



**THIRUVALLUVAR UNIVERSITY**  
**SERKKADU, VELLORE-632115**

**M.Sc. INTERIOR DESIGN AND  
DECOR**

**SYLLABUS**

**FROM THE ACADEMIC YEAR  
2023 - 2024**

## **INTRODUCTION**

Home Science is both multidisciplinary and interdisciplinary in its context encompassing five major disciplines which includes Family Resource Management, Foods and Nutrition, Textiles and Clothing, Human Development, and Extension Education. Each discipline has one or more specific areas of specialization. Each specialization under Home Science offers a wide array of courses that prepare students for employment or setting up an enterprise in a wide range of sectors such as healthcare, childcare, food and hospitality, textiles, home and office interiors. Further, all courses of the programme are designed to improve the lifestyle of the individual, family and society that could most certainly contribute to the holistic development of the community.

The course curriculum for this programme has been planned to improve the employability potential and increase the scope for higher education. Globalization has created a market for jobs with different skills in the areas of food and healthcare industries and can thus contribute to the professional growth of students enrolled in this programme. This programme facilitates action-based research in various fields with the advantage of nurturing critical and analytical thinking that pave the way for innovation and entrepreneurship.

The interior design profession plays a crucial role in shaping our built environment and enhancing the quality of our lives. Interior designers have the expertise to optimize the functionality and usability of interior spaces. Well-designed interiors have a direct impact on our well-being and quality of life. Interior designers consider aspects such as ergonomics, acoustics, and lighting to create spaces that promote comfort, productivity, and a sense of well-being. With a growing focus on sustainable design practices, interior designers are playing a vital role in incorporating eco-friendly materials, energy-efficient systems, and sustainable strategies into their projects. In commercial spaces, interior design helps businesses create a unique brand identity and provide memorable experiences for their customers. Interior designers often collaborate with architects, contractors, and other professionals to ensure the

seamless execution of a project. Overall, the interior design profession contributes significantly to the functional, aesthetic and experiential aspects of our built environment, making it an essential discipline in shaping the spaces we live, work, and interact in.

## PROGRAMME OBJECTIVE (POB) OF PG DEGREE PROGRAMME

<b>The M.Sc., Programme in Home Science – Interior Design and Décor aims to achieve the following objectives:</b>	
<b>POB1</b>	Develop ability to apply design principles in day-to-day life and expose students to the various developments seen in art and design industries.
<b>POB2</b>	Acquire the ability and behavioral skills required for successful social adaptation that enables students to working groups, apply knowledge and ideas effectively both verbally and in writing.
<b>POB3</b>	Train students with appropriate skills required to adapt easily to the ever-changing global scenario and gain access to suitable career opportunities.
<b>POB4</b>	Improve skills in observation and drawing logical inferences from space planning.
<b>POB5</b>	Explore various mediums and technologies to express their creativity and understand the role of art making in the larger social context.

## 1. PROGRAMME OUTCOMES (PO) OF PG DEGREE PROGRAMME

<b>On successful completion of M.Sc., Home Science – Interior Design and Décor the student is expected to:</b>	
<b>PO1</b>	Develop designs for both residential and commercial spaces by applying the concept of art and interior design with suitable building materials and which create sustainable environment.
<b>PO2</b>	Assess and analyze the art principles and colour theories that are most suitable and applicable to surface finishes.
<b>PO3</b>	Design and develop 2D and 3D floor plans, building system, kitchen and furniture arrangements using ergonomic principles.
<b>PO4</b>	Formulate hypotheses and thus find solutions for research problems.
<b>PO5</b>	Cultivate professional skills to be inducted in the field of interior design and décor.

**2. PROGRAMME SPECIFIC OUTCOMES (PSO) OF PG DEGREE PROGRAMME**

<b>On successful completion of M.Sc., degree in Home Science – Interior Design and Décor the student is expected to:</b>	
<b>PSO1</b>	Implement the concepts of design elements, art principles, color and lighting theories in planning interiors and exteriors with optimum use of resources in building services.
<b>PSO2</b>	Evaluate the characteristics of various hard and soft materials and finishes in Planning residential and commercial spaces and in turn providing eco-friendly environment to meet the community needs.
<b>PSO3</b>	Analyze the various styles of interiors from historical period till modern days to create an aesthetic and ergonomic design in planning furniture, interior and exterior spaces.
<b>PSO4</b>	Implement the skills of communication, graphic design, various perspectives of home science and professional practice to develop new research ideas and meet the consumer requirements with effective use of resources.
<b>PSO5</b>	Demonstrate designs and plans effectively to the clients using various software, apps and technology and possess entrepreneurial skills and competencies.
<b>PSO6</b>	Develop research ideas in creating aesthetic and sustainable buildings with efficient use of renewable resources that are eco-friendly.

**Template for P.G., Programmes**

<b>Semester-I</b>	<b>Credit</b>	<b>Hours</b>	<b>Semester-II</b>	<b>Credit</b>	<b>Hours</b>	<b>Semester-III</b>	<b>Credit</b>	<b>Hours</b>	<b>Semester-IV</b>	<b>Credit</b>	<b>Hours</b>
1.1. Core-I	5	7	2.1. Core-IV	5	6	3.1. Core-VII	5	6	4.1. Core-XI	5	6
1.2 Core-II	5	7	2.2 Core-V	5	6	3.2 Core-VII	5	6	4.2 Core-XII	5	6
1.3 Core – III	4	6	2.3 Core – VI	4	6	3.3 Core – IX	5	6	4.3 Project with viva voce	7	10
1.4 Discipline Centric Elective -I	3	5	2.4 Discipline Centric Elective – III	3	3	3.4 Core – X	4	6	4.4 Elective - VI (Industry / Entrepreneurship) 20% Theory 80% Practical	3	4
1.5 Generic Elective-II:	3	5	2.5 Generic Elective -IV:	3	3	3.5 Discipline Centric Elective - V Research Writing and Presentation	3	3	4.5 Skill Enhancement course / Professional Competency Skill	2	4
			2.6 SEC I – Styles in Interiors	2	4	3.6 SEC II – Renovation and Restoration	2	3	4.6 Extension Activity	1	
			Human Rights	2	2	3.7 Internship/ Industrial Activity	2	-			
			MOOC Course	2	-						
	<b>20</b>	<b>30</b>		<b>26</b>	<b>30</b>		<b>26</b>	<b>30</b>		<b>23</b>	<b>30</b>
<b>Total Credit Points -95</b>											

**Choice Based Credit System (CBCS), Learning Outcomes Based Curriculum Framework (LOCF)  
Guideline Based Credits and Hours Distribution System  
for all Post – Graduate Courses including Lab Hours**

**M.Sc., - Interior Design & Decor**

**First Year**

	<b>Semester-I</b>	<b>Credit</b>	<b>Hours per week</b>
. Core-I	History of Design	5	7
Core-II	Application of Art and Design	5	7
Core – III	Space Planning Practical	4	6
Discipline Centric Elective -I	(Generic / Discipline Specific) (One from Group A) EC1 Furniture Design	3	5
Generic Elective-II:	Elective II (Generic / Discipline Specific) (One from Group B) EC2 Landscaping & Ornamental Gardening	3	5
	<b>Total</b>	<b>20</b>	<b>30</b>
	<b>Semester -II</b>	<b>Credit</b>	<b>Hours per week</b>
Core-IV	Research Methodology and Statistics	5	6
Core-V	Textile Science	5	6
Core – VI	Furnishing in Interiors Practical	4	6
Discipline Centric Elective– III	Elective III (Generic / Discipline Specific) (One from Group C) EC3 Visual Merchandising	3	4
Generic Elective - IV:	Elective-IV (Computer / IT related) (One from Group D) EC4 Renewable Energy Resources	3	3
SEC I	Skill Enhancement Course -SEC 1 – Styles in Interiors	2	3
	Human Rights	2	2
	MOOC Course	2	-
	<b>Total</b>	<b>26</b>	<b>30</b>

## Second Year

	<b>Semester-III</b>	<b>Credit</b>	<b>Hours per week</b>
Core-VII	AUTOCAD in Interiors	5	6
Core-VIII	Commercial Interiors	5	6
Core – IX	3D Modelling in Design Practical	5	6
Core – X	Sustainability in Building Science	4	6
Discipline Centric Elective - V	Elective – V Industry Module - Research Writing and Presentation	3	3
SEC II	Skill Enhancement Course - SEC 2: Renovation & Restoration	2	3
Internship/ Industrial Activity	Internship / Industrial Activity (Carried out in Summer Vacation at the end of I year – 30 Days)	2	-
	<b>Total</b>	<b>26</b>	<b>30</b>

	<b>Semester-IV</b>	<b>Credit</b>	<b>Hours per week</b>
Core-XI	Resource Management	5	6
Core-XII	Ergonomics in Interiors	5	6
Project Work	Project with Viva Voce	7	10
(Generic / Discipline Specific) Elective - VI	(One from Group F) EC6 Professional Practice in Interiors (Industry / Entrepreneurship) 20% Theory 80% Practical	3	4
Skill Enhancement course / Professional Competency Skill	Perspectives of Home Science / Training for Competitive Examinations Home Science for NET/SET/TRB Competitive Examinations (2 Hours) General Studies for Paper 1 - NET / SET, UPSC Other Competitive Examinations (2 Hours)	2	4
Extension Activity	Extension Activity	1	
	<b>Total</b>	<b>23</b>	<b>30</b>

**TOTAL CREDITS: 95**



**SEMESTER I  
CORE I  
CC1 - HISTORY OF DESIGN**

**Time/Hrs: Theory: 7 Hrs**

**Year: I**

**Credits: 5**

**Semester: I**

**LEARNING OBJECTIVES**

**To enable the student to**

1. Understand the history of art and architecture.
2. Analyze the historical styles of architecture.
3. Create styles and designs based on the materials and design used in different periods.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Understand the architectural features of prehistoric & Egyptian period	<b>K2</b>
<b>CO2</b>	Analyze the different European styles of architecture	<b>K4</b>
<b>CO3</b>	Interpret the colonial and oriental influence in interiors	<b>K3</b>
<b>CO4</b>	Compose modern architecture based on the Indian historical features	<b>K6</b>
<b>CO5</b>	Illustrate the modern and post-modern styles of interiors	<b>K4</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6-Create</b>		

## THEORY

UNIT	CONTENT	HOURS
<b>UNIT I</b>	<b>Prehistoric&amp;Egyptianinteriors</b> -Plan,Materials,FurnitureOrnamentation & Accessories Used for Shelters in Stone Age – Cavepaintings,Parts&PlanofStonehenge&Egypt-symbolism,characteristicfeaturesofObelisks,Pyramids,Egyptianpaintings-Egyptiandance&battleofNubia.	<b>15</b>
<b>UNIT II</b>	<b>EuropeanInteriors</b> -CategorizationofRooms,Furniture,MaterialsUsed for Buildings in Greece & Rome- Orders, Parthenon, Pantheon &Colosseum,Medieval-Pantheon,LateRenaissance-St.Peter’sBasilica,LaurentianLibrary,Baroque- St. peter’s Basilica and Rococo Architecture - Ballroom in theSchaezlerpalais.	<b>25</b>
<b>UNIT III</b>	<b>Oriental and Colonial interiors</b> - Types of Materials used, Parts of the Building, Furniture and other Interior Aspects of Buildings in Japanese-wood, roofs, shoji &fusuma, Tatami, Engawa, Genkan,Natureinspired.Chinese-Lumber,LowRise,Roof,Colours,SymmetricalLayouts,HierarchicalLayout ,SouthFacing,Consistency, and Indian Colonial Architecture - Victorian MemorialHall,SecretariatinDelhi,MadrasHighCourt.	<b>25</b>
<b>UNIT IV</b>	<b>Indian interiors</b> - HistoricalPerspectives,ArchitecturalStylesandContemporaryTrendinFurniture,SpaceAllocation,LocalMaterial Usage and Furniture Used in Rajasthan - Amber Palace,Gujarat-RajmahalatMehsana,Chettinad - Karaikudihouses,Kerala-TheMattancherryPalaceandPondicherry-WhitetownArchitecture.	<b>20</b>
<b>UNIT V</b>	<b>Modern &amp; Post-Modern interiors</b> - The Style Statements of ModernPeriods - Art Nouveau- Casa Battlo, Art Deco- Chrysler Building,Eclecticism-CarsonMansion,HighTech-Lloyd’sBuilding,Minimalism- Heydar Aliyev Center, Deconstructivism - Walt Disney Concert Hall.	<b>20</b>
<b>Total</b>		<b>105</b>

## REFERENCES

1. Vedula VLN Murthy (2020). ARCHITECTURE PRE-HISTORIC TO PRE-GOTHIC - WEST ASIA, MEDITERRANEAN AND EUROPE, Standard Publishers and Distributors Pvt Ltd
2. R. Engelbach, Somers Clarke(2014), Ancient Egyptian Construction and Architecture, Dover Publications Inc.
3. WimPauwels(2012),ContemporaryArchitecture&Interiors.
4. JohnWiley&sons.Inc(2013),Ahistoryof interiordesign–4thedn.
5. Robbie.G.Blakemore,(2005), History of InteriorDesign andFurniture.From AncientEgypttoNineteenth–CenturyEurope,WileyPublishers
6. John Potvin (2015), Oriental Interiors: Design, Identity & Space, Bloomsbury Academic Publishers

## E-LEARNINGRESOURCES

- [www.thoughtco.com/architecture-timeline-historic-periods-styles-175996](http://www.thoughtco.com/architecture-timeline-historic-periods-styles-175996)
- <https://www.britannica.com/art/Egyptian-architecture>
- <https://www.e-architect.com/european-architecture>
- <http://www.thebangala.com/architecture>
- <https://www.toki.tokyo/blogt/2020/4/8/eight-elements-of-japanese-architecture>
- <https://www.chinahighlights.com/travelguide/architecture/>
- <https://www.chinahighlights.com/travelguide/architecture/features.htm>
- <https://www.houzz.in/magazine/what-is-kerala-architecture-stsetivw-vs~116858736>

## MAPPINGOFCOsWITHPSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	S	W	M	M
CO2	M	S	S	W	M	M
CO3	M	S	S	W	M	M
CO4	M	S	S	W	S	M
CO5	M	S	S	M	S	M

**CORE II**  
**CC2 - APPLICATION OF ART & DESIGN**

**Time/Hrs: Theory: 5 Hrs, Practical: 2 Hrs**  
**Credits: 5 Semester: I**

**Year: I**

**LEARNING OBJECTIVES**

**To enable the student to**

1. Use design elements and principles of art effectively in designing interiors and exteriors.
2. Analyze and use the appropriate color schemes and lighting fixtures for the interiors and exteriors.
3. Create and implement innovative ideas in developing interior accessories and flower arrangement styles.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Understand and apply the art and design in interiors and exteriors.	<b>K1, K2, K3</b>
<b>CO2</b>	Create innovative flower arrangement styles and apply them in various occasions and needs.	<b>K3, K6</b>
<b>CO3</b>	Develop schemes using color palette and suggest them in various areas of interiors and exteriors.	<b>K5, K6</b>
<b>CO4</b>	Apply proper lighting for efficient lighting in interiors and exteriors.	<b>K2, K3, K5</b>
<b>CO5</b>	Understand and apply various accessories and pictures in selection and arrangement with relation to the background of interiors.	<b>K2, K3, K6</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6-Create</b>		

## THEORY

UNIT	CONTENT	HOURS
UNIT I	<b>Design:</b> Design - Definition, Concept, Requirements of Good Design, Types of Design - Structural and Decorative - Naturalistic, Conventional, Geometric, Abstract. Elements of Design - Line & its Type, Shape and Form, Texture, Direction, Space and Size, Color, Value. Principles of design - Proportion, Balance, Rhythm, Emphasis and Harmony. Application of Design in Interiors and Exterior Wall Finishes.	20
UNIT II	<b>Flower Arrangement:</b> Flower Arrangement - Definition, importance of flower arrangement, Styles of flower arrangement - Traditional, Oriental/Japanese styles - Ikebana, Moribana, Nagarie, Shikibana, Morimono, Rikka, Ukibana and Modern. Selection of containers based upon styles of arrangement. Flowers - Names, its colours, textures and its visual perception in various indoor spaces.	20
UNIT III	<b>Colour:</b> Colour Theory - Additive Colour, Subtractive Colour, Warm & Cool Colors. Developing colour schemes related to colour harmony - Achromatic, Accented, Analogous, Triad and Tetrad. Application of colour psychology and illusion in various areas of interiors and exteriors.	15
UNIT IV	<b>Lighting:</b> Lighting requirements - Definition and Importance of lighting. Ideal light requirements, Lighting Units - foot candle, candela, Lumen, Watt. Types of light bulb - Incandescent lamps, Compact fluorescent lamps (CFL), Halogen lamps, Metal halide Lamps, Light Emitting Diode (LED),. Types of lighting - General/ Ambient lighting, Task/Spot lighting, Architectural lighting - valance, soffit, bracket, cone, recessed, cornice. <b>Lighting fixtures:</b> Movable and immovable fixtures. Principles of home lighting, Glare - types and causes of glare. Suggestions for improving daylight illumination.	20
UNIT V	<b>Accessories:</b> Definition, Types of accessories, Selection and arrangement of accessories in various areas - living room, Dining room, bed room, study room with application of art principles and elements of design. <b>Pictures</b> - Concept, Selection of pictures, framing and mounting of pictures, Hanging law of margin in picture framing.	15

<b>PRACTICALS</b>	1. Creating hand-made accessories using waste materials and picture frames in different styles. 2. Painting different rooms using colour psychology and illusion of colours. 3. Developing innovative flower arrangement styles for various occasions and needs. 4. Applying design in interior and exterior wall. 5. Market survey on recent trends in accessories. 6. Draw lighting layout and Market survey on light and lighting fixtures. 7. Prepare catalogue for wall accessories and various designs.	<b>15</b>
<b>Total</b>		<b>105</b>

## REFERENCES

1. Andaland Parimalam (2015), "A Textbook of Interior Decoration", Satish Serial Publishing House, ISBN-13:978-8189304508
2. Frida Ramstedt, (2020), "The Interior Design Handbook", Particular Books, ISBN-13:978-0241438114
3. Gary Gordon (2015), "Interior Lighting for Designers", Wiley; 5th edition, ISBN-13:978-0470114223
4. Grimley Cand Mimi Love (2018), "The Interior Design Reference & Specification Book", Rockport Publishers, ISBN-13:978-1631593802.
5. Mark Karlen, Christina Spangler, et al (2017), "Lighting Design Basics", Wiley; 3rd edition, ISBN-13:978-1119312277
6. Nikita Mittal (2021), "The Key of Interior Design (Illustration of Methods & Principles)", STANDARD BOOKHOUSE; 1st edition, ISBN-13:978-8194359753
7. Pratap Rao. M (2020), "Interior Design: Principles and Practice", Standard Publishers and Distributors Pvt Ltd, ISBN-13:978-8180141560
8. Seetharaman. P (2019), "Interior Design and Decoration", CBS; 1st edition, ASIN:8123911920, ISBN-13:978-8123911922

## E-LEARNING RESOURCES

- Stanpro(2018),“BaiscsofLighting”,<https://www.standardpro.com/3-basic-types-of-lighting/>
- Greg Batten (2015), “Lighting Control Methods”,<https://www.controlco.com.au/blog/2015/7/16/lighting-control-methods>
- Frankel Building Group (2021), “7 Elements of Interior Design”,<https://www.frankelbuildinggroup.com/resources/7-elements-of-interior-design/>
- PernaMakhija(2022),“The7ElementsofDesign– andhowtouse them in yourhomeinteriors”,<https://www.beautifulhomes.com/home-decor-ideas/interior-design/the-7-elements-of-design-and-how-to-use-them-in-your-home-interiors.html>
- Foyr (2020),“ImportanceofAccessoriesinInteriorDesign”,<https://foyr.com/learn/accessories-in-interior-design/>
- Hamstech (2021), “Selection of Accessories in Interior Designing”,<https://www.hamstech.com/selection-of-accessories-in-interior-designing>
- Shuani,“Interior Decoration – Arrangement of Flowers”,<https://www.yourarticlelibrary.com/home-management/interior-decoration-arrangement-of-flowers/47903>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	M	M	M	S	M
CO2	S	M	S	M	M	M
CO3	S	S	M	M	S	M
CO4	S	S	M	M	S	M
CO5	S	S	S	M	M	M

**CORE III**  
**CC 3 – SPACE PLANNING (Practical)**

**Time/Hrs: Practical: 6 Hrs**  
**Credits: 4**

**Year: I**  
**Semester: I**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Learn about the requirements in housing and design spaces accordingly.
2. Design commercial spaces suited to the needs.
3. Know the standard dimension of furniture.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

CO	CO STATEMENT	K LEVEL
<b>CO1</b>	Understand the needs and requirements of planning different spaces in residences. Apply design to suit the requirements, create residential layouts for different square feet areas.	<b>K2, K3, K6</b>
<b>CO2</b>	Outline the features of art principles. Apply various art principles to furnish a room thereby creating a specific mood.	<b>K2, K3, K6</b>
<b>CO3</b>	Analyze the requirements for designing commercial spaces. Design interior spaces for various commercial places.	<b>K3, K4, K6</b>
<b>CO4</b>	Apply ergonomics in the design of furniture. Design furniture as per ergonomic standards.	<b>K2, K3, K6</b>
<b>CO5</b>	Categorize built-in furniture in accordance to use. Design built-in furniture with completed details.	<b>K3, K4, K6</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4 -Analyze; K5-Evaluate; K6–Create</b>		



## PRACTICALS

UNIT	CONTENT	HOURS
UNIT I	<b>House Plan:</b> Designing a residential space by implementing the principles of planning spaces with aspect, prospect, grouping, privacy, roominess, circulation and flexibility. Types of house plan, planning for different Square foot areas.	20
UNIT II	<b>Residential Interior Spaces:</b> Interior space arrangement like living room, bedroom dining, study and kitchen to achieve different moods – formal, informal, traditional, exotic, romantic, masculine and feminine. Creation of moodboards.	20
UNIT III	<b>Commercial Interior Spaces:</b> Designing commercial interiors spaces like cafe, beauty parlor, boutique, kids store, snackbar, kiosk and office layout.	15
UNIT IV	<b>Furniture design:</b> Measured drawings of freestanding furniture, Multi-purpose, Innovative furniture, Door, Window, - Chair, Sofa, Bed, Dining table, Workstation-plan, elevation and view draw to scale.	15
UNIT V	<b>Storage systems:</b> Functional analysis of storage systems and thereby deriving types of built in cabinets needed for interior spaces – Wardrobe, Kitchen cabinets, Designer shelves, Vanity Mirror, Vanity Storage, Bookshelf, TV wall unit, display systems.	20
<b>Total</b>		<b>90</b>

## REFERENCES

1. Christine M. Piotrowski (2016), *Designing Commercial Interiors*, Wiley Publishers
2. James Orrom (2018), *Chair Anatomy: Design and Construction*, Thames and Hudson Publishers
3. Lulu Lytle & Mitchell Owens (2020), *Rattan: A World of Elegance and Charm*, Rizzoli Publishers
4. Mark Karlen & Rob Fleming (2016), *Space Planning Basics*, Wiley Publishers
5. Maureen Mitton & Courtney Nystuen (2016), *Residential Interior Design: A Guide to Planning Spaces*, Wiley Publishers

## **E-LEARNINGRESOURCE**

- [https://www.academia.edu/8258292/Space\\_Planning\\_Basics](https://www.academia.edu/8258292/Space_Planning_Basics)
- <http://www.aboutcivil.org/site-selection-for-residential-buildings.html>
- [https://web.hettich.com/fileadmin/media/company/Das\\_Ideenbuch\\_2018\\_HHW\\_17785\\_en.pdf](https://web.hettich.com/fileadmin/media/company/Das_Ideenbuch_2018_HHW_17785_en.pdf)
- <https://catalogimages.wiley.com/images/db/pdf/9781118090787.excerpt.pdf>
- [https://cdn2.hubspot.net/hubfs/3360471/RhinoInteriorsGroup\\_May2018/Docs/Rhino\\_officeinteriordesign.pdf](https://cdn2.hubspot.net/hubfs/3360471/RhinoInteriorsGroup_May2018/Docs/Rhino_officeinteriordesign.pdf)

## **MAPPINGOFCOsWITHPSOs**

<b>CO/PSO</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>	<b>PSO4</b>	<b>PSO5</b>	<b>PSO6</b>
<b>CO1</b>	S	M	M	M	M	W
<b>CO2</b>	S	M	M	M	M	W
<b>CO3</b>	S	S	M	M	M	W
<b>CO4</b>	M	S	S	M	M	M
<b>CO5</b>	M	S	S	M	M	M

**ELECTIVE COURSE I**  
**EC1 - FURNITURE DESIGN**

**Time/Hrs: Theory: 5 Hrs**  
**Credits: 3 Semester: I**

**Year: I**

**LEARNING OBJECTIVES**

**To enable the student to**

1. Understand the basic guidelines of furniture design.
2. Get familiar with the different types of materials used in designing furniture.
3. Learn the styles of popular furniture designers.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Understand the design details of a furniture	<b>K1, K2</b>
<b>CO2</b>	Analyze the designs of popular designers from Medieval to modern period	<b>K1, K2, K4</b>
<b>CO3</b>	Understand the features of various materials used in furniture design.	<b>K2</b>
<b>CO4</b>	Summarize the templates and proportions	<b>K1, K2</b>
<b>CO5</b>	Analyze the methods of cabinet construction and select the best suitable method for the given purpose on hand	<b>K1, K4</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4 -Analyze; K5-Evaluate; K6-Create</b>		

## THEORY

UNIT	CONTENT	HOURS
UNIT I	<p><b>Introduction to furniture design</b></p> <p><b>Furniture-</b> Meaning and importance, classification, factors influencing furniture decisions – family needs, preferences, availability, principles of design and financial limit.</p> <p><b>Residential furniture Types:</b> Table, chair, sofa, cabinet, bed, wardrobe, dining table, wall unit. Application of Golden Ratio in furniture design. Art principles in furniture design.</p>	15
UNIT II	<p><b>Furniture styles</b></p> <p>i. <b>Traditional/classic style:</b> a. Ethnic style. b. Contemporary style.</p> <p>ii. <b>Types of furniture:</b> a. Daily uses furniture b. Loose carpentry furniture c. Fixed carpentry furniture. d. Multi-utility storage e. Open &amp; closed storage.</p> <p>Importance of anthropometric and ergonomics.</p>	15
UNIT III	<p><b>Materials</b></p> <p><b>Familiar furniture materials</b> – Wood – teak, rose wood, walnut, cedar, mahogany, pine, birch, Sal and Plywood, Bamboo, Cane, Glass, Concrete, Metals, Plastics, and Leathers.</p> <p><b>Modern materials</b> – wood based panels such as plywood, MDF, HDF, Particle board, pre laminated boards; fiber glass, veneers</p>	15
UNIT IV	<p><b>Construction of Cabinets</b></p> <p><b>Steps</b> involved in cabinet construction, T V units, wall accessories unit &amp; Bedding furniture. <b>Construction features of furniture</b> – shaping, carving, turning, fluting, reeding, joining and finishes. Upholstering designs.</p>	15
UNIT V	<p><b>Carpentry joint</b></p> <p><b>Finishes-</b> Shaping, carving, tapestry, turning, fluting, reeding, joining and finishes joining of furniture.</p> <p><b>Types of joints</b> i. Butt joint ii. Mitre joint iii. Lap joint iv. Mortise and Tenon joint v. Tongue and groove joint vi. Housed joint vii. Cross joint</p> <p><b>Joints used in furniture</b> - Joints used in doors/ windows/ ventilators.</p>	15
<b>Total</b>		<b>75</b>

## REFERENCES

1. Francis D.K. Ching, John Wiley & Sons, (2018), Interior Design 4th edition, New York.
2. Jeannie Ireland (2009), History of Interior Design, airchild publications, illustrated ed.,
3. Jim Postell, (2007), Furniture Design, Wiley publishers.
4. John Wiley & Sons (2013), A history of interior design – 4th edn – Inc
5. Lawsun Stuart (2013), Furniture Design – An Introduction to Development, Materials, Manufacturing, Lawrence King Publishing Ltd
6. Postel Jim (2012), Furniture Design, New York

## E-LEARNING RESOURCES

- [http://homes.ieu.edu.tr/ffd301/INSTRUCTOR%20PRESENTATIONS/FFD301\\_Presentation01\\_history\\_of\\_furniture.pdf](http://homes.ieu.edu.tr/ffd301/INSTRUCTOR%20PRESENTATIONS/FFD301_Presentation01_history_of_furniture.pdf)
- <https://catalogimages.wiley.com/images/db/pdf/9781118090787.excerpt.pdf>
- ([https://www.google.co.in/books/edition/Illustrated\\_History\\_of\\_Furniture/j8AgAAAAMAAJ?hl=en&gbpv=1](https://www.google.co.in/books/edition/Illustrated_History_of_Furniture/j8AgAAAAMAAJ?hl=en&gbpv=1))
- <https://koalaliving.com.au/blog/golden-ratio-design-template>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	M	S	W	S	S
CO2	M	M	S	M	S	S
CO3	W	M	S	M	S	S
CO4	S	M	S	S	S	S
CO5	S	S	S	W	S	S

**ELECTIVE II**  
**EC2 - LANDSCAPING & ORNAMENTAL GARDENING**

**Time/Hrs: Theory: 3 Hrs, Practical: 2 Hrs**

**Year: I**

**Credits: 3 Semester: I**

**LEARNING OBJECTIVES**

**To enable the student to**

1. Acquire skill in identifying the ornamental flowers, shrubs and trees.
2. Develop a conceptual understanding of landscape design principles and gardening components for various built forms.
3. Create designs in integrating landscape and ornamental gardening with built environment.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Apply principles of design to create best suited design in lawn making and landscaping	<b>K2, K3, K6</b>
<b>CO2</b>	Evaluate the integral and supplementary elements to create ornamental garden design	<b>K5, K6</b>
<b>CO3</b>	Assess, understand and evaluate the different styles and kinds of garden.	<b>K2, K5</b>
<b>CO4</b>	Create designs in urban landscape and prepare bio-aesthetic plans for different areas.	<b>K3, K6</b>
<b>CO5</b>	Classify different kinds of indoor and outdoor plants; analyze factors for developing patterns in the landscape area.	<b>K2, K4, K6</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6-Create</b>		

## THEORY

UNIT	CONTENT	HOURS
UNIT I	<p><b>Landscaping</b>– Definition, Importance and Principles of Design in Landscaping. Requirements in Landscape Area- Site &amp; Location, Site Evaluation, Soil Properties, Water Systems, Climatic Conditions and Lighting. Lawn and Lawn Maintenance- Planning and Execution of Lawn Making, Public and Private Garden. Importance of Kitchen Garden.</p>	10
UNIT II	<p><b>Ornamental Gardening</b>- Definition, Components of Garden- Arboretum. Shrubbery, Fernery, Arches and Pergolas, Edges and Hedges. Integral Elements of Garden- Climbers and Creepers, Cacti &amp; Succulents, Herbs, Annuals &amp; Perennials, Flower Borders &amp; Beds. Supplementary Elements of Garden- Ground Covers, Carpet Beds, Bamboo Grooves, Topiary and Garden Adornments. Planning and Designing of Ornamental Gardens</p>	15
UNIT III	<p><b>Styles and Types of Landscape Garden:</b> Garden Styles: Formal, Informal and Freestyle, Wild Gardening, Types of Gardens: Persian, Mughal, Japanese, English, Italian, Buddha, Spanish and Vanams. Special Types of Gardens: Vertical Garden, Roof Garden, Bog Garden, Sunken Garden, Rock Garden, Clock Garden, Bonsai Gardens, Temple Garden &amp; Sacred Groves.</p>	20
UNIT IV	<p><b>Urban Landscaping:</b> Landscape Design for Specific Areas &amp; Occasions- Industries, Institutions, Hospitals, Roadsides Residents, IT Parks, Restaurants, And Corporate Offices. Bio Aesthetic Planning- Eco Tourism, Botanical Gardens, Theme Parks, Indoor Gardening, Terrarium, Hydroponic Gardens, Therapeutic Gardening, Non -Plant Components, Water scaping, Xeriscaping and Hardscaping.</p>	20
UNIT V	<p><b>Indoor-Outdoor Plants</b> -Kinds and Classification, Factors Influencing Growth of Plants. Planning and Execution of Landscape Design Based on the Styles and Kinds of Plants.</p>	10
<b>Total</b>		<b>75</b>

## PRACTICALS

1. Selection of ornamental plants, practices in preparing home garden designs/industrial gardens/institutional gardens/corporate.
2. Avenue planting, lawn making, planting herbaceous and shrubby borders, project preparation on landscaping for different situations,
3. Visit to parks and botanical gardens.
4. Draw 2D and 3D landscaped design.

## REFERENCES

1. AK Tiwari (2012) Fundamentals of Ornamentals Horticulture and Landscape Gardening, NIPA publisher
2. Alka Singh (2015) A colour handbook: Landscape gardening, NIPA publisher
3. Deshraj (2017) Floriculture at a glance, Kalyani publishers
4. G.S. Randhawa, A.N. Mukhopadhyay, A. Mukhopadhyay (1998) Floriculture in India, Jaideep publishers Delhi.
5. Hari Krishnan Paliwal (2013) Ornamental Gardening - A user's Companion, Jain Publishing Company, New Delhi
7. M Kannan, P Ranchana, S Vinodh (2016) Ornamental Gardening and Landscaping, New India publishing agency

## E-LEARNING RESOURCES

- [http://www.megagriculture.gov.in/PUBLIC/floriculture\\_objectives.aspx](http://www.megagriculture.gov.in/PUBLIC/floriculture_objectives.aspx)
- <http://ncert.nic.in/vocational/pdf/kegr101.pdf>
- [http://agritech.tnau.ac.in/horticulture/horti\\_Landscaping\\_freshflower.html](http://agritech.tnau.ac.in/horticulture/horti_Landscaping_freshflower.html)
- <https://www.basicsofgardening.com/types-of-garden>
- <https://www.designcad.com.au/wp/Docs/Landscape%20Design%20and%20CAD.pdf>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	M	M	S	S
CO2	S	S	M	M	S	M
CO3	S	S	S	M	S	M
CO4	S	S	S	S	S	S
CO5	S	S	M	M	S	M



**SEMESTER II**  
**CORE IV**  
**CC4 – RESEARCH METHODOLOGY AND STATISTICS**

**Time/Hrs: Theory: 4 Hrs Practical: 2 Hrs**  
**Credits: 5**

**Year: I**  
**Semester: II**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the fundamental principles and techniques in Research Methodology.
2. Get an overview of the methodologies used in research.
3. Apply statistical procedures to analyze numerical data and draw inferences.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>COSTATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Understand Research and its characteristic features and explore the different types of research design. Analyze the research problems and formulate suitable Hypothesis.	<b>K1, K2, K4</b>
<b>CO2</b>	Analyze different sampling techniques and selecting the suitable sampling technique for data collection.	<b>K2, K4</b>
<b>CO3</b>	Identify methods of Data collection using scaling techniques and assessment of data.	<b>K1, K4</b>
<b>CO4</b>	Process and Analyze data through statistical analysis and SPSS software.	<b>K4</b>
<b>CO5</b>	Present research data in a scientific manner and understand the key elements of a research report.	<b>K1, K2</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
UNIT I	<p><b>Research:</b> Meaning of Research – objectives of Research–Characteristics of Research – Significance of Research. Types of research –Descriptive Vs. Analytical, Applied Vs. fundamental, Quantitative Vs. Qualitative, Conceptual vs. Empirical, Exploratory research and Ex-post Facto research.</p> <p><b>Research design:</b> Identification of Research problem, Variable: Dependent variable, independent variable, extraneous variable. Hypothesis - Definition, types - null and alternate hypothesis.</p>	25
UNIT II	<p><b>Sampling design:</b> Definition of sample, types of sampling design- probability sampling- simple random, complex random, stratified sampling, multistage sampling and non- probability sampling - deliberate sampling, purposive sampling, convenience sampling and judgment sampling.</p>	15
UNIT III	<p><b>Methods of data collection</b> – Collection of Data - Preparation of tools for <b>data collection</b> –</p> <p>Primary Data - questionnaire, interview and observation.</p> <p>Secondary Data - 1. Published Sources      2. Unpublished Sources</p> <p><b>Scaling technique</b> - Nominal, Ordinal, Interval and Ratio.</p> <p><b>Processing of data</b> – Editing, coding, classification &amp; tabulation.</p>	15
UNIT IV	<p><b>Quantitative Analysis-</b> Basic Concept and Simple Sums in Measures of Central Tendency – Mean, Median &amp; Mode. Measure of Dispersion - Standard Deviation.</p> <p>SPSS Interpretation of t – test – One sample, Independent, Paired t test, ANOVA, Chi – Square – Goodness of fit.</p>	15
UNIT V	<p><b>Basics of Report writing and presentation:</b> Significance of report writing, layout of research report, Types of report – technical and popular. Journal article, APA format reference.</p>	20
<b>Total</b>		<b>90</b>

### Practicals

1. Create e-form for survey method.
2. Analysis: Cross Tabulation, Frequency, Mean, Median, Mode,
3. Graphical and diagrammatic representation of tables.
4. Applicable Statistical Analysis Software- Literature Searching -PubMed
5. Data Analysis- Micro Soft Excel, SPSS, Plagiarism Checker –Turnitin, Scribbr reference Manager-Mendeley

## REFERENCES

1. Gupta,S.P.,(2021)Statistical Methods, Sultan Chand and Sons,NewDelhi,
2. John W Creswell & David Creswell(2018) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches Sage Publications
3. Kerlinger F.N. and Lee, H.B.(2000) Foundations of Behavioural Research 4<sup>th</sup> Ed. Harcourt College Publishers.
4. Kothari,C. R.(2019)Research Methodology: Methods and Techniques 2<sup>nd</sup> Ed. New Age International Pvt Ltd, NewDelhi.
5. KumarR.(2005) Research Methodology: A Step by Step Guide for Beginners. Sage Publications, NewDelhi.
6. R Paneerselvam(2014) Research Methodology, PHI learning

## E-LEARNINGRESOURCES

- <https://southcampus.uok.edu.in/Files/Link/DownloadLink/RM%20U1%20P1.pdf>
- <https://ccsuniversity.ac.in/bridge-library/pdf/Research-Methodology-CR-Kothari.pdf>
- [https://www.researchgate.net/publication/303381524\\_Fundamentals\\_of\\_research\\_methodology\\_and\\_data\\_collection](https://www.researchgate.net/publication/303381524_Fundamentals_of_research_methodology_and_data_collection)
- [https://www.researchgate.net/publication/333015026\\_Chapter\\_3-Research\\_Methodology\\_and\\_Research\\_Method](https://www.researchgate.net/publication/333015026_Chapter_3-Research_Methodology_and_Research_Method)

## MAPPING OF Cos WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	M	M	M	S	W	S
CO2	M	M	M	S	W	S
CO3	M	M	M	S	S	S
CO4	M	M	M	S	W	S
CO5	M	M	M	S	S	S

**CORE V**  
**CC5 – TEXTILE SCIENCE**

**Time/Hrs: Theory: 6 Hrs**  
**Credits: 5**

**Year: I**  
**Semester: II**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the processes of manufacture of textile fibers and yarns.
2. Become familiar with the types of yarns, their properties and usage.
3. Acquire a broad awareness of textile uses in home furnishings.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>COSTATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Recall the basic concepts of classification and properties of textile fibers and describe the method of manufacture.	<b>K1, K2</b>
<b>CO2</b>	Classify the various types of yarn and summarize the steps of yarn manufacture.	<b>K2</b>
<b>CO3</b>	Illustrate the parts of a loom and weaving mechanism and categorize the different types of weaves.	<b>K2, K4</b>
<b>CO4</b>	Analyze the concepts of dyeing, printing and compile them according to their application, manufacture on the environment and utility.	<b>K5, K6</b>
<b>CO5</b>	Evaluate the impact of fabric finishes for home furnishings.	<b>K5</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
<b>UNIT I</b>	<p><b>Fiber Study</b>            Classification of textile fibers - natural and man-made fibers.            Essential properties of textile fibers - primary and secondary properties.            Manufacturing process and uses of natural fibers - cotton, jute, silk and wool. Manufacturing process and uses of synthetic fibers–polyester, rayon and nylon.</p>	<b>15</b>
<b>UNIT II</b>	<p><b>Yarn Study</b>            Definition of yarn, Steps involved in the processing of yarn.            Classification of yarns:            Based on length- Staple and Filament Yarns,            Based on number of parts in a yarn – Simple yarns (simple, ply and doubled, cable) and Novelty yarns (slub, flake, spiral, ratine, boucle, knot and chenille)            Based on Twist –S twist and Z twist</p>	<b>25</b>
<b>UNIT III</b>	<p><b>Weaving</b>            Definition of Warp and Weft. Parts of a loom. Basic weaving operations.            Basic fabric weaves - Plain, Twill, Satin.            Fancy Weaves-Jacquard, Leno, Double Cloth, Lappet, Swivel, Spot and Pile.</p>	<b>15</b>
<b>UNIT IV</b>	<p><b>Dyeing and Printing</b>            Definition of dyeing, difference between dyeing and printing.            Classification of Dye - Natural and Synthetic. Methods of dyeing - Stock, Top, Yarn and Piece dyeing.            Styles of printing- Direct- Block, Roller and Duplex printing, Discharge -Blotch, Photo and Resist printing-Tie and dye, Batik, Stencil and Screen printing.</p>	<b>20</b>
<b>UNIT V</b>	<p><b>Fabric Finishes:</b> Definition of finishes, classification of finishes, types of finishes - scouring, bleaching, tentering, calendaring, sizing, mercerizing, napping and sanforizing.            Textile and Environment: Banned dyes, Eco-friendly textiles, Eco-label and eco marks.            Recent Developments in Textiles: Nano textiles, Technical textiles, Occupational clothing and zero waste designing – Meaning and uses.</p>	<b>15</b>
<b>Total</b>		<b>90</b>

## REFERENCES

1. William S Murphy(2021),“The Textile Industries: a Practical Guide to Fibres, Yarns & Fabrics in Every Branch of Textile Manufacture, Including Preparation of Fibres, ... Printing, Dyeing and Finishing; vol. 5”, Legare Street Press Publishers”.
2. Pizzuto’s,J.J(2010),“Fabric Science”, 9<sup>th</sup>Edition, Fair child Books, U.S.A.
3. Dantyaagi.S(2020),“Fundamentals of Textiles and their Care”,Vedition, Orient Longman,India.
4. Horrock A R and S.C.Anand(2015)” Hand book of technical textiles”, The Textiles Institute, Wood Head Publishing Ltd, England.
5. Dr. Deepali Rastogi Dr. Chanchal Dr. Sheetal Chopra Dr. Chitra Arora (2016). Textile Science A Practical Manual, Elite Publishing.

## E-LEARNING RESOURCES

- [www.fibersource.com/fiber-world-classroom/manufacturing](http://www.fibersource.com/fiber-world-classroom/manufacturing)
- <https://www.slideshare.net/namit129/lyocell-final-ppt-28-1013?>
- [textilelearner.blogspot.com/2012/03/carbon-fiber-characteristicsproperties.html](http://textilelearner.blogspot.com/2012/03/carbon-fiber-characteristicsproperties.html)
- [gpktt.weebly.com/classification-of-textile-fibers.html](http://gpktt.weebly.com/classification-of-textile-fibers.html)
- [www.fibre2fashion.com](http://www.fibre2fashion.com) Knowledge Article
- <https://textileapex.blogspot.com/2014/08/polymer.html>
- [textilelearner.blogspot.com/2011/07/dyeing-process-different-types-of-dye\\_1720.html](http://textilelearner.blogspot.com/2011/07/dyeing-process-different-types-of-dye_1720.html)
- [www.makeinindia.com/article/-/v/technical-textiles-a-bright-future](http://www.makeinindia.com/article/-/v/technical-textiles-a-bright-future)
- [www.technicaltextile.net](http://www.technicaltextile.net) Articles Nonwovens
- [www.technicaltextile.net](http://www.technicaltextile.net) Articles SportsTextiles

## MAPPING OF Cos WITH PSOs

CO/PS O	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6
CO1	W	S	M	M	S	W
CO2	W	S	M	M	S	W
CO3	W	S	M	M	S	W
CO4	M	S	M	M	M	M
CO5	M	S	M	M	W	S

**CORE VI**  
**CC6 – FURNISHINGS IN INTERIORS (Practical)**

**Time/Hrs: Practical: 6 Hrs**  
**Credits: 4**

**Year: I**  
**Semester: II**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Learn the importance of furnishings in interiors.
2. Identify various types of furnishings, criteria for their selection and care.
3. Acquire awareness on the use of textiles in home furnishings.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>COSTATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Recall the basic stitches and demonstrate the application of seams and fullness.	<b>K1, K2, K3</b>
<b>CO2</b>	Extend and apply the concepts of seams and fullness in different types of curtains and draperies.	<b>K1, K2, K3</b>
<b>CO3</b>	Understand the design and choose suitable methods of repair for soft floor coverings.	<b>K2, K3</b>
<b>CO4</b>	Categorize bedding and seating furnishings and design them aesthetically.	<b>K2, K6</b>
<b>CO5</b>	Compile various accessory furnishings and select suitable textile embellishments.	<b>K2, K5</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
UNIT I	<p><b>Introduction to Stitching</b></p> <p>a. Basic Seams: Plain, Topstitched Seam, Lappet Seam.</p> <p>b. Seam Finishes: Pinked, Overcast, Herringbone, and Edge Stitched Seam.</p> <p>c. Introduction to Fullness</p> <p>Pleats- Box, Inverted and Pinch pleats Gathers-Gathering by Hand and Machine.</p> <p>Prepare an album of samples of seams, seam finishes and fullness.</p>	15
UNIT II	<p><b>Window Treatments</b></p> <p>a. Types of Curtains: Glass, Tie-Backs, Café, Casement, Criss-cross, Tier and Sheer Curtains.</p> <p>b. Types of Draperies: Panel, Valence, Cornice, Swags and Cascades.</p> <p>Application of suitable seams and fullness to construct any two types of Curtains and any two types of draperies.</p>	20
UNIT III	<p><b>Soft Floor Coverings</b></p> <p>a. Carpets and Rugs, Accent and Spot Rugs. Rugs based on shapes and sizes.</p> <p>b. Carpets based on construction- Woven and Non-woven.</p> <p>Repair of Carpets and Rugs- Mending, Darning, Appliqué and Patch work.</p>	15
UNIT IV	<p><b>Bedding and Seating Furnishings</b></p> <p>a. Bed linens, Pillow covers, Quilts, Slipcovers, Cushion covers and Upholstery.</p> <p>b. Construction of Pillow Cover, Cushion Cover and Bolster cover</p> <p>c. Decoration of Bedding and Seating Furnishings</p> <p>i) Basic Hand Embroidery Stitches:</p> <p>Outline stitches- Running, Back, Stem</p> <p>Looped Stitches: Chain, Blanket, Feather</p> <p>Knot Stitches: Bullion, French</p> <p>Flat Stitches: Satin, Long and Short</p> <p>ii) Traditional Embroidery:</p> <p>Chikankari of Lucknow, Kanta of Bengal, Phulkari of Punjab, Kasuti of Karnataka and Kashida of Kashmir</p> <p>Application of Basic hand Embroidery stitches on pillow covers.</p> <p>Application of any one Traditional Embroidery on cushion covers or bolsters, table cloth, hand kerchief bed spread and shawl.</p>	25
UNIT V	<p><b>Accessory Furnishings</b></p> <p>a. Wall hangings, table cloths, table runners, throw blankets, lamp shades, vases, tapestries and accent furniture.</p> <p>Visit Home Furnishing Centers and collect swatches of home furnishings.</p> <p>Prepare a catalogue using swatches of home furnishings.</p>	15
<b>Total</b>		<b>90</b>



## REFERENCES

1. “Soft Furnishings Room by Room” (2000), Eaglemoss Publications Limited, United States.
2. Mathews,M. (2005), “Practical Clothing Construction Part I & II”, Cosmic Press, Chennai.
3. Mehta,R.J(2010),“Master pieces of Indian Textiles”, B.B Taraporewala & Sons Pvt. Ltd, India.
4. Philips.B.,(2000),“Hamlyn Book of Decorating”, Octopus Publishing Ltd., London.
5. Christine Haynes,(2014) “The Complete Photo Guide to Clothing Construction”, Creative Publishing International.
6. Wilhide, E and Copestick, I., (2000), Contemporary Decorating, Conron Octopus Ltd., London

## E-LEARNINGRESOURCES

- <http://www2.ca.uky.edu/agcomm/pubs/fcs2/fcs2304/fcs2304.pdf>
- [https://conservancy.umn.edu/bitstream/handle/11299/168709/mn\\_2000\\_eb\\_264.pdf;sequence=1](https://conservancy.umn.edu/bitstream/handle/11299/168709/mn_2000_eb_264.pdf;sequence=1)
- <http://cepc.co.in/>
- [https://sites.create-cdn.net/sitefiles/20/6/6/206653/Making\\_an\\_overlap\\_cushion\\_cover.\\_Colour\\_pics.\\_July\\_2017.pdf](https://sites.create-cdn.net/sitefiles/20/6/6/206653/Making_an_overlap_cushion_cover._Colour_pics._July_2017.pdf)
- <https://catalogimages.wiley.com/images/db/pdf/9780470101490.excerpt.pdf>
- <https://www.momtastic.com/family/diy-for-moms/diy-for-home/104055-revamp-your-lamp-how-to-make-a-pretty-lampshade-cover/>

## MAPPING OF COs WITH PSOs

<b>CO/PS O</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO 3</b>	<b>PSO 4</b>	<b>PSO 5</b>	<b>PSO6</b>
<b>CO1</b>	M	S	M	M	S	S
<b>CO2</b>	M	S	M	M	S	S
<b>CO3</b>	M	S	W	M	S	S
<b>CO4</b>	M	S	W	M	S	S
<b>CO5</b>	M	S	W	M	S	S

**ELECTIVE COURSE III**  
**EC3 – VISUAL MERCHANDISING**

**Time/Hrs: Theory: 4 Hrs**  
**Credits: 3**

**Year: I**  
**Semester: II**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the concept of Visual Merchandising.
2. Analyse the display merchandising techniques used.
3. Analyse the current trends and forecast future trends in merchandising.

**COURSEOUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Understand Visual merchandising and retailing.	<b>K2</b>
<b>CO2</b>	Analyse the different types of display.	<b>K4</b>
<b>CO3</b>	Summarize the display merchandising techniques and apply the same in interiors and exteriors.	<b>K2, K3</b>
<b>CO4</b>	Categorize Merchandise presentation.	<b>K2, K4</b>
<b>CO5</b>	Propose and forecast trend.	<b>K5</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
<b>UNIT I</b>	<b>Fundamentals of Visual Merchandising</b> - Visual Merchandising - Introduction, Objectives, Techniques, Visual Merchandising at different stores- Apparel store, Furniture store, Gift store. Store exteriors - store signs, façade, banners, planters, signage and awnings. Product display – hierarchy of product display, Exhibition spaces –display for exhibition.	<b>15</b>
<b>UNIT II</b>	<b>Material exploration-</b> Types of display- Window Display—Meaning and Scope, Vis-à-vis Merchandise, Types of Setting, Promotional Display Vs. Institutional Display, Window Display—Construction. Art principles in the arrangement of display materials.	<b>15</b>
<b>UNIT III</b>	<b>Display Merchandising</b> –Basics of Display, Design Basics, Principles of Design, Signage, Understanding Materials, the Purpose of Planning Fixtures, Types of Fixtures. Colour Blocking & Colour Psychology – Interiors and Exteriors	<b>10</b>
<b>UNIT IV</b>	<b>Merchandise Presentation-</b> Meaning, Principles of Merchandise Presentation, Categories in Merchandise Presentation, Dominance Factor in Merchandise Presentation, Cross Merchandising.	<b>10</b>
<b>UNIT V</b>	<b>Trend analysis and Forecasting</b> - Styling, Display Calendar, Sales Tracking, Handling the Props, Lighting, Organizing an In-store Event, Quality and Process in Visual Merchandising, Standard Operating Procedures(SOPs).	<b>10</b>
<b>Total</b>		<b>60</b>

## REFERENCES

1. Tony Morgan (2021), Visual Merchandising. Window displays and In-store Experience, 4<sup>th</sup> edition. Laurence king publication. London
2. Levy, Michale & Barton A. Weitz (2009). Retailing Management. Tata McGraw Hill.
3. Ebster Clause, Garaus Marion (2015), Store Design and Visual Merchandising, Second Edition, Business Expert Press
4. Morgan Tony (2010), Window Display: New Visual Merchandising, Laurence King Publishing
5. Murugan(2018), Retail Marketing, Thakur Publication.
6. Pradhan Swapana(2009). Retailing Management. Tata McGraw Hill.
7. Swati Bhalla and AnuragS(2010). Visual Merchandising. Tata McGraw Hill.

## E-LEARNING RESOURCES

- <http://www.slideshare.net/dianhasan/iiscm-retail-innovation-seminar-jakartaapril-8-2011>
- [www.businessdictionary.com/definition/visual-merchandising.html](http://www.businessdictionary.com/definition/visual-merchandising.html)
- [www.managementstudyguide.com/visual-merchandising.html](http://www.managementstudyguide.com/visual-merchandising.html)
- [www.rmsservicing.com/articles/what-is-visual-merchandising](http://www.rmsservicing.com/articles/what-is-visual-merchandising)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	M	M	W	S	S	M
CO2	M	M	W	S	S	M
CO3	M	M	W	S	S	M
CO4	M	M	W	S	S	M
CO5	M	M	M	S	S	M

**ELECTIVE IV**  
**EC4 – RENEWABLE ENERGY RESOURCES**

**Time/Hrs: Theory: 3 Hrs**  
**Credits: 3**

**Year: I**  
**Semester: II**

**LEARNING OBJECTIVES**

**To enable the students to**  
**On successful completion of the course the student will be able to**

1. Know the various forms of renewable energy resources.
2. Understand the Indian and Global energy need and consumption scenario.
3. Identify the types of non-conventional energy sources.
4. Recognize the modern techniques involved in harnessing renewable energy and its challenges.
5. Acquire skills in extracting and handling renewable energy.

**COURSE OUTCOME**

<b>CO</b>	<b>COSTATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Understand the theory of energy sources and the need for renewable energy in the present scenario.	<b>K1, K2</b>
<b>CO2</b>	Appraise the new technological innovation and the efficiency of solar Energy applications and its working principles.	<b>K3, K5</b>
<b>CO3</b>	Analyze and adapt the significance of utilizing wastes into energy.	<b>K4, K6</b>
<b>CO4</b>	Evaluate the new venture of wind energy technologies and its Applications	<b>K3, K5</b>
<b>CO5</b>	Compare and apply other forms of renewable energy, power and geothermal principles, its applications.	<b>K3, K4</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
<b>UNIT I</b>	<b>Energy as a resource-</b> conventional and non-conventional sources, renewable /non-renewable energy, energy management, national efforts on energy conservation. Need and Consumption Scenario in Renewable Energy. Forecasts for Renewable Energy. Environmental Impacts of Energy Sources.	<b>10</b>
<b>UNIT II</b>	<b>Solar Energy:</b> Sun as a Source of Energy–Solar Photovoltaic Technology and Principles – Application in Solar Water Heater -Solar Pumping Systems –Solar Air Conditioning and Refrigeration – Solar Cooker – Solar Green House.	<b>10</b>
<b>UNIT III</b>	<b>Bio Energy:</b> Introduction to Biomass– Biomass Resources-Background of Biogas –Source and Composition – Types of Biogas Plants – Operational Factors of Biogas Plant– Extraction of Energy from Wastes.	<b>10</b>
<b>UNIT IV</b>	<b>Wind Energy:</b> Fundamentals of Wind Energy Conversion System (WECS) – Basic Components of Wind Power System – Types of Wind Turbines – Modes of Wind Power Generation – Stand Alone Mode– Backup Mode –Grid–connected mode.	<b>10</b>
<b>UNIT V</b>	<b>Other Renewable Energy Sources:</b> Geothermal Energy – Basic Concepts – Geothermal Resources – Benefits and Challenges – Applications of Geothermal Energy	<b>5</b>
<b>Total</b>		<b>45</b>

## REFERENCES

1. Muhammad Asif Hanif, Farwa Nadeem, Rida Tariq · 2021 Renewable and Alternative Energy Resources, Brian Romer publication, London
2. Muhammad Kamran, Muhammad Rayyan Fazal · 2021 Renewable energy conversion systems Joe Hayton Publishing
3. MBanerjee,B.P,(2005).Handbook of Energy and Environment in India, Oxford University Press, India.
4. Goswami D.Y.,and Kreith F.,Kreider J.F., Principles of Solar Engineering, Taylor & Francis,1999, USA
5. Ristinen, R.A. & Kraushaar, J.J, (2006). Energy and the Environment, 2<sup>nd</sup> edition, John Willey & Sons, USA.
6. Thipse, S.S, (2014). Non-Conventional and Renewable Energy Sources, Narosa Publishing House PVT, India.
7. Thiyagarajan,V, (2013).Renewable Energy Sources, Lakshmi Publications, India
8. TiwariG.N., Solar Energy, Fundamentals design, modelling and Applications, Narosa Publishing House PVT Ltd, 2002, India.
9. Twidell,J.,andWeir,T.,RenewableEnergyResources,2<sup>nd</sup> Edition,Taylor & Francis,2006,USA.
10. Twidell, J., and Weir, T., Renewable Energy Resources, 3rd Edition, Routledge, 2015, NewYork.
11. Yogi Goswami,S. & Frank Kreith,(2016), II Edition, Energy Efficiency and Renewable Energy Handbook, CRC Press, Florida.

## E-LEARNINGRESOURCES

- <https://www.edfenergy.com/for-home/energywise/renewable-energy-sources>
- <https://www.solarreviews.com/blog/what-equipment-do-you-need-for-a-solar-power-system>
- <https://mccoymart.com/post/solar-water-heater-working-types-and-uses/#:~:text=The%20working%20principle%20of%20solar,passed%20to%20a%20water%20tank.>
- <https://www.cielowigle.com/blog/solar-powered-air-conditioner/>
- <https://www.energy.gov/energysaver/small-wind-electric-systems>

## MAPPING OF Cos WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	M	S	W	S	M	S
CO2	M	S	W	S	M	S
CO3	M	S	W	S	M	S
CO4	M	S	W	S	M	S
CO5	M	S	W	S	M	S

**SKILL ENHANCEMENT COURSE  
SEC 1 - STYLES IN INTERIORS**

**Time/Hrs:Theory: 3 Hrs**

**Year:I**

**Credits:2**

**Semester:II**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the needs of styles in interiors in various aspects.
2. Develop a conceptual understanding in the Interior Design field.
3. Familiarize the different smart home devices used in interiors for better environment.
4. Obtain a conceptual frame work of Event Management.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Outline the importance of interior styles and analyse various aesthetics based on themes, design and colour.	<b>K1, K2, K4</b>
<b>CO2</b>	Compare and Summarize the different classic and modern styles in interiors.	<b>K1, K2, K3,</b>
<b>CO3</b>	Understand the styling steps in interior rooms	<b>K1, K2, K3</b>
<b>CO4</b>	Adapt styles to transcend from traditional to modern smart homes	<b>K1, K2, K6</b>
<b>CO5</b>	Manage and Organize events for various occasions efficiently.	<b>K3, K5, K6</b>
<b>K1-Remember; K2-Understand; K3 -Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		



## THEORY

UNIT	CONTENT	HOURS
UNIT I	<b>Intangibles of Design</b> -Authenticity, Juxtaposition and Luxury. Styles of Design – Formal, Informal and Free styles, Traditional, Modern and Contemporary.	9
UNIT II	<b>Classic Styles</b> – Concept and Characteristic features of Retrostyle, Bohemian style, Rustic Style and Vintage Style <b>Modern styles</b> - Luxury, Minimalist, Scandinavian, Shabby, Industrial, and Transitional.	9
UNIT III	<b>Styling of a House</b> – Individual House - Bungalow/Duplex, Twin House and Prefabricated House. Expressiveness and Functionality of the following areas - Foyer, Living room, Bedroom, Kitchen, Dining room, Home Office/Study room, Bathroom, Open Terrace, Balcony and Staircase.	9
UNIT IV	<b>Smart Interiors</b> -Concept of smart home, Characteristics of smart home, Advantages of Smart home devices-Smart speaker, Smart TV, Smart Thermostats, Smart plugs, Smart Light, Smart switches, Smart Locks, Video Door bells, Voice Assistants and Robot Vacuums.	9
UNIT V	<b>Elegance of Events</b> – Prepare Schedule, Design Backdrops, Organize Cultural program for the event, and themed celebrations. Plan Budget for event, Checklist for the following event. Birthday Party, Wedding, Baby showers, Conference and Exhibition,	9
<b>Total</b>		<b>45</b>

## REFERENCES

1. Annie Stephen Hariharan(2015), Principles of event management, Himalaya Publishing House, Mumbai.
2. Emily Henderson(2015), Styled: Secrets for Arranging Rooms, from Table tops to Book shelves. Random House LLC
3. Lauren Liess(2015), “Habitat: The Field Guide to Decorating” Abrams, NewYork.
4. Marlon Buchanan,(2020) “The Smart Home Manual: How To Automate Your Home To Keep Your Family Entertained, Comfortable, And Safe” Paperback.
5. Nick Vandome(2018), Smart Homes in easy steps: Master smart technology for your home, Paper back – Import.

### **E-LEARNING RESOURCES**

- <https://www.thespruce.com/modern-architecture-4797910>
- <https://www.2020spaces.com/blog-interior-design-styles/>
- <https://foyr.com/learn/types-of-interior-design-styles/>
- <https://www.investopedia.com/terms/s/smart-home.asp>
- <https://www.techtarget.com/iotagenda/definition/smart-home-or-building>
- <https://www.decorilla.com/online-decorating/interior-design-styles-101/>
- <https://www.decoraid.com/blog/interior-design-styles-definition-2019/>

### **MAPPING OF COs WITH PSOs**

<b>CO/PSO</b>	<b>PSO1</b>	<b>PSO2</b>	<b>PSO3</b>	<b>PSO4</b>	<b>PSO5</b>	<b>PSO6</b>
<b>CO1</b>	S	M	S	M	M	M
<b>CO2</b>	S	M	S	M	M	M
<b>CO3</b>	S	M	S	M	M	M
<b>CO4</b>	S	M	S	M	M	S
<b>CO5</b>	S	M	S	M	M	S

**CORE VII**  
**CC7 – AUTOCAD IN INTERIORS**

**Time/Hrs: Theory: 4 Hours, Practicals: 2 Hours**  
**Credits: 5**

**Year: II**  
**Semester: III**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Learn the skills of drafting 2D floor plans in CAD.
2. Develop knowledge towards the application of computer in designing exterior and interior of a building.
3. Understand the application of 3D Modeling there by upgrade their presentation skills in the design field.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Summarize the benefits, configuration and working requirements of AutoCAD software.	<b>K1, K2</b>
<b>CO2</b>	Analyze various tools available for drawing and modifying.	<b>K2, K4</b>
<b>CO3</b>	Outline the importance of 3D Modeling in designing spaces. Analyse the features of the software for designing and drafting 2D designs.	<b>K1, K3</b>
<b>CO4</b>	Create 3D models for residential and commercial buildings using the tools available.	<b>K3,K6</b>
<b>CO5</b>	Identify different materials and finishes available and utilize them as per the requirements and evaluate the camera settings for 3D views.	<b>K2, K5</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
<b>UNIT I</b>	Overview of AutoCAD – Purpose, Need, Uses and Applications. General commands – New, Open, Save, Save as, Close and Exit. AutoCAD screen components – Title bar, Menu bar, Standard tool bar, Object Properties tool bar, Draw tool bar, Modify tool bar, UCS, Layout tab, Command Window and Status bar. Working with Drawing Aids – Grid, Snap, Ortho, Osnap, Polar Tracking, Object Snap Tracking, Dynamic Input.	<b>10</b>
<b>UNIT II</b>	Draw tools – Line, Plane, Rectangle, Arc, Circle, Polygon, Ellipse and Spline, Text – Style, Mtext, Text edit and Layer concept. Modify tools – Erase, Copy, Move, Scale, Rotate, Mirror, Offset, Chamfer, Fillet, Trim, Extent, Stretch, Array, and Break, Object selection methods.	<b>15</b>
<b>UNIT III</b>	Dimensions – Linear, Align, Angular, Radius, Diameter, Baseline, Continue, Leader. Dimension edit, Dimension styles – Lines and Arrow tab, Fit tab, Primary Units, Alternate Units, Tolerances. To create and insert Blocks and Block edit. Hatch and Gradient. Applying Dimensions, Layers, Hatch and Gradient in 2D plans.	<b>10</b>
<b>UNIT IV</b>	Solid Model -Creating 3D solids using standard primitives like Box, Wedge, Cylinder, Sphere, Cone, Torus, and Pyramid. Boolean operations - Union, Subtract and Intersect. 3D Operations -Extrude, Loft, Revolve, Sweep. Create Door and Window openings, Furniture with complex shapes and designs using Boolean operations and 3D operations.	<b>12</b>
<b>UNIT V</b>	Materials – Flooring, Wall finishes, Fabric, Plastic and Metal. Create new materials from the existing material browser. Applying the materials to the different room interiors like Living room, Bedroom, Dining room, Study room and Kitchen. Setting Background image to 3D model. Camera tool – Setting Camera to create different views and walkthrough of the interior and exterior of the building models	<b>13</b>
	<b>Practicals:</b> Creating a 2D residential plan. Creating 3D furniture Creating Interior views with material finishes	<b>30</b>
<b>Total</b>		<b>90</b>

## REFERENCES

1. Sandeep Dogra (2022). AutoCAD 2022: A Power Guide for Beginners and intermediate users, CADArtifex Publishers.
2. CAD Folks (2020), AutoCAD 2021 Beginners Guide. Independently Published, ISBN: 9798634102023
3. Yasser Shoukry and Jaiprakash Pandey (2020), Practical Autodesk AutoCAD 2021 and AutoCAD LT 2021, Packt Publishing, ISBN: 9781789803761, 1789803764
4. Sham Tickoo, Anurag, (2013). AutoCAD 2013. Cad Soft Technologies, Dreamtech Press, NewDelhi.
5. Sham Tickoo, D.Saravanan, (2010). AutoCAD 2010. CAD Soft Technologies, Dreamtech Press, New Delhi.
6. David Frey, (2000). AutoCAD 2000.
7. Gokulachari, (Second Edition, 2008). CAD in Civil Engineering Drawing Practice I.
8. K.Venugopal, (Third Edition, 1998). Engineering Drawing with AutoCAD. New Age International (P) Limited.
9. Ilangovan, (Sep 1999). Engineering Drawing with AutoCAD.

## E-LEARNING RESOURCES

- [www.cad-notes.com/autocad-articles/](http://www.cad-notes.com/autocad-articles/)
- <https://knowledge.autodesk.com>
- [www.cadforum.cz/cadforum\\_en/default.asp](http://www.cadforum.cz/cadforum_en/default.asp)
- [www.archblocks.com](http://www.archblocks.com)
- <http://www.mycadsite.com/tutorials/>

## MAPPING OF Cos WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	W	W	W	W	S	S
CO2	M	M	M	M	S	M
CO3	M	M	M	M	S	M
CO4	M	M	M	M	S	M
CO5	S	S	S	S	S	S

**CORE VIII**  
**CC8 – COMMERCIAL INTERIORS**

**Time/Hrs: Theory: 4 Hours Practical: 2Hours**

**Year: II**

**Credits: 5**

**Semester: III**

**LEARNING OBJECTIVES**

**To enable the students**

- to
1. Learn about the importance and application of principles of art for commercial purpose.
  2. Understand the technical need and specialised features for commercial buildings.
  3. Know the holistic approach in commercial architecture.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Outline the importance of commercial interior space design and analyze various materials used both in interior and exterior.	<b>K1, K2, K4</b>
<b>CO2</b>	Apply art in commercial space designing and planning based on various purposes. Create 3D miniature models for commercial buildings with suitable materials.	<b>K3, K6</b>
<b>CO3</b>	Understand the requirement of various technical services in commercial high-rise building.	<b>K1, K2</b>
<b>CO4</b>	Describe the need of specialized facilities for commercial building.	<b>K1, K2</b>
<b>CO5</b>	Discuss the holistic approach in commercial architecture. Outline the goals of designing commercial buildings.	<b>K2, K5</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
UNIT I	<b>Introduction to commercial interior space design</b> Definition, Purpose, Importance of commercial interior design. Factors influencing the design of buildings – Type of Building, Location, Nature of Activity, Customers and Clients. Materials used in designing commercial interior spaces.	20
UNIT II	<b>Art in Commercial Space</b> – Planning space for various commercial requirements - Public space Vs Private Space, Designing Aesthetic and functional aspects in Mall, Restaurant, Coffee shops, Theatres, Bank, Airport, Hospital, Educational Institutions and Offices.	15
UNIT III	<b>Technical Services for Commercial Building</b> –Need of Technical Service, Selection of Suitable air-conditioning, mechanical system-HVAC, Security system, Simple intrusion detection, Access control and Surveillance systems and communication system– EPABX, Wireless Intercom and Door Phone Intercom.	20
UNIT IV	<b>Specialized Facilities for commercial buildings</b> – Need of specialized facilities, Amenities – Escalators, Lifts, Ramps, Basement Parking. Plumbing system – Aspects of plumbing system, Public Toilets, lighting, Emergency lighting staircase and evacuation routes. Building safety system – Fire Safety, Automatic Fire Sprinkler system, Fire Alarm and smoke alarm.	15
UNIT V	<b>Holistic Approach in Commercial Design.</b> Importance of Holistic design approach for commercial interior Design and Steps in the design process. Goals of well-designed commercial interior – Healthy, Security and Safety, Comfort, Reliability, Flexibility, Brand Image and Equality. Design Issues–Accessible design, Facilities for operations and maintenance, Recent trends to support emerging technologies.	20
<b>Total</b>		<b>90</b>

## PRACTICALS

1. Collection of materials used for designing interior space.
2. Model making of commercial building.
3. Visit to shops to identify the eco-friendly materials and their cost in the market.
4. Prepare chart on the rating methods of government agencies.
5. Creating commercial spaces using AutoCAD software – Boutique, Snack bar, Restaurant, Office.

## REFERENCES

1. BondaP., SosnowchikK., Sustainable commercial interiors, 2014, 2<sup>nd</sup> Edition, John Wiley and Sons.
2. Christine & Elizabeth, (2007) Designing commercial Interiors, 2<sup>nd</sup> Edition John Wiley and Sons.
3. Buildings Energy Efficient Lighting by David Nelson, AIADavid Nelson & Associates, Last updated: 07-23-2010
4. Mark karlen, James Benya, Lighting design basics, 2004, John Wiley and Sons Inc USA.
5. Sangeet Sharma, Architectural Aesthetics, 2005, Abhishek publications, India.

## E-LEARNING RESOURCES

- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=119114>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=119115>
- <http://ecoursesonline.iasri.res.in/course/view.php?id=664>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=119113>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=119097>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=119099>
- <https://www.jietdat.ac.in/blog/what-is-the-scope-of-interior-designing>
- <https://www.workdesign.com/2013/04/7-design-trends-for-commercial-interiors/>
- <https://study.com/academy/lesson/what-is-commercial-interior-design.html>
- <https://www.mooc-list.com/tags/water-supply>
- <https://www.mooc-list.com/tags/sanitation-policy>
- <https://core.ac.uk/download/pdf/83574285.pdf>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	M	W	M	M
CO2	S	M	M	S	S	M
CO3	S	M	S	S	S	M
CO4	S	S	S	S	S	M
CO5	S	S	S	S	S	M



**CORE IX**  
**CC9 – 3D MODELING IN DESIGN (Practical)**

**Time/Hrs: Practical: 6 Hrs**  
**Credits: 5**

**Year: II**  
**Semester: III**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the application of 3D Modeling and thereby upgrade their presentation skills in the design field.
2. Analyze the features of various tools in Google Sketchup for 3D Modeling
3. Create 3D views using Google Sketchup and Revit Software

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Outline the importance of 3D Modeling in designing spaces. Analyse the features of different software available for 3D Modeling.	<b>K1, K4</b>
<b>CO2</b>	Interpret the user interface of Google Sketch up software. Examine the uses of tools available for creating 3D models. Create 3D models for residential or commercial buildings using the tools available.	<b>K2, K5, K6</b>
<b>CO3</b>	Identify different materials and finishes available and utilize them as per the requirements. Evaluate the light and camera settings for 3D views. Create rendered 3D views both interior and exterior spaces using Google Sketchup	<b>K3, K5, K6</b>
<b>CO4</b>	Outline the features of Revit software	<b>K1, K2</b>
<b>CO5</b>	Create 3D views of residential and commercial spaces using Revit	<b>K6</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## PRACTICAL

UNIT	CONTENT	HOURS
UNIT I	<b>Concept of 3D Modeling</b> a. Need and purpose of 3D models and views in the design field. b. Overview on different softwares and plugins used for 3D modeling - Google Sketchup, 3DsMax, Revit, Vray.	10
UNIT II	<b>User Interface of Google Sketchup</b> a. Components of Google Sketchup screen b. Basic tools- Rectangle, Circle, Select, Pencil, Push-pull, Groups, Components, Move, Array, Copy, Rotate, Offset and Paintbucket. c. Navigation tools- Zoom, Orbit, Pan d. Creating the components of a building such as walls, doors, window Openings and furniture using the available tools	25
UNIT III	<b>Materials and Lighting</b> a. Creating and applying materials to the models created. b. Exploring setting options in lights and camera tools. c. Create rendered views by using Vray plugin	20
UNIT IV	<b>Overview of REVIT</b> a. User Interface of Revit b. Starting a New project c. Working with Grids, Levels & Project views	15
UNIT V	<b>3D Views using REVIT</b> a. Creating Building Components - Walls, Doors, Windows, Staircase, Floors, Roofs and Ceilings b. Adding Room tags and Furniture c. Apply Materials and lighting to 3D views	20
<b>Total</b>		<b>90</b>

## REFERENCES

1. Aidan Chopra, SketchUp (2014) For Dummies, John Wiley & Sons
2. Alexander C. Schreyer (2015), Architectural Design with SketchUp: 3D Modeling, Extensions, BIM ,Rendering, Making, and Scripting 2<sup>nd</sup> Edition,Wiley Publishers.
3. Daniel Tal, (2013) Rendering in SketchUp: From Modeling to Presentation for Architecture, Landscape Architecture, and Interior Design, Wiley Publishers.
4. Kelly L.Murdock, Autodesk 3ds Max (2020) Complete Reference Guide, SDC Publications
5. MarkusKuhlo, (2013) Architectural Rendering with 3ds Max and V-Ray: Photo realistic Visualization 1<sup>st</sup> Edition, Routledge Publishers.

## E-LEARNING RESOURCES

- <https://www.sketchup.com>
- <https://vdoc.pub/download/building-blocks-of-sketchup-69si3ltjgke0>
- <https://www.bgsu.edu/content/dam/BGSU/libraries/documents/collab-lab/Sketchup-Tutorial.pdf>
- [https://www.academia.edu/31650716/Architectural\\_Rendering\\_with\\_3ds\\_Max\\_and\\_V\\_Ray](https://www.academia.edu/31650716/Architectural_Rendering_with_3ds_Max_and_V_Ray)
- [http://images.autodesk.com/adsk/files/3dsmax\\_2010\\_lighting\\_rendering.pdf](http://images.autodesk.com/adsk/files/3dsmax_2010_lighting_rendering.pdf)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	W	W	S	S	W
CO2	S	W	W	S	S	W
CO3	S	S	W	S	S	M
CO4	S	W	W	S	S	W
CO5	S	W	W	S	S	S

**CORE X**  
**CC10 – SUSTAINABILITY IN BUILDING SCIENCE**

**Time/Hrs: Theory: 6 Hours**  
**Credits: 4**

**Year: II**  
**Semester: III**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the importance of sustainability in the built environment.
2. Analyze the features of various materials that can be used to attain sustainability in buildings.
3. Get familiar with energy conservation and rating systems in buildings.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Analyse the role of sustainability in human health and environment.	<b>K1, K4</b>
<b>CO2</b>	Identify the materials that can reduce energy consumption in buildings.	<b>K2</b>
<b>CO3</b>	Discuss various construction strategies in buildings for sustainability.	<b>K1, K2</b>
<b>CO4</b>	Analyse the ways of conserving water in the built environment.	<b>K4</b>
<b>CO5</b>	Examine the ways of implementing energy conservation in buildings.	<b>K4, K6</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
UNIT I	<p><b>Concept of Sustainability</b> Sustainable building technology – Meaning, need for developing sustainable building concept in India, Importance of sustainable building technology, benefits of green buildings – environmental benefits, economic benefits, social benefits, Disadvantages of green buildings. Impact of sustainable building on human health and the natural environment.</p>	15
UNIT II	<p><b>Eco-friendly Building Materials and Finishes</b> Study of building materials and finishes about composition, production, recycling and physical properties. Benefits of materials and finishes – Bamboo, straw bale, steel, wood, dimension stone, recycled plastic, Recycled stone, non-toxic metals, fly-ash bricks, precast concrete slabs, Earth blocks-compressed, rammed earth and baked; flax linen, sisal, wood fibers, cork, coconut, non-VOC paints and polyurethane block, gypsum, cork, hempcrete, ferrock and timbercrete.</p>	15
UNIT III	<p><b>Sustainable Construction techniques</b> Day lighting Passive heating methods: Direct solar gain, thermal mass, massing and orientation, trombe wall construction Passive cooling methods: Natural ventilation–single sided, cross ventilation, stack effect; cooling tower, earth air tunnels, shading devices, courtyard effect, evaporative cooling, insulation. Cool roofs and roof ponds.</p>	15
UNIT IV	<p><b>Water Conservation</b> Water conservation technology– need for water conservation, Difference between water conservation and water efficiency, Strategies to save water at home. Rain water harvesting- meaning, importance of rain water harvesting, requirements of rain water harvesting structure, methods of rain water harvesting systems – surface runoff and Roof top rainwater harvesting, advantages, Grey water usage.</p>	20
UNIT V	<p><b>Energy Conservation and Rating Systems</b> Building regulations- norms and standards, zoning, housing for special groups and areas. Housing and environment - building materials - impact on environment, green rating systems -ECBC, NBC, GRIHA, IGBC, BEE, energy efficiency in buildings, energy auditing, indices of indoor comfort.</p>	25
<b>Total</b>		<b>90</b>

## REFERENCES

1. J. Paul Guyer (2015), An Introduction to Water Conservation for Buildings, Create space Independent Pub
2. Kathryn Rogers Merlino (2020), Building Reuse: Sustainability, Preservation, and the Value of Design (Sustainable Design Solutions from the Pacific Northwest), University of Washington Press
3. Liliane Wong (2016), Adaptive Reuse: Extending the Lives of Buildings, Birkhäuser Publishers.
4. LoriDennis(2021), Green Interior Design: The Guide to Sustainable High Style, Allworth Publishers.
5. Umberto Desideri and Francesco Asdrubali (2018), Hand book of Energy Efficiency in Buildings: A Life Cycle Approach, Butterworth-Heinemann Publishers.

## E-LEARNING RESOURCES

- [https://content.kopykitab.com/ebooks/2018/09/22255/sample/sample\\_22255.pdf](https://content.kopykitab.com/ebooks/2018/09/22255/sample/sample_22255.pdf)
- [https://library.uniteddiversity.coop/Ecological\\_Building/Strategies\\_for\\_Sustainable\\_Architecture.pdf](https://library.uniteddiversity.coop/Ecological_Building/Strategies_for_Sustainable_Architecture.pdf)
- [https://s3.ap-south-1.amazonaws.com/aipnpc.org/downloads/T\\_5053\\_GENERAL\\_ASPECTS\\_OF\\_ENERGY\\_MANAGEMENT\\_AND\\_ENERGY\\_AUDIT.pdf](https://s3.ap-south-1.amazonaws.com/aipnpc.org/downloads/T_5053_GENERAL_ASPECTS_OF_ENERGY_MANAGEMENT_AND_ENERGY_AUDIT.pdf)
- <https://www.grihaindia.org/sites/default/files/pdf/ECBC-Code.pdf>
- <https://www.hyderabadwater.gov.in/en/themes/HMWS/downloads/rainwaterharvesting.pdf>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	M	M	W	S
CO2	S	S	M	M	W	S
CO3	S	S	M	W	M	S
CO4	S	S	M	M	M	S
CO5	S	S	M	M	M	S

**ELECTIVE V**  
**EC5 - RESEARCH WRITING AND PRESENTATION**

**Time/Hrs: Theory: 3 Hours**  
**Credits: 3**

**Year: II**  
**Semester: III**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Introduce the importance of critical inquiry as a way of gaining knowledge and adding to it through research.
2. Exposure to the various forms of research and research methodology processes.

**COURSEOUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Demonstrate an understanding of the purpose and significance of research.	<b>K2, K3</b>
<b>CO2</b>	Formulate clear and focused research questions that address specific gaps or areas of inquiry within a given field of study.	<b>K5, K6</b>
<b>CO3</b>	Develop well-structured and reliable data collection instruments, such as questionnaires, interview guides, and observation protocols.	<b>K4, K6</b>
<b>CO4</b>	Analyze and interpret research findings accurately, considering the research objectives and the data analysis results.	<b>K4, K5</b>
<b>CO5</b>	Write clear, concise, and coherent reports that effectively communicate the intended message.	<b>K1, K3</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

**THEORY:**

<b>UNIT</b>	<b>CONTENT</b>	<b>HOURS</b>
<b>UNIT I</b>	<b>UNDERSTANDING RESEARCH</b> Explore the purpose, significance and types of research, including qualitative, quantitative and mixed methods approaches.	<b>5</b>
<b>UNIT II</b>	<b>RESEARCH QUESTIONS</b> Formulate clear and focused research questions. Develop skills in conducting a thorough literature review. <b>Research Ethics:</b> Discuss the importance of ethical considerations in research, plagiarism avoidance and ensuring participant confidentiality.	<b>5</b>
<b>UNIT III</b>	<b>DATA COLLECTION</b> Methods of data collection- Primary sources: observation and recording, interviews structured and unstructured, questionnaire, open ended and close ended questions and the advantages of the sampling. Collecting data from secondary sources.	<b>15</b>
<b>UNIT IV</b>	<b>DATA ANALYSIS AND INTERPRETATION</b> <b>Data Analysis Techniques:</b> Learn quantitative and qualitative data analysis techniques. <b>Results Interpretation:</b> Develop skills in interpreting research findings and effectively communicating the significance and implications of the results.	<b>10</b>
<b>UNIT V</b>	<b>REPORT WRITING</b> <b>Writing Process:</b> Understand the stages of the writing process, including prewriting, drafting, revising and editing, to produce coherent and well-structured research. <b>Citation and Referencing:</b> Learn and apply appropriate citation styles, such as APA format.	<b>10</b>
	<b>TOTAL</b>	<b>45</b>



## REFERENCES

1. Panneer Selvam, Research Methodology, 2<sup>nd</sup> Edition, Asoke Ghosh publications, Delhi. 2014.
2. Pagadala Suganda Devi, Research Methodology A Handbook for Beginners, Notion Press 2017
3. Dr. Shanti and Dr. Shashi, Handbook of Research Methodology, Educreation Publishing, 2011
4. Linda Groat and David Wang, 'Architectural Research Methods', 2nd edition, John Wiley and Sons Inc, Hoboken, New Jersey, US, 2013.
5. Wayne C Booth, Joseph M Williams Gregory G. Colomb, 'The Craft of Research', 3<sup>rd</sup> Edition, Chicago Guides to Writing, Editing and Publishing, 2008.
6. Iain Borden and Katerina Ruedi, 'The Dissertation: An Architecture Student's Handbook', Edition 2, Architectural Press, 2005
7. Ranjith Kumar, 'Research Methodology- A Step by Step guide for Beginners', 4th Edition, Sage Publications, 2014.
5. John W Creswell, 'Research Design: Qualitative, Quantitative and Mixed Methods Approaches', Sage Publications, 2013.
8. JA Smith, P Flowers, M Larkin, 'Interpretative Phenomenological Analysis: Theory, Method and Research (English), I Edition, Sage Publications, 2009.

## E-LEARNING RESOURCES

- [www.socialresearchmethods.net](http://www.socialresearchmethods.net)
- [www.psych-it.com.au](http://www.psych-it.com.au)
- [www.skillsyouneed.com](http://www.skillsyouneed.com)
- <https://southcampus.uok.edu.in/Files/Link/DownloadLink/RM%20U1%20P1.pdf>
- <https://ccsuniversity.ac.in/bridge-library/pdf/Research-Methodology-CR-Kothari.pdf>
- [https://www.researchgate.net/publication/303381524\\_Fundamentals\\_of\\_research\\_methodology\\_and\\_data\\_collection](https://www.researchgate.net/publication/303381524_Fundamentals_of_research_methodology_and_data_collection)
- [https://www.researchgate.net/publication/333015026\\_Chapter\\_3\\_-\\_Research\\_Methodology\\_and\\_Research\\_Method](https://www.researchgate.net/publication/333015026_Chapter_3_-_Research_Methodology_and_Research_Method)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	S	S	S	S
CO2	S	S	S	S	S	S
CO3	S	S	S	S	S	S
CO4	M	M	M	S	M	M

<b>CO5</b>	S	S	S	S	S	S
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**SKILL ENHANCEMENT COURSE**  
**SEC 2 - RENOVATION AND RESTORATION**

**Time/Hrs:Theory: 3 Hours**

**Year:II**

**Credits:2**

**Semester:III**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the needs of restoration and renovation in interiors
2. Exposure to various areas of concern in Indian context.
3. Develop a proposal plan for blending repair work with old work

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Outline the importance of restoration.	<b>K1, K2</b>
<b>CO2</b>	Understand the application of Adaptive Reuse through case studies	<b>K1, K2</b>
<b>CO3</b>	Analyze the areas in interiors for renovation	<b>K1, K2, K4</b>
<b>CO4</b>	Understand the design aspects of Indian style house	<b>K1, K2, K4</b>
<b>CO5</b>	Develop budget plan for restoration and renovation works	<b>K3, K4, K6</b>
<b>K1-Remember; K2-Understand; K3 -Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
UNIT I	<b>Introduction to Restoration:</b> Need and purpose of restoration. Definition - conservation, preservation and adaptive Reuse.	5
UNIT II	<b>Adaptive Reuse:</b> Definition - Types of Adaptive reuse - Historic preservation - renovation - Integration - Facadism - Advantage of Adaptive reuse	10
UNIT III	<b>Renovation</b> Importance of renovation - Need for renovation - Areas of concern: walls, floor, ceiling/roof, wood work, furniture and furnishing	15
UNIT IV	<b>Restoration and Renovation - Indian context</b> Understanding Design aspects of Indian style , Features of a Indian House - such as door, windows, pilasters, cornices, balconies, parapets et.	10
UNIT V	Preparing repair proposal: the blending of repair work with old work. Estimation of cost of repair or restoration	5
<b>Total</b>		<b>45</b>

## REFERENCES

1. Premavathy Seetharaman and Parveen Pannu, (2009), "Interior Design and Decoration", CBSPublishers and Distributors Pvt Ltd. New Delhi.
2. Andal. A and Parimalam.P, (2008), "A Text Book of Interior Decoration", Satish Serial Publishing House.
3. Michael Litchfield & Chip Harley (2019), Renovation, Taunton Press

## E-LEARNING RESOURCES

- <https://www.decorilla.com/online-decorating/transitional-interior-design/>
- <https://www.apartmenttherapy.com/modern-vs-contemporary-vs-minimalist-design-261783>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	S	M	S	S
CO2	S	S	S	M	S	S
CO3	S	S	S	M	S	S
CO4	S	S	S	M	S	S
CO5	S	S	S	M	S	S

## CORE INDUSTRY MODULE

### INTERNSHIP

**Time/Hrs: 30Hours**

**Year: II**

**Credits: 2**

**Semester:III**

Students in the interior design program are required to participate in the department coordinated internship program with interior design firms that involve a minimum of 30 Days professional experience. At the conclusion of this experience students submit a final project that demonstrates their growth of knowledge and skills in the field of interior design.

**Objective:** The Internship is committed to preparing graduates in the M.Sc., Interior Design and Décor Degree to join as entry level Designers with a strong foundation with professional experience.

#### **Expected Outcome of the Internship**

##### **On successful completion of the internship, the student:**

- Learns how interior design firm functions and the specific roles and responsibilities of a designer.
- Gains knowledge about industry/company process.
- Develops skills in 2D and 3D software.
- Analyse cost estimation of building materials and finishes.
- Learns the methods and strategies used in cost control.
- Develops managerial skills in the areas of managing works required by the client.
- Adapts to working in a team and contributes to needs as they arise.
- Demonstrates competency in professional presentation, communication and writing skills.

Internships will be permitted in the following areas:

- a) Regional and National Interior design firms/Architecture firms.
- b) Construction companies– Space planning
- c) Manufacturing Sectors–Metal arts and crafts, Ceramic design, Interior decoration products.
- d) Building Material and Finishes Companies.
- e) Interior design specializations - Lighting design, Furniture design, cost estimation, specification writing, materials and product research, sustainable design, historic preservation, community development, facilities management, construction administration and culture-based design.
- f) Related specializations- Model home design, kitchen and bath design, art representation, color specialist, architectural writing and publication and architectural photography.

#### **Evaluation**

Internship will be carried out during the summer vacation of the second semester and the report will be evaluated by the two examiners within the department.

**CORE XI**  
**CC11– RESOURCE MANAGEMENT**

**Time/Hrs:Theory:6 Hours**

**Year: II**

**Credits: 5**

**Semester:IV**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the Concepts, Significance and Principles of Resource Management.
2. Apply the skills in efficient use and management of time, energy and Money.
3. Understand Consumer behaviours, Problems and to learn the importance of consumer protection.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Identify and analyze the need for resources and apply decision making skills.	<b>K2, K3, K4</b>
<b>CO2</b>	Understand the role of resource and apply the same to prepare time plans.	<b>K2, K3, K6</b>
<b>CO3</b>	Apply work simplification techniques for efficient use of energy.	<b>K3</b>
<b>CO4</b>	Develop skills to prepare a budget within the available income and to maintain accounts.	<b>K1, K6</b>
<b>CO5</b>	Highlight the need of consumer protection by understanding and identifying the consumer behavior and problems.	<b>K1, K2</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
<b>UNIT I</b>	<p><b>Management Process</b>–Definition, concept, characteristics, Motivating factors in management – Values, Goals and Standards. Management process-Planning, Organizing, Controlling and Evaluation.</p> <p><b>Decision making</b> -Meaning and its importance, Kinds of decisions, Steps in Decision making process, Factors affecting Decision making process, Methods of resolving conflicts.</p>	<b>20</b>
<b>UNIT II</b>	<p><b>Resources</b> - Definition, Role of resource in management, Classification of resources, Factors affecting the use of resources, Maximizing the use of family resources, Conservation of resources.</p> <p><b>Time management</b> – Definition, concept, Tools in time management –Peak loads, Work Curve and rest periods. Time management process –Steps in making time plans- Controlling the planning action - Evaluation. Time demands during different stages of the family life cycle.</p>	<b>20</b>
<b>UNIT III</b>	<p><b>Energy Management</b> - Energy requirements for household activities, Fatigue-concepts, Types - Physiological and Psychological fatigue, Remedies to overcome fatigue and Managerial process applied to energy use.</p> <p><b>Work Simplification</b>-Definition, Importance, Techniques – Formal and Informal Techniques- Mundel's Classes of changes.</p>	<b>20</b>
<b>UNIT IV</b>	<p><b>Money management</b> – Concept of Income, Sources and types of family income, Methods of supplementing family income, Steps in money management, Methods of handling money income, Budgeting, Steps in making budget, Controlling the use of income, Types of Records, Evaluation, Savings and its advantages.</p>	<b>15</b>
<b>UNIT V</b>	<p><b>Consumer</b> - Definition, Role, Rights and Responsibilities, Consumer behavior, Consumer problems, Education and Empowerment. Consumer protection, consumer organization, cooperatives, alternative redressal, standardization, standard marks, quality control, buying aids, consumer legislation.</p>	<b>15</b>
<b>Total</b>		<b>90</b>

## REFERENCES

1. Bela Bhargava(2005), “Family Resource Management & Interior Decoration”, university book house pvt ltd, ISBN-13:978-8187339229
2. Marion Giordan(2016), “Consumer Education: A handbook for Teachers”, Routledge; 1st edition, ISBN-13:978-1138839151
3. Nickell & Dorsey (2002), “Management in Family Living”, CBS; 4th edition, ISBN-13:978-8123908519
4. Rao(2020), “Taxmann’s Human Resource Management”, Taxmann Publications Pvt. Ltd.; 2nd edition, ISBN-13:978-9390128396
5. Ready GB (2021), “EBC consumer Protection Act”, LAW BOOKS, ASIN:B097TQ64QV
6. Seetharaman P,(2019),“An Introduction to Family Resource Management”, CBS(11 July 1905); 01149344934, ISBN-13: 978-8123911861
7. Steven, D.S, (2016). Consumer Economics: A Practical Overview”, New York: Routledge Taylor and Francis group.
8. Sudhir Dixit (2018), “Time Management”, Manjul Publishing House, ISBN-13: 978-9388241106

## E- LEARNING RESOURCES

- Saviom(2022), “What is Resource Management and its Importance”,  
<https://www.saviom.com/blog/what-is-resource-management/>
- Jason Westland (2022), “Resource Management: Process, Tools & Techniques”,  
<https://www.projectmanager.com/blog/quick-guide-resource-management>
- eGyanKosh, “Work Simplification”, file:///C:/Users/syzmz/Downloads/Unit-19%20(1).pdf
- Shalu Gupta, “Work simplification”,  
[http://homescience10.ac.in/storage/pages/ecurriculum/Bsc\\_Hsc\\_Sem\\_2/Work%20simplification.pdf](http://homescience10.ac.in/storage/pages/ecurriculum/Bsc_Hsc_Sem_2/Work%20simplification.pdf)
- Consumer Education in Resource management,  
<https://www.nios.ac.in/media/documents/srsec321newE/321-E-Lesson-17.pdf>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	M	W	W	S	M	S
CO2	M	W	W	S	M	S
CO3	M	W	W	S	M	S
CO4	M	W	W	S	M	S
CO5	M	W	W	S	M	S



**CORE XII**  
**CC12 – ERGONOMICS IN INTERIORS**

**Time/Hrs: Theory: 6 Hrs**  
**Credits: 5**

**Year: II**  
**Semester: IV**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Become aware of the ergonomic principles for improving work efficiency.
2. Know the anthropometric dimension of workers and acquire practical knowledge in designing furniture.
3. Inculcate work efficiency using various work simplification techniques.
4. Know the importance of Healthy Buildings and plan an effective workplace.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

CO	CO STATEMENT	K LEVEL
<b>CO1</b>	Describe the basic ergonomic principles and understand the need for good environment in a work place.	<b>K1, K2</b>
<b>CO2</b>	Understand the anthropometric dimension of humans and analyze spatial requirements.	<b>K2, K4</b>
<b>CO3</b>	Critically evaluate the environmental factors affecting human beings such as light, sound, noise, climate and vibrations.	<b>K2, K5</b>
<b>CO4</b>	Outline the importance of body mechanics. Demonstrate application of work simplification techniques effectively.	<b>K2, K3, K4</b>
<b>CO5</b>	Discuss the need for ergonomics in buildings, analyze the issues and appraise the importance of Healthy Building.	<b>K2, K4, K5</b>
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		

## THEORY

UNIT	CONTENT	HOURS
UNIT I	<p><b>Ergonomics</b></p> <ul style="list-style-type: none"> <li>a. Ergonomics -significance, scope, man, machine, environment relationship, factors affecting physiological cost of work, body mechanics, functional design of workplace, time and motion study.</li> <li>b. Concept of work, workplace and work environment – designing work areas based on ergonomic principles and workers.</li> <li>c. Factors influencing the Work environment–Location, space, comfort and discomfort, indoor and outdoor climate, furniture, lighting and ventilation, flooring and noise.</li> </ul>	15
UNIT II	<p><b>Anthropometry Spatial Requirements</b></p> <ul style="list-style-type: none"> <li>a. Definition, Type of data– Structural and Functional, Anthropometric measurements– Head circumference, Height, Weight IBW and BMI.</li> <li>b. Work heights when seated and standing - Stature, Eye Height, Elbow height, Elbow Rest Height, Knee height, Popliteal Height, normal and maximum reach, vertical and horizontal reach.</li> <li>c. Anthropometric consideration in furniture designing.</li> </ul>	25
UNIT III	<p><b>Environmental factors</b></p> <ul style="list-style-type: none"> <li>a. Lighting-Adequacy of lighting at workplace, physiological requirement, psychological effect of lighting and the work efficiency of the worker.</li> <li>b. Noise - Definition, sources of noise, indoor and outdoor noise level, effects of noise on psychological and intellectual activities, measurement of noise.</li> <li>c. Temperature- air movements, humidity, exchange of heat between human body and surroundings.</li> </ul>	20
UNIT IV	<p><b>Improving Product design and Work Efficiency</b></p> <ul style="list-style-type: none"> <li>a. Product design-design thinking process, diffusion and innovation, design communication, ergonomic considerations.</li> <li>b. Body Mechanism- effective use of body mechanics, posture in household work, Good Posture and Bad Posture.</li> </ul>	15
UNIT V	<p><b>Ergonomics in Public Building</b></p> <ul style="list-style-type: none"> <li>a. Importance of healthy building and ergo issues.</li> <li>b. Elements of ergonomic consideration in building interiors – good space planning, circulation and access.</li> <li>c. Well planned ergonomic work place and furniture for old age and physically challenged persons, to prevent Work-Related Musculoskeletal Disorder (WMSD) and prevent occupational injuries and illnesses.</li> </ul>	15
<b>Total</b>		<b>90</b>

## REFERENCES

1. Gavriel Salvendy and Waldemar Karwowski,(2021) Handbook of Human Factors and Ergonomics, Wiley, 5th edition, ISBN-13:978-1119636083
2. Lakhwinder Pal Singh, 2018 Work Study and ergonomics, Cambridge University Press, Delhi
3. JanDul, Bernard Weerdmeester(2008), Ergonomics for Beginners, A Quick Reference Guide, Third Edition, CRC Press, ISBN9780367242145
4. Jhamb,(1991). Work study and Ergonomics at Work, John Wiley
5. RalphM. Barnes(2009), Motion and time study, Design and measurement of work. New York,30 JohnWiley,7<sup>th</sup> Edition.
6. RobertBridger,(2018), Introduction to Human Factors and Ergonomics, 4thEdition, CRC Press, ISBN9781138582897
7. Stephen Pheasant (2005), Body Space: Anthropometry, Ergonomics and the Design of Work, Third Edition Hard Cover-Illustrated. CRC Press;
8. Theresa Stack, LeeT.Ostrom, Cheryl A. Wilhelmsen,(2016), Occupational Ergonomics: A Practical Approach, ISBN:978-1-118-81421-5,Wiley

## E-LEARNING RESOURCES

- [https://onlinecourses.nptel.ac.in/noc20\\_me11/preview](https://onlinecourses.nptel.ac.in/noc20_me11/preview).
- <https://study.com/learn/lesson/anthropometric-measurements-purpose.html>
- <https://ftp.idu.ac.id/wp-content/uploads/ebook/ip/BUKU%20ERGONOMI/BUKU%20INGGRIS/Ergonomics%20For%20Beginners.pdf>
- [https://www.youtube.com/watch?v=Hf5b\\_Ad5biM](https://www.youtube.com/watch?v=Hf5b_Ad5biM)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	M	M	S	M	M	M
CO2	M	M	S	M	M	M
CO3	M	M	S	M	M	M
CO4	M	M	S	S	M	S
CO5	M	M	S	S	M	S

## PROJECT WITH VIVA VOCE

**Time/Hrs: Theory: 10 Hrs**  
**Credits: 7**

**Year: II**  
**Semester: IV**

### LEARNING OBJECTIVES

**To enable the students to**

1. Develop skills in conducting research study.
2. Learn the art and science of preparing and presenting a research document.

### COURSE OUTCOMES

**On successful completion of the course, the student will be able to:**

CO	CO STATEMENT	K LEVEL
CO1	Develop a research design on a topic relevant to their field	K2, K5, K6
CO2	Prepare a systematic literature review on the topic selected	K2, K6
CO3	Select and execute the most appropriate methodology for the study and provide justification for the choice made.	K2, K3
CO4	Acquire skill in collecting, analyzing, presenting and interpreting data accurately.	K1, K2, K3
CO5	Present findings of the study in a logical and sequential manner and discuss the backdrop of available scientific literature; Cite references in prescribed format and conduct plagiarism check on the document prepared.	K2, K3
<b>K1-Remember; K2-Understand; K3-Apply; K4 -Analyze; K5-Evaluate; K6–Create</b>		

### COURSE OUTLINE:

The structure of the dissertation includes

Unit1: Introduction

Unit 2: Review of Literature

Unit 3: Methodology

Unit4: Results and Discussion

Unit5: Summary and Conclusion, Bibliography

### MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	S	S	S	S
CO2	S	S	S	S	S	S
CO3	S	S	S	S	S	S
CO4	S	S	S	S	S	S
CO5	S	S	S	S	S	S

**ELECTIVE VI**  
**EC6 – PROFESSIONAL PRACTICE IN INTERIORS**

**Time/Hrs: Theory: 4 Hours**  
**Credits: 3**

**Year: II**  
**Semester: IV**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the client requirements in a project.
2. Estimate and prepare the bill of quantities as per the budget requirements.
3. Design their own portfolio in finding a professional job.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>COSTATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Describe the need and purpose of professional practice in Interior Design field. Understand the ethical standards to be followed by designers.	<b>K1, K2</b>
<b>CO2</b>	Analyze the client needs, their budget and design preferences in a project Build a sense of trust with the clients for smooth execution of the project.	<b>K4, K6</b>
<b>CO3</b>	Examine the process of Project management Construct a schedule for design projects.	<b>K5, K6</b>
<b>CO4</b>	Evaluate the cost required for materials and construction work and There by create a budget for a project.	<b>K4, K5, K6</b>
<b>CO5</b>	Understand the importance of design portfolio in career. Create a design portfolio.	<b>K2, K6</b>

**K1-Remember; K2-Understand; K3-Apply; K4 -Analyze; K5-Evaluate; K6–Create**

## THEORY

UNIT	CONTENT	HOURS
UNIT I	<p><b>Interior Design as a Profession</b></p> <ul style="list-style-type: none"> <li>a. Definition, concept and need of studying professional practice in Interior Design, Site management for professional Interior Design.</li> <li>b. Ethical standards and professional ethics to be followed in the design field.</li> </ul>	10
UNIT II	<p><b>Building Client Relationships</b></p> <ul style="list-style-type: none"> <li>a. Understanding the clients' needs, their demographics details and decision-making process.</li> <li>b. Managing customer expectations, bringing value to clients through design and creating a good impression with them.</li> <li>c. Study the scope of the project, budget to the client and their design preferences.</li> </ul>	10
UNIT III	<p><b>Project Management Process</b></p> <ul style="list-style-type: none"> <li>a. Definition of project management process and the role of designers.</li> <li>b. Phases of Interior Design project, stakeholders and building information modeling(BIM)</li> <li>c. Preparing schedule and budget for design project</li> </ul>	15
UNIT IV	<p><b>Trade Sources and Rate Analysis</b></p> <ul style="list-style-type: none"> <li>a. Field visits to shops, manufacturers and traders to identify the materials available, its cost, estimation regarding interior works like carpentry, paneling and thereby preparing the budget for the project</li> <li>b. Rate Analysis – Definition, method of preparation, quantity and labour estimate for woodwork, steelwork, Aluminum work, glass and its rate for different, thickness and sections, finishing (enamel paint, ducopaints, melamine, DUcoats, Hand polishing, veneering and laminating) for walls and ceilings. Electrical and plumbing products, wiring, ducting, etc., and laying of tiles and wall paneling in the estimated format of the project.</li> <li>c. Preparing a detailed report.</li> </ul>	15
UNIT V	<p><b>Portfolio Review</b></p> <ul style="list-style-type: none"> <li>a. Definition, concept, Types - showcase or presentation of Portfolio: A collection of best work.</li> <li>b. Process or Learning Portfolio: A work in progress.</li> <li>c. Assessment of Portfolio: used for accountability.</li> <li>d. A Hybrid Approach.</li> </ul>	10
<b>Total</b>		<b>60</b>

## REFERENCES

1. Christine M. Piotrowski (2020), Professional Practice for Interior Designers, 6<sup>th</sup> Edition, Wiley Publishers
2. Harold Linton (2017), William Engel, Portfolio Design for Interiors, Bloomsbury Publishing
3. Katherine E. Kennon (2018), The Codes Guide book for Interiors, Wiley Publishers
4. Roderick Adams (2012), Interior Design, A Global Profession, Routledge Publishers
5. Winchip Susan, Professional Practice for Interior Design in the Global Market place, Bloomsbury Publishing(UK)

## E-LEARNING RESOURCES

- <https://download.e-bookshelf.de/download/0000/8043/23/L-G-0000804323-0002445319.pdf>
- [https://www.academia.edu/36218043/Interior\\_Design\\_Handbook\\_of\\_Professional\\_Practice](https://www.academia.edu/36218043/Interior_Design_Handbook_of_Professional_Practice)
- <https://eopcw.com/find/downloadFiles/365>
- <https://blog.upskillist.com/how-to-create-a-graphic-design-portfolio/>
- <https://www.docfly.com/blog/2021/how-to-create-a-pdf-graphic-design-portfolio-step-by-step-guide>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	W	W	M	S	S	M
CO2	M	M	M	S	S	M
CO3	W	W	M	S	S	M
CO4	M	M	M	S	S	M
CO5	M	W	M	S	S	M

## PERSPECTIVES OF HOME SCIENCE

**Time/Hrs: Theory: 4 Hours**

**Credits: 2**

**Year: II**

**Semester: IV**

### LEARNING OBJECTIVES

#### To enable the students to

1. Understand the concepts of Home Science and Extension Education.
2. Develop a conceptual understanding in the field of human development.
3. Recognize the food groups and choose appropriate foods for different age groups and disease conditions.
4. Know the communication models.
5. Be prepared to face UGC- NET, SLET examinations in Home Science

### COURSE OUTCOME

**On successful completion of the course the student will be able to**

CO	CO STATEMENT	K LEVEL
CO1	Compare and analyze the nutrient value of foods and prepare menu plans for different age groups.	K2, K4, K6
CO2	Plan nutritional care for people with nutritional deficiencies, involved in sports, and at times of emergency and disasters.	K1, K2, K6
CO3	List the principles of growth and development and realize the importance of mastering developmental tasks at each life stage.	K1, K2, K3
CO4	Understand the concept, theories and models of communication	K1, K2
CO5	Understand the principles of extension education and analyze the qualities of extension worker.	K2, K4
<b>K1-Remember; K2-Understand; K3-Apply; K4-Analyze; K5-Evaluate; K6–Create</b>		



## THEORY

UNIT	CONTENT	HOURS
UNIT I	<b>Food Science</b> Food groups – balanced diet, food pyramid, macro and micro nutrition. Effects of cooking and processing techniques on nutritional components and other physical parameters, food preservation and application. Perspectives of food service- menu planning, food cost analysis.	10
UNIT II	<b>Nutrition and Dietetics</b> Nutrients-role of nutrients in the body, nutrient deficiencies and requirements for Indians. Nutrition through life span- physiological changes, nutritional needs and dietary guidelines for adequate nutrition through life cycle. Community nutrition, sports nutrition	10
UNIT III	<b>Human Development</b> Principles of growth and development. Early and late childhood care and education Adolescence and youth: changes, challenges and problems Aging- physical and psychological changes and care needs.	10
UNIT IV	<b>Communication for Development:</b> Basics of communication- characteristics, functions, process, models, barriers, perception, persuasion and empathy, types of communication, process of listening.	15
UNIT V	<b>Extension Education</b> Meaning, Definition, objectives, characteristics, principles, Extension teaching methods - types and methods qualities of a good Extension Worker. Communication, Innovation and Social change.	15
<b>TOTAL</b>		<b>60</b>

## REFERENCES

1. Anshika Srivastava, Dr.Manju Yadav, Dr.Barbhai Mrunal D (2020), A Competitive Book of Home Science and Community Science, Jain brothers
2. Balda and Shanti; Verma and Deepak Kumar; Prabhakar P K (2015) Objective Home Science At A Glance Scientific Publishers
3. Premalata Mullick(2012),Textbook of HomeScience, Kalyani Publishers.
4. UGC NET Home Science(2021) Arihant Publication.
5. UGC NET Study Manual (2013) SS book publishers.

## E-LEARNING RESOURCES

- <https://www.kopykitab.com/blog/ugc-net-home-science/>
- <https://www.flexiprep.com/NIOS-Notes/Senior-Secondary/Home-Science/NIOS-Home-Family-and-Home-Science-Ch-14-Stages-of-the-Life-Span-Growth-and-Cognitive-Development.html>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	W	W	W	S	M	M
CO2	W	W	W	S	M	M
CO3	W	W	W	S	M	M
CO4	W	W	W	S	M	M
CO5	W	W	W	S	M	M

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