** by Sushil Kumar
2. **"Building Construction Illustrated"** by Francis D.K. Ching
3. **"Materials for Interior Environments"** by Corky Binggeli
4. **"Interior Construction & Detailing for Designers and Architects"** by David Kent Ballast
5. **"Time-Saver Standards for Interior Design and Space Planning"** by Joseph DeChiara

BBAI0302-P :. Material and Construction Details — II Lab

Unit I — Joinery Basics

- Wood joints
- Fixing systems

Unit II — Partition & False Ceiling

- Systems and details
- Working drawings

Unit III — Flooring & Wall Systems

- Tile, stone, wood details

Unit IV — Door & Window Details

- Frames and fittings

Unit V — Detail Drawings File

- Scaled detail sheets

References:

- Arora & Bindra — *Building Construction*
 - Chudley — *Building Construction Handbook*
 - Barry — *Construction of Buildings*
-

Furniture Design Workshop

UNIT 1: Introduction to Furniture Design

Topics:

- History and evolution of furniture
- Importance of furniture in interiors
- Classification: Fixed, free-standing, modular
- Styles and periods (traditional, colonial, modern, contemporary)
- Ergonomics and human dimensions

Activities:

- Case study of classic furniture styles
- Sketching historical furniture types

UNIT 2: Furniture Design Process

Topics:

- User-centered design approach
- Design brief development
- Furniture typologies: Seating, storage, tables, beds, workstations
- Anthropometry and functional requirements
- Basic joinery and construction understanding

Activities:

- Developing concept sketches and mood boards
- Creating scaled rough prototypes from paper/card

UNIT 3: Materials and Construction Techniques

Topics:

- Materials used in furniture: Wood, plywood, MDF, glass, metal, plastic
- Surface finishes: Laminate, veneer, polish, paint
- Furniture hardware: Hinges, channels, locks, joinery
- Traditional vs modular construction
- Eco-friendly and recycled materials

Activities:

- Workshop demo on joints (lap joint, mortise & tenon, dovetail)
- Material swatch collection and finish samples

UNIT 4: Technical Drawing and Detailing

Topics:

- Orthographic views: Plan, elevation, section
- Isometric and perspective views
- Joinery detailing and exploded views
- Working drawings for fabrication
- Introduction to CAD tools (AutoCAD, SketchUp, Fusion 360 – optional)

Activities:

- Manual drafting of furniture components
- CAD drafting of one designed furniture piece

UNIT 5: Prototyping, Model Making, and Execution

Topics:

- Scale models vs full-scale mockups
- Material handling and safety in the workshop
- CNC and laser-cutting introduction
- Assembly and finishing techniques
- Cost estimation and time management
- Build a scale or full-size model of one furniture design
- Final jury/presentation with process documentation

Course Outcomes (COs):

1. **Understand and apply** ergonomic principles, anthropometry, and functional requirements in furniture design.
2. **Analyze** user needs, space context, and material behavior to inform furniture solutions.
3. **Generate creative and innovative design concepts** for furniture that are aesthetically appealing and functionally sound.
4. **Translate design concepts into technical drawings, 3D models, and prototypes** using both manual and digital tools.
5. **Select appropriate materials, joinery methods, and construction techniques** based on the design intent and feasibility.
6. **Construct scaled or full-scale furniture prototypes** demonstrating craftsmanship, detailing, and structural integrity.
7. **Critically evaluate** furniture pieces through design reviews, user testing, and peer feedback.
8. **Document the design process** from research and ideation to prototyping and presentation in a portfolio format.

Recommended Books & Resources:

1. **"Furniture Design"** by Jim Postell
2. **"Furniture: World Styles from Classical to Contemporary"** by Judith Miller
3. **"Interior Design Illustrated"** by Francis D.K. Ching
4. **"Working Drawings Handbook"** by Keith Styles & Andrew Bichard
5. Online tutorials: SketchUp, Fusion 360, Rhino (for digital prototyping)

BBAI0401-P : Furniture Design Workshop Lab

Unit I — Furniture Ergonomics

- Anthropometry
- Comfort standards

Unit II — Furniture Types

- Residential & office

Unit III — Joinery Workshop

- Wood joints practical

Unit IV — Prototype Making

- Chair/table model

Unit V — Finished Furniture Project

- Working drawings + prototype

References:

- Neufert — *Architects' Data*
 - Panero & Zelnik — *Human Dimension & Interior Space*
 - Jim Postell — *Furniture Design*
-

Advanced Graphics

UNIT 1: Advanced Manual Drawing Techniques

Topics:

- Freehand perspective: 1-point, 2-point, and 3-point perspectives
- Rendering techniques: Pencils, ink, markers, watercolors
- Shade and shadow, reflections, and textures
- Human figures and furniture in scale
- Graphical composition and layout design

Activities:

- Perspective sketching of interiors and furniture
- Rendering different materials (glass, wood, metal)

UNIT 2: Technical Drawing and Detailing

Topics:

- Advanced orthographic projections (complex objects)
- Sections, exploded views, and auxiliary views
- Isometric and axonometric projections
- Complex curves and surfaces
- Standards in working drawings

Activities:

- Detailing a mechanical/product component
- Multi-view drawing with section lines and notes

UNIT 3: Computer-Aided Drafting (CAD)

Topics:

- Advanced 2D CAD tools (AutoCAD or similar)
- Layers, blocks, attributes, Xrefs
- Parametric constraints and dynamic blocks
- Plotting, printing, and scaling layouts
- Standard drawing documentation and templates

Activities:

- Creating construction documents
- Annotated architectural drawings with layers

UNIT 4: 3D Modeling and Visualization

Topics:

- Basics of 3D modeling: Surface, solid, NURBS modeling
- Software: SketchUp, Rhino, Blender, or 3ds Max (depending on institution)
- Interior and product modeling
- Material mapping and texturing
- Lighting setup and camera angles

Activities:

- Modeling a furniture or interior space
- Rendering a scene with materials and lighting

UNIT 5: Digital Rendering and Presentation Techniques

Topics:

- Post-production in Photoshop or Illustrator
- Diagramming and conceptual visualization
- Image editing, collaging, and visual storytelling
- Portfolio layout and presentation boards
- Motion graphics basics (optional)

Activities:

- Creating a digital portfolio spread
- Rendered and annotated presentation sheets

Course Outcomes (COs)

- **Apply advanced techniques in digital imaging, vector graphics, and layout design** using industry-standard software (e.g., Adobe Photoshop, Illustrator, InDesign).
- **Design complex visual compositions** that demonstrate mastery of typography, color theory, hierarchy, and visual balance.
- **Create dynamic and responsive graphic content** for both print and digital platforms, including web, mobile, and motion graphics.
- **Implement professional workflows** such as file preparation, color management, resolution handling, and prepress for print production.
- **Experiment with visual storytelling, branding, and conceptual graphics** for marketing, editorial, or multimedia applications.
- **Critique and refine graphic outputs** based on technical accuracy, creativity, and client/user feedback.
- **Develop a cohesive portfolio** showcasing advanced-level graphic design projects across multiple media formats.

Recommended Books & Software:

Books:

1. *"Architectural Graphics"* by Francis D.K. Ching
2. *"Drawing for Interior Design"* by Drew Plunkett
3. *"Digital Drawing for Designers"* by Douglas R. Seidler

BBAI0402-P :. Advanced Graphics Lab

Unit I — Advanced Perspective

- 3-point perspective
- Complex interiors

Unit II — Digital Drafting Basics

- CAD introduction
- Layer management

Unit III — Digital Rendering

- Textures & lighting

Unit IV — Presentation Boards

- Infographics
- Layout design

Unit V — Digital Portfolio

- Project compilation

References:

- Francis Ching — *Design Drawing*
 - AutoCAD Official Guides
 - Scott Onstott — *AutoCAD for Designers*
-

Interior Design – III

UNIT 1: Design Process and Concept Development

Topics:

- Site analysis and understanding client needs
- Interpreting a design brief for residential spaces
- Concept creation: Mood, theme, inspiration boards
- Functional vs aesthetic balance
- Space planning workflow

Activities:

- Creating mood boards and conceptual sketches
- Studying lifestyle patterns of target users

UNIT 2: Residential Interior Spaces

Topics:

- Detailed study of home interior spaces:
 - Living rooms
 - Bedrooms
 - Kitchens
 - Bathrooms
 - Dining areas
- Zoning, circulation, and adjacency diagrams
- Storage and furniture integration
- Built-in vs loose furniture design

Activities:

- Space planning and layout drafting
- Designing furniture for small spaces

UNIT 3: Interior Detailing and Materials

Topics:

- Joinery and construction techniques for furniture
- Detailing of kitchen counters, wardrobes, false ceilings
- Material selection for durability and aesthetics
- Modular systems and prefabrication
- Sustainability in material usage

Activities:

- Preparing detail drawings (e.g., wardrobe, kitchen)
- Hands-on material sample boards

UNIT 4: Lighting, Color, and Styling in Interiors

Topics:

- Artificial and natural lighting strategies
- Task, ambient, and accent lighting
- Color theory in spatial design
- Theme-based color schemes (contemporary, ethnic, minimalist, etc.)

- Styling: Decor, artwork, plants, soft furnishings

Activities:

- Lighting layout and mood lighting plans
- Color scheme development for a residential project

UNIT 5: Design Documentation and Presentation

Topics:

- Preparing final working drawings: Plans, elevations, sections
- Material specification sheets
- Perspective views and 3D visualizations
- Verbal and visual communication techniques
- Jury-ready portfolio presentation

Activities:

- Full design project: Residential interior from concept to final presentation
- Digital boards, 3D models, walkthroughs (optional)

Course Outcomes (COs):

1. **Develop comprehensive interior design solutions** for medium- to large-scale projects such as retail, hospitality, or institutional spaces.
2. **Integrate functional, aesthetic, cultural, and psychological factors** in the design of interior environments.
3. **Apply advanced space planning techniques** to optimize circulation, zoning, and user experience.
4. **Select appropriate materials, finishes, lighting, and furniture systems** that align with the concept and intended use of the space.
5. **Prepare detailed interior design drawings and presentations** including floor plans, elevations, sections, and 3D visualizations.
6. **Demonstrate the ability to create human-centered and sustainable design proposals** with attention to ergonomics and environmental responsibility.

Recommended References:

1. *"Time-Saver Standards for Interior Design and Space Planning"* – DeChiara, Panero, Zelnik
2. *"Interior Design Illustrated"* – Francis D.K. Ching
3. *"Residential Interior Design"* – Maureen Mitton
4. *"Human Dimension & Interior Space"* – Julius Panero & Martin Zelnik

BBAI0501-P : Interior Design — III Lab

Unit I — Commercial Interiors

- Office/retail planning

Unit II — Services Coordination

- Reflected ceiling plans

Unit III — Detail Integration

- Furniture + services

Unit IV — Working Drawings Set

- Plans, sections, elevations

Unit V — Studio Project

- Complete commercial project

References:

- Ching — *Interior Design Illustrated*
 - Corky Binggeli — *Interior Graphic Standards*
 - Neufert — *Architects' Data*
-

Material and Construction Details – III

1. Advanced Wall Finishes

- Cladding types: Wood, metal, glass, stone, high-pressure laminates (HPL)
- Dry and wet cladding systems
- Fixing techniques for wall panels
- Wall preparation, adhesives, and substrates

2. False Ceiling Systems

- Types: Gypsum, POP, metal, wood, fabric
- Concealed lighting integration
- Suspension and support systems
- Acoustic and thermal ceiling treatments

3. Partitions and Drywall Systems

- Modular and demountable partitions
- Glass partitions and channel systems
- Acoustic drywall partitions (Gyproc, Armstrong, etc.)
- Joinery and edge detailing

4. Built-in Furniture Construction

- Kitchen modules, wardrobes, and storage units
- Carcass materials: MDF, plywood, particle board
- Hardware and joinery: Hinges, sliders, handles, push-fit systems
- Detailing of shutters, drawers, and modular systems

5. Finishing and Surface Treatments

- Paints: Emulsion, enamel, textured, special finishes
- Veneers, laminates, back-painted glass
- Polish types: Melamine, PU, NC, UV
- Edge banding and detailing

Drawings & Practical Requirements:

- Detailed working drawings of a false ceiling with lighting
- Sectional details of modular kitchen cabinetry
- Joinery details of a wardrobe (hinged/sliding)
- Wall cladding detail with fixing system
- Partition elevation with material call-outs

Learning Outcomes:

- Understand execution-level construction detailing for interior elements
- Gain practical knowledge of fixing techniques and hardware systems
- Learn integration of services (lighting, HVAC) into interior elements
- Develop working drawing skills and technical documentation

Course Outcomes (COs):

By the end of **Material and Construction Details – III**, students will be able to:

1. **Analyze complex construction systems and interior assemblies**, including partitions, ceilings, flooring, and service integration.
2. **Apply knowledge of advanced materials and finishes** in the design and specification of high-performance interior spaces.
3. **Produce detailed technical drawings and construction documents** for built-in furniture, lighting systems, and wall/ceiling treatments.
4. **Incorporate mechanical, electrical, and plumbing (MEP) considerations** into interior construction detailing.
5. **Demonstrate understanding of fire safety, acoustics, thermal comfort, and building code compliance** in interior construction solutions.
6. **Use professional drafting standards and conventions** (manual or CAD-based) to communicate construction intent clearly and accurately.
- 7.

Recommended References:

1. *"Interior Construction & Detailing"* – David Kent Ballast
2. *"Time-Saver Standards for Interior Design"* – DeChiara & Panero
3. *"Building Construction Illustrated"* – Francis D.K. Ching
4. Product catalogs: Hafele, Hettich, Saint-Gobain, Gyproc

BBAI0601-P :Material and Construction Details — III Lab

Unit I — Advanced Partitions

- Modular systems

Unit II — Stair & Railing Details

- Interior staircases

Unit III — Built-in Furniture Details

- Wardrobes, kitchens

Unit IV — Fixing & Hardware

- Fasteners & fittings

Unit V — Detail Drawing Portfolio

- Large scale details

References:

- Interior Graphic Standards — Binggeli
 - Chudley — *Construction Handbook*
 - Arora & Bindra — *Building Construction*
-

Building Services – I: Water Supply & Sanitation**UNIT 1: Introduction to Water Supply Systems****Topics:**

- Importance of water supply in buildings
- Sources of water: Surface, underground
- Types of water: Potable, greywater, blackwater
- Standards for domestic water requirements (per capita)
- Overview of plumbing systems: Direct vs indirect supply

Drawings:

- Site water supply layout
- Storage tank placement (UG + OH tank)

UNIT 2: Water Storage and Distribution**Topics:**

- Storage tanks: Types, sizing, location (underground & overhead)
- Water distribution systems in residential and multi-storey buildings
- Pumps and pumping systems
- Valves: Gate, check, ball, foot valve
- Pipe materials: GI, CPVC, UPVC, HDPE, PPR – advantages and use

Drawings:

- Water distribution system layout
- Pump connection and pipe layout schematic

UNIT 3: Fixtures and Fittings**Topics:**

- Plumbing fixtures: Wash basin, sink, WC, urinal, shower, bidet
- Fittings and accessories: Taps, mixers, valves, traps (P-trap, S-trap)
- Installation standards and heights
- Codes and regulations (e.g., NBC, IS 2065, IS 1172)

Drawings:

- Plumbing detail of a bathroom and kitchen
- Fixture arrangement plan and elevation

UNIT 4: Sanitation and Drainage Systems**Topics:**

- Types of drainage systems: Separate, combined
- Sewage vs sullage
- Soil and waste pipes (SWP), Vent pipes (VP), Rainwater pipes (RWP)
- Septic tanks and soak pits – principles and design
- Traps and manholes

Drawings:

- Drainage line layout

- Section of septic tank with chamber connections

UNIT 5: Advanced Plumbing and Water Conservation

Topics:

- Plumbing in high-rise buildings: Zoning, pressure management
- Rainwater harvesting systems
- Greywater reuse and water recycling
- Sustainable fixtures: Low-flow, dual flush, sensor taps
- Leak detection and maintenance systems

Drawings:

- Rainwater harvesting layout
- Greywater treatment flow diagram

Course Outcomes (COs):

1. **Understand the fundamental principles** of water supply, plumbing systems, and sanitation in residential and commercial buildings.
2. **Identify and differentiate** between various components of water supply systems, including storage tanks, pipes, pumps, valves, and fixtures.
3. **Explain the functioning and layout** of sanitary systems, including drainage, sewage disposal, and stormwater management.
4. **Design basic water supply and sanitation layouts** in accordance with local building codes and standards.
5. **Evaluate sustainable practices** in water conservation, rainwater harvesting, greywater recycling, and eco-sanitation systems.
6. **Interpret plumbing schematics and technical drawings** for water and wastewater systems.

Recommended Books & References:

1. *"Plumbing Design and Practice"* – S.M. Patil
2. *"Building Services Handbook"* – Fred Hall & Roger Greeno
3. *National Building Code of India (Part 9 – Plumbing Services)*
4. *IS Codes: IS 1172, IS 2065, IS 2470 (Part 1 & 2)*

BBAI0701-P : Building Services — I (Water Supply & Sanitation)

Unit I — Water Supply Basics

- Sources and storage

Unit II — Plumbing Systems

- Pipes and fittings

Unit III — Sanitary Fixtures

- Layout standards

Unit IV — Drainage Systems

- Waste & vent pipes

Unit V — Service Drawings Lab

- Plumbing layout drawings

References:

- Rangwala — *Water Supply & Sanitary Engineering*
 - Arora & Bindra — *Building Services*
 - National Building Code (India)
-

Sculpture Making

UNIT 1: Introduction to Sculpture

Topics:

- Definition and scope of sculpture in art and design
- Historical overview: Classical, traditional, modern, contemporary sculpture
- Types of sculpture: Relief, free-standing, kinetic, installation
- Basic principles of form, volume, and space
- Role of sculpture in interior and exterior spaces

Activities:

- Visual analysis of iconic sculptures
- Sketching basic forms and human anatomy

UNIT 2: Materials and Tools

Topics:

- Natural and synthetic materials: Clay, plaster of Paris, wood, stone, metal, fiberglass, found objects
- Modeling vs carving vs assembling
- Tools for cutting, shaping, joining, and finishing
- Safety in sculpture practice
- Surface treatment techniques: Texturing, painting, patination

Activities:

- Handling clay, wood, or thermocol for form experiments
- Creating texture and surface samples

UNIT 3: Techniques of Sculpture Making

Topics:

- Additive methods: Clay modeling, armature building
- Subtractive methods: Wood and stone carving basics
- Casting methods: Mould making and POP/fiberglass casting
- Assemblage and mixed media sculpture
- Scale and proportion in 3D art

Activities:

- Creating a small clay model
- Carving a basic form from softwood or thermocol

UNIT 4: Human Figure and Object Modeling

Topics:

- Study of human anatomy (head, hand, torso)
- Proportions of human and animal forms
- Gesture and movement in sculpture
- Object and abstract form sculpting
- Portrait and bust sculpture basics

Activities:

- Modeling a human face or bust in clay
- Object abstraction exercise

UNIT 5: Creative Expression and Final Project

Topics:

- Concept development for sculptural expression
- Installation and environmental sculpture
- Site-specific sculpture for interiors or landscape
- Presentation techniques: Base, mounting, and display
- Project documentation and critique

Activities:

- Final sculpture project using selected medium
- Artist statement and peer review session

Course Outcomes (COs):

By the end of the **Sculpture Making** course, students will be able to:

1. **Understand the fundamental principles of sculpture**, including form, volume, proportion, and spatial relationships.
2. **Demonstrate proficiency in using traditional and contemporary sculpting materials**, such as clay, wood, wire, plaster, metal, or mixed media.
3. **Apply various sculpture techniques** including additive, subtractive, assemblage, and casting methods.
4. **Develop original sculptural works** that reflect conceptual thinking, craftsmanship, and personal expression.
5. **Use tools, equipment, and materials safely and effectively** within a studio or workshop setting.
6. **Analyze and critique sculptural works**, including historical, cultural, and contemporary references.
7. **Document the sculptural process** through sketchbooks, progress photos, and artist statements.
8. **Present finished sculptures professionally**, considering installation, lighting, and viewer interaction.

Recommended References:

1. *"The Sculpting Techniques Bible"* by Claire Waite Brown
2. *"Sculpture: Processes and Principles"* by Rudolf Wittkower
3. *"Modeling the Figure in Clay"* by Bruno Lucchesi
4. *"Techniques of Sculpture"* by John Mills
5. National Institute of Design (NID) & Fine Arts college studio manuals

Interior Design – IV

UNIT 1: Commercial Interior Design – Introduction

Topics:

- Scope and need for commercial interior design
- Typologies: Retail, offices, showrooms, restaurants, hospitality
- Client requirements, branding, and identity through design
- Ergonomics and user behavior in public/commercial spaces
- Functional zoning and service integration

Studio Exercises:

- Case study of a small commercial space (e.g., café or boutique)
- Concept development for a retail/office interior

UNIT 2: Interior Space Planning for Commercial Functions

Topics:

- Planning principles for offices (open, closed, hybrid layouts)
- Reception, waiting, conference, breakout spaces
- Retail layout: Circulation, display, product zones
- Service areas: Pantry, toilets, storage
- Barrier-free and accessible design (ADA/UD principles)

Drawings:

- Layout plans with furniture and zoning
- Circulation and adjacency diagrams

UNIT 3: Material and Lighting Applications

Topics:

- Material selection based on function, aesthetics, durability
- Commercial-grade finishes: Laminates, vinyl, carpet tiles, acoustic panels
- Lighting for function and mood: Task, ambient, accent
- Integration of lighting in false ceilings and walls
- Sustainable and fire-rated materials

Drawings:

- Reflected ceiling plan with lighting and AC
- Material finish boards with samples and specs

UNIT 4: Interior Elements and Detailing

Topics:

- Designing custom furniture and workstations
- Display systems: Shelving, counters, kiosks
- Partition systems: Glass, gypsum, modular
- Integration of electrical, HVAC, and data services

- Joinery, edge details, and modular construction

Drawings:

- Working drawings of reception counters, partitions, or retail displays
- Interior elevations with detailed notations

UNIT 5: Project Presentation and Documentation

Topics:

- Preparing a complete design package
- Orthographic and perspective views (manual/digital)
- Material and hardware specifications
- Concept boards, mood boards, rendered views
- Verbal presentation and critique techniques

Final Project:

- Design of a commercial interior (e.g., retail store, co-working office, or small café)
- Submission: Drawings, material board, 3D views, model (optional)

Course Outcomes (COs):

1. **Understand the fundamental principles** of water supply, plumbing systems, and sanitation in residential and commercial buildings.
2. **Identify and differentiate** between various components of water supply systems, including storage tanks, pipes, pumps, valves, and fixtures.
3. **Explain the functioning and layout** of sanitary systems, including drainage, sewage disposal, and stormwater management.
4. **Design basic water supply and sanitation layouts** in accordance with local building codes and standards.
5. **Evaluate sustainable practices** in water conservation, rainwater harvesting, greywater recycling, and eco-sanitation systems.
6. **Interpret plumbing schematics and technical drawings** for water and wastewater systems.

Recommended References:

1. *"Time-Saver Standards for Interior Design and Space Planning"* – DeChiara, Panero
2. *"Interior Design Illustrated"* – Francis D.K. Ching
3. *"Office Interiors"* – Silvestrin & De Carli
4. *"Retail Design"* – Otto Riewoldt
5. Commercial product catalogs: Hafele, Armstrong, Saint-Gobain, etc.

BBAI0801-P : Interior Design — IV Lab

Unit I — Advanced Interior Projects

- Institutional/hospitality

Unit II — Concept Development

- Research & case studies

Unit III — Integrated Services Design

- HVAC, lighting, plumbing coordination

Unit IV — Working Drawing Set

- Tender drawings

Unit V — Final Design Thesis Studio

- Complete interior project + jury

References:

- Corky Binggeli — *Interior Graphic Standards*
 - Ching — *Interior Design Illustrated*
 - Neufert — *Architects' Data*
-

UNIT 1: Advanced Wall and Partition Systems**Topics:**

- Modular partition systems: Aluminium, steel, gypsum, glass
- Acoustic partitions: Materials and detailing
- Drywall installation and metal framing
- Fire-rated and demountable partitions
- Cladding systems: HPL, wooden panels, metal sheets, stone veneers

Drawings:

- Partition wall sections with internal framing
- Cladding detail with fixings

UNIT 2: False Ceilings and Lighting Integration**Topics:**

- Ceiling types: Gypsum, POP, metal, stretch fabric
- Grid and tile ceiling systems
- Lighting integration: Cove, recessed, track lighting
- MEP services within ceilings (HVAC diffusers, fire sprinklers, speakers)
- Acoustic ceiling materials

Drawings:

- Reflected ceiling plan (RCP)
- Sectional detail of a multi-layered ceiling with lighting and duct

UNIT 3: Flooring Systems and Finishes**Topics:**

- Commercial flooring: Vinyl, carpet tiles, vitrified tiles, wood laminates, terrazzo
- Anti-skid, anti-static, raised access floors
- Expansion joints and skirting details
- Detailing for flooring transitions (e.g., carpet to tile)
- Installation techniques and underlayment requirements

Drawings:

- Flooring layout with material legend
- Threshold detail between different flooring materials

UNIT 4: Built-in Commercial Furniture and Fixtures**Topics:**

- Counters, reception desks, display units, cash desks
- Modular furniture detailing: Workstations, storage, filing systems
- Detailing joinery: Dado joints, knock-down fittings, edge finishes
- Hardware and accessories: Hinges, channels, handles, locks
- Integration of services (lighting, wire management, HVAC)

Drawings:

- Joinery and exploded views

- Sectional drawings of commercial furniture elements

UNIT 5: Services Coordination and Construction Documentation

Topics:

- Coordination of interior elements with electrical, HVAC, plumbing
- Designing for access panels, service ducts, maintenance zones
- Working drawings: GFCs, shop drawings, site execution drawings
- Material specification formats
- BOQ basics and vendor communication

Drawings:

- Coordinated services layout (electrical + ceiling + furniture)
- Detailed interior set with all views for execution

Course Outcomes (COs):

By the end of **Materials and Construction Details – IV**, students will be able to:

1. **Design and detail complex construction assemblies** for architectural elements such as façades, roofing systems, curtain walls, and specialty finishes.
2. **Integrate sustainable and innovative materials** in construction detailing to enhance building performance and environmental responsibility.
3. **Produce detailed, coordinated construction drawings** that align architectural design with structural, mechanical, and electrical systems.
4. **Apply advanced knowledge of building codes, regulations, and standards** in construction documentation.
5. **Evaluate durability, maintenance, and life-cycle impacts** of materials and assemblies in interior and exterior applications.
6. **Use digital tools (CAD/BIM) to develop precise construction details** and collaborate with multidisciplinary teams.

Recommended Books & References:

1. *“Interior Construction & Detailing for Designers and Architects”* – David Kent Ballast
2. *“Building Construction Illustrated”* – Francis D.K. Ching
3. *“Architectural Working Drawings”* – Ralph W. Liebing
4. *Time-Saver Standards* – DeChiara & Panero
5. Manufacturer catalogs: **Hafele, Gyproc, Saint-Gobain, Armstrong**

DSE- 1

3D AI in Interior Design BBAID0101-T

UNIT 1: Fundamentals of Interior Design & Digital Tools

- Principles of interior design: color, form, space, texture, light, and furniture layout
- Overview of styles (modern, minimalist, traditional, eclectic, etc.)
- Introduction to digital tools used in interior design
- Introduction to CAD (AutoCAD, SketchUp)
- Basics of 3D modeling and rendering

Practical:

- Hands-on with SketchUp or AutoCAD
- Creating simple floor plans and room layouts

UNIT 2: 3D Visualization in Interior Design

- Understanding 3D modeling and rendering techniques
- Photorealistic rendering concepts
- Use of software like Blender, 3ds Max, or Lumion
- Material textures, lighting, and animation

Practical:

- Create 3D models of interiors with lighting and material rendering
- Render a living room or bedroom scene

UNIT 3: AI Tools for Interior Design

- Introduction to AI in design: How AI is changing the industry
- AI tools overview: Midjourney, DALL·E, Planner 5D, Interior AI, etc.
- AI in mood boards, color palette generation, and layout suggestions
- AI-driven space planning and optimization

Practical:

- Use AI tools to generate concept designs
- Compare AI-generated and human-designed layouts

UNIT 4: Workflow Integration & Automation

- Integrating AI and 3D tools in the design process
- Interoperability between CAD, 3D, and AI tools
- Scripting and automation (basic Python/Grasshopper for Rhino)
- Data-driven design and generative design

Practical:

- Automate layout generation using AI plug-ins
- Case study: Designing a smart office space with AI assistance

UNIT 5: Real-World Applications & Portfolio Development

- Interior design for commercial, residential, and hospitality sectors
- Sustainable and smart interiors using AI
- Preparing professional design presentations
- Legal, ethical, and copyright considerations in AI-generated designs

Practical:

- Capstone project: Design an interior space using AI and 3D tools
- Portfolio creation including sketches, AI outputs, and 3D renders

Reference Books

1. ***Architectural Drafting and Design***
By Alan Jefferis, David A. Madsen
 - Comprehensive coverage of manual drafting, construction drawings, residential/commercial design, and current standards.
2. ***Architecture: Residential Drafting and Design***
By Clois E. Kicklighter & W. Scott Thomas
 - Excellent for students, covering everything from sketching to working drawings with modern conventions.
3. ***Architectural Graphics***
By Francis D.K. Ching
 - A foundational book for understanding drawing techniques, line weights, symbols, and visual communication in architecture.

Ethnographic and Anthropological Research for Design**UNIT 1: Introduction to Ethnography and Anthropology in Design**

- Definitions and key concepts: Ethnography, Anthropology, and Design Thinking
- History of ethnographic methods in design
- The role of culture, behavior, and context in design
- Comparing qualitative vs. quantitative research methods
- Human-centered and participatory design

Practical:

- Reading and analyzing case studies of ethnographic design
- Short observation exercise in a public or digital space

UNIT 2: Research Methods and Fieldwork Techniques

- Ethnographic research methods: participant observation, interviews, cultural probes
- Anthropological field methods: thick description, immersion, field notes
- Ethics in research (informed consent, cultural sensitivity)
- Sampling strategies and participant recruitment
- Creating research plans and protocols

Practical:

- Conduct a mini field study using observation and interview techniques
- Develop a research question and plan

Conducting and

UNIT 3: Data Collection and Analysis

- transcribing interviews
- Analyzing qualitative data: coding, themes, narrative analysis
- Tools: NVivo, Dedoose, Miro, Excel
- Mapping insights: journey maps, affinity diagrams, persona development
- From raw data to actionable insights

Practical:

- Transcribe and code a short interview
- Create user personas or insight maps based on field data

UNIT 4: Applying Research to Design

- Translating insights into design concepts
- Contextual and cultural sensitivity in design
- Co-design and participatory workshops
- Storytelling and communicating research findings
- Ethnography in UX, product, architecture, and service design

Practical:

- Conduct a short co-design session
- Design a concept based on ethnographic findings

UNIT 5: Case Studies, Critique & Final Project

- Review of global case studies in ethnographic design (IDEO, Frog, IKEA, etc.)

- Anthropological impact on urban design, sustainability, and digital products
- Critiquing ethnographic approaches in design projects
- Final project: ethnographic study and design proposal
- Presenting insights and design recommendations professionally

Practical:

- Conduct a complete mini research-to-design cycle
- Present findings in a design review format

Recommended Reference Books

1. Core Textbooks on Ethnography and Design

1. **"Observing the User Experience: A Practitioner's Guide to User Research"**
By Elizabeth Goodman, Mike Kuniavsky, Andrea Moed
 - Great for practical user research methods, including interviews, observation, and usability testing.
2. **"Design Anthropology: Object Culture in the 21st Century"**
By Alison Clarke
 - Explores how anthropological methods apply to design and material culture.
3. **"Ethnography for Designers"**
By Galen Cranz

Architectural Drafting and CAD

UNIT 1: Introduction to Architectural Drafting

- Purpose and types of architectural drawings (plans, sections, elevations, details)
- Drafting tools, drawing materials, and line types
- Architectural scales and dimensioning
- Orthographic projection and geometry for architecture
- Conventions and symbols used in architectural drawings

Practical:

- Freehand sketching of building elements
- Drafting basic plan, elevation, and section by hand

UNIT 2: Fundamentals of Computer-Aided Design (CAD)

- Introduction to CAD: History and applications in architecture
- AutoCAD interface, tools, and commands
- Creating 2D floor plans and elevations in AutoCAD
- Layers, line types, hatching, and text annotations
- Plotting and printing with proper scale and layout

Practical:

- Draw 2D plans, elevations, and sections in AutoCAD
- Practice layer management and dimensioning

UNIT 3: Architectural Drawing Standards and Documentation

- Drawing standards (e.g., BIS/ISO/NCS)
- Working drawings: Site plans, floor plans, electrical, plumbing, and HVAC layouts
- Title blocks, legends, and sheet organization
- Building code basics for drafting (doors, stairs, ramps, etc.)
- Detailing components: doors, windows, walls, furniture, etc.

Practical:

- Prepare a set of working drawings for a small residential building
- Create detailed drawings of architectural components

UNIT 4: 3D CAD and Introduction to BIM

- Introduction to 3D modeling in CAD (AutoCAD 3D, SketchUp, or Revit)
- Basic 3D commands: extrude, revolve, sweep, loft
- Building Information Modeling (BIM) concepts
- Using Revit for parametric modeling and basic families
- Navigating views, sections, and rendering basics

Practical:

- Model a basic house in 3D using SketchUp or Revit
- Generate 3D views and render basic scenes

UNIT 5: Architectural Drafting Project and Presentation

- Project-based drafting: design and documentation of a small building
- Integrating manual and CAD drawings
- Professional presentation techniques: sheets, layouts, PDF plotting
- File management and documentation standards
- Portfolio preparation and design critique

Practical:

- Final project: Complete architectural drawing set for a small building
- Present plans, elevations, sections, and 3D views in a final review

Reference Books

4. ***Architectural Drafting and Design***
By Alan Jefferis, David A. Madsen
 - Comprehensive coverage of manual drafting, construction drawings, residential/commercial design, and current standards.
5. ***Architecture: Residential Drafting and Design***
By Clois E. Kicklighter & W. Scott Thomas
 - Excellent for students, covering everything from sketching to working drawings with modern conventions.
6. ***Architectural Graphics***
By Francis D.K. Ching
 - A foundational book for understanding drawing techniques, line weights, symbols, and visual communication in architecture.

Historical Interiors and Restoration

UNIT 1: Introduction to Historical Interiors

- Definition and scope of historical interiors
- Importance of conserving interior heritage
- Evolution of interior spaces: domestic, religious, and civic
- Overview of global historical periods: Classical, Gothic, Renaissance, Baroque, Rococo, Neoclassical, Victorian, Art Nouveau, etc.
- Regional styles and cultural context

Practical:

- Timeline charting of major interior styles
- Visual analysis of historical interiors (through photos, site visits, or virtual tours)

UNIT 2: Interior Elements, Materials, and Techniques

- Architectural and decorative elements: ceilings, cornices, wall paneling, flooring, staircases, doors, windows
- Traditional materials: wood, plaster, stone, textiles, metal, paints
- Furniture and lighting in historical interiors
- Craftsmanship and joinery techniques
- Color theory and pattern use in historical contexts

Practical:

- Drawing or digitally modeling key architectural elements from a historical period
- Sample board creation using period-appropriate materials and finishes

UNIT 3: Principles of Interior Restoration and Conservation

- Definitions: restoration, conservation, renovation, rehabilitation
- International charters and guidelines (e.g., Venice Charter, Burra Charter)
- Ethics in conservation: authenticity, reversibility, minimal intervention
- Documentation and condition assessment
- Preventive conservation methods

Practical:

- Case study analysis of a restored interior
- Create a condition report template for a sample interior

UNIT 4: Techniques and Processes in Interior Restoration

- Cleaning, repair, and consolidation of materials (wood, plaster, textiles)
- Structural vs. decorative restoration
- Reproducing missing parts or features: when and how
- Integration of modern systems (HVAC, lighting) without disturbing heritage value
- Working with restoration professionals: artisans, conservators, architects

Practical:

- Draft a basic restoration strategy for a sample interior space
- Hands-on demo (if available) on cleaning or plaster molding reproduction

UNIT 5: Case Studies and Design Proposal

- Global and local examples of restored interiors: palaces, mansions, public buildings, temples, etc.
- Adaptive reuse of historical interiors (e.g., heritage hotels, museums)
- Final project: Restoration proposal for a historical interior
- Design presentation and documentation methods (drawings, mood boards, research)

Practical:

- Final project: restoration concept, site documentation, and proposed intervention
- Create visuals and report based on historical research and condition assessment

Reference Books

1. ***Architectural Drafting and Design***
By Alan Jefferis, David A. Madsen
 - Comprehensive coverage of manual drafting, construction drawings, residential/commercial design, and current standards.
2. ***Architecture: Residential Drafting and Design***
By Clois E. Kicklighter & W. Scott Thomas
 - Excellent for students, covering everything from sketching to working drawings with modern conventions.
3. ***Architectural Graphics***
By Francis D.K. Ching
 - A foundational book for understanding drawing techniques, line weights, symbols, and visual communication in architecture.

DSE (Interior Design)

BBAID0103-T : Exhibition and Retail Design

Unit I: Introduction to Exhibition & Retail Spaces

- Evolution of exhibition and retail environments
- Types of exhibitions and retail formats
- User behavior and spatial psychology
- Brand identity and spatial storytelling

Unit II: Exhibition Design Principles

- Exhibition planning process
- Display systems and modular structures
- Circulation and visitor flow
- Graphics, signage, and interpretation systems

Unit III: Retail Store Planning

- Store layout types (grid, loop, free flow)
- Visual merchandising concepts
- Window displays and product highlighting
- Customer experience design

Unit IV: Materials & Technology

- Temporary and permanent display materials
- Lighting for exhibitions and retail
- Digital and interactive installations
- Sustainable exhibition practices

Unit V: Studio Project

- Exhibition booth design / retail store concept
- Working drawings and 3D visualization
- Model making and presentation

References:

- Morgan, T. — *Visual Merchandising*
 - Lawson, B. — *The Language of Space*
 - Klanten, R. — *Retail Design International*
 - Dernie, D. — *Exhibition Design*
-

BBAID0103-T : Interior Landscape Design

Unit I: Basics of Interior Landscaping

- Concept of interior landscape
- Role of plants in interiors
- Environmental and psychological benefits
- Types of interior landscapes

Unit II: Plant Selection & Ecology

- Indoor plant species
- Light, water, and soil requirements
- Microclimate control
- Plant maintenance systems

Unit III: Design Integration

- Hardscape and softscape elements
- Planters, green walls, and terraces
- Atriums and courtyard landscapes
- Biophilic design principles

Unit IV: Systems & Sustainability

- Irrigation systems
- Hydroponics and vertical gardens
- Sustainable landscape practices
- Indoor biodiversity

Unit V: Practical Studio

- Interior landscape layout
- Planting design project
- Detail drawings and material boards

References:

- Robinson, N. — *The Planting Design Handbook*
 - Kellert, S. — *Biophilic Design*
 - Brooker & Stone — *Form and Structure in Interior Architecture*
 - Time-Saver Standards for Landscape Architecture
-

BBAID0104-T :. Research Methodology

Unit I: Research Foundations

- Meaning and types of research
- Design research vs academic research
- Research ethics
- Problem identification

Unit II: Research Design

- Qualitative and quantitative methods
- Case study method
- Survey and observation techniques
- Sampling methods

Unit III: Data Collection

- Questionnaires and interviews
- Field documentation
- Visual and spatial data collection
- Measurement and mapping

Unit IV: Analysis & Interpretation

- Data coding and tabulation
- Visual analysis
- Comparative studies
- Report structuring

Unit V: Research Project

- Research proposal writing
- Literature review
- Citation styles
- Final research report

References:

- Creswell, J. — *Research Design*
 - Groat & Wang — *Architectural Research Methods*
 - Kumar, R. — *Research Methodology*
 - Booth et al. — *The Craft of Research*
-

BBAID0104-T :. Illumination Design

Unit I: Fundamentals of Lighting

- Nature of light
- Light measurement units
- Vision and perception
- Lighting terminology

Unit II: Lighting Sources

- Natural lighting systems
- Artificial lighting types
- LED and smart lighting
- Lamps and luminaires

Unit III: Interior Lighting Design

- Ambient, task, and accent lighting
- Residential lighting
- Commercial lighting
- Display lighting

Unit IV: Technical Aspects

- Lighting calculations
- Energy efficiency
- Lighting controls
- Codes and standards

Unit V: Lighting Studio

- Lighting layout design
- Fixture selection
- Lux level calculations
- Lighting model and simulation

References:

- Karlen & Benya — *Lighting Design Basics*
 - Steffy — *Architectural Lighting Design*
 - IES — *Lighting Handbook*
 - Bean — *Lighting Interior Design*
-

(BBAISB0101-T)

Project Management for Interior Designers

– Fundamental Skills in Interior Project Management

- Understanding client requirements
- Project scoping skills
- Communication & coordination skills
- Documentation basics

Topics

- Role of a project manager in interior design
- Project lifecycle
- Client briefing techniques
- Creating project proposal & scope definition
- Communication etiquette with stakeholders

Practical Exercises

- Prepare a sample client brief
- Create a simple project scope document

UNIT 2 – Planning & Scheduling Skills

Skills Developed

- Time management
- Task sequencing
- Use of scheduling tools
- Planning & organization skills

Topics

- Work Breakdown Structure (WBS)
- Gantt Charts – digital & hand-sketch
- Critical Path Basics
- Material planning & lead time scheduling

Practical Exercises

- Make a Gantt chart for a 1-room interior project
- Create a WBS for a modular kitchen project

UNIT 3 – Budgeting & Cost Estimation Skills

Skills Developed

- Cost estimation
- Budget tracking
- BOQ preparation
- Vendor & material analysis

Topics

- Understanding BOQ
- Material & labour cost calculation
- Cost comparison: brands/materials
- Handling cost overruns
- Basic GST & billing concepts

Practical Exercises

- Prepare a BOQ for a bedroom
- Estimate total project cost using market prices

UNIT 4 – Contract, Procurement & Site Management Skills

Skills Developed

- Contract reading & drafting
- Negotiation skills
- Vendor management
- Site supervision skills

Topics

- Types of interior contracts
- Tendering & quotations
- Procurement process (furniture, lighting, finishes)

- Site coordination: daily logs, reports
- Quality checks on site

Practical Exercises

- Draft a simple work contract
- Prepare a vendor comparison sheet
- Site report writing task (simulated)

UNIT 5 – Monitoring, Quality, Risk & Handover Skills

Skills Developed

- Monitoring progress
- Risk identification
- Quality inspection
- Handover & client satisfaction

Topics

- Tracking progress with checklists
- Risk management: delays, defects, revisions
- Quality control standards for interiors
- Final site inspection
- Handover documentation & snag list

Practical Exercises

- Create a snag list
- Make a final project handover report

References (Skill-Based & Practical)

- *Professional Practice for Interior Designers* – Christine Piotrowski
 - *Interior Design Project Management* – W. P. Spence
 - *Construction Project Management* – Jimmie Hinze
 - Standard BOQ samples and tender documents (industry formats)
 - Online project-planning tools: Trello, MS Project, Monday.com
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BBAISB0102-T INTERIOR DESIGN FOR RETAIL AND SHOWROOMS

Unit I: Introduction to Retail and Showroom Design

- Concept and scope of retail interior design
- Types of retail spaces: boutiques, supermarkets, malls, specialty stores, luxury stores, automobile showrooms
- Evolution and trends in retail design
- Consumer behavior and shopping psychology
- Brand identity and its impact on interior design
- Principles and elements of design in commercial spaces

Unit II: Space Planning and Store Layout

- Retail planning process
- Space programming and zoning
- Circulation patterns and customer movement
- Store layout types: grid, free-flow, loop, spine, mixed layouts
- Ergonomics and accessibility in retail spaces
- Signage and wayfinding systems

Unit III: Visual Merchandising and Display Design

- Fundamentals of visual merchandising
- Window displays and storefront design
- Product display systems and fixtures
- Point-of-sale displays
- Color, lighting, and ambience in merchandising
- Branding through interior elements

Unit IV: Materials, Lighting, and Services

- Materials and finishes for retail interiors
- Flooring, wall treatments, ceilings, and furniture
- Lighting design: ambient, task, accent, and decorative lighting
- HVAC, electrical, and plumbing considerations
- Sustainable and eco-friendly materials
- Safety regulations and fire protection standards

Unit V: Retail Design Project and Professional Practice

- Retail design process from concept to execution
- Design documentation and working drawings
- Estimation and costing
- CAD, SketchUp, and 3D visualization techniques
- Project presentation and portfolio development
- Site supervision and project management

UNIT 1 – Introduction to Handicrafts in Interior Design

Skills Developed

- Understanding traditional crafts
- Identifying materials & craft techniques
- Cultural appreciation

Topics

- Definition & scope of handicraft-based interiors
- Role of handicrafts in sustainable design
- Overview of Indian crafts (wood, metal, textile, terracotta, bamboo, stone)
- Crafts & regional identities

Practical Work

- Visual documentation of 10 Indian crafts
- Material identification chart (wood, textiles, clay, metal, bamboo)

UNIT 2 – Indian Textile Crafts in Interiors

Skills Developed

- Fabric analysis
- Pattern interpretation
- Textile application in interiors

Topics

- Types of textile crafts:
 - Block printing (Bagru, Sanganer)
 - Kalamkari
 - Ikat
 - Kantha
 - Phulkari

- Banarasi weaving
- Uses in interiors: upholstery, drapery, cushions, wall panels

Practical Work

- Concept board using any one textile craft
- Small block-printing exercise / stencil print

UNIT 3 – Wood, Metal & Clay Crafts for Interiors

Skills Developed

- Understanding craft tools & techniques
- Product selection for interiors
- Detailing skills

Topics

- Wood crafts: carving, inlay (Saharanpur, Mysore, Kerala)
- Metal crafts: Dhokra, Bidri, brassware
- Terracotta & pottery: tiles, decor elements
- Bamboo & cane furniture

Practical Work

- Sketch study of 3 handcrafted furniture pieces
- Clay modelling of a small decor object (tile / bowl / motif)

UNIT 4 – Application of Handicrafts in Interior Spaces

Skills Developed

- Design application
- Space styling
- Craft-based product selection

Topics

- Integrating crafts into residential & commercial interiors
- Wall treatments, flooring, furniture, lighting, decor
- Fusion of modern design with traditional crafts

- Craft-based interior themes: Rajasthani, Kutch, Kashmiri, Coastal, Tribal

Practical Work

- Design a craft-based living room / café theme board
- Prepare an interior mood board using any regional craft

UNIT 5 – Craft Entrepreneurship & Market Understanding

Skills Developed

- Sourcing materials
- Understanding artisan networks
- Craft business basics

Topics

- Artisan clusters in India
- Pricing, costing & value addition
- Fair-trade practices
- Product branding & storytelling
- Role of NGOs, design studios & government bodies (KVIC, TRIFED, DCH)

Practical Work

- Field visit report (market, craft fair, artisan cluster)
- Prepare a handmade product idea sheet with cost & process flow

Reference Books & Sources

- *Indian Crafts* – Neela Mehta
- *Handmade in India* – Craft Revival Trust
- *The Craft Traditions of India* – Jaya Jaitly
- *Interior Design Materials & Specifications* – Lisa Godsey
- Documentation from regional craft clusters (Rajasthan, Odisha, Gujarat, Kerala)

UNIT 1 – Introduction to Design Documentation

Skills Developed

- Understanding professional documentation
- Organizing design work
- File & data management

Topics

- Purpose of a design project compilation
- Types of design documents (concept, drawings, materials, costing)
- Structuring a design project file
- Digital vs physical compilation

Practical Work

- Create an index for your project compilation
- Collect and organize previous semester works

UNIT 2 – Concept Development & Visualization

Skills Developed

- Concept articulation
- Visual storytelling
- Mood board & idea board creation

Topics

- Creating a design concept statement
- Mood boards, inspiration boards, theme boards
- Visual narration techniques
- Translating concept → design elements

Practical Work

- Prepare a theme board for your design project

- Develop a concept statement + visual cues

UNIT 3 – Technical Drawings Compilation

Skills Developed

- Presentation of professional drawings
- Drafting layout management
- Scale, labels & clarity improvement

Topics

- Working drawings to be included:
 - Plans
 - Elevations
 - Sections
 - Furniture details
 - Layouts (lighting, electrical, plumbing if applicable)
- Sheet composition & title blocks
- Use of symbols & drafting standards

Practical Work

- Create A3/A2 presentation sheets of technical drawings
- Improve line weight, labels, hatching & clarity

UNIT 4 – Material, Finishes & Costing Sheets

Skills Developed

- Material selection
- Presentation of specifications
- Budget awareness

Topics

- Material specification sheets
- Finish schedules
- BOQ (Bill of Quantities) basics

- Cost estimation and product sourcing

Practical Work

- Material board preparation
- Cost sheet creation for your design project

UNIT 5 – Final Presentation & Portfolio Compilation

Skills Developed

- Portfolio-making
- Oral presentation & communication
- Professional layout design

Topics

- Creating a design portfolio/book
- Layouting: typography, spacing, design grid
- Digital portfolio tools
- Preparing a final presentation:
 - Slides
 - Models (if applicable)
 - Rendered views

Practical Work

- Compile complete project into a portfolio
- Final viva presentation with compiled documentation

Reference Books & Resources

- *Graphic Design for Architects* – Karen Lewis
- *Drawing and Rendering for Interior Design* – Pile
- *Interior Design Visual Presentation* – Maureen Mitton
- Portfolio websites: Behance, Issuu, Adobe Portfolio

UNIT 1 – Introduction to Internship & Orientation

Skills Developed

- Professional behavior
- Workplace communication
- Task management

Topics

- Understanding internship roles & expectations
- Work ethics, discipline & daily reporting
- Overview of studio operations
- Introduction to teams: designers, contractors, vendors

Practical Tasks

- Prepare an internship plan
- Maintain a daily work logbook (format provided)

UNIT 2 – Design Studio / Office Work Exposure

Skills Developed

- Drafting & design assistance
- Client communication basics
- Working with design software

Tasks & Activities

- Preparing layout drawings, mood boards, and concept sheets
- Assisting with CAD drawings / SketchUp models
- Compiling client presentations
- Attending team meetings & discussions

Outputs

- Minimum 3 tasks documented with before/after screenshots or photos

UNIT 3 – Site Exposure & Execution Understanding

Skills Developed

- Site supervision
- Material understanding
- Vendor coordination

Tasks & Activities

- Visiting live project sites
- Understanding on-site measurements
- Observing carpentry, electrical, plumbing, POP, painting processes
- Checking quality of workmanship

Outputs

- Site visit report with photos
- Observation notes on 3 different site processes

UNIT 4 – Material Selection, Vendor Interaction & Procurement

Skills Developed

- Sourcing materials
- Communicating with suppliers
- Budget awareness

Tasks & Activities

- Visits to material markets (wood, laminates, tiles, fabrics, lighting)
- Obtaining quotations
- Understanding cost differences
- Meeting vendors, installers & artisans

Outputs

- Material booklet (samples or photo catalog)
- Comparison sheet of at least 2 materials/products

UNIT 5 – Final Internship Report & Presentation

Skills Developed

- Documentation
- Professional portfolio
- Presentation skills

Report Must Include

1. Introduction of the firm / studio
2. Types of projects handled
3. Tasks completed (with evidence)
4. Site visit documentation
5. Material study summary
6. Skills learned
7. Conclusion & reflection

Reference / Support Material

- NCERT – Employability Skills
- *Professional Practice for Interior Designers* – Christine Piotrowski
- Sample internship logs and portfolios from design institutes
- Industry standards (material catalogues, vendor listings)