

# Course Contents

## 1. DETAILED SYLLABUS:

1<sup>ST</sup> YR. B. Des. ID

DOD1101

DESIGN FUNDAMENTALS - I

### Course Intent:

The course provides the foundation for understanding of design process, principles and elements through various creative exercises and orients students towards innovative thinking through creative problem solving exercises.

### Course Contents:

Introduction to Design, Understanding of visual relationship - Elements, Principles of Design, Gestalts Theory, Colour Perception & psychology of colour.

Exercises oriented on Creative exploration, Observations, Constraints & Problem solving

### Course Outcome:

Understanding of design as a new language and fundamental issues involved to develop the skill to create innovative design solutions

### Reference Books:

Ching, Francis D.K. Architecture Form, space, and Order, 2nd ed. Van Nostrand Reinhold, New York, 1996.

John.F. Pile, Color in Interior Design, Mc-Graw Hill professional, 1st edition, 1997

Wucius, Wong. Principles of two Dimensional Design. Van Nostrand Reinhold 1972

Hanks, A.David. Decorative Designs of Frank Lloyd Wright, Dover Publications, Inc. New York, 1999.

Helper, E.Donald, Wallach, I.Paul. Architecture Drafting and Design, 3rd ed. McGraw-Hill Book Company, New York, 1977.

Johannes Itten, The Art of color, John Wiley & Sons; Revised edition, 1997

Jonathan Pore, Interior Color by Design, Volume 2: A design tool for Home owners, Designers and Architects, Rockport publishers, 2005.

Ethel Rompilla, Color for Interior Design, Harry N. Abrams, 2005.

Itten, Johannes. Design and Form: The basic course at the Bauhaus, Thames and Hudson Ltd., London 1997.

Krier, Rob. Architectural Composition, Academy Editions, London, 1988.

Meiss, pierre Von. Elements of Architecture: Form to place, E and FN Spon, London, 1992.

Pipes, Alan. Drawing for 3-Dimensional Design. Thames and Hudson Ltd., London, 1990.

Smithies, K.W. Principles of Design in Architecture. Chapman and Hall, 1983.

DOD1103

**ART & DESIGN FUNDAMENTALS - I****Course Intent:**

This course offers knowledge and experience about the classic drawing and sketching techniques and develops the appropriate skills for visualization and representation to facilitate effective visual communication.

**Course Contents:**

The student learns the proportions of the human body, the expressions of colour, the importance of light and shadow through various exercises.

Introduction to drawing equipment, familiarization, use and handling; Expression and exploration of point, lines, planes and volumes.

Typography Fundamentals; Principle of composition; Concept of forms and form development; Colour Theory

Introduction to simple drawing exercises: Object Drawings, Figure drawing

Rendering Technique: Pencil rendering, colour rendering -pencils, pastels, watercolours etc.

Representation of Architectural symbols; Measuring and drawing to scale; Orthographic projections, Isometric & Perspective drawing of Simple objects

**Course Outcome**

Comprehension of Freehand drawing of simple objects and the fundamental techniques of concept and presentation sketches

**REFERENCE BOOKS:**

Stephen Kliment, Architectural Sketching and Rendering: Techniques for Designers and Artists, Watson Guptill, 1984.

Ivo.D. Drpic, Sketching and Rendering of Interior Space, Watson- Guptill, 1988. Maureen Mitton, Interior Design Visual Presentation: A Guide to graphics, models and presentation techniques, 3rd edition, wiley publishers, 2007

MogaliDelgadeYanes and Ernest Redondo Dominquez, Freehand drawing for Architects and Interior Designers, ww.Norton& co., 2005

Francis D.Ching, Design Drawing, Wiley publishers

Francis D. Ching - Architectural Graphics , Wiley publishers, 2002

Moris, I.H.Geometrical Drawing for Art Students.

Thoms, E.French. Graphics Science and Design, New York: MC Graw Hill.

Nichols, T.B. and Keep, Norman. Geometry of Construction, 3rd ed. Cleaver - Hume Press Ltd., London, 1959.

Bhatt, N.D. and Panchal V.M.Engineering Drawing: Plane and Solid Geometry, 42nd ed. Charotar Pub., Anand, 2000.

DOD1105

**MATERIAL EXPOSURE****Course Intent**

Creates awareness on the properties of various materials used in the interiors and their application in various components of design, while highlighting current trends and innovations

**Course Content**

Properties, characteristics and applications in various design components like walls, floors, roofs, staircases, furniture finishes etc. The materials will also be explored through market surveys, site visits and mini design projects

Masonry: mud, bricks, stones, clay

Tiles: roof, floor and wall tiles

Mortars: Cement, lime, sand, gypsum plaster etc.

Natural wood: Timber, bamboo

Wood products: Plywood, block boards, particle board, medium density fibre etc.

Paints: various types of paints, varnishes, polishes and finishes

Glass: Types of glass & glass products

Intent of other materials like plastics, resins, adhesives, rubber and fabrics

**Course Outcome**

Knowledge of all materials, their applications in various spaces in interiors and being updated with current market trends

**REFERENCE BOOKS:**

Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and Methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.

Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.

Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.

Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.

Chowdary, K.P. Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi, 1990.

Rangwala, S.C. Building Construction: Materials and types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963.

Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008.

DOD1107

## HISTORY OF WORLD ART &amp; INTERIOR DESIGN

**Course Intent**

Explores traditional art forms, design elements, evolution of furniture styles, decorative elements and motifs through history across various cultures around the world. Creates understanding of social and cultural dimensions to interior design.

**Course Content:**

Ancient world: Arts of Prehistory, Egyptian design, ancient Near East, Classical World of Greek & Roman Civilisations

Middle Ages in Europe: Early Christian, Byzantine, Romanesque, Gothic, Renaissance, Baroque, Rococo

Asian & African Cultures: Oriental cultures of China & Japan, South East Asian Cultures, Islamic designs, African designs and influences

Post Industrial revolution: Arts & Crafts movement, Art Nouveau, Eclectic, Modernism and post modernisms

**Course Outcome**

Understanding of progression of historical art forms arts, furniture styles, elements and motifs as a reflection of changing influences in the social and cultural context across world cultures and exploring it through design projects.

**Reference Books:**

- Gay Robins, Art of Ancient Egypt, Thames & Hudson, 2008  
 Pierre Amiet, Art of the Ancient Near East, Harry N. Abrams, Inc, 1980  
 John Pile, A History of Interior Design, Thames & Hudson, 2013  
 Peter Garlake, Early Art and Architecture of Africa, OUP Oxford, 2002  
 Judith Gura, Postmodern Design Complete: Thames and Hudson, 2017  
 Berenice Geoffrey, Asian Art: India China Japan, Assouline; First Edition edition (October 1, 2002)  
 Alan Barnard & Jonathan Spencer, Encyclopedia of social and cultural anthropology, Taylor & Francis, 1996  
 Niggel Rapport, Social and Cultural Anthropology: The Key Concepts, Routledge, 2000  
 Philip Carl Salzman, Understanding Culture: An Introduction to Anthropological Theory, Waveland press, 2001.  
 Clifford Geertz, The Interpretation of Cultures, Basic Books, 1977.  
 Charles. V. Stanford, Studies in Indian society, culture and Religion, South Asia Books, 1988.  
 Elizabeth. D. Hutchinson, Sage publications, Dimensions of Human Behavior, person and Environment, 2007.  
 Christine M. Piotrowski, Becoming an Interior Designer, John Wiley and Sons, 2003.  
 Henry Wilson, India: Decoration, Interiors, Design, Watson Guptill, First American edition, 2001  
 Michael Freeman, India Modern, Periplus editions, 2005  
 Sunil Sethi, Angelika Taschen, Indian Interiors, TASCHEN America Ltd; 25th ed. edition, 2009

DOD1109

**MODEL MAKING****Course Intent:**

To introduce the students to basics of Model making with various materials.  
Acquisition of hands on experience in model - building.

**Course Content:**

Introduction to concepts of model making and various materials used for model making

Exploring simple and complex models with paper, wire, waste materials etc.

3D Compositions involving the usage of various materials like Thermocol, Soap, Wax, Boards, Clay, wood etc.

Exploration of materials like Mount board, foam board, acrylic sheets etc.

Creating textures and effects

Creating various site elements like landscaping and water bodies

**Course Outcome:**

Acquisition of hands on experience in model building and capability to represent the concepts three dimensionally

**Reference Books:**

Magret Jacque. The Aesthetic Experiences: An anthropologist looks at the Visual Art.

Tapert, Annette, Swid Powell: Objects by Architects, Rizzoli, New York, 1990.

Maria Dolores Ros Frijola, The Art and craft of ceramics: Techniques, projects, Inspiration, Lark books, 2006

Albert Jackson & David Day, The complete manual of wood working, Knopf publishers, 1996.

Janssen, Constructional Drawings & Architectural models, Karl Kramer Verlag Stuttgart, 1973.

Harry W. Smith, The art of making furniture in miniature, E.P. Dutton Inc., New York, 1982.

DOD1111

**COMMUNICATION SKILLS****Course Intent**

Educates the advantage of good hold over major communication & language skills of listening, speaking, reading and writing though exploring various mediums

**Course Content**

Forms of communication, factors facilitating communication, communication channels-four types of language skills (LSRW)-barriers to communication, etiquettes & netiquettes

Verbal Communication: Diction, vocabulary, Body language, gestures, expressional voices, use of expressions & words, application in real life situations, Communication across cultures and generations

Written Communication: Formation of sentences, paragraph writing, essay writing, note making, summarizing; structuring of preamble, contents, chaptalization, bibliography, footnotes, appendices and references.

Business communication: circular, agenda and minutes, email- enquiries, quotations- placing orders- clarification and complaints, job application, cover letter with resume.

Presentation skills: meetings-conducting and attending meetings, preparing advertisements- brochures, effective presentation skills with emphasis on visual aids.

**Course Outcome**

Acquire confidence with graphic and verbal communication and presentation skills to communicate efficiently and effectively with clients and others.

**Reference Books:**

GeethaJajivan, Kiranmai: Course in listening and speaking Skills part I, Foundation Books Pvt Ltd.  
Lorven: Enrich your communication in English

DOD1102

DESIGN FUNDAMENTALS - II

**Course Intent:**

The course helps understand the character and nature of spaces, scale, and various layers of design within a space. It imparts an understanding of perception of interior space through design elements

**Course Contents:**

Introduction to Anthropometry & Ergonomics

Spatial Study - Studying space in relevance to context and environment.

Understanding User behavior and psychology

Design projects: Single room residence, Doctor's clinic, kindergarten school, Designer's studio, Small cafeteria

**Course Outcome:**

To develop ability to understand the fundamental issues in designing spaces and develop skills to create designs considering all factors that influence and affect design of a space

**Reference books :**

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

Julius Panero& Martin Zelnick, Human Dimension & Interior Space : A source book of Design Reference standards, Watson - Guphill, 1979.

Karlen Mark, Kate Ruggeri & Peter Hahn, Space Planning Basics, Wiley publishers, 2003.

DOD1104

ART &amp; DESIGN FUNDAMENTALS - II

**Course Intent:**

This course offers knowledge and experience about the classic drawing and sketching techniques and develops the appropriate skills for visualization and representation to facilitate effective visual communication

**Course Contents:**

The student explores various rendering techniques and presentation skills, the importance of light and shadow through various exercises.

Rendering Techniques: Introduction to pen and brush exercises, Ink rendering

Color rendering: Fuji colors, acrylic colors

Drawing from imagination: Speculative sketching, concept sketches, presentation sketches & drawings

Representation: Orthographic, Isometric & Perspective drawing of Complex objects and simple spaces

Sciography: effect of light and shade on simple objects and forms

**Course Outcome**

Comprehension of Freehand drawing of complex objects, spaces and the fundamental techniques of concept and presentation sketches

**Reference Books:**

Stephen Kliment, Architectural Sketching and Rendering: Techniques for Designers and Artists, Watson Guptill, 1984.

Ivo.D. Drpic, Sketching and Rendering of Interior Space, Watson- Guptill, 1988.

Maureen Mitton, Interior Design Visual Presentation: A Guide to graphics, models and presentation techniques, 3rd edition, wiley publishers, 2007

MogaliDelgadeYanes and Ernest Redondo Dominquez, Freehand drawing for Architects and Interior Designers, ww.Norton& co., 2005

Francis D.Ching, Design Drawing, Wiley publishers

Atkin William W. Corbellent, Raniero and Fiore. R. Vincent, Pencil Techniques in Modern Design. 4th ed. Reinhold pub Corporation. New York, 1962.

Bately, Claude. Design Development of India Architecture.

Bellings, Lance Bowen. Perspective space and Design.

Burden, Ernest, Architectural Delineation: A photographic approach to presentation, 2nd ed, McGraw Hill, Inc., New York, 1982.

Conli, Claudius. Drawings by Architects.

John. F. Pile, Perspective for Interior Designers, Watson - Guptill, 1989.

Ernest. R. Norling, Perspective made easy, Dover publications, 1999

Joseph D, Amelio, Perspective Drawing Hand book, Dover publications, 2004



DOD1106

**DESIGN COMPONENTS****Course Intent**

To familiarize the students of Interior Design on the various components of interior spaces and the possibilities of experimenting with various materials for the same

**Course Content**

Components of a building from foundation to roof

Walls: Various types of walls like brick, stone etc. and wall coverings

Roofs: Various types of roofing, roofing finishes and roof coverings

False ceiling: materials, finishes & patterns, types of false ceiling

Flooring: Various types of flooring, floor finishes and floor coverings.

Doors & Windows: Various types of doors and windows w.r.t design and materials

Staircases: Various types of staircases w.r.t design and materials

Paneling: Various types of paneling and cladding products

**Course Outcome**

To develop an understanding of various components, relationship between materials, components & spaces and the effects that could be created by manipulating them

**Reference Books:**

Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and Methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.

Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.

Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.

Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.

Chowdary, K.P. Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi, 1990.

Rangwala, S.C. Building Construction: Materials and types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963.

Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008.

DOD1108

**HISTORY OF INDIAN ART & INTERIOR DESIGN****Course Intent**

Explores traditional art forms, design elements, evolution of furniture styles, decorative elements and motifs throughout history in India across geographical locations. Creates understanding of social and cultural dimensions to interior design.

**Course Content**

Vedic, Buddhist and Rock cut Art and design in India

Temple Architecture: Elements and art in Nagara, Dravidian, Solanki & Jain temples

Traditional interior design in Northern India: Exploration of design elements in traditional architecture of Rajasthan, Gujrat, Agra, Madhya Pradesh, Kashmir & north eastern states

Traditional interior design in Southern India: Exploration of design elements in traditional architecture of Tamil Nadu, Andhra Pradesh, Kerala, Karnataka, Maharashtra & Goa

**Course Outcome**

Understanding of progression of arts, furniture styles, elements and motifs as a reflection of changing influences in the social and cultural context in India and exploring it through design projects

**References:**

RowlBejamin. Art and Architecture of India.

Architecture of the Islamic World: Its History and Social Meaning by George Michell (Editor)

Publications on Traditional Arts & Crafts of India, Ministry of Handicrafts Development, Government of India.

Percy Brown, Indian Architecture (Islamic Period) - Taraporevala and Sons, Bombay, 1983

Satish Grover, The Architecture of India (Buddhist and Hindu period), Vikas Publishing House, New Delhi, 1981

Satish Grover, The Architecture of India (Islamic) Vikas Publishing House Pvt. Ltd., New Delhi,

Christopher Tadgell, The History of Architecture in India, Longman Group, U.K. Ltd., London, 1990

A.Volwahren, Living Architecture - India (Buddhist and Hindu), Oxford and IBM, London, 1969.

George Mitchell, Monuments of India, Vol I, Buddhist, Jain, Hindu; Penguin books, 1990

Gateway to Indian Architecture, GuruswamyVaidyanathan, Edifice Publication, 2003

DOD1110

**DIGITAL MODELLING****Course Intent:**

The course shares fundamental knowledge on digital software to enable the student to make effective audio visual presentations, create two dimensional drawings and three dimensional visualization of interiors

**Course Content:**

Fundamentals of Photo editing and presentation skills with Adobe Photoshop /CorelDraw

2D drawings with AutoCAD

3D modelling through Sketch up

Rendering with V-ray

Any other latest software

**Course Outcome:**

Knowledge on basic software required for Design presentations

**Reference books:**

Adobe Creative Team, Adobe Photoshop CS (Class Workbook)

Droblas, Adele Greenberg, Fundamental Photoshop: A Complete Introduction.

Adele CroblasGreenberg, Fundamental Photoshop: A complete introduction .

Teyapoovan. T.,Engineering Drawing with Auto CAD 2000. Vikas Pub House Pvt Ltd, New Delhi, 2000.

Parker, Daniel and Rice, Habert. Inside Auto CAD Daniel, 1987.

Georgemura, Auto CAD, Release 2000.

Oscar RieraOjed ,Lucast Guerre, Hyper realistic Computer Generated Architectural Renderings .

Giuliano Zampi Conway Lloyd Morgan, Virtual Architecture.

Aidan Chopra, Rebecca Huehls, SketchUp For Dummies

Bonnie Roskes, Modeling with SketchUp for Interior Design

Daniel Tal, Rendering in SketchUp

DOD1112

**PRINCIPLES OF ENVIRONMENTAL STUDIES****Course Intent**

This course addresses the environmental issues, principles, process and practice of environmental design, integration of the built environment in to the surrounding natural landscape. It looks at the relationship between environment and design, its concerns and the effects on the future.

**Course Content**

Multidisciplinary nature of environmental studies, Definition, scope and importance, need for public awareness.

Renewable and non-renewable resources: Natural resources and associated problems, role of an individual in conservation of natural resources, equitable use of resources for sustainable lifestyles.

Ecosystems: Concept of an ecosystem, structure and function of an ecosystem, energy flow, Ecological succession, Food chains, food webs, ecological pyramids, Types of Ecosystems.

Biodiversity and its conservation: genetic, species and ecosystem diversity, Biogeographical classifications, hot-spots of biodiversity, threats to biodiversity, Conservation of biodiversity

Social Issues and the Environment: Various types of Environmental Pollution-Cause, effects and control measures, Resettlement and rehabilitation of people; its problems and concerns,

From Unsustainable to Sustainable development: problems related to energy, Water conservation & recycling, Waste recycling, Solid Waste Management, Construction waste

Environmental Ethics-Issues and possible solutions: Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Wasteland reclamation, Consumerism and waste products, Disaster management

Environment Protection Act, Air (Prevention and Control of Pollution) Act., Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation and Public awareness.

Passive & Active Environmental Design: Impacts on ecology due to built environment, Control by design, historical case Studies, Mud/ Bamboo Architecture, Principles of Organic Architecture, landscaping; earth sheltered buildings, water bodies, Energy Efficient Building Design, green architecture, Bionic Architecture along with case studies of various contemporary designs done with principles of sustainability

**Course Outcome**

To develop awareness of relationship between the environment and design and sensitivity while making design choices

**Reference:**

ErachBharucha, A Text Book of Environmental Studies for Undergraduate Courses, University Grants Commission.

**DOD2101****INTERIOR DESIGN - RESIDENTIAL**

**Course Intent:** To be able to understand the various factors that go into designing an ideal residence based on the user's personality and preferences along with comfort and aesthetic appeal.

**Course Contents:**

Understanding the client's requirements, preferences and personality

Understanding the significance of the factors in creating ideal environment

To foster basic qualities in design like composition and other human considerations like, privacy, convenience, comfort, etc.

Factors related to aesthetics with reference to materials, color, texture, furniture etc.

The design and material usage for the residence must respond to environmental factors.

Design Exercise: A minor project conceptualizing a client specific personalized space, Main Design project of a 3 to 4 BHK Residence

**Course Outcome**

The students shall be able to understand the importance of personalization of spaces and the nuances of designing for every client according to their personalities, apart from function and aesthetics

**Reference Books:**

John F Pile - Interior Design - Abrams

Ching, Francis. (1979). Architecture Form, Space and Order. Van Nostrand Reinhold Company, New York.

DOD2103

**PRODUCT DESIGN****Course Intent:**

To create awareness about the design process and various ways of designing products for user needs and requirements. To learn about the integration of design, manufacturing process, marketing etc. in the design of products.

**Course Contents:**

Concepts like design research, human factors, form, ergonomics, design processes, sustainable design.

Understanding of compatibility with diverse cultures, technologies, user needs and cognitive and physical conditions.

Application of materials and uses, sustainable approach towards product designing.

Exploration of the design language, form and values from traditional and contemporary design platform.

Design Exercise: To develop an innovative design solution for a given problem by synthesizing the trends, socio-cultural factors and design language.

**Course Outcome**

To be able to analyze current user behavior and trends for product development and understand the user and spatial relationship.

**Reference Books:**

John Kolko ,Well-Designed: How to Use Empathy to Create Products People Love

Don Norman ,The Design of Everyday Things

John Maeda ,The Laws of Simplicity (Simplicity: Design, Technology, Business, Life)

Kenya Hara ,Designing Design

William Lidwell, Kritina Holden and Jill Butler ,Universal Principles of Design

William McDonough and Michael Braungart ,Cradle to Cradle: Remaking the Way We Make ThingsEdward De Bono ,Lateral Thinking: Creativity Step by Step

Jennifer Hudson, Process: 50 Product Designs from Concept to Manufacture

DOD2105

**INTERIOR SERVICES - I****Course Intent:**

To impart knowledge required for understanding the building services of water supply, sanitation, plumbing and their integration with architectural interior designs.

To develop the knowledge and skills required for understanding the mechanical services like fire-fighting and HVAC (introduction to concept) in buildings and their integration with architectural interior design.

**Course Contents:**

The student learns the need and application of water supply and sanitation in buildings as well as residences with exposure to various fixtures and fittings, installations etc. The student also learns about different Fire Fighting systems and is introduced to the concepts of HVAC systems.

Water Distribution in Building - An overview of water distribution systems.

At residential level, Service connection from mains, House service design, tube well, pumping of water, types of pumps, cisterns for storage, sumps, pipe sizes and fittings, plumbing accessories, types of valves, hot and cold water supply, types of water distribution systems in buildings and various sustainable practices.

Sanitation and Sanitary fittings - Waste disposal management

Building drainage systems for single and multistoried buildings along with different types of traps.

Various types of sanitary fittings.

Fire Safety: Introduction to fire and fire safety, terminologies used, Fire source, combustion and combustion process, mechanism of fire spread in building and its prevention constituents of fire and fire hazards, Fire safety standards, concepts of fire protection, fire extinguishing/suppression technologies, firefighting systems, installation and requirements

HVAC systems (Part-1)-Introduction to basic concepts and components to air conditioning: Vapour compression cycle, compressors, evaporators, refrigerants, mechanisms used for the control of the refrigerant, window type and packaged air conditioners etc.

Design Exercise: To design and detail Bathrooms designed in the Residential Studio Project

**Course Outcome**

The students will understand the basic functions, layouts and conditions of the services in a building which will lead to design consideration while designing a space.

**Reference Books:**

S.C.Rangwala, Water Supply and Sanitary Engineering

S.K.Garg, Environmental Engineering (vol. I& II)

Roy J Dosat, Principles of Refrigeration

Manohar Prasad, Air Conditioning and Refrigeration Data Hand book

Don Kundwar, Refrigeration and Air Conditioning

DOD4109

**ECO FRIENDLY INTERIORS****Course Intent:**

The course provides the student an opportunity to learn about materials that are ecofriendly and be used in interiors. Students learn the properties of the eco material to deeply understand the benefits that adhere to health and environment. Basic concepts of thermal comfort, innovative use of materials efficiency is focused upon.

**Course Contents:**

Introduction to ecofriendly materials, different types of ecofriendly materials and its applications on interior components, Criteria for ecofriendly materials.

Properties of some ecofriendly materials, Benefits and limitations of using ecofriendly materials.

Case studies of innovative use of ecofriendly materials in different spatial components of the buildings, techniques of construction and inferring them.

Interior landscaping, discuss and explain sustainable criteria, through which environmentally friendly, healthy and socially inclusive interior environments could be created.

Design self-sufficient interiors with self-sufficient energy, analyze, identify and apply design principles of sustainable design and create own ecofriendly solutions.

Design Exercise: A project design for a space (within 100 sq. m) such as café /boutique with ecofriendly materials.

**Course Outcome:**

By the end of classes, student would be able to understand the importance of ecofriendly materials in interiors and apply the principles, techniques to create a sustainable and ecofriendly interior project.

**Reference Books:**

Beylerian, George, Ultra Materials: How Materials Innovation is changing the World. M, Publisher: Thames & Hudson

Corky Binggeli, Materials for Interior Environments

Riggs Rosemary J., Materials and components of Interior Design

Bill maclay., The new net zero: leading-edge design and construction of homes and buildings for a renewable energy future

Max McMurdo, Upcycling: 20 Creative Projects Made from Reclaimed Materials

Mimi zeiger, Micro green: tiny houses in nature



DOD4111

**ADAPTIVE REUSE & RECYCLE**

**Course Intent:** To enable the student to understand the need for adaptive reuse of old heritage buildings and applications of using recycled materials. This course exposes students to learn the principles, examples and material knowledge for adaptive reuse and recycle interiors.

**Course Contents:**

Concept of Adaptive reuse and recycle, Introduction to adaptive reuse and recycle materials, different types of adaptive reuse and recycle materials, Criteria for adaptive reuse and recycle materials.

Principles followed during the reuse and recycle process, Benefits and limitations of using adaptive reuse and recycle methods and materials.

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

Cultural Inheritance, heritage buildings, Case studies of adaptive reuse and recycle methods and materials in different spatial components of the buildings, techniques of construction and inferring them.

Discuss and explain sustainable criteria, through which environmentally friendly, healthy and socially adaptive reuse and recycle can be achieved.

**Design exercise:** Design a space using reuse and recycle materials learned during the course and apply design principles of adaptive reuse and recycle and create own adaptive reuse and recycle solutions for the given space.

**Course Outcome:**

Students would be able to understand the importance of adaptive reuse and recycle methods and materials in interiors and apply the principles, techniques to create a sustainable and recycle interior projects.

**Reference Books**

Sandra F Mendler - The HOK Guide book for sustainable design - John Wiley and Sons, Canada, 2002.  
 Conservation guidelines for pondichery - DTCP, Pondichery - INTACH 2000.  
 Langston FKW Wong, Hui ECM, Shen LY (2008) Strategic assessment of Building Adaptive Reuse opportunities in Honk Kong. Building and Environment 10: 1709-1718.  
 Ouroussoff N (2011) An Architect's Fear That Preservation Distorts. Exhibition review Cronocaos an exhibition at the New Museum organized by Rem Koolhaas and ShoheiShigematsu, NEW-YORK TIMES.  
 Ching F (1979) Architecture Form, Space and Order. Van Nostrand Reinhold, NY.  
 Park O (2009) A Design Strategy for Transforming and Old Power Plant into a Cultural Canter. Submitted to the department of Architecture for the degree of Master of Architecture at the MIT  
 Latham D (2009) Creative Re-use of Buildings. Principles and Practice Building Types: Selected Examples. Donhead, Bath Press, Bath, UK p: 1.  
 Uffelen, Van C (2011) Re-Use Architecture. Braun publishing.

DOD4013

**HERITAGE INTERIORS****Course Intent:**

To create awareness about the rich Indian cultural heritage and understand importance of conserving the heritage in modern context.

To understand the spaces, volumes, materials, surfaces, constructive aspects, actual and past functions and configurations, degradation, etc. as a result of continuous modification through time.

**Course Contents:**

Broad overview about the Indian heritage since Indus valley civilization till post-colonial era.

To study about various region wise cultural impact on the elements of interior design.

To study the impact of living and working culture of different region on interior elements like floor, columns, wall, door, window, stair, roof etc.

Research and document existing interior elements in context of heritage.

Identify different construction techniques, and art and craft involved in making space.

Design Exercise: To Design a space in modern context using the knowledge of heritage interiors and elements from any region in India

**Course Outcome**

To be able to apply knowledge of heritage in modern day context through different space making elements.

**Reference Books:**

Sahaj: Vernacular Furniture of Gujarat by MitrajaBais, Jay Thakkar, Samrudha Dixit and Ben Cartwright

Crafts in Interior Architecture: India, 1990 onwards ,Rishav Jain

YatinPandya,Elements of Space-Making

Delhi : the built heritage : a listing. Vol.1. by Indian National Trust for Art & Cultural

Heritage[INTACH] Kabir, Humayun, Indian heritage. Senance, Bryan,Ceramics : a world guide to

traditional techniques by Naqsh : the art of wood carving in traditional houses of Gujarat : a focus on ornamentation by Thakkar, Jay

DOD4015

**INCLUSIVE INTERIORS****Course Intent:**

To give awareness about understanding of small-scale interiors and user-centered design.

To give an introduction to principles of inclusive design and the ways of integration in spatial development.

**Course Contents:**

Understanding of human needs and diversity, human factors and human-centric design process.

Understanding various user abilities, skills and inabilities. To develop empathy through role playing.

Various principles of universal design to make inclusive spaces and the various ways the principles can be accommodated in spatial design in innovative ways.

Anthropometry, ergonomics, cognitive and physical behavior theories, mapping of various user flows, activities, accessibilities which can help in developing innovative and functional design solutions.

Investigate, document and present the complex connections and problems in socio-spatial environments.

A design exercise on context of Bathroom / Washroom.

**Course Outcome**

To identify problem, develop solution for creating inclusive environments for various spatial typologies.

**Reference Books:**

Roberto J Rangel, The Interior Plan by Inclusive Design-A Universal Need by Linda L Nussbaumer

Edward Steinfeld&JordanaMaisel, Universal Design-Creating Inclusive Environments

Edward Steinfeld&Jonathan White,Inclusive Housing: A Pattern book: Design for Diversity & Equality

DeChaira Joseph, Time-Saver Standards for Interior Design and Space Planning 2nd Edition

Mugendi K. M'Rithaa,Universal Design in Majority World Contexts

DOD4017

**RESEARCH FOR INTERIORS**

**Course Intent:** Research Methods for Interiors enables the students to improve the abilities and tools for solving a design problem or document an important aspect of the interiors in order to achieve creative excellence in the design of interior space from inception to the final solution.

**Course Contents:**

Significance of research in Interior Design; Role of environment behavior and psychology in research of Interiors; reliability of measurement, ethical issues.

Different types of research methods (Qualitative, quantitative etc.)

Data collection methods- Preparation of questionnaires, Survey, Observation, case study, post-occupancy evaluation; Behavioral Mapping; documentation and interpretation; Selection of respondents and sampling procedures; techniques of analysis.

Collect the data and with the use of soft wares for analysis; presentation & interpretation methods (Bar charts, graphs) and techniques for the collected data

Emphasis on styles and writing of research reports, papers, article, critic and proposals.

**Course Outcome:**

The students study under the guidance of the faculty and by getting involved in field works, readings, discussions and lectures. The students are expected to apply the techniques of research on their selected course or topic. The course also prepares the students to disseminate knowledge through publications, conferences, teaching, and collaboration with various professionals in related fields.

**Reference Books:**

C.R.Kothari (2004), *Research Methods & Methodology*, New Age Publishers, New Delhi.

William G. Zikmund( 2002), *Business Research* , Thomson/South-Western, Australia

Dr.Catherine Dawson(2007), *A Practical Guide to Research Methods*,How to Books Ltd, U.K

Groat, Linda, & Wang, David. (2002). *Architectural Research Methods*. New York: John Wiley & Sons

DOD4019

**APPLIED SCIENCES IN INTERIORS**

**Course Intent:** To study and incorporate principles and theories of sciences - physics, chemistry, botany, zoology and mathematics - in developing design concepts and details.

**Course Contents:**

Fundamentals of various sciences, relationships with human functions and behavior, search for presence of design theories in scientific theories, why things happen, Systems of problem solving in nature, Sequences in natural and scientific processes, potential impact of sciences on development of design.

Fundamentals of Symmetry and Patterns, Evolution of Form, Bio-morphology, Microbiology, working of designs and details in nature, impact of chemical compositions and molecular structures on design, mathematical formulas and calculations for design development, laws of physics affecting design outcomes, material development, nanotechnology.

Functional inspirations from sciences, Form inspirations from sciences, scientific experiments - outcomes and relation with design, How things work: Evolution - innovation - function, contextual natural systems, science of modular, critical and creative thinking.

Application in design, Bio-mimicry, Works by Buckminster Fuller and concept of sustainable structures, Understanding Fibonacci series and the Golden Ratio, Exercises in - symmetry, Golden Ratio, proportion, geometry of objects, working details based on basic sciences, scientific reality checks.

**Course Outcome:** To develop lateral thinking to synergize science and design, identify and apply scientific knowledge into interior design outcomes.

**Reference Books:**

Livio, Mario; The Golden Ratio: The Story of Phi, the World's Most Astonishing Number, Publisher: Broadway, 2002

William Murphy, Pat Murphy: By Nature's Design (An Exploratorium Book), Publisher; Chronicle Books, 1993

Rudolf Steiner, David Booth; The Fourth Dimension: Sacred Geometry, Alchemy, and Mathematics, Steiner Books, 2001

Buckminster Fuller, Guinea Pig B: The 56 Year Experiment, Publisher: Critical Path Publishing, 2004

Darcy Wentworth Thompson, John Tyler Bonner (Editor); On Growth and Form, Publisher: Dover Publications, 19

DOD4021

**SPATIAL NARRATIVES****Course Intent:**

To cultivate a deeper understanding about impact of design language on quality of interior spaces, and enhance ability to initiate persuasive psychological sense into design.

**Course Contents:**

Concepts of spatial narratives in built environment; significance; Terminologies; Environmental Psychology; Cognitive mapping; Defensible spaces, perceptions, association to a space. Elements leading to a perception & interpretation of built & urban space; Development of experiential quality; Interrelationships between a space & its user; Delineation of space; Stimulation of activities; Time scale & temporal transformations

Experiencing & perceiving interior spaces; Methods of comprehension; Spatial order; Sequence of experiencing a space; Understanding multi-layered information system in an interior space. Exploring spatial narratives: Case studies; Learnings from design reviews; Development of personal philosophies through primary experience; Critical analysis of experience through writings, visuals & sketches; Comparisons of interpretations.

**Course Outcome:**

The course will develop the skill of design purpose, philosophy and emotional quotient amongst students, with sensitization to design vocabulary.

**Reference Books:**

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

DOD4023

## SOCIOLOGY AND ANTHROPOLOGY STUDIES

## Course Intent:

To understand the role of human characteristics in developing and strengthening design quality and appreciate user participation in design process.

## Course Contents:

Anthropological studies of human development, biological - social - cultural - psychological anthropology, human behavior, development of societies, civilizations, ethnicity, nativity, migrations, adaptability, evolution and transformation of human living.

Impact of anthropology and sociology on settlements, functional aspirations, socio - cultural expressions, evolution of aesthetics - art, sculpture, music, writings, drama, architecture, interiors, detailing; Evolution of religion and impact on design, evolution of political sociology and impact on design, Linguistics, semiotics, trade and commerce, economic aspirations, ethnology, ethics.

Physical expression of socio-cultural aspects; development of design philosophies and language through civilizations; archaeological studies; Indian interiors & spatial narrative; Factors affecting the process of experiencing Indian interior design, its complexities, & spatial narrative; Impact of socio-cultural aspects; Religious complexes, civic buildings & fortified settlements.

## Course Outcome:

The course will develop deeper understanding of users and skills of user-activity analysis for more relevant and acceptable design solutions in the society.

## Reference Books:

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

DOD4125

**DESIGN JOURNALISM**

**Course Intent:** To study and incorporate principle theories of Journalism in Design.

**Course Contents:**

Introduction to Journalism: Introduction to news, Writing news, new value. Theoretical issues related to news writing.

News reporting: Parts of report, Sources of news and different beats like lifestyle, culture, health etc, headline writing. Types of articles, Interviews, Writing for different media, coverage of events.

Different Media of Communication and their coverage like television, social media, magazines, tabloids, newspapers etc.

Social media coverage of design - Blogging, Websites, portals, media interface.

Layout Designing : Principles of layout and practice session using InDesign Software

**Course Outcome:**

The course will develop the skill of design purpose, philosophy amongst students, with sensitization to journalism vocabulary.



DOD4127

**ADVANCED MATERIALS****Course Intent:**

This course introduces to the study of innovative materials and technologies which are available in the market with cost, maintenance and impact on environment for development of appropriate design decisions.

**Course Contents:**

Understand the advanced materials and technologies in terms of:

Need for advanced materials and technologies

Physical properties and visual characteristics of the materials studied.

Application, installation, maintenance and cost

Impact on environment - Green rating for materials

Trends in global and Indian market

Exploring a wide range of materials and technologies with regards to Automation, Advanced lighting technologies, HVAC and thermal comfort, wall coverings, Flooring, Smart furniture, Walling and partitions

Detailed study report on materials through case studies, factory visits, market studies

Design exercise: Design a space using advanced materials.

**Course Outcome:**

Knowledge of innovative materials and technologies, their applications in various spaces in interiors and being updated with current market trends.

**Reference Books:**

Refer research papers for material study and magazines for current trends.

DOD4129

**HEALTH AND INTERIOR DESIGN****Course Intent:**

The course focuses on the interior design of healthcare facilities.

**Course Contents:**

Hospitals and Nursing homes are a special category of buildings where functional aspects such as planning, building services & the creation of a sterile environment become important design issues. This project aims to familiarize the student with the interior design of critical health care spaces such as operation theatres, diagnostic facilities, outpatient department and inpatient rooms. The modern trends in hospital design challenge the designer to create world class ambience. The course will be achieved through research and numerous case studies and application of the inferences summarized.

**Introduction to healthcare facilities.**

An overview about the role and important aspects of interior design in healthcare environment. The hierarchy of hospital settings from which they understand interior spaces in terms of scale, context, users, functions etc. Significance of interior spatial planning and the role of Interior Designer in healthcare environment.

**Identification of issues in Hospital Environment**

Identifying spatial issues faced in interiors by users, management, healthcare providers etc. affecting the smooth functioning and the health of the users. Research on these issues to improve planning of Interior Spatial Environment in Hospitals.

**Framework of Interior Spatial Environment.**

Study of all aspects of spatial environment with respect to healthcare. To understand the healthcare industry per se and quality care in a healthcare environment. Insights into user needs, behavioral, technical aspects and elements, attributes, materials, finishes, textiles, furniture, furnishings, services etc. and their integration

**Critical Analysis of Healthcare Environments.**

A critical Case study to be undertaken for analyzing and evaluating spatial design to address the problems for better user outcomes and smooth functioning of the hospital.

**Course Outcome**

The students will develop awareness of the problems met in a healthcare environment and aesthetic considerations needed to meet for better user outcomes as an Interior Designer.

**Reference Books:**

Francis D.K. Ching and Corky Binggeli, Interior Design Illustrated, 1987

Jain Malkin, A Visual Reference for Evidence Based Design, 2008

Cynthia A. Liebrock and Debra Harris, Design Details for Health, 2000

D. Kirk Hamilton, 2013, Rigor and Research in Healthcare Design- Paperback,

Clare Cooper Marcus and Naomi A. Sachs, Therapeutic Landscapes, 2013

DOD4131

**DISASTER RESILIENT INTERIORS****Course Intent:**

To develop sensitivity and sensibility for designers to grasp the cause and effect of disasters in built environment, and actions to be taken for facing challenges of disasters.

**Course Contents:**

Disaster Management & its necessity; Types, characteristics, causes & impacts; Natural disasters, Manmade disasters, Epidemics; Institutional & Legal arrangement; NDMA; Financial arrangement; Role of Designer at all stages of Disaster Management.

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

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

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

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

**Course Outcome:**

The course will prepare interior designers to incorporate disaster management principles in the design process, to be able to minimize effects of disasters on users of designed spaces.

**Reference Books:**

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

**DOD2107****OPEN ELECTIVE - I**

The students would be given an opportunity to choose the open elective from the courses offered by MAHE.

**DOD2102****COMMERCIAL DESIGN****Course Intent:**

This course introduces commercial design for small offices, shops, restaurants and boutiques at a micro level. The intent is to sensitize the student towards the importance of branding and its relationship to interiors in retail spaces.

**Course Contents:**

The students would learn about different spaces under commercial design such as retail, boutique, restaurants, health club, hospitality, etc.

Overview of commercial interior design. Finding relevant case studies for understanding the principles and standards of commercial design and also understanding the anthropometry and ergonomics inside a given space. Study and analyze an existing commercial space with respect to the spaces chosen. The students are expected to infer from the study the planning aspects, color schemes, materials and finishes, furniture details etc.

**Course Outcome:**

Students in this course will develop space-planning skills related to commercial design, awareness of aesthetic considerations, the application of the design process in the development of design projects and appropriate selections in furniture, materials, and finishes.

**Reference Books:**

Time-saver Standards for Interior Design and Space Planning, Mc Graw Hill

John Pile, Interior Design, Abrams

Alexander, N J, Mercoust Brace, Designing Interior Environment, Havanovich Inc.

Cerver F A, Commercial Space, Office Design and Layout, Rotovision S A

Cerver F A, Commercial Space, Bars, Hotels and Restaurants, Rotovision S A, Switzerland

Cerver F A, Shops, Malls and Boutiques, Rotovision S A

Reznikoff S C, Specifications for Commercials Interiors, Whitney Library of Design

DOD2104

**FURNITURE DESIGN****Course Intent:**

To acquire practices of craftsmanship and sensitize the student's visual perception of furniture as a single form through the study and presentation of precedent works - both historical and contemporary & to cultivate the ability necessary to design by understanding the user-activity, structural concepts of furniture, materials and their essential attributes.

**Course Contents:**

Introduction to Furniture Design -Human factors, engineering and ergonomic considerations: principles of universal design and their application in furniture design, overview of Furniture categories, exploration of the idea of furniture, role of furniture in interior design, Design approaches in furniture design.

History of Furniture- Awareness of the relationship of design history in order to the create new designs in furniture. An outline of the evolution of furniture from Ancient to present: Various stylistic transformations. Furniture designers and movements. Exploration of furniture in terms of human values, social conditions, technology and design criteria. Understanding the current design trends and the future visions in the field of furniture design.

Furniture Systems -Furniture design for various context and spaces - residences, corporate, commercial etc. in terms of Seating design; Storage systems- kitchen cabinets, wardrobes, closets, book shelves, showcases, display systems etc.; multi-functional & space-saving furniture; modular approach to furniture design.

Furniture Detailing and Construction- Introduction to different materials, joinery details and manufacturing methods most frequently adopted in furniture design such as Injection Molding, investment casting, sheet metal work, die casting, blow- molding, vacuum - forming etc.

Design Problem - Exercise oriented by innovative explorations, observation and constrains, to design a furniture, by providing measured drawing - plan, elevation and detailing on full scale, supported by prototype.

**Course Outcome:**

To Impart the knowledge of various styles, systems and products available in the market. Enhances the knowledge of ergonomics, materials, design and working parameters in designing furniture.

**Reference Books:**

Joseph Aronson, The Encyclopedia of Furniture: Third Edition ,1961

Bradley Quinn, Mid-Century Modern: Interiors, Furniture, Design Details, Conran Octopus Interiors, 2006.

Jim Postell, Furniture Design, Wiley publishers, 2007.

Edward Lucie-Smith , Furniture: A Concise History (World of Art) , Thames and Hudson, 1985

Robbie. G. Blakemore, History of Interior Design and Furniture: From Ancient Egypt to Nineteenth-Century Europe, Wiley publishers, 2005.

John.F. Pile, Interior Design, 2nd edition, illustrated, H.N.Abrams, 1995.

DOD2106

**INTERIOR SERVICES - II****Course Intent:**

To expose the students to the principles of HVAC systems, Sound and sound insulation, Lighting and its impact, Electric services and mechanisms.

**Course Contents:**

HVAC Systems (Part-2) - An overview of the introduction, definition, concepts and system components of AC systems, types of air conditioning, Refrigeration cycles etc. Guidelines for AC ducts layout in a building and design considerations for the types of HVAC systems.

Acoustics-Introduction, Properties of sound, characteristics of sound wave, Inverse square law, Sound behavior in enclosed spaces, Geometric acoustics, Applications and limitations Reverberation Acoustical Defects, Sound absorbers and Construction, Noise control etc.

Electrical systems- Introduction to electrical systems as applicable to interiors, different electrical system designs including materials, specifications and types.

IT services: Communication systems, CCTV, wireless systems, Provision for digital systems.

Lighting, Natural and Artificial Illumination - Introduction to Natural and Artificial lighting.

Natural Lighting, Daylight, Daylight factors. Artificial Lighting, types of lighting systems.

General lighting systems, Types of fittings, variety of lamps, Planning for Lighting, Position of lighting points.

**Course Outcome**

The students will understand the basic functions, layouts and conditions of the services in a building which will lead to design consideration while designing a space.

**Reference Books:**

Peter templeton& Saunders - Detailing for architectural acoustics - Architectural press, 1994

M.H.Lulla, Air conditioning

R.G.Hopkinson and J.D.Kay, the Lighting of Buildings, Faber and Faber, London,196

Fundamentals of acoustics, Kinsler L E; Frey A R

Lighting Fixtures and effects ,Luckiesh

Daylighting, Robbins Claude L.

HVAC controls and systems, Levenhagen John I; Spethmann Donald H

HVAC water chillers and cooling towers , Stanford III Herbert W

Fundamentals of HVAC systems , MCDowallRober

DOD4108

## CREATIVE ARTS &amp; CRAFTS

**Course Intent:**

To provide the student of interior design a foundation in knowledge of the traditional and ethnic arts and crafts of India. To explore various aspect of arts and crafts, which can be applied in design of interiors.

**Course Contents:**

Study of the characteristics of Indian arts and crafts and its application in the interiors.

Introduction to creative arts and crafts in India - its application in interior design, materials, Art movements through history, Traditional arts and crafts of India, Folk arts of India

Traditional arts and crafts of various states of India including - Tamilnadu, Karnataka, Kerala, Andhra Pradesh, Goa, Rajasthan, Gujarat, Kutch, Uttar Pradesh, West Bengal, Orissa, Bihar, Jammu and Kashmir, etc. (*Refer from ID204 - History of Indian Art & Interior Design*)

Design Exercise: Creating decorative art objects and accessories using knowledge of the traditional arts of India

Assignment or projects on application of the Art in interior spaces such as Reception, Lobby spaces space in different typology.

**Course Outcome:** To be able to apply knowledge of the traditional arts and crafts of India and apply it in design of spaces in Contemporary context

**REFERENCE BOOKS:**

Ranjan Aditi, Handmade in India: Crafts of India, Mapin Publishing Pvt.Ltd,2009

Edith Thomory, A History of fine arts in India and the west, Orient Longman publishers Pvt Ltd, New Delhi.

Publication on Traditional arts and crafts on India, Ministry of Handicrafts Development, Government of India.

Johannes Itten, The Art of color, John Wiley and Sons, USA, 1973.

DOD4110

**FABRIC IN INTERIOR DESIGN**

**Course Intent:** To familiarize the students of Interior Design on textile materials that can be used in interior Design. To have an awareness of the rich and the varied types of fabrics, textiles and fabric art and craft in India

**Course Contents:**

Introduction To Fabrics: Fabric types and classification- woven, including plain, twill, satin, Jacquard, crepe and pile weaves, knitted, non-woven etc. Identification and properties of fabrics, yarns and fibers. Other natural materials, Jute, kinds of processed leather, its application in interior design

Textile arts and crafts in India, traditional and modern materials and methods.

Types of embellishments / patterns / surface designs.

Fabric coloration and decoration- Principles of applying color to fabrics.

Preparing samples on tie and die printing, batik printing, appliqué, macramé and braiding.

Furnishings-types of furnishings, selection of material, design based on aesthetics, function and properties, care and maintenance

Design exercises: Assignments on applications of various types of fabrics, Surface development of fabric or fabric art in a creative/thematic design project

**Course Outcome:** knowledge and understanding of the functional and aesthetic requirements of textiles for a range of applications, Understanding of textile heritage in India

**Reference books:**

Introduction to home furnishings, Stepat, D.D,1991, Themacmillancompany, New York.

The themes and Hudson manual of textile printing ,Storeyjoyce ,1992, London

Colour in interior Design Jhon,F.P, 1997, Mc Graw Hill Company

Martand Singh, Handcrafted Indian Textiles, Lustre

AsharaniMathur, Woven Wonder: The Tradition of Indian Textiles, BPI India Pvt Ltd

Shailaja D. Naik , Traditional Embroideries of India

Jaya Jaitly, Woven Textiles Of Varanasi,Niyogi Books

Pepin Van Roojen, Textile Motifs of India, Agile Rabbit



DOD4112

**ACCESSORY DESIGN****Course Intent:**

To develop a conceptual knowledge base and the tools required to understand the growing market and user needs, analyzing latest trends and deliver design solutions accordingly.

To understand the cultural aspects, traditional methods, design process to be able to combine technology and art in designing simple and innovative hand-held accessories.

**Course Contents:**

To give broad overview about the forecast trends, markets, supply-chain management, product categories, product development & marketing, methods of innovation necessary for accessory development.

To learn about various design techniques & methods of research required for designing, materials and manufacturing process, innovation in design, materials & technology in order to design various space and lifestyle accessories and products creating emotive connect and experience for the users.

To be able to develop an innovative and functional accessory and the ways in which it can be marketed.

Design Exercise: Various design exercises to create accessories for different settings, themes and project types.

**Course Outcome**

To research and document the user requirements & needs through interviews, storyboard, observations. To develop own design process and implement it in design of any accessory.

**Reference Books:**

Aneta Genova, Accessory Design by, 2011

John Lau, Basics Fashion Design 09: Designing Accessories, 2012

Karl Aspelund, The Design Process, 2006

Nigel Cross, Designerly Ways of Knowing, 2003

KeesDorst, Frame Innovation: Create New Thinking by Design, 2015

Jeff Gothelf, Sense and Respond: How Successful Organizations Listen to Customers and Create New Products Continuously

Hugh Dubberly, How do you design?

DOD4114

**INDUSTRIAL ARTS****Course Intent:**

This course deals with technology and industry and focuses on skill development. Industrial arts courses provide opportunities for students to study, observe, experiment, and work with industrial tools, machines, materials, and processes. For this elective the programs may include courses in any one or maximum two of the given areas in-depth:

Graphic arts, industrial crafts, industrial drawing, metalworking, glass works, and woodworking,

**Course Contents:**

In this Elective manual skills and mental abilities of students develop. The course will follow a practical hand-on approach wherein the main focus would be

- To develop an understanding and appreciation of industry;
- Teach students the use of industrial tools and machines
- To encourage creativity
- Teach the use of industrial materials and their characteristics
- Help students apply their knowledge and skills in industrial arts to other activities.

Example: Woodworking courses teach students how to make many useful items out of wood. Projects vary in size and difficulty from bookshelves to cabinets. Students use hand tools, such as chisels and hammers, and power tools, including jigsaws and wood-turning lathes. Some classes work in groups to learn mass-production techniques used by the woodworking industry. Other woodworking skills taught include finishing techniques, upholstery work, wood patternmaking for metal castings, and wood turning. Some woodworking courses teach carpentry skills.

**Course Outcome**

Students would have an understanding in processing of certain types of materials.

Will develop skills in applying creativity and exploring various possibilities with a certain material

Get acquainted with the use of industrial tools and machines. Will gain both theoretical and practical knowledge of industrial skills.

**REFERENCE BOOKS:**

Woodworking Basics: Mastering the Essentials of Craftsmanship - Peter Korn

DOD4116

**ADVERTISING & BRANDING****Course Intent:**

To give awareness on consumer behavior, ways of communicating in today's digital marketing world, how to build and design a brand and provide consumer experience. To understand the terms brand, branding and advertising and the context of use and implementation.

**Course Contents:**

Introduction to Advertising & Building a brand - How to build a brand through effective design, communication of brand philosophy to the user, brand activation, techniques of creating a memorable brand, building identity.

Design Elements - To study the various design elements that help in building strong brands like color, form, graphics, images, user behavior.

Strategies for branding - Acquire about various strategies on how to position the brand through creative platform and the impact of good storytelling, principles of traditional and non-traditional forms of advertising and their role in media allocation.

Case Studies - Analysis of competition, Advertising to position products and services, its creation of successful brands.

Project - Exercise oriented to branding and logo design.

**Course Outcome**

To document the user aspirations and create user profiles and personas suitable to the brand.

To develop a brand and identity through color palette, logo design and storytelling.

To innovate new ways of communicating and creating a memorable brand and differentiating from the others.

**Reference Books:**

Alina Wheeler, Designing Brand Identity: An Essential Guide for the Whole Branding Team.

Denise Lee John, What Great Brands Do: The Seven Brand-Building Principles that Separate the Best from the Rest.

Emily King, C/ID: Visual Identity and Branding for the Arts.

Debbie Millman, Brand Bible: The Complete Guide to Building, Designing and Sustaining Brands.

Sandu Cultural Media, Branding Typography.

David Airey, Logo Design Love.

Sven Ehmann & Sofia Borges, Brand Spaces.

DOD4118

**PROJECT MANAGEMENT****Course Intent:**

The course intends to create awareness of project management principles and various methods of scheduling and monitoring the interior design projects.

**Course Contents:**

Introduction to project management - Definitions and meanings, Importance, Reasons or shortfall in its performance, scientific management, life cycle of project.

Project Organization: matrix organization, task forces, project teams, Co-ordination of various teams involved in the project. Roles & responsibilities of Project Manager.

Project Objectives & Deliverables, WBS, Scope Management, Time Management, Scheduling, Preparation of Construction schedules, uses of scheduling, advantages of scheduling, classification of scheduling - Bar charts/Gantt charts, Milestone charts, Resource leveling.

Project Management through Networks-Network techniques; Interrelationship of events & activities; Dummy activities; Types of networks; Rules of drawing a network; Fulkerson's rule. Critical Path Method (CPM), Program Evaluation and Review Technique (PERT).

Case Studies-Application of knowledge & Understanding of project management tools for small ongoing interior projects.

**Course Outcome:**

The student should develop techniques of preparing schedules of time for the projects to execute efficiently.

**Reference Books:**

Dr. B.C.Punmia et al. Project planning and control with PERT and CPM, Laxmi Publications,  
Jerome D. Wiest and Ferdinand K. Levy, A Management Guide to PERT, CPM, prentice Hall of India  
Pub, Ltd., New Delhi, 1982

R.A. Burgess and G.White, Building production and project Management, The construction press,  
London, 1975

DOD4120

## PROFESSIONAL PRACTICE

**Course Intent:**

The course intends to equip the students with knowledge & skills of management of interior design office along with current practices, and codes of conduct required to enhance skills and techniques of handling residential and commercial interiors. It also intends to make them aware of process of tendering and contracts.

**Course Contents:**

Introduction: Interior design Profession, Code of Conduct & Ethics, Acts & Legislation, Duties & Liabilities, Role & Responsibility, Nature of Profession, Regulatory bodies, Professional bodies

Office Maintenance & Administration: Working of Interior Design Studio & ideal office structure; Distribution of work, authority, duties & responsibilities, reporting, etc. Basis for Professional Fees & Scales of fees; Accounting, maintenance of book of accounts and records.

Tenders: Tender Document Preparation, Types of Invitations (Public Notice, Private Invitation, Negotiation) Floating of Tender, Opening and award of Tender, Aspects of Tender: Units of measurement & modes of measurement; Contents of Tender Document: Undertaking from Contractor, Pre-qualification of tender, general conditions of tender. Contractual Procedures: Work order letter and acceptance letter, Interim bills and final bills, Bills certifications. Arbitration

Practice & Management: Types, Office set-up & administration, Registration, Practice Procedure; Expansions, Collaborations, Global practice. Coordination with supporting consultants; Task allocation - Work plans, monitoring the plans, review meetings, record keeping, Accounting, Human resources.

Design Competitions: Classification, benefits & drawbacks, methods, rules & regulations, Appointments & Duties of Assessors & Adviser. Withdrawal of Competition. Copyrights: meaning, importance & precautions. Portfolio making required for participating in an Interior Design Contest.

**Course Outcome:**

The student will be able to learn about codes of conduct for ethical practice; practices of tendering and contracting; various functional aspects of an interior design office/studio.

**Reference Books:**

Roshan Namavati, Architectural Detailing in Residential Interiors, Lakhani Book depot Publications  
C M Pitrowski, Professional Practice in Interior Design, Van Nostrand Reinhold publications.

Harry Siegel, CPA, Alan Sigel A Guide to Business Principle and Practices for Interior Designers  
Whitney library of design publications

An Introduction of Art, Craft, Science, Technique and profession of interior design, Ahmed A Kasu-6<sup>th</sup> edition Ashish Book Centre, Pune

DOD4122

**INTERIORS FOR OCCUPATIONAL DESIGN**

## Course Intent:

To identify and understand various indicators of workplace requirements and human efficiency for developing appropriate design of work environments.

## Course Contents:

Occupations and operations, functions and activities in various occupations, outputs from occupations; Physical working environment, spatial requirements, work culture, work flow and sequences, processes and systems; Items and equipment for work, functioning, effects and impacts, potential hazards.

Human resources, expectations; Needs-wants-wishes of human resources, psychological and physiological requirements for human efficiency; Study of human dimensions and actions - Anthropometrics and Bio-mechanics; factors affecting comfort and health of users; Occupational Health and Safety (OHS), collateral damages and benefits of appropriate work space design.

OHS management and administration, building codes and byelaws, Labor laws; Policies, charters and organizations for OHS; design requirements for achieving OHS, various levels of design interventions, design parameters for effective OHS, Ergonomics - detailing for work efficiency, occupational ergonomics; Case studies and projects for development of OHS as integral part of design.

## Course Outcome:

The course will enable designers to incorporate special requirements of users in the design for comfortable and healthy working environments, ultimately leading to enhanced work productivity.

## Reference Books:

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

DOD4009

**SURFACE ORNAMENTATION****COURSE INTENT:**

The course aims to explore the various techniques of fabric manipulation for creating surface ornamentation on fabric.

**COURSE CONTENTS:**

Module 1: Special embroideries

Module 2: Patch work and Applique work

Module 3: Smocking and Honey comb

Module 4: Creative surface ornamentation techniques

Module 5: Project: Developing a product with creative surface ornamentation technique with reference to Module 4.

Portfolio should include - Swatches developed for each module, Digital boards and the product.

**COURSE OUTCOMES:**

On completion of this module, students should be able to Understand and apply different methods of ornamenting the fabric using different fabric manipulation techniques.

**REFERENCES:**

Tomoko Nakamichi, Pattern Magic, (2010). Laurence King Publishers.

Barden B.(2003). Embroidery Stitch Bible. Search Press Publishers.

Gail Lather.(1993). Inspirational Ideas for Embroidery on cloths and Accessories.

Search Press Publishers

**DOD4011**

**MATERIAL EXPLORATION**

**COURSE INTENT**

The course exposes the students to various materials in design and encourages the student to explore the use of different materials in 3D forms.

**COURSE CONTENTS**

Module 1: Fabric Painting

Module 2: Form construction with paper

Module 3: Construction with wire or wood

Module 4: Macramé work

Module 5: Paper quilling work

Module 6: Clay work

Portfolio should include - Developmental sketches and stage wise photographs of the forms developed under the above modules.

**COURSE OUTCOMES**

On completion of this module, students should be able to Explore and handle different materials in designing.



**DOD4013****FASHION ACCESSORIES****COURSE INTENT**

The course introduces the students to the different segments of accessory industry. Designing of the accessory as per the user requirement is the key element of the course.

**COURSE CONTENTS**

Module 1: Fashion Accessories: Introduction, segments, materials of fashion accessories.

Module 2: Designing fashion accessories: Design process in designing the fashion accessories as per the concept given. Developing the prototype of the accessory.

**COURSE OUTCOMES**

On completion of this module, students should be able to

Design fashion accessories as per the garment requirements.

Exhibit understanding of the industry of fashion accessories which is an important segment of fashion industry.

**REFERENCES**

Celia Stall-Meadows. Know Your Fashion Accessories. Fairchild Publications

Craik, J. (2011). The Fashion Accessories Book. BERG Publications.

Gerval, O. (2010). Fashion Accessories (Studies in Fashion). Firefly Books.

Genova, A. (2011). Accessory Design. Fairchild Publications.

Meadows, C.S. (2004). Know Your Fashion Accessories. Fairchild Publications.

Peacock, J. (2000). Fashion Accessories: The Complete 20th Century Sourcebook. Thames and Hudson.

DOD4001

**ADVANCED COMPUTER GRAPHICS****Objective:**

The course shares In-depth understanding of 3D modeling through digital software to enable the student to make effective audio visual presentations, create three dimensional models and visualization of interiors. The intent is to possess intermediate to advanced skill with improvement in the speed and quality of modeling.

**Outline**

Creating solid models and surfaces using 3d modelling software such as: 3dsmax, Revit, Rhino etc..

Developing Interior Views and simple designs, applying materials and creating rendered images through rendering software's such as Lumion, V-Ray etc. Introduction to Animation.

**Reference Books**

Oscar Riera Ojed , Lucast Guerre, Hyper realistic Computer Generated Architectural Renderings .

Giuliano Zampi Conway Lloyd Morgan, Virtual Architecture.

Aidan Chopra, Rebecca Huehls, SketchUp For Dummies

Bonnie Roskes, Modeling with SketchUp for Interior Design

Daniel Tal, Rendering in SketchUp

Inside Rhinoceros 5 Ron K.C. Cheng

DOD4003

## CINEMATIC DESIGN

**Objective**

This course explores the world of production design and art direction for film. Students will also gain a historical perspective of how the role of production design has evolved and how advances in technology have influenced the various crafts.

**Outline**

The course focuses on the development of visual solutions based on in-depth text analysis, character study, the use of research to explore historical and sociological aspects of cultures, and the collaborative nature of the theatre.

The course focuses on developing the student in five separate areas: design, dramaturgy, production, and 2D/3D skills. The student is taught the importance of developing a project from the initial idea and presentation to making it a reality. It includes introduction to the many and varied techniques available to support the scenic design process for theater and film scenery.

Coursework also includes scale model-building techniques, Representation techniques, photography and rendering techniques, as well as presentation methodologies.

By watching films, analyzing concepts, using a series of practical paper/model projects this course includes the fundamentals of a production designer's approach towards visualizing and conceptualizing story including text interpretation, scenery for studio, location, color concepts and the collaborative relationship between direction, production designer, and cinematographer.

**Reference Books:**

Ulrich, Karl, and Steven Eppinger, Product Design and Development.

Thomke, Stefan, and Ashok Nimgade, "IDEO Product Development.

DOD4005

**GRAPHIC DESIGN****Objective**

To explore and investigate visual representation of data through a range of techniques and to understand basic working of elements and principle for composition in various mediums.

**Outline**

Fundamentals of graphic design: To convey denotative and connotative messages using analog and digital image making techniques. A Radical approach to learn typographic terminology and rules for creating typography in both functional and expressive manner. By means of elements - Shapes, Textures, patterns and colors, an abstract design is processed by composing work that ranges from complex to minimal. Plan, Grids and layout.

Progress in graphic design: Awareness of the relationship of design history in order to the create new designs in digital art. An outline of the evolution of Graphics from Industrialization to present: Various stylistic transformations, branding and other movements. Understanding the current design trends, tools, techniques for the future visions in the field of graphic design.

Branding & advertisement: To explore various types of logo design and study of brand and its identity. To comprehend and analyze different products, its material - medium of packaging and scheming based on the fundamentals of graphics to appeal the end users.

Application of graphics in Interior w.r.t colour)

Infographics & web design: To acquire knowledge on Plan, Grids and layout applied in infographics. To explore on making maps and various charts that focuses on bar, line, pie using software mediums like Adobe Photoshop, Illustrator and other page layout software's etc.

**Reference Books**

Mendiritta B D, Composing and typography today, 1983

Knuth Donald E, Digital typography, 1999

Heller Steven; Fernandes Teresa, Becoming a graphic designer, 2007

Gill Bob, Graphic design as a second language, 2003

Gordon Bob; Gordon Maggic, Complete guide to digital graphic design, 2002

Street Rita; Lewis Ferdinand, Touch: Graphic design with tactile appeal, 2001

DOD4007

**INTERIOR ILLUMINATION****Objective**

To acquire lighting design skills that provide a quality luminous environment using electric lighting, and its integration with daylighting, as a material that provides form and sensory qualities to spaces.

**Outline**

Introduction to Interior lighting - Overview of interior illumination and layers of lighting; Lighting fixtures and fittings.

Design systems - Analysis of various Lighting design and layouts in various commercial spaces, such as Museum, gallery, Retail showroom, Offices, etc. Understanding the implications of electric lighting on place making, spatial ordering, health, and human activities in indoor spaces.

Planning lighting - General aims, lighting needs, calculation of lighting levels, intensity levels, energy and installation costs and other factors, selection of fixtures, location and placing of fixtures. Principle of schematic lighting design and energy codes.

Smart lighting systems - Exploration of current tools, trends, materials, technology and energy efficient designs in lighting systems.

Design scheme - Project oriented for lighting design based on research investigation and conceptual approach with detailing and prototype.

**Reference Books**

John.F. Pile, Interior Design, 2nd edition, illustrated, H.N.Abrams, 1995.

Wanda jankowski, Lighting: In Architecture and Interior Design, pbc intl, 1995.

Moore Fuller, Concepts and practice of Architectural Day lighting, Van Nostrand Reinhold co., New York, 1985.

David Egan. M. Concepts in Architectural lighting Mcgraw Hill Book company, New York, 1983. Edward Lucie-Smith, Furniture: A Concise History (World of Art) , Thames and Hudson, 1985  
Robbie. G. Blakemore, History of Interior Design and Furniture: From Ancient Egypt to Nineteenth-Century Europe, Wiley publishers, 2005.

Robert J.Alonzo ,P.E.,Elsevier, Electrical Codes, Standards, Recommended Practices and Regulations.

National Lighting Code- Published by Govt of India,2011

**ARC - 2002****Creative Photography****Outline**

principles, recent advancements; significance, scope & purpose; types, composition, tools & equipment, technology, techniques, processes, presentation; categories-themes, location, objects, patterns, light & shade, nature, still photography, actions & expressions, details, culture, panorama, frames, metaphor etc.

**ARC 2004****Vastuvidya****Outline**

Introduction: Planning, designing & construction aspects of traditional Architecture in India- evaluation with the Understanding of context- relevance.

Concepts of Vastuvidya; Definition; Resource materials; Roles & duties of Silpis evolutionary nature of the discipline, basic unit of measurements- purushapramanam. Hastham. Padmam, angulam & yavam; vertical proportioning & Thalam concept.

Concept of Vastu: basic geometry, town planning; Planning, design & construction of temples & halls; secular buildings; Case studies. Investigation of Land: tests for suitability & determination of cardinal direction.

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

Concept of Mandala, technology in Vastuvidya, classification of materials, brief description of the characteristics & uses of sila, istaka, daru, loha, mrilsna, sudha; Assembly & joinery; Construction methods- Foundations. Walls, columns, utharam & roof structure, the system of proportional measurements & thumb rules.

**ARC 2006****Architectural Journalism**

Overview - Definition, Significance, scope, purpose, structure, principles, techniques, processes, mediums, study of potential readers, contemporary architectural journalism.

Documentation: study & analysis - Photo journalism, Book reviews Electronic media; check list, observations, field studies, interviews, questionnaires; Post occupancy evaluation, public perception, designer's opinions.

Writing techniques - Styles, format, purpose, medium, frequency, clear structure, coherent & distinctive look, visual appearance, graphic design, genres, image, descriptive & analytical reports.

Ethics, laws & legislations - Plagiarism, Intellectual property rights, Disclaimers, copyright, author's rights, patents & royalties, trade mark, legal boundaries, libel & invasions of privacy, permissions, references & credits.

Editing & Publishing - Proof reading, Editing techniques, Page make up, Layout, color scheme, Font, Abstract, Pictures, Ads, News, Photo editing - Book previews, Publishing - Print & Electronic.

## **ARC 2008**

## **Disaster Management**

### **Outline**

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

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

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

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

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

## **DOD2108**

## **OPEN ELECTIVE - II**

The students would be given an opportunity to choose the open elective from the courses offered by MAHE.

DOD3101

**INTERIOR DESIGN - HEALTH FACILITIES****Course Intent:**

This course introduces to the healthcare design for hospitals and healthcare institutions by understanding the basic spatial arrangement at micro level. Emphasis is placed on design development, space planning, furniture requirement, healing garden etc. in addition to exclusive furnishings and other technical aspects requires for user comfort.

**Course Contents:**

Understand the user needs and functioning (work flow) of healthcare settings and its interior environment.

Study of the behavioral psychology of the patients and other users to design for positive outcome.

Study of modular, customized furniture and requirement of the equipment applicable to health care spaces.

Specific study of material and surface finishes required for health care settings along with their properties, specifications, make/type, cost etc. for application in the interior for effective use and maintenance.

Application of above-mentioned aspects in interior design of health care settings.

**Course Outcome:**

Acquiring knowledge and skills of designing the interior spatial environment on various healthcare settings. Effective use of materials and finishes for enhancing the health outcomes of the patients and users.

**Reference Books:**

Richard L. Miller FAIA , Earl S. Swensson , J. Todd Robinson, Hospital and Healthcare Facility Design

Gail Vittori and Robin Guenther ,Sustainable Healthcare Architecture

Rosalyn Cama,Evidence-Based Healthcare Design

Sara O. Marberry,Healthcare Design

Cynthia S. McCullough, Evidence-based Design for Healthcare Facilities-

Cynthia Lei Brock ,Design Details for Health: Making the Most of Interior Design's Healing Potential



DOD3103

**LANDSCAPE DESIGN****Course Intent**

To introduce landscape design and its significance in interior design and to examine the psychological and sensual effects of plants and how landscape design can amalgamate the same with interior design.

**Course Contents**

Introduction to Landscape Design: About the Overview of Landscape, Scope of Landscape Designers as Professional, Introduction to history of gardening / landscape design globally. Understanding of the process of landscape design, like the basic principles of planting design and how to design and define a space using landscape elements.

Principles and Landscape Elements: Elements of landscape and their influence on exterior & interior. Interior landscaping design parameters like daylighting, lighting, temperature, humidity, Water Quality, the psychological effects of landscaping.

Landscape Services: Rainwater Harvesting, Irrigation, Firefighting, Lighting, Water Supply, urban farms. Importance ecological and sustainability issues related to landscape design.

Environment and Landscape: Elements of ecology and the principles which govern ecology, leading towards a better understanding of the environment.

Landscape Detailing: The design of a project where all the basic landscape design principles and techniques will be used in a chosen Residential site. The basic considerations of the project will include: hard and soft landscape design, major landscape design principles, and construction techniques. Incorporating widely used landscape techniques like vertical gardens, courtyards etc. to design of a built form.

**Course Outcome**

Ability to design contemporary, indigenous landscape design schemes and to apply knowledge of ecology and sustainability in landscape design. Understanding the issues related to the psychological effects of planting in interior and architectural designs.

**Reference Books:**

Norman K Booth, Residential Landscape Architecture: Design process for the Private Residence - Pearson Education, 3rd Edition, 2001.

Nelson R. Hammer, Interior Landscapes- An American Design Portfolio of Green Environments, Rockport, 1991

LeRoy G. Hannebaum, Landscape Design: A practical approach, Pearson Education, 5th Edition, 2001.

Fleming, John and Honour, Hugh, The Penguin Dictionary of Architecture and Landscape Architecture. 5th (revised) edition, Penguin, 2004.

Paul Cooper, The New Tech Garden, Mitchell Beazley, 2002

Frances Ya-Sing Tsu, Landscape Design in Chinese Gardens, McGraw-Hill, 1988

Virginia McLeod, Detail in Contemporary Landscape Architecture, Laurence King Publishing, 2008

Grant W. Reid, Landscape Graphics: Plan, Section, and Perspective Drawing of Landscape Book

DOD3105

## ESTIMATION AND SPECIFICATION

**Course Intent:**

The course intends to equip the students with knowledge & skills of estimating, costing, analyzing, rates; in order to foresee the cost of the work or to implement an interior design project & also to monitor/ control project cost.

**Course Contents:**

Estimation - Definition of estimates, Need for estimating, units and mode of measurement, concepts of guesswork, costing & rate analysis.

Methods of estimating (lump-sum, work specific, day-work, item-rate, etc.); costing (percentage basis, item rate basis, etc) & rate analysis (Primarily item rate basis),

Rate Analysis - definition, method of preparation, quantity & labor required for different interior works, analysis of rates for interior works- door and window frames, interior painting (white washing, distemper, and emulsion), fixed furniture, laying of wall tiles for kitchen and toilets.

Specifications - definition, uses, importance, types, requirements, points to be included in the specifications. Specification for different item related to interior design project - woodwork for door and window frames, partitions, wall paneling, false ceiling, electrical, plumbing, flooring, and interior painting.

Preparing bill of quantities from architects / interior Designer's scale drawings and pricing. Estimation of at least one complete interior project should be carried out.

**Course Outcome:**

The student should develop techniques of estimating and costing related to the interior projects. Preparing budget for the projects to execute efficiently.

**Reference Books:**

Carol Simpson, Estimating for Interior Designers, Watson Guptill, Rev. Sub edition, 2001.

S. C. Rangwala, Elements of Estimating and costing, Charoter publishing House, Anand, India, 1984.

Theo Susan, The interior designers guide: to pricing, estimating budgeting.

DOD4109

**ECO FRIENDLY INTERIORS****Course Intent:**

The course provides the student an opportunity to learn about materials that are ecofriendly and be used in interiors. Students learn the properties of the eco material to deeply understand the benefits that adhere to health and environment. Basic concepts of thermal comfort, innovative use of materials efficiency is focused upon.

**Course Contents:**

Introduction to ecofriendly materials, different types of ecofriendly materials and its applications on interior components, Criteria for ecofriendly materials.

Properties of some ecofriendly materials, Benefits and limitations of using ecofriendly materials.

Case studies of innovative use of ecofriendly materials in different spatial components of the buildings, techniques of construction and inferring them.

Interior landscaping, discuss and explain sustainable criteria, through which environmentally friendly, healthy and socially inclusive interior environments could be created.

Design self-sufficient interiors with self-sufficient energy, analyze, identify and apply design principles of sustainable design and create own ecofriendly solutions.

Design Exercise: A project design for a space (within 100 sq. m) such as café /boutique with ecofriendly materials.

**Course Outcome:**

By the end of classes, student would be able to understand the importance of ecofriendly materials in interiors and apply the principles, techniques to create a sustainable and ecofriendly interior project.

**Reference Books:**

Beylerian, George, *Ultra Materials: How Materials Innovation is changing the World*. M, Publisher: Thames & Hudson

Corky Binggeli, *Materials for Interior Environments*

Riggs Rosemary J., *Materials and components of Interior Design*

Bill maclay., *The new net zero: leading-edge design and construction of homes and buildings for a renewable energy future*

Max McMurdo, *Upcycling: 20 Creative Projects Made from Reclaimed Materials*

Mimi zeiger, *Micro green: tiny houses in nature*

DOD4111

**ADAPTIVE REUSE & RECYCLE**

**Course Intent:** To enable the student to understand the need for adaptive reuse of old heritage buildings and applications of using recycled materials. This course exposes students to learn the principles, examples and material knowledge for adaptive reuse and recycle interiors.

**Course Contents:**

Concept of Adaptive reuse and recycle, Introduction to adaptive reuse and recycle materials, different types of adaptive reuse and recycle materials, Criteria for adaptive reuse and recycle materials.

Principles followed during the reuse and recycle process, Benefits and limitations of using adaptive reuse and recycle methods and materials.

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

Cultural Inheritance, heritage buildings, Case studies of adaptive reuse and recycle methods and materials in different spatial components of the buildings, techniques of construction and inferring them.

Discuss and explain sustainable criteria, through which environmentally friendly, healthy and socially adaptive reuse and recycle can be achieved.

**Design exercise:** Design a space using reuse and recycle materials learned during the course and apply design principles of adaptive reuse and recycle and create own adaptive reuse and recycle solutions for the given space.

**Course Outcome:**

Students would be able to understand the importance of adaptive reuse and recycle methods and materials in interiors and apply the principles, techniques to create a sustainable and recycle interior projects.

**Reference Books**

Sandra F Mendler - The HOK Guide book for sustainable design - John Wiley and Sons, Canada, 2002.  
 Conservation guidelines for pondichery - DTCP, Pondichery - INTACH 2000.  
 Langston FKW Wong, Hui ECM, Shen LY (2008) Strategic assessment of Building Adaptive Reuse opportunities in Honk Kong. Building and Environment 10: 1709-1718.  
 Ouroussoff N (2011) An Architect's Fear That Preservation Distorts. Exhibition review Cronocaos an exhibition at the New Museum organized by Rem Koolhaas and ShoheiShigematsu, NEW-YORK TIMES.  
 Ching F (1979) Architecture Form, Space and Order. Van Nostrand Reinhold, NY.  
 Park O (2009) A Design Strategy for Transforming and Old Power Plant into a Cultural Canter. Submitted to the department of Architecture for the degree of Master of Architecture at the MIT  
 Latham D (2009) Creative Re-use of Buildings. Principles and Practice Building Types: Selected Examples. Donhead, Bath Press, Bath, UK p: 1.  
 Uffelen, Van C (2011) Re-Use Architecture. Braun publishing.

DOD4013

**HERITAGE INTERIORS****Course Intent:**

To create awareness about the rich Indian cultural heritage and understand importance of conserving the heritage in modern context.

To understand the spaces, volumes, materials, surfaces, constructive aspects, actual and past functions and configurations, degradation, etc. as a result of continuous modification through time.

**Course Contents:**

Broad overview about the Indian heritage since Indus valley civilization till post-colonial era.

To study about various region wise cultural impact on the elements of interior design.

To study the impact of living and working culture of different region on interior elements like floor, columns, wall, door, window, stair, roof etc.

Research and document existing interior elements in context of heritage.

Identify different construction techniques, and art and craft involved in making space.

Design Exercise: To Design a space in modern context using the knowledge of heritage interiors and elements from any region in India

**Course Outcome**

To be able to apply knowledge of heritage in modern day context through different space making elements.

**Reference Books:**

Sahaj: Vernacular Furniture of Gujarat by MitrajaBais, Jay Thakkar, Samrudha Dixit and Ben Cartwright

Crafts in Interior Architecture: India, 1990 onwards ,Rishav Jain

YatinPandya, Elements of Space-Making

Delhi : the built heritage : a listing. Vol.1. by Indian National Trust for Art & Cultural

Heritage[INTACH] Kabir, Humayun, Indian heritage. Senance, Bryan, Ceramics : a world guide to

traditional techniques by Naqsh : the art of wood carving in traditional houses of Gujarat : a focus

on ornamentation by Thakkar, Jay

DOD4015

**INCLUSIVE INTERIORS****Course Intent:**

To give awareness about understanding of small-scale interiors and user-centered design.

To give an introduction to principles of inclusive design and the ways of integration in spatial development.

**Course Contents:**

Understanding of human needs and diversity, human factors and human-centric design process.

Understanding various user abilities, skills and inabilities. To develop empathy through role playing.

Various principles of universal design to make inclusive spaces and the various ways the principles can be accommodated in spatial design in innovative ways.

Anthropometry, ergonomics, cognitive and physical behavior theories, mapping of various user flows, activities, accessibilities which can help in developing innovative and functional design solutions.

Investigate, document and present the complex connections and problems in socio-spatial environments.

A design exercise on context of Bathroom / Washroom.

**Course Outcome**

To identify problem, develop solution for creating inclusive environments for various spatial typologies.

**Reference Books:**

Roberto J Rangel, The Interior Plan by Inclusive Design-A Universal Need by Linda L Nussbaumer

Edward Steinfeld&JordanaMaisel, Universal Design-Creating Inclusive Environments

Edward Steinfeld&Jonathan White, Inclusive Housing: A Pattern book: Design for Diversity & Equality

DeChaira Joseph, Time-Saver Standards for Interior Design and Space Planning 2nd Edition

Mugendi K. M'Rithaa, Universal Design in Majority World Contexts

DOD4017

**RESEARCH FOR INTERIORS**

**Course Intent:** Research Methods for Interiors enables the students to improve the abilities and tools for solving a design problem or document an important aspect of the interiors in order to achieve creative excellence in the design of interior space from inception to the final solution.

**Course Contents:**

Significance of research in Interior Design; Role of environment behavior and psychology in research of Interiors; reliability of measurement, ethical issues.

Different types of research methods (Qualitative, quantitative etc)

Data collection methods- Preparation of questionnaires, Survey, Observation, case study, post-occupancy evaluation; Behavioral Mapping; documentation and interpretation; Selection of respondents and sampling procedures; techniques of analysis.

Collect the data and with the use of soft wares for analysis; presentation & interpretation methods (Bar charts, graphs) and techniques for the collected data

Emphasis on styles and writing of research reports, papers, article, critic and proposals.

**Course Outcome:**

The students study under the guidance of the faculty and by getting involved in field works, readings, discussions and lectures. The students are expected to apply the techniques of research on their selected course or topic. The course also prepares the students to disseminate knowledge through publications, conferences, teaching, and collaboration with various professionals in related fields.

**Reference Books:**

C.R.Kothari (2004), Research Methods & Methodology, New Age Publishers, New Delhi.

William G. Zikmund( 2002), Business Research , Thomson/South-Western, Australia

Dr.Catherine Dawson(2007), A Practical Guide to Research Methods,How to Books Ltd, U.K

Groat, Linda, & Wang, David. (2002). Architectural Research Methods. New York: John Wiley & Sons

DOD4019

## APPLIED SCIENCES IN INTERIORS

**Course Intent:** To study and incorporate principles and theories of sciences - physics, chemistry, botany, zoology and mathematics - in developing design concepts and details.

**Course Contents:**

Fundamentals of various sciences, relationships with human functions and behavior, search for presence of design theories in scientific theories, Why things happen, Systems of problem solving in nature, Sequences in natural and scientific processes, potential impact of sciences on development of design.

Fundamentals of Symmetry and Patterns, Evolution of Form, Bio-morphology, Microbiology, working of designs and details in nature, impact of chemical compositions and molecular structures on design, mathematical formulas and calculations for design development, laws of physics affecting design outcomes, material development, nanotechnology.

Functional inspirations from sciences, Form inspirations from sciences, scientific experiments - outcomes and relation with design, How things work: Evolution - innovation - function, contextual natural systems, science of modular, critical and creative thinking.

Application in design, Bio-mimicry, Works by Buckminster Fuller and concept of sustainable structures, Understanding Fibonacci series and the Golden Ratio, Exercises in - symmetry, Golden Ratio, proportion, geometry of objects, working details based on basic sciences, scientific reality checks.

**Course Outcome:** To develop lateral thinking to synergize science and design, identify and apply scientific knowledge into interior design outcomes.

**Reference Books:**

Livio, Mario; The Golden Ratio: The Story of Phi, the World's Most Astonishing Number, Publisher: Broadway, 2002

William Murphy, Pat Murphy: By Nature's Design (An Exploratorium Book), Publisher; Chronicle Books, 1993

Rudolf Steiner, David Booth; The Fourth Dimension: Sacred Geometry, Alchemy, and Mathematics, Steiner Books, 2001

Buckminster Fuller, Guinea Pig B: The 56 Year Experiment, Publisher: Critical Path Publishing, 2004

Darcy Wentworth Thompson, John Tyler Bonner (Editor); On Growth and Form, Publisher: Dover Publications, 19



DOD4021

## SPATIAL NARRATIVES

**Course Intent:**

To cultivate a deeper understanding about impact of design language on quality of interior spaces, and enhance ability to initiate persuasive psychological sense into design.

**Course Contents:**

Concepts of spatial narratives in built environment; significance; Terminologies; Environmental Psychology; Cognitive mapping; Defensible spaces, perceptions, association to a space. Elements leading to a perception & interpretation of built & urban space; Development of experiential quality; Interrelationships between a space & its user; Delineation of space; Stimulation of activities; Time scale & temporal transformations

Experiencing & perceiving interior spaces; Methods of comprehension; Spatial order; Sequence of experiencing a space; Understanding multi-layered information system in an interior space. Exploring spatial narratives: Case studies; Learnings from design reviews; Development of personal philosophies through primary experience; Critical analysis of experience through writings, visuals & sketches; Comparisons of interpretations.

**Course Outcome:**

The course will develop the skill of design purpose, philosophy and emotional quotient amongst students, with sensitization to design vocabulary.

**Reference Books:**

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

DOD4023

## SOCIOLOGY AND ANTHROPOLOGY STUDIES

**Course Intent:**

To understand the role of human characteristics in developing and strengthening design quality and appreciate user participation in design process.

**Course Contents:**

Anthropological studies of human development, biological - social - cultural - psychological anthropology, human behavior, development of societies, civilizations, ethnicity, nativity, migrations, adaptability, evolution and transformation of human living.

Impact of anthropology and sociology on settlements, functional aspirations, socio - cultural expressions, evolution of aesthetics - art, sculpture, music, writings, drama, architecture, interiors, detailing; Evolution of religion and impact on design, evolution of political sociology and impact on design, Linguistics, semiotics, trade and commerce, economic aspirations, ethnology, ethics.

Physical expression of socio-cultural aspects; development of design philosophies and language through civilizations; archaeological studies; Indian interiors & spatial narrative; Factors affecting the process of experiencing Indian interior design, its complexities, & spatial narrative; Impact of socio-cultural aspects; Religious complexes, civic buildings & fortified settlements.

**Course Outcome:**

The course will develop deeper understanding of users and skills of user-activity analysis for more relevant and acceptable design solutions in the society.

**Reference Books:**

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

DOD4125

**DESIGN JOURNALISM**

**Course Intent:** To study and incorporate principle theories of Journalism in Design.

**Course Contents:**

Introduction to Journalism: Introduction to news, Writing news, new value. Theoretical issues related to news writing.

News reporting: Parts of report, Sources of news and different beats like lifestyle, culture, health etc., headline writing. Types of articles, Interviews, Writing for different media, coverage of events.

Different Media of Communication and their coverage like television, social media, magazines, tabloids, newspapers etc.

Social media coverage of design - Blogging, Websites, portals, media interface.

Layout Designing : Principles of layout and practice session using InDesign Software

**Course Outcome:**

The course will develop the skill of design purpose, philosophy amongst students, with sensitization to journalism vocabulary.

DOD4127

**ADVANCED MATERIALS****Course Intent:**

This course introduces to the study of innovative materials and technologies which are available in the market with cost, maintenance and impact on environment for development of appropriate design decisions.

**Course Contents:**

Understand the advanced materials and technologies in terms of:

Need for advanced materials and technologies

Physical properties and visual characteristics of the materials studied.

Application, installation, maintenance and cost

Impact on environment - Green rating for materials

Trends in global and Indian market

Exploring a wide range of materials and technologies with regards to Automation, Advanced lighting technologies, HVAC and thermal comfort, wall coverings, Flooring, Smart furniture, Walling and partitions

Detailed study report on materials through case studies, factory visits, market studies

Design exercise: Design a space using advanced materials.

**Course Outcome:**

Knowledge of innovative materials and technologies, their applications in various spaces in interiors and being updated with current market trends.

**Reference Books:**

Refer research papers for material study and magazines for current trends.

DOD4129

**HEALTH AND INTERIOR DESIGN****Course Intent:**

The course focuses on the interior design of healthcare facilities.

**Course Contents:**

Hospitals and Nursing homes are a special category of buildings where functional aspects such as planning, building services & the creation of a sterile environment become important design issues. This project aims to familiarize the student with the interior design of critical health care spaces such as operation theatres, diagnostic facilities, outpatient department and inpatient rooms. The modern trends in hospital design challenge the designer to create world class ambience. The course will be achieved through research and numerous case studies and application of the inferences summarized.

**Introduction to healthcare facilities.**

An overview about the role and important aspects of interior design in healthcare environment. The hierarchy of hospital settings from which they understand interior spaces in terms of scale, context, users, functions etc. Significance of interior spatial planning and the role of Interior Designer in healthcare environment.

**Identification of issues in Hospital Environment**

Identifying spatial issues faced in interiors by users, management, healthcare providers etc. affecting the smooth functioning and the health of the users. Research on these issues to improve planning of Interior Spatial Environment in Hospitals.

**Framework of Interior Spatial Environment.**

Study of all aspects of spatial environment with respect to healthcare. To understand the healthcare industry per se and quality care in a healthcare environment. Insights into user needs, behavioral, technical aspects and elements, attributes, materials, finishes, textiles, furniture, furnishings, services etc. and their integration

**Critical Analysis of Healthcare Environments.**

A critical Case study to be undertaken for analyzing and evaluating spatial design to address the problems for better user outcomes and smooth functioning of the hospital.

**Course Outcome**

The students will develop awareness of the problems met in a healthcare environment and aesthetic considerations needed to meet for better user outcomes as an Interior Designer.

**Reference Books:**

Francis D.K. Ching and Corky Binggeli, Interior Design Illustrated, 1987

Jain Malkin, A Visual Reference for Evidence Based Design, 2008

Cynthia A. Liebrock and Debra Harris, Design Details for Health, 2000

D. Kirk Hamilton, 2013, Rigor and Research in Healthcare Design- Paperback,

Clare Cooper Marcus and Naomi A. Sachs, Therapeutic Landscapes, 2013

DOD4131

**DISASTER RESILIENT INTERIORS****Course Intent:**

To develop sensitivity and sensibility for designers to grasp the cause and effect of disasters in built environment, and actions to be taken for facing challenges of disasters.

**Course Contents:**

Disaster Management & its necessity; Types, characteristics, causes & impacts; Natural disasters, Manmade disasters, Epidemics; Institutional & Legal arrangement; NDMA; Financial arrangement; Role of Designer at all stages of Disaster Management.

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

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

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

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

**Course Outcome:**

The course will prepare interior designers to incorporate disaster management principles in the design process, to be able to minimize effects of disasters on users of designed spaces.

**Reference Books:**

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

**DOD3107**

**OPEN ELECTIVE - III**

The students would be given an opportunity to choose the open elective from the courses offered by MAHE.

**DOD3102**

**INTERNSHIP**

The student would be given an opportunity to do the internship in Architecture / Interior design firm for a period of one semester. The internship guidelines provided needs to be strictly adhered to.

**DOD3104**

**STUDY REPORT**

The study report needs to be submitted for one project taken-up during the internship as per the guidelines provided.

DOD4101

**INTERIOR DESIGN-CORPORATE**

**Course Intent:** To introduce the basics of designing for office interiors integrating the different services and to develop skills required for the same.

**Course Contents:**

Planning office - architects/interior designer office, lawyer, auditor, travel agent etc. upto 100 sq.m.

Interior designing for multi-functional, multi-level planning, design and detailing of various work spaces, interaction zones. Design of corporate environments such as BPO, corporate offices etc. Focusing on anthropometrics, ergonomics, space planning, modular furniture, color scheme, acoustics, integration of services-lighting, HVAC, firefighting as per the interior building codes.

**Course Outcome:**

The course will develop the skill of design vocabulary, enhance and sensitize the students in design preparation and its relation to user behavior patterns, use of space, integration of services etc.

**Reference Books:**

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.



DOD4103

**DESIGN DISSERTATION****Course Intent:**

Dissertation process will give opportunity to students to connect their research abilities on identifiable domain and demonstrate the research as application for a design project in the same identifiable manner.

**Course Contents:**

Research focus - Domain research will prepare the base work for thesis in final semester. Base work will involve scope of study, literature survey for identified parameters, methodology, data collection, secondary case studies, analysis, interpretation, primary guidelines. It will also involve identification of and preparation for case studies and site, and checklist for case and site studies.

The continuous progressive evaluation for the Inquiry will be through digital methods, culminating report on the study.

**Course Outcome:**

To develop integration, synthesis and application of research in Interior Design.

**Reference Books:**

John F. Pile, Abrams, Interior Design.

Brenda Laurel (Editor), Peter Lunenfeld, Design Research: Methods and Perspectives.

Zeisel John, Inquiry by Design.

Iain Borden, Katerina Ruedi, Dissertation - An Architectural Student's Handbook.

DOD4105

**WORKING DRAWING****Course Intent:**

To enable the students to learn the techniques of preparing the drawings which are used for execution of interior design at site

**Course Contents:**

Preparation of detailed drawings related to Kitchens, Toilets, Finishes (Flooring pattern in timber, stone and tiles, dadoing etc.), all furniture works in interior spaces

Working drawing of various services layouts - like plumbing and drainage layout, electrical layout, suspended ceiling layout etc.

The above drawings need to be prepared for one design project of residential or commercial design

**Course Outcome:**

The students shall be able to prepare drawings using any of the CAD techniques, the students shall mainly understand the grammar of the drawings.

**Reference Books:**

Chiava.J.&Callender.J, Time Savers Standards Design Data.

P.N. Khanna, Construction and material Handbook.

DOD4109

**ECO FRIENDLY INTERIORS****Course Intent:**

The course provides the student an opportunity to learn about materials that are ecofriendly and be used in interiors. Students learn the properties of the eco material to deeply understand the benefits that adhere to health and environment. Basic concepts of thermal comfort, innovative use of materials efficiency is focused upon.

**Course Contents:**

Introduction to ecofriendly materials, different types of ecofriendly materials and its applications on interior components, Criteria for ecofriendly materials.

Properties of some ecofriendly materials, Benefits and limitations of using ecofriendly materials.

Case studies of innovative use of ecofriendly materials in different spatial components of the buildings, techniques of construction and inferring them.

Interior landscaping, discuss and explain sustainable criteria, through which environmentally friendly, healthy and socially inclusive interior environments could be created.

Design self-sufficient interiors with self-sufficient energy, analyze, identify and apply design principles of sustainable design and create own ecofriendly solutions.

Design Exercise: A project design for a space (within 100 sq. m) such as café /boutique with ecofriendly materials.

**Course Outcome:**

By the end of classes, student would be able to understand the importance of ecofriendly materials in interiors and apply the principles, techniques to create a sustainable and ecofriendly interior project.

**Reference Books:**

Beylerian, George, Ultra Materials: How Materials Innovation is changing the World. M, Publisher: Thames & Hudson

Corky Binggeli, Materials for Interior Environments

Riggs Rosemary J., Materials and components of Interior Design

Bill maclay., The new net zero: leading-edge design and construction of homes and buildings for a renewable energy future

Max McMurdo, Upcycling: 20 Creative Projects Made from Reclaimed Materials

Mimi zeiger, Micro green: tiny houses in nature

DOD4111

**ADAPTIVE REUSE & RECYCLE**

**Course Intent:** To enable the student to understand the need for adaptive reuse of old heritage buildings and applications of using recycled materials. This course exposes students to learn the principles, examples and material knowledge for adaptive reuse and recycle interiors.

**Course Contents:**

Concept of Adaptive reuse and recycle, Introduction to adaptive reuse and recycle materials, different types of adaptive reuse and recycle materials, Criteria for adaptive reuse and recycle materials.

Principles followed during the reuse and recycle process, Benefits and limitations of using adaptive reuse and recycle methods and materials.

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

Cultural Inheritance, heritage buildings, Case studies of adaptive reuse and recycle methods and materials in different spatial components of the buildings, techniques of construction and inferring them.

Discuss and explain sustainable criteria, through which environmentally friendly, healthy and socially adaptive reuse and recycle can be achieved.

**Design exercise:** Design a space using reuse and recycle materials learned during the course and apply design principles of adaptive reuse and recycle and create own adaptive reuse and recycle solutions for the given space.

**Course Outcome:**

Students would be able to understand the importance of adaptive reuse and recycle methods and materials in interiors and apply the principles, techniques to create a sustainable and recycle interior projects.

**Reference Books**

Sandra F Mendler - The HOK Guide book for sustainable design - John Wiley and Sons, Canada, 2002.  
 Conservation guidelines for pondichery - DTCP, Pondichery - INTACH 2000.  
 Langston FKW Wong, Hui ECM, Shen LY (2008) Strategic assessment of Building Adaptive Reuse opportunities in Honk Kong. Building and Environment 10: 1709-1718.  
 Ouroussoff N (2011) An Architect's Fear That Preservation Distorts. Exhibition review Cronocaos an exhibition at the New Museum organized by Rem Koolhaas and ShoheiShigematsu, NEW-YORK TIMES.  
 Ching F (1979) Architecture Form, Space and Order. Van Nostrand Reinhold, NY.  
 Park O (2009) A Design Strategy for Transforming and Old Power Plant into a Cultural Canter. Submitted to the department of Architecture for the degree of Master of Architecture at the MIT  
 Latham D (2009) Creative Re-use of Buildings. Principles and Practice Building Types: Selected Examples. Donhead, Bath Press, Bath, UK p: 1.  
 Uffelen, Van C (2011) Re-Use Architecture. Braun publishing.

DOD4013

**HERITAGE INTERIORS****Course Intent:**

To create awareness about the rich Indian cultural heritage and understand importance of conserving the heritage in modern context.

To understand the spaces, volumes, materials, surfaces, constructive aspects, actual and past functions and configurations, degradation, etc. as a result of continuous modification through time.

**Course Contents:**

Broad overview about the Indian heritage since Indus valley civilization till post-colonial era.

To study about various region wise cultural impact on the elements of interior design.

To study the impact of living and working culture of different region on interior elements like floor, columns, wall, door, window, stair, roof etc.

Research and document existing interior elements in context of heritage.

Identify different construction techniques, and art and craft involved in making space.

Design Exercise: To Design a space in modern context using the knowledge of heritage interiors and elements from any region in India

**Course Outcome**

To be able to apply knowledge of heritage in modern day context through different space making elements.

**Reference Books:**

Sahaj: Vernacular Furniture of Gujarat by MitrajaBais, Jay Thakkar, Samrudha Dixit and Ben Cartwright

Crafts in Interior Architecture: India, 1990 onwards ,Rishav Jain

YatinPandya, Elements of Space-Making

Delhi : the built heritage : a listing. Vol.1. by Indian National Trust for Art & Cultural

Heritage[INTACH] Kabir, Humayun, Indian heritage. Senance, Bryan, Ceramics : a world guide to

traditional techniques by Naqsh : the art of wood carving in traditional houses of Gujarat : a focus on ornamentation by Thakkar, Jay

DOD4015

**INCLUSIVE INTERIORS****Course Intent:**

To give awareness about understanding of small-scale interiors and user-centered design.

To give an introduction to principles of inclusive design and the ways of integration in spatial development.

**Course Contents:**

Understanding of human needs and diversity, human factors and human-centric design process.

Understanding various user abilities, skills and inabilities. To develop empathy through role playing.

Various principles of universal design to make inclusive spaces and the various ways the principles can be accommodated in spatial design in innovative ways.

Anthropometry, ergonomics, cognitive and physical behavior theories, mapping of various user flows, activities, accessibilities which can help in developing innovative and functional design solutions.

Investigate, document and present the complex connections and problems in socio-spatial environments.

A design exercise on context of Bathroom / Washroom.

**Course Outcome**

To identify problem, develop solution for creating inclusive environments for various spatial typologies.

**Reference Books:**

Roberto J Rangel, The Interior Plan by Inclusive Design-A Universal Need by Linda L Nussbaumer

Edward Steinfeld&JordanaMaisel, Universal Design-Creating Inclusive Environments

Edward Steinfeld&Jonathan White, Inclusive Housing: A Pattern book: Design for Diversity & Equality

DeChaira Joseph, Time-Saver Standards for Interior Design and Space Planning 2nd Edition

Mugendi K. M'Rithaa, Universal Design in Majority World Contexts

DOD4017

**RESEARCH FOR INTERIORS**

**Course Intent:** Research Methods for Interiors enables the students to improve the abilities and tools for solving a design problem or document an important aspect of the interiors in order to achieve creative excellence in the design of interior space from inception to the final solution.

**Course Contents:**

Significance of research in Interior Design; Role of environment behavior and psychology in research of Interiors; reliability of measurement, ethical issues.

Different types of research methods (Qualitative, quantitative etc)

Data collection methods- Preparation of questionnaires, Survey, Observation, case study, post-occupancy evaluation; Behavioral Mapping; documentation and interpretation; Selection of respondents and sampling procedures; techniques of analysis.

Collect the data and with the use of soft wares for analysis; presentation & interpretation methods (Bar charts, graphs) and techniques for the collected data

Emphasis on styles and writing of research reports, papers, article, critic and proposals.

**Course Outcome:**

The students study under the guidance of the faculty and by getting involved in field works, readings, discussions and lectures. The students are expected to apply the techniques of research on their selected course or topic. The course also prepares the students to disseminate knowledge through publications, conferences, teaching, and collaboration with various professionals in related fields.

**Reference Books:**

C.R.Kothari (2004), Research Methods & Methodology, New Age Publishers, New Delhi.

William G. Zikmund( 2002), Business Research , Thomson/South-Western, Australia

Dr.Catherine Dawson(2007), A Practical Guide to Research Methods,How to Books Ltd, U.K

Groat, Linda, & Wang, David. (2002). Architectural Research Methods. New York: John Wiley & Sons

DOD4019

## APPLIED SCIENCES IN INTERIORS

**Course Intent:** To study and incorporate principles and theories of sciences - physics, chemistry, botany, zoology and mathematics - in developing design concepts and details.

**Course Contents:**

Fundamentals of various sciences, relationships with human functions and behavior, search for presence of design theories in scientific theories, Why things happen, Systems of problem solving in nature, Sequences in natural and scientific processes, potential impact of sciences on development of design.

Fundamentals of Symmetry and Patterns, Evolution of Form, Bio-morphology, Microbiology, working of designs and details in nature, impact of chemical compositions and molecular structures on design, mathematical formulas and calculations for design development, laws of physics affecting design outcomes, material development, nanotechnology.

Functional inspirations from sciences, Form inspirations from sciences, scientific experiments - outcomes and relation with design, How things work: Evolution - innovation - function, contextual natural systems, science of modular, critical and creative thinking.

Application in design, Bio-mimicry, Works by Buckminster Fuller and concept of sustainable structures, Understanding Fibonacci series and the Golden Ratio, Exercises in - symmetry, Golden Ratio, proportion, geometry of objects, working details based on basic sciences, scientific reality checks.

**Course Outcome:** To develop lateral thinking to synergize science and design, identify and apply scientific knowledge into interior design outcomes.

**Reference Books:**

Livio, Mario; The Golden Ratio: The Story of Phi, the World's Most Astonishing Number, Publisher: Broadway, 2002

William Murphy, Pat Murphy: By Nature's Design (An Exploratorium Book), Publisher; Chronicle Books, 1993

Rudolf Steiner, David Booth; The Fourth Dimension: Sacred Geometry, Alchemy, and Mathematics, Steiner Books, 2001

Buckminster Fuller, Guinea Pig B: The 56 Year Experiment, Publisher: Critical Path Publishing, 2004

Darcy Wentworth Thompson, John Tyler Bonner (Editor); On Growth and Form, Publisher: Dover Publications, 19



DOD4021

## SPATIAL NARRATIVES

**Course Intent:**

To cultivate a deeper understanding about impact of design language on quality of interior spaces, and enhance ability to initiate persuasive psychological sense into design.

**Course Contents:**

Concepts of spatial narratives in built environment; significance; Terminologies; Environmental Psychology; Cognitive mapping; Defensible spaces, perceptions, association to a space. Elements leading to a perception & interpretation of built & urban space; Development of experiential quality; Interrelationships between a space & its user; Delineation of space; Stimulation of activities; Time scale & temporal transformations

Experiencing & perceiving interior spaces; Methods of comprehension; Spatial order; Sequence of experiencing a space; Understanding multi-layered information system in an interior space. Exploring spatial narratives: Case studies; Learnings from design reviews; Development of personal philosophies through primary experience; Critical analysis of experience through writings, visuals & sketches; Comparisons of interpretations.

**Course Outcome:**

The course will develop the skill of design purpose, philosophy and emotional quotient amongst students, with sensitization to design vocabulary.

**Reference Books:**

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

DOD4023

## SOCIOLOGY AND ANTHROPOLOGY STUDIES

## Course Intent:

To understand the role of human characteristics in developing and strengthening design quality and appreciate user participation in design process.

## Course Contents:

Anthropological studies of human development, biological - social - cultural - psychological anthropology, human behavior, development of societies, civilizations, ethnicity, nativity, migrations, adaptability, evolution and transformation of human living.

Impact of anthropology and sociology on settlements, functional aspirations, socio - cultural expressions, evolution of aesthetics - art, sculpture, music, writings, drama, architecture, interiors, detailing; Evolution of religion and impact on design, evolution of political sociology and impact on design, Linguistics, semiotics, trade and commerce, economic aspirations, ethnology, ethics.

Physical expression of socio-cultural aspects; development of design philosophies and language through civilizations; archaeological studies; Indian interiors & spatial narrative; Factors affecting the process of experiencing Indian interior design, its complexities, & spatial narrative; Impact of socio-cultural aspects; Religious complexes, civic buildings & fortified settlements.

## Course Outcome:

The course will develop deeper understanding of users and skills of user-activity analysis for more relevant and acceptable design solutions in the society.

## Reference Books:

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

DOD4125

**DESIGN JOURNALISM**

**Course Intent:** To study and incorporate principle theories of Journalism in Design.

**Course Contents:**

Introduction to Journalism: Introduction to news, Writing news, new value. Theoretical issues related to news writing.

News reporting: Parts of report, Sources of news and different beats like lifestyle, culture, health etc, headline writing. Types of articles, Interviews, Writing for different media, coverage of events.

Different Media of Communication and their coverage like television, social media, magazines, tabloids, newspapers etc.

Social media coverage of design - Blogging, Websites, portals, media interface.

Layout Designing : Principles of layout and practice session using InDesign Software

**Course Outcome:**

The course will develop the skill of design purpose, philosophy amongst students, with sensitization to journalism vocabulary.

DOD4127

**ADVANCED MATERIALS****Course Intent:**

This course introduces to the study of innovative materials and technologies which are available in the market with cost, maintenance and impact on environment for development of appropriate design decisions.

**Course Contents:**

Understand the advanced materials and technologies in terms of:

Need for advanced materials and technologies

Physical properties and visual characteristics of the materials studied.

Application, installation, maintenance and cost

Impact on environment - Green rating for materials

Trends in global and Indian market

Exploring a wide range of materials and technologies with regards to Automation, Advanced lighting technologies, HVAC and thermal comfort, Wall coverings, Flooring, Smart furniture, Walling and partitions

Detailed study report on materials through case studies, factory visits, market studies

Design exercise: Design a space using advanced materials.

**Course Outcome:**

Knowledge of innovative materials and technologies, their applications in various spaces in interiors and being updated with current market trends.

**Reference Books:**

Refer research papers for material study and magazines for current trends.

DOD4129

**HEALTH AND INTERIOR DESIGN****Course Intent:**

The course focuses on the interior design of healthcare facilities.

**Course Contents:**

Hospitals and Nursing homes are a special category of buildings where functional aspects such as planning, building services & the creation of a sterile environment become important design issues. This project aims to familiarize the student with the interior design of critical health care spaces such as operation theatres, diagnostic facilities, outpatient department and inpatient rooms. The modern trends in hospital design challenge the designer to create world class ambience. The course will be achieved through research and numerous case studies and application of the inferences summarized.

**Introduction to healthcare facilities.**

An overview about the role and important aspects of interior design in healthcare environment. The hierarchy of hospital settings from which they understand interior spaces in terms of scale, context, users, functions etc. Significance of interior spatial planning and the role of Interior Designer in healthcare environment.

**Identification of issues in Hospital Environment**

Identifying spatial issues faced in interiors by users, management, healthcare providers etc. affecting the smooth functioning and the health of the users. Research on these issues to improve planning of Interior Spatial Environment in Hospitals.

**Framework of Interior Spatial Environment.**

Study of all aspects of spatial environment with respect to healthcare. To understand the healthcare industry per se and quality care in a healthcare environment. Insights into user needs, behavioral, technical aspects and elements, attributes, materials, finishes, textiles, furniture, furnishings, services etc. and their integration

**Critical Analysis of Healthcare Environments.**

A critical Case study to be undertaken for analyzing and evaluating spatial design to address the problems for better user outcomes and smooth functioning of the hospital.

**Course Outcome**

The students will develop awareness of the problems met in a healthcare environment and aesthetic considerations needed to meet for better user outcomes as an Interior Designer.

**Reference Books:**

Francis D.K. Ching and Corky Binggeli, Interior Design Illustrated, 1987

Jain Malkin, A Visual Reference for Evidence Based Design, 2008

Cynthia A. Liebrock and Debra Harris, Design Details for Health, 2000

D. Kirk Hamilton, 2013, Rigor and Research in Healthcare Design- Paperback,

Clare Cooper Marcus and Naomi A. Sachs, Therapeutic Landscapes, 2013

DOD4131

**DISASTER RESILIENT INTERIORS****Course Intent:**

To develop sensitivity and sensibility for designers to grasp the cause and effect of disasters in built environment, and actions to be taken for facing challenges of disasters.

**Course Contents:**

Disaster Management & its necessity; Types, characteristics, causes & impacts; Natural disasters, Manmade disasters, Epidemics; Institutional & Legal arrangement; NDMA; Financial arrangement; Role of Designer at all stages of Disaster Management.

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

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

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

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

**Course Outcome:**

The course will prepare interior designers to incorporate disaster management principles in the design process, to be able to minimize effects of disasters on users of designed spaces..

**Reference Books:**

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

DOD4107

**OPEN ELECTIVE - IV**

The students would be given an opportunity to choose the open elective from the courses offered by MAHE.

DOD4102

THESIS

**Course Intent:**

To develop design abilities for demonstration of research and base work studies done in dissertation for the identified domain to demonstrate in an interior design project.

**Course Contents:**

Design Development will have contents such as -Concept and Theme Development: Enclosures and envelops to formulate the volumes, response to functional spaces; Functionality: Spatial Organization and Planning; Derivation of quantitative aspect of spaces based on User-Activity Analysis, furniture / equipment, Anthropometry, Ergonomics, Layout, Circulation, etc.; qualitative aspects based on ambience.

Technical decisions- Constructional details and Material specification- Exploration and selection responding to functionality and aesthetics; Decisions for aesthetics: Color, textures, patterns, surface finishes, ornamentation, furnishings, accessories, interior Landscaping, etc. with reference to visual comfort and ambience in the interiors. Services - Mechanical and Environmental System: HVAC, electrical, firefighting, sanitary and plumbing, security, telecommunications, lifts, escalators, lighting and acoustical systems etc. responding to functionality and aesthetics.

It will be represented through various mediums such as sketches, conceptual drawings, design drawings, technical drawings, models and report. The complete Thesis Project will be guided by Individual Guide and Institutional Panel. The outcomes will be progressively evaluated by Independent Experts.

The continuous progressive evaluation for the Project will be through digital methods, where the students have to present their progressive work personally.

**Course Outcome:** The thesis shall encompass the learning and understanding of the four years of the course with respect to all aspects of interior design

DOD4104

**INTERIOR PORTFOLIO DEVELOPMENT****Course Intent:**

A professional portfolio is an essential aspect in career development, student or a professional is arbitrated based on how he/she portrays his/her designs briefly and creatively to the firm, clients etc. This course is intended to guide the student to make a professional portfolio by following key aspects and principles of portfolio making.

**Course Contents:**

Introduction to Professional Portfolio: Brief explanation on significance of portfolio in career and describing the essential content for portfolio by using best examples.

Formats & Mediums: Various formats to prepare portfolio based on orientation, page size, portfolio size for different mediums like online, offline etc. shall be exposed.

Selecting the best projects: With regards to all the academic projects, the best of works shall be chosen for the portfolio development.

Software Skills: Overview of various software tools like Adobe Photoshop, Adobe InDesign, and Coral draw etc. shall be explored, which aids them to present their content as per different formats and mediums.

Importance of line & Form development drawings: Significance of Line drawings and form development, to establish a relationship between the concept and design development for each project handled at various levels are included in the portfolio to enhance the design values.

Representation technique: Exposure towards current trends in representation, Color schemes and other relevant technique shall be developed for the compilation of the portfolio.

Portfolio Development: A student needs to develop their individual portfolio based up on various techniques that has been handled throughout the semester.

**Course Outcome**

This course develops the student to reflect their accomplishments, skills, designs, values and attributes in a resourceful way by creating the portfolio which enables to showcase the significant aspects of one's design.

**Reference books:**

Siprut Mark, Adobe Photoshop handbook

Ching, Francis. (1979). Architecture Form, Space and Order. Van Nostrand Reinhold Company, New York.

Broomer F. Gerald. (1974), Elements of Design: Space. Davis Publications Inc., Worcester, Massachusetts.

Kurty, Bruce D.s (1987), Visual Imagination - An Introduction of Art. Prentice Hall, New Jersey

Francis D.K. Ching - Interior Design Illustrated



DOD4108

## CREATIVE ARTS &amp; CRAFTS

**Course Intent:**

To provide the student of interior design a foundation in knowledge of the traditional and ethnic arts and crafts of India. To explore various aspect of arts and crafts, which can be applied in design of interiors.

**Course Contents:**

Study of the characteristics of Indian arts and crafts and its application in the interiors.

Introduction to creative arts and crafts in India - its application in interior design, materials, Art movements through history, Traditional arts and crafts of India, Folk arts of India

Traditional arts and crafts of various states of India including - Tamilnadu, Karnataka, Kerala, Andhra Pradesh, Goa, Rajasthan, Gujarat, Kutch, Uttar Pradesh, West Bengal, Orissa, Bihar, Jammu and Kashmir, etc. (*Refer from ID204 - History of Indian Art & Interior Design*)

Design Exercise: Creating decorative art objects and accessories using knowledge of the traditional arts of India

Assignment or projects on application of the Art in interior spaces such as Reception, Lobby spaces space in different typology.

**Course Outcome:** To be able to apply knowledge of the traditional arts and crafts of India and apply it in design of spaces in Contemporary context

**REFERENCE BOOKS:**

Ranjan Aditi, Handmade in India: Crafts of India, Mapin Publishing Pvt.Ltd,2009

Edith Thomory, A History of fine arts in India and the west, Orient Longman publishers Pvt Ltd, New Delhi.

Publication on Traditional arts and crafts on India, Ministry of Handicrafts Development, Government of India.

Johannes Itten, The Art of color, John Wiley and Sons, USA, 1973.

DOD4110

**FABRIC IN INTERIOR DESIGN**

**Course Intent:** To familiarize the students of Interior Design on textile materials that can be used in interior Design. To have an awareness of the rich and the varied types of fabrics, textiles and fabric art and craft in India

**Course Contents:**

Introduction To Fabrics: Fabric types and classification- woven, including plain, twill, satin, Jacquard, crepe and pile weaves, knitted, non-woven etc. Identification and properties of fabrics, yarns and fibers. Other natural materials, Jute, kinds of processed leather, its application in interior design

Textile arts and crafts in India, traditional and modern materials and methods.

Types of embellishments / patterns / surface designs.

Fabric coloration and decoration- Principles of applying color to fabrics.

Preparing samples on tie and die printing, batik printing, appliqué, macramé and braiding.

Furnishings-types of furnishings, selection of material, design based on aesthetics, function and properties, care and maintenance

Design exercises: Assignments on applications of various types of fabrics, Surface development of fabric or fabric art in a creative/thematic design project

**Course Outcome:** knowledge and understanding of the functional and aesthetic requirements of textiles for a range of applications, Understanding of textile heritage in India

**Reference books:**

Introduction to home furnishings, Stepat, D.D,1991,Themacmillancompany,New York.  
 The themes and Hudson manual of textile printing ,Storeyjoyce ,1992, London  
 Colour in interior Design Jhon,F.P, 1997, Mc Graw Hill Company  
 Martand Singh, Handcrafted Indian Textiles, Lustre  
 AsharaniMathur, Woven Wonder: The Tradition of Indian Textiles, BPI India Pvt Ltd  
 Shailaja D. Naik , Traditional Embroideries of India  
 Jaya Jaitly, Woven Textiles Of Varanasi,Niyogi Books  
 Pepin Van Roojen, Textile Motifs of India, Agile Rabbit

DOD4112

**ACCESSORY DESIGN****Course Intent:**

To develop a conceptual knowledge base and the tools required to understand the growing market and user needs, analyzing latest trends and deliver design solutions accordingly.

To understand the cultural aspects, traditional methods, design process to be able to combine technology and art in designing simple and innovative hand-held accessories.

**Course Contents:**

To give broad overview about the forecast trends, markets, supply-chain management, product categories, product development & marketing, methods of innovation necessary for accessory development.

To learn about various design techniques & methods of research required for designing, materials and manufacturing process, innovation in design, materials & technology in order to design various space and lifestyle accessories and products creating emotive connect and experience for the users.

To be able to develop an innovative and functional accessory and the ways in which it can be marketed.

Design Exercise: Various design exercises to create accessories for different settings, themes and project types.

**Course Outcome**

To research and document the user requirements & needs through interviews, storyboard, observations. To develop own design process and implement it in design of any accessory.

**Reference Books:**

Aneta Genova, Accessory Design by, 2011

John Lau, Basics Fashion Design 09: Designing Accessories, 2012

Karl Aspelund, The Design Process, 2006

Nigel Cross, Designerly Ways of Knowing, 2003

KeesDorst, Frame Innovation: Create New Thinking by Design, 2015

Jeff Gothelf, Sense and Respond: How Successful Organizations Listen to Customers and Create New Products Continuously

Hugh Dubberly, How do you design?

DOD4114

**INDUSTRIAL ARTS****Course Intent:**

This course deals with technology and industry and focuses on skill development. Industrial arts courses provide opportunities for students to study, observe, experiment, and work with industrial tools, machines, materials, and processes. For this elective the programs may include courses in any one or maximum two of the given areas in-depth:

Graphic arts, industrial crafts, industrial drawing, metalworking, glass works, and woodworking,

**Course Contents:**

In this Elective manual skills and mental abilities of students develop. The course will follow a practical hand-on approach wherein the main focus would be

- To develop an understanding and appreciation of industry;
- Teach students the use of industrial tools and machines
- To encourage creativity
- Teach the use of industrial materials and their characteristics
- Help students apply their knowledge and skills in industrial arts to other activities.

Example: Woodworking courses teach students how to make many useful items out of wood. Projects vary in size and difficulty from bookshelves to cabinets. Students use hand tools, such as chisels and hammers, and power tools, including jigsaws and wood-turning lathes. Some classes work in groups to learn mass-production techniques used by the woodworking industry. Other woodworking skills taught include finishing techniques, upholstery work, wood patternmaking for metal castings, and wood turning. Some woodworking courses teach carpentry skills.

**Course Outcome**

Students would have an understanding in processing of certain types of materials.

Will develop skills in applying creativity and exploring various possibilities with a certain material

Get acquainted with the use of industrial tools and machines. Will gain both theoretical and practical knowledge of industrial skills.

**REFERENCE BOOKS:**

Woodworking Basics: Mastering the Essentials of Craftsmanship - Peter Korn

DOD4116

**ADVERTISING & BRANDING****Course Intent:**

To give awareness on consumer behavior, ways of communicating in today's digital marketing world, how to build and design a brand and provide consumer experience. To understand the terms brand, branding and advertising and the context of use and implementation.

**Course Contents:**

Introduction to Advertising & Building a brand - How to build a brand through effective design, communication of brand philosophy to the user, brand activation, techniques of creating a memorable brand, building identity.

Design Elements - To study the various design elements that help in building strong brands like color, form, graphics, images, user behavior.

Strategies for branding - Acquire about various strategies on how to position the brand through creative platform and the impact of good storytelling, principles of traditional and non-traditional forms of advertising and their role in media allocation.

Case Studies - Analysis of competition, Advertising to position products and services, its creation of successful brands.

Project - Exercise oriented to branding and logo design.

**Course Outcome**

To document the user aspirations and create user profiles and personas suitable to the brand.

To develop a brand and identity through color palette, logo design and storytelling.

To innovate new ways of communicating and creating a memorable brand and differentiating from the others.

**Reference Books:**

Alina Wheeler, Designing Brand Identity: An Essential Guide for the Whole Branding Team.

Denise Lee John, What Great Brands Do: The Seven Brand-Building Principles that Separate the Best from the Rest.

Emily King, C/ID: Visual Identity and Branding for the Arts.

Debbie Millman, Brand Bible: The Complete Guide to Building, Designing and Sustaining Brands.

Sandu Cultural Media, Branding Typography.

David Airey, Logo Design Love.

Sven Ehmann & Sofia Borges, Brand Spaces.

DOD4118

**PROJECT MANAGEMENT****Course Intent:**

The course intends to create awareness of project management principles and various methods of scheduling and monitoring the interior design projects.

**Course Contents:**

Introduction to project management - Definitions and meanings, Importance, Reasons or shortfall in its performance, scientific management, life cycle of project.

Project Organization: matrix organization, task forces, project teams, Co-ordination of various teams involved in the project. Roles & responsibilities of Project Manager.

Project Objectives & Deliverables, WBS, Scope Management, Time Management, Scheduling, Preparation of Construction schedules, uses of scheduling, advantages of scheduling, classification of scheduling - Bar charts/Gantt charts, Milestone charts, Resource leveling.

Project Management through Networks-Network techniques; Interrelationship of events & activities; Dummy activities; Types of networks; Rules of drawing a network; Fulkerson's rule. Critical Path Method (CPM), Program Evaluation and Review Technique (PERT).

Case Studies-Application of knowledge & Understanding of project management tools for small ongoing interior projects.

**Course Outcome:**

The student should develop techniques of preparing schedules of time for the projects to execute efficiently.

**Reference Books:**

Dr. B.C.Punmia et al. Project planning and control with PERT and CPM, Laxmi Publications,  
Jerome D. Wiest and Ferdinand K. Levy, A Management Guide to PERT, CPM, prentice Hall of India Pub, Ltd., New Delhi, 1982

R.A. Burgess and G.White, Building production and project Management, The construction press, London, 1975

DOD4120

## PROFESSIONAL PRACTICE

**Course Intent:**

The course intends to equip the students with knowledge & skills of management of interior design office along with current practices, and codes of conduct required to enhance skills and techniques of handling residential and commercial interiors. It also intends to make them aware of process of tendering and contracts.

**Course Contents:**

Introduction: Interior design Profession, Code of Conduct & Ethics, Acts & Legislation, Duties & Liabilities, Role & Responsibility, Nature of Profession, Regulatory bodies, Professional bodies

Office Maintenance & Administration: Working of Interior Design Studio & ideal office structure; Distribution of work, authority, duties & responsibilities, reporting, etc. Basis for Professional Fees & Scales of fees; Accounting, maintenance of book of accounts and records.

Tenders: Tender Document Preparation, Types of Invitations (Public Notice, Private Invitation, Negotiation) Floating of Tender, Opening and award of Tender, Aspects of Tender: Units of measurement & modes of measurement; Contents of Tender Document: Undertaking from Contractor, Pre-qualification of tender, general conditions of tender. Contractual Procedures: Work order letter and acceptance letter, Interim bills and final bills, Bills certifications. Arbitration

Practice & Management: Types, Office set-up & administration, Registration, Practice Procedure; Expansions, Collaborations, Global practice. Coordination with supporting consultants; Task allocation - Work plans, monitoring the plans, review meetings, record keeping, Accounting, Human resources.

Design Competitions: Classification, benefits & drawbacks, methods, rules & regulations, Appointments & Duties of Assessors & Adviser. Withdrawal of Competition. Copyrights: meaning, importance & precautions. Portfolio making required for participating in an Interior Design Contest.

**Course Outcome:**

The student will be able to learn about codes of conduct for ethical practice; practices of tendering and contracting; various functional aspects of an interior design office/studio.

**Reference Books:**

Roshan Namavati, Architectural Detailing in Residential Interiors, Lakhani Book depot Publications  
C M Pitrowski, Professional Practice in Interior Design, Van Nostrand Reinhold publications.

Harry Siegel, CPA, Alan Sigel A Guide to Business Principle and Practices for Interior Designers  
Whitney library of design publications

An Introduction of Art, Craft, Science, Technique and profession of interior design, Ahmed A Kasu-6<sup>th</sup> edition Ashish Book Centre, Pune

DOD4122

**INTERIORS FOR OCCUPATIONAL DESIGN****Course Intent:**

To identify and understand various indicators of workplace requirements and human efficiency for developing appropriate design of work environments.

**Course Contents:**

Occupations and operations, functions and activities in various occupations, outputs from occupations; Physical working environment, spatial requirements, work culture, work flow and sequences, processes and systems; Items and equipment for work, functioning, effects and impacts, potential hazards.

Human resources, expectations; Needs-wants-wishes of human resources, psychological and physiological requirements for human efficiency; Study of human dimensions and actions - Anthropometrics and Bio-mechanics; factors affecting comfort and health of users; Occupational Health and Safety (OHS), collateral damages and benefits of appropriate work space design.

OHS management and administration, building codes and byelaws, Labor laws; Policies, charters and organizations for OHS; design requirements for achieving OHS, various levels of design interventions, design parameters for effective OHS, Ergonomics - detailing for work efficiency, occupational ergonomics; Case studies and projects for development of OHS as integral part of design.

**Course Outcome:**

The course will enable designers to incorporate special requirements of users in the design for comfortable and healthy working environments, ultimately leading to enhanced work productivity.

**Reference Books:**

Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.

Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching& Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.



DOD4009

**SURFACE ORNAMENTATION****COURSE INTENT:**

The course aims to explore the various techniques of fabric manipulation for creating surface ornamentation on fabric.

**COURSE CONTENTS:**

Module 1: Special embroideries

Module 2: Patch work and Applique work

Module 3: Smocking and Honey comb

Module 4: Creative surface ornamentation techniques

Module 5: Project: Developing a product with creative surface ornamentation technique with reference to Module 4.

Portfolio should include - Swatches developed for each module, Digital boards and the product.

**COURSE OUTCOMES:**

On completion of this module, students should be able to Understand and apply different methods of ornamenting the fabric using different fabric manipulation techniques.

**REFERENCES:**

Tomoko Nakamichi, Pattern Magic, (2010). Laurence King Publishers.

Barden B.(2003). Embroidery Stitch Bible. Search Press Publishers.

Gail Lather.(1993). Inspirational Ideas for Embroidery on cloths and Accessories.

Search Press Publishers

**DOD4011**

**MATERIAL EXPLORATION**

**COURSE INTENT**

The course exposes the students to various materials in design and encourages the student to explore the use of different materials in 3D forms.

**COURSE CONTENTS**

Module 1: Fabric Painting

Module 2: Form construction with paper

Module 3: Construction with wire or wood

Module 4: Macramé work

Module 5: Paper quilling work

Module 6: Clay work

Portfolio should include - Developmental sketches and stage wise photographs of the forms developed under the above modules.

**COURSE OUTCOMES**

On completion of this module, students should be able to Explore and handle different materials in designing.

**DOD4013****FASHION ACCESSORIES****COURSE INTENT**

The course introduces the students to the different segments of accessory industry. Designing of the accessory as per the user requirement is the key element of the course.

**COURSE CONTENTS**

Module 1: Fashion Accessories: Introduction, segments, materials of fashion accessories.

Module 2: Designing fashion accessories: Design process in designing the fashion accessories as per the concept given. Developing the prototype of the accessory.

**COURSE OUTCOMES**

On completion of this module, students should be able to

Design fashion accessories as per the garment requirements.

Exhibit understanding of the industry of fashion accessories which is an important segment of fashion industry.

**REFERENCES**

Celia Stall-Meadows. Know Your Fashion Accessories. Fairchild Publications

Craik, J. (2011). The Fashion Accessories Book. BERG Publications.

Gerval, O. (2010). Fashion Accessories (Studies in Fashion). Firefly Books.

Genova, A. (2011). Accessory Design. Fairchild Publications.

Meadows, C.S. (2004). Know Your Fashion Accessories. Fairchild Publications.

Peacock, J. (2000). Fashion Accessories: The Complete 20th Century Sourcebook. Thames and Hudson.

DOD4001

**ADVANCED COMPUTER GRAPHICS****Objective:**

The course shares In-depth understanding of 3D modeling through digital software to enable the student to make effective audio visual presentations, create three dimensional models and visualization of interiors. The intent is to possess intermediate to advanced skill with improvement in the speed and quality of modeling.

**Outline**

Creating solid models and surfaces using 3d modelling software such as: 3dsmax, Revit, Rhino etc..

Developing Interior Views and simple designs, applying materials and creating rendered images through rendering software's such as Lumion, V-Ray etc. Introduction to Animation.

**Reference Books**

Oscar Riera Ojed , Lucast Guerre, Hyper realistic Computer Generated Architectural Renderings .

Giuliano Zampi Conway Lloyd Morgan, Virtual Architecture.

Aidan Chopra, Rebecca Huehls, SketchUp For Dummies

Bonnie Roskes, Modeling with SketchUp for Interior Design

Daniel Tal, Rendering in SketchUp

Inside Rhinoceros 5 Ron K.C. Cheng

DOD4003

## CINEMATIC DESIGN

**Objective**

This course explores the world of production design and art direction for film. Students will also gain a historical perspective of how the role of production design has evolved and how advances in technology have influenced the various crafts.

**Outline**

The course focuses on the development of visual solutions based on in-depth text analysis, character study, the use of research to explore historical and sociological aspects of cultures, and the collaborative nature of the theatre.

The course focuses on developing the student in five separate areas: design, dramaturgy, production, and 2D/3D skills. The student is taught the importance of developing a project from the initial idea and presentation to making it a reality. It includes introduction to the many and varied techniques available to support the scenic design process for theater and film scenery.

Coursework also includes scale model-building techniques, Representation techniques, photography and rendering techniques, as well as presentation methodologies.

By watching films, analyzing concepts, using a series of practical paper/model projects this course includes the fundamentals of a production designer's approach towards visualizing and conceptualizing story including text interpretation, scenery for studio, location, color concepts and the collaborative relationship between direction, production designer, and cinematographer.

**Reference Books:**

Ulrich, Karl, and Steven Eppinger, Product Design and Development.

Thomke, Stefan, and Ashok Nimgade, "IDEO Product Development.

DOD4005

**GRAPHIC DESIGN****Objective**

To explore and investigate visual representation of data through a range of techniques and to understand basic working of elements and principle for composition in various mediums.

**Outline**

Fundamentals of graphic design: To convey denotative and connotative messages using analog and digital image making techniques. A Radical approach to learn typographic terminology and rules for creating typography in both functional and expressive manner. By means of elements - Shapes, Textures, patterns and colors, an abstract design is processed by composing work that ranges from complex to minimal. Plan, Grids and layout.

Progress in graphic design: Awareness of the relationship of design history in order to the create new designs in digital art. An outline of the evolution of Graphics from Industrialization to present: Various stylistic transformations, branding and other movements. Understanding the current design trends, tools, techniques for the future visions in the field of graphic design.

Branding & advertisement: To explore various types of logo design and study of brand and its identity. To comprehend and analyze different products, its material - medium of packaging and scheming based on the fundamentals of graphics to appeal the end users.

Application of graphics in Interior w.r.t colour)

Infographics & web design: To acquire knowledge on Plan, Grids and layout applied in infographics. To explore on making maps and various charts that focuses on bar, line, pie using software mediums like Adobe Photoshop, Illustrator and other page layout software's etc.

**Reference Books**

Mendiritta B D, Composing and typography today, 1983

Knuth Donald E, Digital typography, 1999

Heller Steven; Fernandes Teresa, Becoming a graphic designer, 2007

Gill Bob, Graphic design as a second language, 2003

Gordon Bob; Gordon Maggic, Complete guide to digital graphic design, 2002

Street Rita; Lewis Ferdinand, Touch: Graphic design with tactile appeal, 2001

DOD4007

**INTERIOR ILLUMINATION****Objective**

To acquire lighting design skills that provide a quality luminous environment using electric lighting, and its integration with daylighting, as a material that provides form and sensory qualities to spaces.

**Outline**

Introduction to Interior lighting - Overview of interior illumination and layers of lighting; Lighting fixtures and fittings.

Design systems - Analysis of various Lighting design and layouts in various commercial spaces, such as Museum, gallery, Retail showroom, Offices, etc. Understanding the implications of electric lighting on place making, spatial ordering, health, and human activities in indoor spaces.

Planning lighting - General aims, lighting needs, calculation of lighting levels, intensity levels, energy and installation costs and other factors, selection of fixtures, location and placing of fixtures. Principle of schematic lighting design and energy codes.

Smart lighting systems - Exploration of current tools, trends, materials, technology and energy efficient designs in lighting systems.

Design scheme - Project oriented for lighting design based on research investigation and conceptual approach with detailing and prototype.

**Reference Books**

John.F. Pile, Interior Design, 2nd edition, illustrated, H.N.Abrams, 1995.

Wanda jankowski, Lighting: In Architecture and Interior Design, pbc intl, 1995.

Moore Fuller, Concepts and practice of Architectural Day lighting, Van Nostrand Reinhold co., New York, 1985.

David Egan. M. Concepts in Architectural lighting Mcgraw Hill Book company, New York, 1983. Edward Lucie-Smith, Furniture: A Concise History (World of Art) , Thames and Hudson, 1985  
Robbie. G. Blakemore, History of Interior Design and Furniture: From Ancient Egypt to Nineteenth-Century Europe, Wiley publishers, 2005.

Robert J.Alonzo ,P.E.,Elsevier, Electrical Codes, Standards, Recommended Practices and Regulations.

National Lighting Code- Published by Govt of India,2011

**ARC - 2002****Creative Photography****Outline**

principles, recent advancements; significance, scope & purpose; types, composition, tools & equipment, technology, techniques, processes, presentation; categories-themes, location, objects, patterns, light & shade, nature, still photography, actions & expressions, details, culture, panorama, frames, metaphor etc.

**ARC 2004****Vastuvidya****Outline**

Introduction: Planning, designing & construction aspects of traditional Architecture in India- evaluation with the Understanding of context- relevance.

Concepts of Vastuvidya; Definition; Resource materials; Roles & duties of Silpis evolutionary nature of the discipline, basic unit of measurements- purushapramanam. Hastham. Padmam, angulam & yavam; vertical proportioning & Thalam concept.

Concept of Vastu: basic geometry, town planning; Planning, design & construction of temples & halls; secular buildings; Case studies. Investigation of Land: tests for suitability & determination of cardinal direction.

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

Concept of Mandala, technology in Vastuvidya, classification of materials, brief description of the characteristics & uses of sila, istaka, daru, loha, mnilsna, sudha; Assembly & joinery; Construction methods- Foundations. Walls, columns, utharam & roof structure, the system of proportional measurements & thumb rules.

**ARC 2006****Architectural Journalism**

Overview - Definition, Significance, scope, purpose, structure, principles, techniques, processes, mediums, study of potential readers, contemporary architectural journalism.

Documentation: study & analysis - Photo journalism, Book reviews Electronic media; check list, observations, field studies, interviews, questionnaires; Post occupancy evaluation, public perception, designer's opinions.

Writing techniques - Styles, format, purpose, medium, frequency, clear structure, coherent & distinctive look, visual appearance, graphic design, genres, image, descriptive & analytical reports.



Ethics, laws & legislations - Plagiarism, Intellectual property rights, Disclaimers, copyright, author's rights, patents & royalties, trade mark, legal boundaries, libel & invasions of privacy, permissions, references & credits.

Editing & Publishing - Proof reading, Editing techniques, Page make up, Layout, color scheme, Font, Abstract, Pictures, Ads, News, Photo editing - Book previews, Publishing - Print & Electronic.

## **ARC 2008**

## **Disaster Management**

### **Outline**

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

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

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

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

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

Note: With regards to Open elective and Internship, An individual manual is to be referred and adhered by the students.