



B.S. Abdur Rahman
Crescent
Institute of Science & Technology
Deemed to be University u/s 3 of the UGC Act, 1956
GST Road, Vandalur, Chennai 600 048

REGULATIONS 2017

SYLLABI (I - VIII Semesters)

**B.DES
(INTERIOR ARCHITECTURE)**

B.S. ABDUR RAHMAN INSTITUTE OF SCIENCE AND TECHNOLOGY

Vandalur, Chennai – 600048

B.DES. INTERIOR ARCHITECTURE**CURRICULUM & SYLLABUS, REGULATIONS 2017****SEMESTER I**

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C	
1.	Studio	IA C 1101	Basic Studio- I	0	0	11	6	
2.	Theory cum studio	IA C 1102	Allied Design Studio- I	2	0	4	4	
3.	Theory cum studio	IA C 1103	Workshop- I	1	0	4	3	
4.	Theory cum studio	IA C 1104	Integrated Design Studio- I	1	0	4	3	
5.	Theory	IA C 1105	Skill Development	2	0	0	2	
6.	Theory	IA C 1106	Theory of Design	3	0	0	3	21

SEMESTER II

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C	
1.	Studio	IA C 1201	Interior Design Studio- I	0	0	11	6	
2.	Theory cum studio	IA C 1202	Allied Design Studio- II	2	0	3	4	
3.	Theory cum studio	IA C 1203	Workshop- II	1	0	3	3	
4.	Theory cum studio	IA C 1204	Integrated Design Studio- II	1	0	4	3	
5.	Theory	IA C 1205	History of Interior Design- I	3	0	0	3	
6.	Theory		Theory- Open Elective	3	0	0	3	22

SEMESTER III

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C
1.	Studio	IA C 2301	Interior Design Studio- II	0	0	11	6
2.	Theory cum studio	IA C 2302	Allied Design Studio- III	2	0	3	4
3.	Theory cum studio	IA C 2303	Workshop- III	1	0	3	3
4.	Theory cum studio	IA C 2304	Integrated Design Studio- III	1	0	4	3
5.	Theory	IA C 2305	Estimation & Costing	3	0	0	3
6.	Theory		Theory- Open Elective	3	0	0	3 22

SEMESTER IV

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C
1.	Studio	IA C 2401	Interior Design Studio- III	0	0	12	6
2.	Theory cum studio	IA C 2402	Allied Design Studio- IV	2	0	3	4
3.	Theory cum studio	IA C 2403	Workshop- IV	1	0	3	3
4.	Theory cum studio	IA C 2404	Integrated Design Studio- IV	1	0	3	3
5.	Theory	IA C 2405	History of Interior Architecture-II	3	0	0	3
6.	Theory		Theory- Open Elective	3	0	0	3 22

SEMESTER V

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C
1.	Studio	IA C 3501	Interior Design Studio- IV	0	0	17	8
2.	Theory cum studio	IA C 3502	Allied Design Studio- V	2	0	4	4
3.	Theory cum studio	IA C 3503	Workshop- V	1	0	4	3
4.	Theory	IA C 3504	Integrated Design Studio- V	3	0	0	3
5.	Theory		Theory- Open Elective	3	0	0	3 21

SEMESTER VI

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C
1.	Studio	IA C 3601	Interior Design Studio- V	0	0	22	9
2.	Theory cum studio	IA C 3602	Allied Design Studio- V	2	0	6	5
3.	Theory	IA C3606	Professional Practice : Contracts, Tenders, Competitions Arbitrations	3	0	0	3
4.	Theory		Theory- Open Elective	3	0	0	3 20

SEMESTER VII

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C
1.		IA C 4701	Practical Training	0	0	0	10 10

SEMESTER VIII

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C
1.		IA C 4801	Interior Architectural Thesis	0	0	0	20 20

Total credits – 158**LIST OF PROFESSIONAL ELECTIVES**

Sl. No.	Course Group	Course Code	Course Title	L	T	P	C
1.	PE	IA C X01	Vernacular Design	3	0	0	3
2.	PE	IA C X02	Energy Efficient Design	3	0	0	3
3.	PE	IA C X03	Strategies for Innovation in Design	3	0	0	3
4.	PE	IA C X04	Landscape Design in Interiors	3	0	0	3
5.	PE	IA C X05	Advanced Building Services	3	0	0	3
6.	PE	IA C X06	Advanced Building Energy Efficiency	3	0	0	3
7.	PE	IA C X07	Advanced Product design	3	0	0	3
8.	PE	IA C X08	Advanced Lighting design	3	0	0	3
9.	PE	IA C X09	Entrepreneurship In Design	3	0	0	3
10.	PE	IA C X10	Advanced Furniture design	3	0	0	3

SEMESTER I**IA C 1101****BASIC DESIGN – I**

L	T	P	C
0	0	11	6

AIM:

Basic Design studio aims at

- Allowing the students to develop the observational, analytical, inference & visualization skills by involving in design problems.

OBJECTIVES:

- Offers the transition phase for the students in which they can explore the potential creativity through design exercises.
- The phase of realization of the practical design exercise, by which they explore creating appealing harmonious interior Environment.

PHASE I:**60**

- Elements and Principles –Exercises related to the same.
- Exploring color schemes and their application in a visual composition and in architectural forms and spaces.
- Study of texture and schemes of texture both applied and stimulated and their application.
- Study of linear and planar forms using simple material like mount Board, metal foil, box boards, wire string, thermocol etc.
- Study of Solids and voids to evolve sculptural forms and spaces and explore the play of light and shade and application of color.
- Analytical appraisal of building form in terms of visual character, play of light and shade, solids and voids etc.

PHASE II**65**

- Application of Basic design through design of simple architectural elements.
- Introduction to Design principles & ordering systems through exercises in product Designs. E.g. Pen Holder, Book Shelves, etc.,
- Focus on understanding physical dimensions through exercises in ergonomics and anthropometric. E.g. Small scale furniture design.
- Exercises to explore the translation of verbal (adjective & verbs) to visual through compositions both in two and three dimensions.

PHASE III**55**

- Materials, Built forms and expressions.
- Understanding of built environments and its determinants.
Single space design exercises- Typology of single room/User/Utility area
E.g. Living area ,Bedroom, Toilet, Kiosk Design, etc.,
- Man and his basic living activity- Body, Activity & Enclosure.

TOTAL HOURS – 180**TEXT BOOKS:**

1. Paul Zelanski& Mary Pat Fisher, "Design principles & Problems" , 2nd Ed, Thomson & Wadsworth,USA,1996
2. Owen Capplemann& Michael Jack Kordan, "Foundations in Architecture: An Annotated Anthology of beginning design projects", Van Nostrand Reinhold, New York.
3. Paul Laseau, "Graphic Thinking For Architects and Designers", John Wiley & Sons, New York, 2001.
4. Francis D.K.Ching, "Architecture - Form Space and Order", Van Nostrand Reinhold Co., (Canada), 1979.

REFERENCES:

1. John W.Mills, "The Technique of Sculpture", B.T.Batsford Limited, New York - Reinhold Publishing Corporation, London,1966.
2. C.Lawrence Bunchy, "Acrylic for Sculpture and Design", 450,West 33rd Street,New York,N.Y.10001,1972.
3. Charles Wallschlaeger&SynthiaBusic Snyder, "Basic Visual Concepts & Principles for artists, architects & designers", McGraw hill, USA, 1992.
4. Exner V., Pressel D., "Basics Spatial Design", Birkhanser, 2009.

OUTCOMES:

- To understand various design elements and principles and applying them in two-dimensional and three-dimensional compositions.
- To understand the creative process, develop techniques and methods of creative problem solving.
- To equip the students to understand about the various anthropometric aspects, human factors & other design criteria involved in the design through small scale furniture.
- To produce the best possible solution within given limits of time.
- To acquire the knowledge of colors schemes and textures.
- To acquire a basic knowledge of art terminology to express their ideas verbally.
- To familiarize the students with design principles and ordering system through 3D modeling and the product designs.
- To develop understanding of the scale, function and options existing when designing small-scale spaces in residences such as toilets, kitchens, living, bedrooms etc.
- Increase awareness of the creative process.

IA C 1102**ALLIED DESIGN STUDIO- I****L T P C****2 0 4 4****AIM:**

Allied Design Studio aims to provide the students with the knowledge of the basic understanding of materials in Interior Design.

OBJECTIVES:

The studio also focuses on two dimensional and three dimensional geometry and its representations through drawing.

PHASE I CONSTRUCTION TECHNIQUES & REPRESENTATIONS 50

- Exercises involve the understanding and representation of principles of geometry, orthographic projections of points, lines, and planes and solids sections of simple and complex solids and the development of the surfaces of solids.
- Exercises that helps the students to familiarize with drawing materials and equipments. Significance of precision and accuracy in technical drawings is dealt.
- Understanding of use of bricks in buildings and interiors.

PHASE II BRICKS IN BUILDING CONSTRUCTION 25

- Understanding of components of buildings through wall sections.
- Brick bonding - English and Flemish: L- junction, T- junction, intersections. Stretcher and header bond. Rat-trap bond, Creative bonding. Piers and foundations.

TOTAL HOURS – 75**TEXT BOOKS:**

1. P.C. Varghese, "Building Materials", Prentice Hall of India put Ltd New Delhi 110001, 2005.
2. B.C. Punmia, "Building Construction", 2005.

REFERENCES:

1. I.H. Morris, Geometrical Drawing for Art Students, Orient Longman Chennai.
2. Ralph W. Liebing "Architectural Working Drawing", John Wiley & Sons. Inc - 2000.
3. Morgan, "Elements of structure".

OUTCOMES:

- To equip the students with various tools of drafting.
- To acquire the knowledge of basic and complex projections.
- To familiarize the students in two dimensional and three dimensional geometry and its representations through drawing.
- To develop understanding of the scale and proportion.
- To attain the knowledge on the components of building.
- To gain the technical knowledge of bricks and its bonding in buildings and interiors.

IA C 1103**WORKSHOP- I**

L	T	P	C
1	0	4	3

AIM:

- Workshop aims at the development of model making skills of the students to communicate and develop ideas through model making techniques.

OBJECTIVES:

- Not restricted to any specific medium, the course offers the platform for the students to explore their mode of model making techniques.

COURSE CONTENTS:**PHASE I****30**

- Understand material and tools by making objects which allow students to explore forms, surfaces, textures, and patterns i.e. elements and principles of design.
- Model making- Tools, materials, Techniques of Model- making. Importance of scaled models, as they are the most effective and instant way of completely communicating a concept in spite of advances in computerization.

PHASE II**30**

- This subject teaches the students to properly comprehend the three dimensional in its aesthetic and functional totality.
- Connecting with the Basic Design Studio –I exercises. The models for the end products of design can be made through the techniques learned in this workshop.

TOTAL HOURS –60**TEXT BOOKS:**

1. Paul Zelanski & Mary Pat Fisher, "Design principles & Problems" , 2nd Ed, Thomson & Wadsworth, USA, 1996
2. Owen Cappleman & Michael Jack Kordan, "Foundations in Architecture: An Annotated Anthology of beginning design projects", Van Nostrand Reinhold, New York.

REFERENCES:

1. Charles Wallschlaeger&SynthiaBusic Snyder, "Basic Visual Concepts & Principles for artists, architects & designers", McGraw hill, USA, 1992.
2. John W.Mills, " The Technique of Sculpture", B.T.Batsford Limited, New York - Reinhold Publishing Corporation, London,1966.

OUTCOMES:

- The students will be made to understand the materials and tools by making objects which allow them to explore forms, surfaces, textures, and patterns i.e. elements and principles of design.
- The students will be made familiar with Model making- Tools, materials and techniques of Model- making.
- Importance of scaled models.
- This subject teaches the students to properly comprehend the three dimensional in its aesthetic and functional totality.
- Connecting with the Basic Design Studio –I exercises. The models for the end products of Design can be made through the techniques learned in this workshop.

IA C 1104**INTEGRATED DESIGN STUDIO - I****L T P C****1 0 4 3****AIM:**

The course aims to make the students proficient in digital skills by constant practice in the various updated software. It introduces the students to the basics of software, and techniques of two dimensional drawings and representation.

OBJECTIVES:

The phase I of the course explores the use of free hand sketching and drawing as tools of visual representation. It uses geometrical analysis of objects as a means to understand shapes and proportions, as well as aspects like opacity, transparency, shades and shadows, and light and depth. Students develop skills in observation and recording through drawing with different media like pencil, pen, dry pastels and water colors.

The phase II of the course explores the use of digital media as a tool for both designing & creation.

COURSE CONTENTS:**PHASE I****30**

- Exercises to understand color wheels & color theory.
- Free hand Sketching.
- Understanding & representing the quality of various materials- opacity, transparency, shades and shadows, and light and depth.
- Exercises to explore various medium of presentations- pencil, pen, crayons and water colors, etc.,
- Exercise to improve the skills of observation through the recording of different types of spaces with respect to their scale, volume, form, materials and finishes.

PHASE II**30**

- Understanding the use of drawing tools, object editing, drawing objects and filling and setting drawing units, scales, lettering etc. Setting up of drawing of various simple objects with complete text and dimensioning.
- Transparent overlays, hatching utilities, assigned color and line type, use of multi-line, style, block, symbol library, manipulation for accurate drawings,

incorporating the above mentioned utilities.

- Introduction to tools of productivity – Blocks. Understanding concepts of view port, concept of object linking and editing session.
- Introduction to basic presentation tools- PowerPoint techniques, communication tools.

TOTAL HOURS –60

TEXT BOOKS:

1. Jim Legitt, "Drawing Shortcuts", John Wiley & sons Inc, 2010.
2. Webb, Frank, "The Artist guide to Composition", David & Charles, U.K., 1994.
3. Ching Francis, "Drawing a Creative Process", Van Nostrand Reinhold, New York, 1990.
4. Alan Swann, "Graphic Design School", Harper Collins, 1991.

REFERENCES:

1. Moivahuntly, "The artist drawing book", David & Charles, U.K., 1994.
2. Drawing a Creative Process", Ching Francis, Van Nostrand Reinhold, New York, 1990.
3. Arundell (Jan) Exploring sculpture, Mills and Boon, London/Charles, T. Brand Ford Company, U.S.A.
4. The art of drawing trees, heads, colours, mixing, drawing, landscape and painting, water colour, oil colour, etc. – The Grumbacher Library Books, New York, 1996.
5. Caldwell peter, "Pen and Ink Sketching", B.T. Bats ford Ltd., London, 1995.

OUTCOMES:

- Enhances the skills of free hand sketching and provides an understanding on visual perception, principles and systems of order that inform two- and three-dimensional design, architectural composition.
- To familiarize the students with the concepts of 3D modeling.
- To enable them to experiment with forms, mapping, rendering and presentation techniques.
- To equip the students with various tools of sketching and rendering like pencils, pens, different medium of colors, etc.

- To practice and extend the ability to think visually and to communicate concepts, design solutions and arguments clearly and concisely through visual, verbal and written means.
- To attain the knowledge of quality of various materials- opacity, transparency, shades and shadows, and light and depth

IA C 1105**SKILL DEVELOPMENT**

L	T	P	C
2	0	0	2

AIM:

The course is aimed at providing the students with language skills which is an inescapable tool for the young technocrats to break geographical boundaries and step into global world.

OBJECTIVES:

The primary objective of this course is to improve communication skill development and technical writing.

COURSE CONTENT**PHASE I****15**

- Seminars, guest lectures, putting up exhibitions, workshops, participating in architectural competitions or conducting site visits or study tours.
- INTRODUCTION: Skimming, scanning, inferring, predicting and responding to content - Guessing the meaning of words from contexts - Note making and vocabulary extension.
- VOCABULARY DEVELOPMENT: Listening and understanding recorded, structured talks and classroom lectures - Comprehending the matter - understanding the links between different parts of speech - practice in note taking.

PHASE II**15**

- COMMUNICATION: Features of an effective speech-Practice in speaking fluently - Dialogue practice- simple social exchanges - short extempore talks.
- COMPREHENSION: Effective sentences-cohesive paragraphs - clear and concise writing - Introduction to technical writing - Definition, Description, Instruction - Summary Writing practice.
- RESOURCE UTILIZATION: Use of library - Role of Bibliography, Table of contents, Index etc. - use of Dictionary.

TOTAL HOURS –30**OUTCOMES:**

- Seminars, Guest Lectures, putting up Exhibitions, Workshops, participating in

Architectural Competitions or conducting Site Visits or Study Tours.

- INTRODUCTION: Skimming, scanning, inferring, predicting and responding to content - Guessing the meaning of words from contexts - Note making and vocabulary extension.
- VOCABULARY DEVELOPMENT: Listening and understanding recorded, structured talks and classroom lectures - Comprehending the matter - understanding the links between different parts of speech - practice in note taking.
- COMMUNICATION: Features of an effective speech-Practice in speaking fluently - Dialogue practice- simple social exchanges - short extempore talks.
- COMPREHENSION: Effective sentences-cohesive paragraphs - clear and concise writing - Introduction to technical writing - Definition, Description, Instruction - Summary writing practice.
- RESOURCE UTILIZATION: Use of library - Role of Bibliography, Table of contents, Index etc. - use of dictionary.

IA C 1106**THEORY OF DESIGN**

L	T	P	C
3	0	0	3

AIM:

The course aims to provide the basic theories and principles needed for the students while handling the design exercises.

OBJECTIVES:

- They are equipped with the knowledge of theories applied in the conception and development of design.
- The theoretical approach is to be interwoven with the design processes.

COURSE CONTENT:**PHASE I****15**

- Space – definition; Interior space – spatial qualities: form, scale, outlook; structuring space with interior design elements; spatial form; spatial dimension; height of space; spatial transitions – openings within wall planes, doorways, windows, stairways.
- Point, line, volume, shape, texture, color & form – in relation to light, pattern etc. and application of the same in designing interiors.

PHASE II**15**

- Ratio; proportions – golden section; relationships; scale; balance, symmetry, harmony; unity; variety; rhythm; emphasis.
- Definition, theory of standard dimension based on human figures for activities, functions, circulation, furniture design, spatial requirements etc.
- Study of Ergonomics, Design of furniture for Living, Dining, Kitchen, Office etc.

PHASE III**15**

- Design process – Analysis, synthesis, design evaluation;
- Design criteria – function and purpose, utility and economy, form and style;
- Human factors - human dimensions, distance zones, activity relationships;
- Fitting the space – plan arrangements, function, aesthetics.

TOTAL HOURS – 45

TEXT BOOKS:

1. Ching, Frank (Francis D.K.), "Architecture: Form, Space & Order", Van Nostrand Reinhold, New York. Hoboken 2007; ISBN 0471752169
2. Ching, Frank (Francis D.K.), "Drawing: A Creative Process", Van Nostrand Reinhold, New York 1990.
3. Simon Unwin, "Analysing Architecture", Roulledge, London, 2003.
4. V.S.Pramar, "Design Fundamentals in Architecture", Somaiya Publications Private Ltd.,

REFERENCES:

1. YatinPandya,"Elements of Space making", Mapin 2007.
2. Leland M.Roth, "Understanding Architecture: Its Experience History and Meaning", Craftsman house, 1994.
3. Peter von Meiss, "Elements of architecture – from form to place", Spon Press 1977.
4. Rudolf Arnheim, "The dynamics of architectural form", University of California Press, 1977.
5. NeilsPrak, "The language of Architecture", Mouton& Co., 1968.
6. . Paul Alan Johnson, "The Theory of Architecture – Concepts and themes", Van Nostrand Reinhold Co., New York, 1994.

OUTCOMES:

- The students will be taught about Space – definition; Interior space – spatial qualities: form, scale, outlook; structuring space with interior design elements; spatial form; spatial dimension; height of space; spatial transitions – openings within wall planes, doorways, windows, stairways.
- Application of the design principles like Point, line, volume, shape, texture, color & Form – in relation to light, pattern etc. in designing interiors.
- The will be encouraged to use Ratio; proportions – golden section; relationships; scale; balance, symmetry, harmony; unity; variety; rhythm; emphasis in basic design and workshop exercises.
- Definition and theory of standard dimension based on human figures for activities, functions, circulation, furniture design, spatial requirements etc. Study of Ergonomics Design of Furniture for Living, Dining, Kitchen, Office etc. will be brought in use through the workshop's model making exercises.

SEMESTER II

IA C 1201	INTERIOR DESIGN STUDIO - I	L	T	P	C
		0	0	11	6

AIM:

- Interior Design studio- I facilitate the students to design spatial interventions in response to physical and visual attributes of a given site context.

OBJECTIVES:

- To understand the basic structural systems.
- To comprehend the services pertaining the design projects.
- As continued from the Basic Design - Phase II, the students explore creating appealing harmonious environment.

COURSE CONTENTS

PHASE I	70
<ul style="list-style-type: none"> • Multi space design exercises- E.g. Types of Residence. • Exercise to involve the development of services along with the design problem. 	
PHASE II	50
<ul style="list-style-type: none"> • Site planning and analysis • Contextual exploration of materials and usage. 	
PHASE III	60
<ul style="list-style-type: none"> • Working of the basic structural systems. • Working drawings with respect to the plumbing, electrical details. 	
TOTAL HOURS – 180	

TEXT BOOKS:

1. Joseph De Chiara, Michael J Crosbie, Time Saver Standards for Building Types, McGraw Hill Professional 2001.
2. Julius Panero, Martin Zelnik, Human Dimension and Interior Space, Whitney Library of Design, 1975
3. Joseph De Chiara, Julius Panero, Martin Zelnik, Time Saver Standards for Interior Design and Space Planning, McGraw Hill 2001.
4. Ernst Neuferts Architects Data, Blackwell 2002

REFERENCES:

1. Hideaki Hareguchi, A Comparative analysis of 20thcentury houses, Academy Editions, 1988
2. Robert Powell, Tropical Asian House, Select Books, 1996
3. Terence Conran, The Essential House Book, Conran Octopus, 1994
4. Sam F. Miller, Design Process: A Primer for Architectural and Interior Design, Van Nostrand Reinhold, 1995.

OUTCOMES:

- The students will be able to comprehend to physical and visual attributes of a given site context.
- The students will be able to familiarize themselves with the structural systems of the projects.
- The students will be able to comprehend the services pertaining the design projects.

B.Des.	Interior Architecture	Regulations 2017			
IA C 1202	ALLIED DESIGN STUDIO- II	L	T	P	C
		2	0	3	4

AIM:

- Allied Design Studio aims to provide the students with the knowledge of the basic understanding of materials in Interior Design.

OBJECTIVES:

- This studio focuses on Doors, windows, ventilators- materials, types, construction details.
- To study about the various recent developments in Industry.

COURSE CONTENT

PHASE I

25

- Introduction to the openings in spaces.
- Doors- types of doors- fully panelled single and double shutter doors of various types and sizes. Drawings of timber joinery for Doors with respect to material: Details of Aluminum doors - Open able, sliding, pivoted, glass entrance doors, UPVC doors.

PHASE II

25

- Windows- fully glazed window, fixed glass and timber louvered windows. Drawings of timber joinery for windows. With respect to material: Details of Aluminum windows - openable, sliding, fixed, pivoted.

PHASE III

25

- Ventilators- Drawings of timber joinery for ventilators, Aluminum ventilators - Top hung, bottom hung, pivoted, louvered.
- Study of various other recent developments regarding openings in spaces.

TOTAL HOURS –75

TEXT BOOKS:

1. W.B. Mickay, "Building construction Vol 1,2 and 3", Longmans, UK 2005.
2. R.Chudley, "Building Construction Handbook", Elsevier/Butterworth-Heinemann 2006.
3. S.C.Rangwala, "Engineering materials", Charotar Publishing, 2011.
4. S.P.Arora & S.P.Bindra, "Text book of Building Construction", Ganpat Rai Publications (P) Ltd, New Delhi, 2013
5. B.C. Punmia, "Building Construction", 2005
6. P.C. Varghese, "Building Materials", Prentice Hall of India put Ltd New Delhi

110001, 2005.

REFERENCES:

1. Don A.Watson, "Construction Materials and Processes", McGraw Hill Co.,1992.
2. Alanwerth, "Materials", The Mitchell Pub.Co.Ltd., London,1986

OUTCOMES:

- The students will be equipped with the knowledge of the basic understanding of materials in Interior Design.
- The students can comprehend the details and techniques of doors, windows, ventilators- materials, types, and construction details.
- To familiarize with various recent developments regarding the opening in spaces.

IA C 1203**WORKSHOP- II**

L	T	P	C
1	0	3	3

AIM:

Workshop II aim at the development of model making skills of the students to communicate and develop ideas through model making techniques.

OBJECTIVES:

Not restricted to any specific medium, the course offers the platform for the students to explore their mode of model making techniques.

COURSE CONTENT:**PHASE I****25**

- Exercises related to model making.
- Understand material and tools by making objects which allow students to explore forms, surfaces, textures, and patterns i.e. elements and principles of design.
- Exploration of the model making techniques in the recent development of the Industry.

PHASE I**35**

- Textile Printing- Basic Knowledge of the fabric as interior element.
- Woodwork & Carpentry.
- Glass painting.

TOTAL HOURS – 60**TEXT BOOKS:**

1. Owen Capplemann & Michael Jack Kordan, "Foundations in Architecture: An Annotated Anthology of beginning design projects", Van Nostrand Reinhold, New York.
2. John W.Mills, " The Technique of Sculpture", B.T.Batsford Limited, New York - Reinhold Publishing Corporation, London,1966.
3. C.Lawrence Bunchy, "Acrylic for Sculpture and Design", 450,West 33rd Street,New York,N.Y.10001,1972.

REFERENCES:

1. Charles Wallschlaeger & Synthia Busic Snyder, "Basic Visual Concepts & Principles for artists, architects & designers", McGraw hill, USA, 1992.
2. John W.Mills, " The Technique of Sculpture", B.T.Batsford Limited, New York -

Reinhold Publishing Corporation, London, 1966.

OUTCOMES:

- The students will be able to communicate and develop ideas through model making techniques.
- The students will be equipped with the various recent model making techniques in the industry.

IA C 1204	INTEGRATED DESIGN STUDIO-II	L	T	P	C
		1	0	4	3

AIM:

- The course aims to make the students proficient in digital skills by constant practice in the various updated software.

OBJECTIVES:

- The course explores the use of digital media as a tool for both designing & creation.
- It introduces the students to the basics of three dimensional form explorations.

COURSE CONTENT**PHASE I****30**

- Introduction to 3D software- tools of productivity, rendering techniques.
- Understanding the use of drawing tools, object editing, drawing objects, filing and setting drawing units, scales, limits that size and dimensioning, lettering.
- Setting up of drawing of various simple objects with complete text and dimensioning.
- Layout - way to use the fundamental drawing, editing and navigation tools to put together quick presentations.
- Leverage templates, including custom title blocks, document settings.

PHASE II**30**

- Ways to light your model and add realistic reflections and finishes in shade light.
- Advance command programming – Transparent overlays, hatching utilities, assigned color and line type, use of multi-line, style, block, symbol library, manipulation for accurate drawings, incorporating the above mentioned utilities.
- Introduction to tools of productivity – Blocks. Understanding concepts of view port, concept of object linking and editing session.

TOTAL HOURS – 60

TEXT BOOKS:

1. Watt, "Fundamentals of Three-Dimensional Computer Graphics", Addison Wesley, Massachusetts, 1989.
2. Aouad, "Computer Aided Design guide for Architecture, Engineering and construction", Spon process, 2012.

REFERENCES:

1. Ralph Grabowski, "The Illustrated AutoCAD 2002 Quick Reference", 1st edition, CengageLearning, 2001.
2. Sham tikoo, "Autocad 2000: A Problem-Solving Approach", DelmarCengage Learning, 1999.
3. Fiorello. J. A., "CAD for Interiors beyond the basics", Wiley publications, 2011.

OUTCOMES:

- The students become equipped with the exploration of digital media as a tool for both designing & Creation.
- The students become proficient in digital skills by constant practice in the various updated software.
- The students are introduced with the basics of three dimensional form explorations.

IA C 1205	HISTORY OF INTERIOR DESIGN - I	L	T	P	C
		3	0	0	3

AIM:

The course aim to provide a brief overview of the development of Interior Architecture through various historical phases that is explained through various examples.

OBJECTIVE:

To expose the students to various inspirations/ techniques/ design details of the historical examples.

COURSE CONTENT:

- EARLY CLASSICAL PERIOD: Prehistoric Cave paintings – primitive designs- Interiors during Egyptian, Greek, Roman, Gothic, Early Christian & Renaissance Periods.
- MIDDLE AGES: Interiors in Romanesque, Gothic, and Renaissance periods.
- COLONIAL PERIOD: Colonial, Victorian designs, Arts & Crafts movement, Art Nouveau.
- PROJECTS: Projects based on historical styles in Interiors & assignments.

PHASE I**25**

- EARLY CLASSICAL PERIOD: Prehistoric Cave paintings – primitive designs- Interiors during Egyptian, Greek, Roman, Gothic, Early Christian & Renaissance Periods.
- MIDDLE AGES: Interiors in Romanesque, Gothic, and renaissance periods.

PHASE II**20**

- COLONIAL Period: Colonial, Victorian designs, Arts & Crafts movement, Art Nouveau.
- PROJECTS: Projects based on historical styles in Interiors & assignments.

TOTAL HOURS – 45**TEXT BOOKS:**

1. Sir Banister Fletcher, A History of Architecture, University of London, The

Antholone Press, 1996.

2. Spiro Kostof - A History of Architecture - Setting and Rituals, Oxford University Press, London, 1985.

3. Henri Stelerlin - The Pharaohs - PlerreTerrail - 2001.
4. G.K.Hiraskar, Great Ages of World Architecture, DhanpatRai& Sons, Delhi

REFERENCES:

1. Marco Bussagli - Rome Art and Architecture - Konemann - 2004.
2. S.Lloyd and H.W.Muller, History of World Architecture - Series, Faber and Faber Ltd., London, 1986
3. Gosta, E. Samdstrp, Man the Builder, Mc.Graw Hill Book Company, New York, 1970

OUTCOMES:

- The students become aware of the development of Interior Architecture through various historical phases that is explained through various examples.
- The students are exposed to various inspirations/ techniques/ design details of the historical examples.

B.Des.	Interior Architecture	Regulations 2017			
IA C X01	VERNACULAR DESIGN	L	T	P	C
		3	0	0	3

AIM:

The course aims in conveying traditional architecture built in various cultural and geographical regions of India with an emphasis on spatial types, use, materials, construction and building process.

It also aims to explore the various approaches, definition, concepts and typologies of the vernacular designs of a region for better understanding, comprehension and interpretation.

OBJECTIVES:

To explore the role of indigenous materials and climate in the elements, ornamentation, layout and character of residential and public buildings.

COURSE CONTENT

PHASE I 20

- Definition of Vernacular designs: Importance and factors determining the character of vernacular designs. Approaches and concepts used - aesthetic, anthropology, architectural, geographical, spatial, ecological, behavioral and developmental.

PHASE II 25

- Cultural aspects, symbolism, color, art, materials of construction and construction techniques of Northern India, Gujarat, Kerala & Tamil Nadu. Examples related to the same.
- Contemporary projects by various nationally & internationally acclaimed Designers using vernacular elements & characters.

TOTAL HOURS – 45

TEXT BOOKS:

1. Minakshi, J., & Khulbushan, J. (1992.). Mud Architecture of the Indian Desert. Ahmedabad: Aadi Centre.
2. Randhawa, T. S. (1999). The Indian courtyard house. Prakash Books.

REFERENCES:

1. G.H.R.Tillotsum. (1989). The tradition of Indian Architecture Continuity, Controversy Change since 1850. New Delhi: Oxford University Press.
2. Meenakshi, M., Muthiah, S., Visalakshi, R., & Muthuraman, V. (2006). The Chettiar Heritage. Chennai: Chettiar Heritage.
3. Oliver, P. (1998). Encyclopedia of Vernacular Architecture of the World. Cambridge: Cambridge University Press.
4. V.S.Pramar. (1989). Haveli - Wooden Houses & Mansions of Gujarat. Ahmedabad: Mapin Publishing Pvt. Ltd.

OUTCOMES:

- The students understand traditional architecture built in various cultural and geographical regions of India with an emphasis on spatial types, use, materials, construction and building process.
- The students explore the various approaches, definition, concepts and typologies of the vernacular designs of a region for better understanding, comprehension and interpretation.
- The students also explore the role of indigenous materials and climate in the elements, ornamentation, layout and character of residential and public buildings.

IA C X02**ENERGY EFFICIENT DESIGN****L T P C****3 0 0 3****AIM:**

A growing worldwide concern for the conservation of energy & environment has led to energy efficient designs; renewable nature sources of energy (solar energy etc.) and utilizing materials that least pollute the environment.

OBJECTIVES:

This course attempts to make the students understand about built environments responses to natural heating and cooling and thereby understanding principles to be implemented when designing spaces.

COURSE CONTENT:**PHASE I****10**

- Introduction to energy efficient designs and need for the day.
- Solar geometry and shading - Thermal comfort - Heat Transfer - Conservation - Day lighting - Water Heating and Photo voltaic system.

PHASE II**15**

- Passive Solar heating: General principles - Direct Gain - Thermal storage wall - Sunspace - Convective air loop - related examples.
- Passive Cooling Techniques: General principles - Ventilation - Radiation - Evaporation and Dehumidification, - Mass effect - related examples.

PHASE III**20**

- Site Planning & Developments: Land form - vegetation type and pattern - water bodies - open spaces and built spaces - urbanscape - design strategies.
- Contemporary projects by various nationally & internationally acclaimed Designers using energy efficient concepts and techniques.

TOTAL HOURS – 45**TEXT BOOKS:**

1. Fuller Moore, Environmental Control Systems, McGraw Hill Inc., New Delhi, 1997.
2. Climatically Responsive Energy Efficient Architecture, PLEA/SPA, New Delhi - 1998.

REFERENCES:

1. A.Konya, Design Primer for Hot Climates, Architectural Press, London, 1988.
2. Ms.Sudha, N.K.Bansal and M.A.S.Malik - Solar Passive Building - Pergamon.
4. V.Gupta - Energy and Habitat - Wiley Eastern Limited, New Delhi.

OUTCOMES:

- The students are exposed to the growing worldwide concern for the conservation of energy & environment has led to energy efficient designs; renewable nature sources of energy (solar energy etc.) and utilizing materials that least pollute the environment.
- The students understand about built environments responses to natural heating and cooling and thereby understanding principles to be implemented when designing spaces.

SEMESTER III**IA C 2301****INTERIOR DESIGN STUDIO - III**

L	T	P	C
0	0	12	6

AIM:

This studio course involves generation of small-scale interior environment through research, analysis, conceptualization and design.

OBJECTIVES:

The projects include exercises in spatial planning as a response to function. Exercises undertake organization of products/objects to explore circulation and transactions with material exploration.

COURSE CONTENT:

- The projects that help the students to identify the design process through various methods of concept development.
- Water supply & sanitation, lighting & electrical aspects of design of interiors need will be emphasized along with the design process.
- Project Typology: Shops, Cafeteria, Primary healthcare centers, Clinics, Schools, Boutiques, etc.,
- Working Drawings for the design is to be taught to the students.

TOTAL HOURS – 225**TEXT BOOKS:**

1. Joseph De Chiara, Julius Panero, Martin Zelnik, "Time Saver Standards for Interior Design and Space Planning", McGraw Hill, 2001.
2. Ernst, "Neuferts Architects Data", Blackwell, 2002
3. Ramsey et al, "Architectural Graphic Standards", Wiley 2000

REFERENCES:

1. De Chiara and Callender, "Time Saver Standards Building Types", McGraw Hill Co., 2ND Edition, 1980.
2. Andrew Alpern, "Handbook of Specialty Elements in Architecture", McGraw Hill Book Co., 1982.
3. Mark Karlen, "Space Planning Basics", John Wiley & Sons Inc, 2009.

OUTCOMES:

- Students get the ability to understand and design small and medium scale building projects.
- They will be able to solve the design problem functionally and aesthetically.
- Gain knowledge about the design process and its various faces to solve a design problem.
- Solve design solution and present in the form of drawing.
- Enable to express the ideas in the form of 2D representation and 3D modeling and views.

**IA C 2302 ALLIED DESIGN STUDIO- III: Construction
Techniques & Representations- III**

**L T P C
2 0 3 4**

AIM:

Allied Design Studio is to provide the students with the knowledge of the basic understanding of materials in Interior Design.

OBJECTIVES:

- To develop an awareness about the various ingredients and composition in concrete.
- To understand the importance and use concrete in construction, through drawings.
- To expose the students to the importance and use of concrete in the modern Construction industry.
- To familiarize the students with the modern building products and their application through drawings.

COURSE CONTENT:

PHASE I:

30

- Focus on the Representation of technical details for the process of construction in a drawing.
- The materials used, elements required, techniques of installation, designing the services in interior spaces and elements with step by step actualization on site.

PHASE II:

45

- Cement - Composition, strength, properties, Sand - Composition, strength, properties, M-Sand test and types.
- Coarse aggregate - Composition, strength, properties, Extraction, test and types. Water - cement ratio, workability, curing, water-proofing, guniting, Special concrete, construction of formwork, Integration of steel in concrete, Joints in concrete, concrete finishes.
- Lightweight aggregate , High density concrete , Aerated Concrete, No-Fines Concrete, Polymer concrete, Reinforced Cement Concrete, Pre-Stressed Concrete, Ready - mixed & under water concreting - Exercise involving the same.
- Framed Structures, Foundations, Footings, Concrete Floors, Walls & Partitions, Concrete lintels, Arches, Sunshades, Concrete Slabs, Concrete beams & Columns, Concrete Staircases.

TOTAL HOURS – 75

TEXT BOOKS:

1. Dr.B.C.Punmia, "Building Construction", Firewall Media, 2005.
2. Francis D.K.Ching, "Building Construction Illustrated", John Wiley & Sons Inc, 2002.
3. T.D Ahuja and G.S. Birdie, "Fundamentals of Building Construction", Dhanpat Rai Publishing Company Pvt. Ltd., New Delhi, 1996
4. R.M. Davis, "Plastics in Building Construction", Battersea College of Technology, Blackie, London, 1966
5. Barry, "Introduction to Construction of Buildings" Vol. 3, Blackwell Publishing Ltd., Oxford, 2005

REFERENCES:

1. W.B.Mckay , "Building Construction", Vol. 1,2,3- Longmans U.K 1992.
2. S.C.Rangwala, "Engineering Materials", Charotar Publishing House, India, 1997.
3. Alan Banc, "Stairs, Steps and Ramps", Butter worth Heinemann Ltd., 1996
4. M.S.Shetty, "Concrete Technology-Theory and Practice", S.Chand & Co. Ltd., New Delhi, 2005.
5. W.B.Mckay , "Building Construction" , Longmans, UK, 1981
6. Economy/companies/construction/concrete/materials
7. <http://www.easyads.co.2a/yellow/india/construct>
8. <http://www.concrete.t.v-tokyo.ac.jp>
9. www.larsentoubro.com
10. www.dalmiacement.com/index.html

OUTCOMES:

- The students will be able to design medium and large span low rise structure, of RCC.
- They can design RCC stair case of appropriate form and structural system.
- The students will get knowledge about concrete structures.

IA C 2303	WORKSHOP III: Furniture Design - I	L	T	P	C
		1	0	3	3

AIM:

This workshop focuses on understanding furniture design from the perspective of its evolution in history, the development of design styles, as well as the pragmatic aspects of ergonomics and comfort.

OBJECTIVES:

Exercises involve appreciating classic pieces of furniture, understanding ergonomics through experience, and applying that understanding to the design of a rudimentary piece of furniture.

COURSE CONTENT:**PHASE I: THE BASICS OF FURNITURE CONSTRUCTION & TOOLS 20**

- Measurement and measurement systems, Furniture Construction: Drawers, Cadenza, dining chairs, sofa, settee, cots detail.
- Preparation for finishing, Furniture Materials Specifying timber finishes etc.

PHASE II: 20

- Fabrication techniques - stapling, gluing.
- Furniture Joinery - screw joinery, nail joinery, Mortise & tenon joints, Dovetail joints, Dowel joints, Edge joints.
- Preparation of block models of furniture using wood, boards, leather, fabric, thermacol, clay, soap/wax etc.

PHASE III: 20

- Developing of a particular furniture type.
- Identifying the furniture & activity.
- Define the material & Aesthetics aspects.
- Furniture - the design data to ergonomics.

TOTAL HOURS – 60**TEXT BOOKS:**

1. Interior Design, John F. Pile, Harry N. Abrams Inc Publishers, New York.
2. Interior Design Course, Mary Gilliat Coyran, Octopus Ltd., London.

3. The Encyclopaedia of Furniture, Joseph Aronson, Crown Publishers, New York

REFERENCES:

1. Interior Design & Decoration, Sherril Whiton, Prentice Hall.
2. Interior Design, Francis D.K. Ching, John Wiley & Sons, New York.
3. Office Furniture, Susan S.Szenasy, Facts on file Inc, New York
4. Time Saver Standards for Interior Design, Joseph De Chiara, McGraw Hill, New York.

OUTCOMES:

- Students get the ability to understand and design furniture from the perspective of its evolution in history.
- They will be able to solve the design problem functionally and aesthetically.
- Gain knowledge about the pragmatic aspects of ergonomics and comfort.
- To understand the design of a rudimentary piece of furniture.

IA C 2304**INTEGRATED DESIGN STUDIO - II
BUILDING SERVICES - I****L T P C
1 0 3 3****AIM:**

To expose the students to the basic principles of water supply and sanitation, electrical and lighting.

To understand the need and applications of water supply and sanitation in buildings.

OBJECTIVES:

- Exposure to various fixtures and fittings, water supply and sanitary installations at work sites.
- Preparing basic design layout of various services and typical details. .

COURSE CONTENT:**PHASE I: WATER SUPPLY AND SANITATION****30**

- House-service design, tube well, pumping of water, types of pumps, cisterns for storage, Different types of taps, toilet and kitchen fittings, Connection of lines to fittings, Underground, overhead and internal storage tanks and supply lines.
- Design layout of water supply and calculation of supply requirements based on standards.
- Introduction to sanitation and its importance, Planning and layout of sanitary fittings, Drainage system, Septic tanks, Layout, Principles of drainage, Trap type, materials and functions, Design of Septic tanks and soak pits, Ventilation of house drains, Sinks, bath tub, water closets, flushing cisterns, urinals, wash basins, bidet, shower panel etc.
- Preparation of plumbing layout of a single storey building & working drawings of various fittings and fixtures of water supply and sanitary installations.

PHASE II: LIGHTING AND ELECTRICAL**15**

- Electrical wiring system – different materials employed and methods of wiring.
- Different electrical gadgets and fittings, Switch board, distribution board, mains, fuse, meter, circuit breaker etc,
- Basic electrical layout for a residence, Earthing for electricity appliances, Electrical installations for services such as air-conditioning systems, lifts, escalators, pumps etc.

PHASE III:**LIGHTING****15**

- Artificial lighting , design principles, illumination levels, Types of lamps and fittings used, Application of lighting system for shops, showrooms, offices, lecture halls, class rooms, stage, auditoriums etc - Study of projects based on different lighting concepts used in interiors.

TOTAL HOURS – 60**TEXT BOOKS:**

1. Handbook for Building Engineers in Metric Systems, NBC, New Delhi, 1998.
2. Philips Lighting in Architectural Design, McGraw Hill, New York, 1998.
3. R.G.Hopkinson and J.D.Kay, The Lighting of Buildings, Faber and Faber, London, 1998
4. Hopkinson, R.G., "Architectural Physics - Lighting", London. 1998
5. Basic Electrical Engineering, V.K.Mehta, S.Chand and Company Ltd., New Delhi, 1998.
6. G.M. Fair, J.C. Geyer and D.Okin, "Water and Waste water engineering", Volume II, John Wiley & Sons, Inc. New York, 1968

REFERENCES:

1. "Manual on sewerage and sewerage treatment", CPHEEO - Ministry of works and housing, New Delhi, 1980.
2. S.C.Rangwala, "Water supply and sanitary engineering", Charotar publishing house, Anand, Lecture notes compiled by Chaman.L.Gupta, 1989
3. G.S. Birdie & J.S. Birdie, "Water Supply and Sanitary Engineering".

OUTCOMES:

- The students are exposed to electrical services and power distribution system inside & outside buildings.
- They get to know about importance of lighting in indoor spaces.
- The students obtain knowledge about various vertical transportation systems.
- It enlightens the importance of services in interior space planning.
- The students were trained to do electrical and plumbing layouts for the buildings.

IA C 2305**ESTIMATION AND COSTING**

L	T	P	C
3	0	0	3

AIM:

- To enable a student to understand estimation and specification.
- To provide the student adequate knowledge to prepare the Estimate & find the cost of overall project of works.

OBJECTIVES:

- To equip the students to prepare the Estimate in order to foresee the cost of the work or to implement an interior design project & also to monitor / control project cost.
- To acquaint students with methodology of writing specifications with reference to building trades, materials, workmanship and performance of different items of work and introducing the students to specifications as an integral part of contract document for building projects.

COURSE CONTENT:**PHASE I: INTRODUCTION TO ESTIMATION****10**

- Estimation – definition, purpose, types of estimate, and procedure for Estimating the cost of work in order to implement an interior design project or to make products related to interior design like furniture, artifacts etc.

PHASE II: RATE ANALYSIS & ESTIMATION FORMAT**15**

- Rate Analysis – definition, method of preparation, quantity & labour estimate for woodwork, steelwork, Aluminum work, glass & its rate for different, thickness & sections, finishing (enamel paint, duco paints, melamine, DU coats, Hand polishing, veneering and laminating) for walls & ceilings.
- Electrical & plumbing products, wiring, ducting etc., and laying of tiles & wall paneling in the estimate format of the project.

PHASE III: DETAILED ESTIMATE**10**

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

PHASE IV: INTRODUCTION TO SPECIFICATION**10**

- Specification – Definition, purpose, procedure for writing specification for the purpose of calling tenders, types of specification.
- Specification for different item related to interior design project – woodwork for furniture window frames & pelmets, partitions etc also of materials like steel aluminum glass of various kind.
- Wall paneling & false ceiling of materials like aluminum, steel, wood, electrical, plumbing, air conditioning & fire fighting equipments.

TOTAL HOURS – 45**TEXT BOOKS:**

1. Indian Standard Specifications.
2. C.P.W.D. Specifications and schedule of rate analysis.
3. Specification Writing for Architects and Engineers. By Donald A.Watson.

REFERENCES:

1. Specification Writing for Architects and Surveyors by Arthur J Willis.
1. Professional Practice by R.H.Namavati.
2. Estimating and Costing by Rangawala and B.N.Sutta.
3. Civil Engineering Contracts and Estimates by B.S.Patll.
4. I .S.I.Handbook of measurements of building Works

OUTCOMES:

- Provide an understanding on estimation and specification
- The students get knowledge to prepare the Estimate & find the cost of overall project of works.
- Students get the ability to prepare the Estimate in order to foresee the cost of the work or to implement an interior design project & also to monitor / control project cost.
- To understand the methodology of writing specifications.
- The students get knowledge of specifications as an integral part of contract document for building projects.

IA C X03 STRATEGIES FOR INNOVATION IN DESIGN

L	T	P	C
3	0	0	3

AIM:

- This course involves the innovation of latest technologies for interior design.

OBJECTIVE:

- To understand the need and applications of latest trends and concepts in current developments in interior.

COURSE CONTENT:**PHASE I:**

- Concepts and Technologies - Current trends and concepts in interior Architecture- Advanced new material.
- Produce innovative design with the use of latest trends, technology, concepts, etc.
- Study of latest materials and current developments in interiors.

TOTAL HOURS – 45**TEXT BOOKS:**

1. Brown, R. & Farrelly, L. (2012). Materials and Interior Design.
2. Bigelli, C. (2008).Materials for Interior Environments.
3. Bowers, H. Interior Materials and Surfaces: The Complete Guide.

REFERENCES:

1. Graphic Guide to Frame Construction (1991) Thallon, R. Newtown: The Taunton Press, Inc

OUTCOMES:

- Students get to understand latest technologies for interior design.
- Gain knowledge about the latest trends and concepts in current developments in interior.
- To understand the need and applications of current trends and materials.

IA C X04 LANDSCAPE DESIGN IN INTERIORS

L	T	P	C
3	0	0	3

AIM:

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

OBJECTIVES:

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

COURSE CONTENT:**PHASE I: INTERIOR LANDSCAPING 5**

- Definition, classification of plants, indoor plants and their functions, layout & components, Floriculture –commercial, ornamental, Selection of plants & pest control.

PHASE II: PHYSICAL REQUIREMENTS OF PLANTS 10

- Physical requirements of plants – light, temperature, water, planting medium, soil separator, weight of plants, acclimatization & maintenance.
- Techniques to meet physical requirements.

PHASE III: INTERIOR LANDSCAPING ELEMENTS & PRINCIPLES 10

- Various interior landscaping elements – water bodies - pools, fountains, cascades Plants, rocks, artifacts, paving & lighting, Design guidelines- plant texture & color, plant height, plant spacing.
- Vertical landscaping, Zen garden, Japanese landscaping

PHASE IV: ROOF AND DECK LANDSCAPE 10

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

PHASE V: EXERCISE ON INTERIOR LANDSCAPE**10**

- Courtyard design
- An outdoor room design
- Terrace garden

TOTAL HOURS – 45**TEXT BOOKS:**

1. Time saver standards for landscape architecture.
2. Planting design by Theodore D.Walker, VNR Publications New York.
3. Landscaping Principles and Practices by Jack E. Ingels, Delmar Publishers.

REFERENCES:

1. Time Saver Standards Design Data -Chiava. J. & Callender. J.
2. Construction and material handbook – P.N.Khanna
3. Garden structures – wiles Richard raphic Guide to Frame Construction (1991)
Thallon, R. Newtown: The Taunton Press, Inc

OUTCOMES:

- Students get to understand the concepts of interior landscaping and their application in the design of interior spaces.
- Gain knowledge about the design of interior landscape and care of plant materials used in the interior spaces.
- Enable to express the ideas of the various landscaping elements and their application in interior spaces.

SEMESTER IV

IA C 2401	INTERIOR DESIGN STUDIO- III	L	T	P	C
		0	0	12	6

AIM:

The main aim is to develop visually literate students who are proficient at analytical thinking, conceptualization and the problem-inquiry, solution cycle.

OBJECTIVES:

- This studio attempts to interpret the correlation of public place and the ideas of collective presence in a civic world.
- It focuses on understanding organizations of different types and development of language that is appropriate to the public realm.
- The course concentrates on three stages of work spaces with an emphasis on planning office spaces.
- The course also examines the connection between abstract design principles and the physical and visual environments.

COURSE CONTENT:

- The projects help the students to identify the design process through various methods of concept development.
- HVAC- Heating Ventilation Air Conditioning aspects of design of interiors need will be emphasized along with the design process.
- Project Typology: Commercial and hospitality typology: Banquet halls, Restaurants, Hotel designs.
- Working Drawings for the design is to be taught to the students for the typology of the designs.

TOTAL HOURS – 225

TEXT BOOKS:

1. Joseph De Chiara, Julius Panero, Martin Zelnik, "Time Saver Standards for Interior Design and Space Planning", McGraw Hill, 2001.
2. Ernst, "Neuferts Architects Data", Blackwell, 2002
3. Ramsey et al, "Architectural Graphic Standards", Wiley 2000

REFERENCES:

1. Andrew Alpern, "Handbook of Specialty Elements in Architecture", McGraw Hill Book Co., 1982.
2. Mark Karlen, "Space Planning Basics", John Wiley & Sons Inc, 2009.
3. Reclamation-Managing water in the west, U.S. Department of the Interior Bureau of Reclamation Denver, Colorado, September 2006
4. https://energy.gov/sites/prod/files/2013/12/f5/sustainable_guide_ch5.pdf

OUTCOMES:

- Students get to understand and design medium scale building projects.
- Students get proficient at analytical thinking, conceptualization and the problem-inquiry, solution cycle.
- They get to understand organizations of different types and development of language that is appropriate to the public realm.
- Gain knowledge about the design process and its various faces to solve a design problem.
- Solve design solution and present in the form of drawing.
- Enable to express the ideas in the form of 2D representation and 3D modeling and views

IA C 2402	ALLIED DESIGN STUDIO- IV: Construction Techniques & Representations- IV	L	T	P	C
		2	0	3	4

AIM:

- Allied Design Studio aims to provide the students with the knowledge of the basic understanding of materials in Interior Design.
- This studio also focuses on two dimensional and three dimensional geometry and its representations through drawing.

OBJECTIVES:

- Understanding of materials used in Buildings and interiors.
- Representations of components of buildings.
- The materials used, elements required, techniques of installation, designing the services in interior spaces and elements with step by step actualization on site.

COURSE CONTENT:**PHASE I: FERROUS METALS 10**

- Properties and used of cast iron, wrought iron and steel-anticorrosive measures for steel-mechanical and heat treatment of steel-market forms of steel-structural steel, stainless steel, steel alloys - properties and uses - current developments.

PHASE II: CONSTRUCTION USING STEEL 10

- Steel staircases and handrails, balusters - Doors and windows open able - Sliding or collapsible gates, rolling shutters. - Steel in furniture and other interior uses.

PHASE III: NON FERROUS METALS 15

- Introduction Aluminum and Aluminum Alloys brief study on properties and uses Aluminum products extrusions, foils, castings, sheets, etc.
- Brief study of other non ferrous metals like copper, bronze, brass, tin and lead, properties and uses current developments.

PHASE IV: CONSTRUCTION USING NON FERROUS METALS 25

- Aluminum doors - Open able, Sliding, Pivoted. Aluminum windows - Openable, Sliding, Fixed, Pivoted.

- Aluminum ventilators - Top hung, Bottom hung, Pivoted, Louvered, and Fixed. Aluminum partitions, False ceiling, Handrails Aluminum roofing - North-light glazing bar, Aluminum roofing sheets. Use of other nonferrous metals like copper, bronze, brass, etc. in architectural construction.

PHASE V:**GLASS****15**

- Brief study on structural glazing, Glass façade, unitized glazing, Frameless glasses – Spider glazing, Fin glazing, Glass canopy, Glass Entrance doors, Partitions, Staircases, etc.,
- Use of glass in interiors

TOTAL HOURS – 75**TEXT BOOKS:**

1. W.B. Mckay, "Building Construction", Vol.1, 2, 3, Longmans, U.K.,1981.
2. B.C.Punmia, "Building Construction", Lakshmi Publications Pvt. Ltd., N.Delhi.

REFERENCES:

1. Don A.Watson, "Construction Materials and Processes", McGraw Hill Co., 1972.
2. Alanwerth, "Materials", The Mitchell Pub. Co. Ltd., London,1986.
3. R.Chudleu, "Building Construction Handbook", British Library Cataloguing in Publication Data, London, 1990.
4. S.C. Rangawala, "Engineering Materials", Charotar Pub. House, Anand, 1997.

OUTCOMES:

- The students understand the properties and uses of ferrous and non-ferrous materials.
- They are aware of the progressive achievements of glass, plastics,, aluminium , its application in construction industry and present developments.
- They learn the drafting and representation details of aluminium doors, windows, roofing and its uses in building industry.
- Knowledge about glass and its uses in building industry.

IA C 2403	WORKSHOP IV: FURNITURE DESIGN –II	L	T	P	C
		1	0	3	3

AIM:

- This studio, through exercises and a design problem, attempts to understand the relationship of form, materials and development of dimensions in the design of furniture with reference to space.

OBJECTIVE:

- A critical understanding of the evolution of form in furniture involving these specifics further develops the critical appreciation of furniture pieces.

COURSE CONTENT:**PHASE I: 30**

- The workshop develops from Furniture design I, which focuses on the development of furniture as integral part of Interior architecture.
- False ceiling – wall paneling.

PHASE II: 30

- Designing and detailing of Multiuse furniture design.
- Exercises evolve from being basic to more evolved design typology- Residential furniture- Eg: living room furniture , kitchen furniture, etc

TOTAL HOURS – 60**TEXT BOOKS:**

1. Design After Modernism : Furniture and Interiors 1970 -2010, Judith Gura, New York, 2012.
2. Le Corbusier: Furniture and Interiors 1905-1965, Arthur Ruegg, Scheidegger & Spiess, Zurich, Switzerland,2012.
3. Donald Judd Furniture : Retrospective, Donald Judd, Museum Boymans-van Beuningen, Rotterdam, 1993, English, Dutch, German.

REFERENCES:

1. History of Modern Furniture Design, Daniela Karasova, Arbor Vitae, Prague, 2013.
2. Carrier and company positively chic interiors by Jesse Carrier and Mara Miller.
3. Furniture Design and Construction for the interior designer, by Christopher

Natale,2009

4. Time Saver Standards for Interior Design, Joseph De Chiara, McGraw Hill, New York.

OUTCOMES:

- The students understand the relationship of form, materials and development of dimensions in the design of furniture with reference to space.
- They will get proficiency in the evolution of form in furniture.

IA C 2404**INTEGRATED DESIGN STUDIO - III
DIGITAL TECHNOLOGY****L T P C
1 0 3 3****AIM:**

Through a project the student is taught video, image and vector editing using editing software.

OBJECTIVES:

- To enable the creation of interactive patterns by introducing scripting.
- To enable synchronization of sound with patterns generated.
- To enable presentation using voice over and production of CD rooms.

COURSE CONTENT:**PHASE I: VIDEO EDITING, IMAGE EDITING & VECTOR EDITING 25**

- **Tools:** Importing avis and mpegs, sequencing, cutting trimming, decrease and increase the speed of the movie, filters, transitions, output settings, saving the output with the help of video editing software like ADOBE PREMIERE.
- Image editing (pixel image types) using tools, Vector characters, bizer and grip editing, transform, fill types, text formatting, colour overlays, etc in Adobe Photoshop

PHASE II: OVERLAPPING TECHNIQUE (2D ANIMATION WITH MOVIE) 25

- **Project:** Import Movie file in the editing software like premiere and overlap the 2D Animation film created using Flash.
- Synchronize the sound and create a perfect blend of AVI and 2D Animation film.

PHASE III: SPACE GENERATION 25

- **Project:** Students would identify a metaphor (literature, movies, and music albums) and create spaces using the same.
- The proposal must be discussed with course faculty prior to presentation.

TOTAL HOURS – 75**TEXT BOOKS:**

1. Photoshop 7 Bible Professional Edition, Wiley John & Son INC, New York, DekeMcClelland.

2. Flash Web Design, The Art of Motion Graph, Curtis Hillman, New Riders Publishing, Indianapolis, IN. U.S.A, 2000

REFERENCES:

1. M.E. Morris, and R.J. Hinrichs, Web Page Design, Prentice Hall, 1996.
2. Mark Von Wodtke, Mind over Media : Creative Thinking Skills for Electronic Media, McGrawhill, New York, 1993

OUTCOMES:

- The students are trained to produce a good quality video using the software.
- They gain knowledge about scripting.
- Can prepare presentations using voice over and production of CD roms.

IA C 2405 HISTORY OF INTERIOR ARCHITECTURE- II

L	T	P	C
3	0	0	3

AIM:

- To study the different postmodern directions in architecture and the evolution of new approaches.
- To appreciate contemporary architectural trends.

OBJECTIVES:

- To study about interiors of china and Japan.
- To comprehend the styles and decorations of different states in India.

COURSE CONTENT:**PHASE I: RECENT MOVEMENTS****15**

- Design movements such as Late Modernism, High Technology, Post Modernism, and De Constructivism, Minimalism, etc

PHASE II: ASIAN MOVEMENTS**10**

- Interiors in China, Japan & the Islamic World – Influences of Pre Columbian

PHASE III: INDIAN TRADITIONAL DESIGNS**20**

- Traditional Styles of design & decorations of homes & accessories across the states in India including Rajasthan, Gujarat, Andhra, Tamil Nadu, Kerala, Madhya Pradesh etc

TOTAL HOURS – 45**TEXT BOOKS:**

1. Bill Risebero, "Modern Architecture and Design", MIT Press ,1985.
2. Kenneth Frampton, "Modern Architecture: A Critical History", Tahmes and Hudson, London, 1994.
3. Interior Design, John F. Pile, Harry Abrams Inc.

REFERENCES:

1. Manfredo Taferi/Franceso dal co., "Modern Architecture", Faber and Faber/Electa, 1986.
2. Charles Jencks, "The Language of Post Modern Architecture", Rizzoli, 1984.
3. Interior Design Course, Mary Gilliat Coyran, Octopus Ltd., London.

4. Interior Design, Francis D.K. Ching, John Wiley & Sons, New York
5. Time Saver Standards for Interior Design, Joseph De Chiara, McGraw Hill, New York.
6. Publications on Traditional Arts & Crafts of India, Ministry of Handicrafts Development, Government of India.

OUTCOMES:

- Enlighten the students with various interior design trends across the world
- Understanding the efforts and practices of famous architecture and their influence on the architecture and Interior design
- Highlight the traditional practices of designing and decoration followed in various states of India.

IA C X05	ADVANCED BUILDING SERVICES – II	L	T	P	C
		3	0	0	3

AIM:

To introduce the students to the various concepts of air conditioning and fire safety systems.

OBJECTIVES:

- To expose the students to the indoor & outdoor components in air conditioning.
- To understand the importance and functioning of fire safety systems.

COURSE CONTENT:**PHASE I: HVAC, BUILDING SAFETY & MANAGEMENT 15**

- Study of different types Air-conditioning systems for different types of buildings – HVAC Standards.

PHASE II: FIRE SAFETY 15

- Mechanism of fire spread in building and prevention – Fire safety standards – Concepts in fire protection-Fire fighting installation and requirements - Heat sensitive detectors – Smoke detectors – Automatic water sprinkler system-Foam systems.

PHASE III: FIRE SAFETY CODES 15

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

TOTAL HOURS – 45**TEXT BOOKS:**

1. William H. Severns and Julian R Fellows, "Air conditioning and Refrigeration", John Wiley and Sons, London, 1988
2. "Fire Safety: National Building Code of India" published by Bureau of Indian Standard, 1983.
3. Andrew H Buchanan, "Design for fire safety", John Wiley & Sons Ltd., New York.

REFERENCES:

1. Steve Doty & Wayne C. Turner, (2009), "Energy Management Handbook", Seventh Edition, The Fairmont Pres, USA.
2. Ibrahim Dincer & Marc. A. Roren, (2007), "Exergy - Energy, Environment and Sustainable Development", Elsevier, USA.
3. A.F.C. Sherratt, "Air conditioning and Energy conservation", The Architectural Press, London, 1980

OUTCOMES:

- The students are exposed to the various concepts of air conditioning.
- Students understand the concept of building automation, safety, security and controls systems integrated to building managements systems.
- They learn the use of energy in construction industry, explore energy conservation and energy efficient techniques in current trend.
- Impart knowledge on fire safety, security and fire-fighting system.

IA C X06	ADVANCED BUILDING ENERGY EFFICIENCY	L	T	P	C
		3	0	0	3

AIM:

- To understand a built environment's response to natural heating and cooling and thereby understanding principles to be implemented when designing spaces.

OBJECTIVE:

- To acquire a good understanding of the role of site planning strategies, vegetation types and water bodies in energy efficient architecture.

COURSE CONTENT:**PHASE I: 15**

Location and site level planning, Water efficiency - indoor water reuse and use reduction, Optimum energy performance - HVAC, lighting, etc.

PHASE II: 10

- Renewable and reuse of material and resources - storage and collection of recyclable.

PHASE III: 20

- Constructions and demolishing of waste management planning, Building Product Disclosure and Optimization, indoor environment quality - thermal comfort, interior lighting, daylight, etc.

TOTAL HOURS – 45**TEXT BOOKS:**

- Fuller Moore, Environmental Control Systems, McGraw Hill Inc., New Delhi, 1997.
- Climatically Responsive Energy Efficient Architecture, PLEA/SPA, New Delhi - 1998.

REFERENCES:

- V.Gupta - Energy and Habitat - Wiley Eastern Limited, New Delhi.
- Donald Watson, "Climatic Building Design- Energy Efficient Building Principles and Practice", McGraw-Hill, 1993.
- Energy Conservation Building Code

OUTCOMES:

- They acquire a good understanding of the role of site planning strategies, vegetation types and water bodies in energy efficient architecture.
- They are trained to apply this specialized knowledge in the context of the design of buildings and the wider environment.
- They will be able to critically analyze the implications of energy efficient architectural design in a given specific context and the wider environmental context.
- They are trained to think in an innovative and creative way.

SEMESTER V**IA C 3501****INTERIOR DESIGN STUDIO- IV****L T P C****0 0 17 8****AIM:**

- The main aim is to develop visually literate students who are proficient at analytical thinking, conceptualization and the problem-inquiry, solution cycle. The course also examines the connection between abstract design principles and the physical and visual environments.

OBJECTIVE:

- The course concentrates on larger scale spaces with an emphasis on planning commercial spaces.

COURSE CONTENT:

- The projects help the students to integrate services to achieve functional space without the compromise on interior aesthetics.
- Project Typology: Commercial and public building interiors: Showroom, Office Space, Hotel Interiors, Auditorium etc.
- Working Drawings for the design is to be taught to the students for the typology of the designs.
- Spatial and service standards for commercial and hospitality – integration of interior design schemes– contemporary interior schemes to integrate new concepts in lighting and materials.

TOTAL HOURS – 225**TEXT BOOKS:**

1. Joseph De Chiara, Julius Panero, Martin Zelnik, "Time Saver Standards for Interior Design and Space Planning", McGraw Hill, 2001.
2. Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals ,2002
3. Ernst, "Neuferts Architects Data", Blackwell, 2002
4. Ramsey et al, "Architectural Graphic Standards", Wiley 2000

REFERENCES:

1. Designs for 20th century Interiors – Fiona Leolie, VH Publications, London.
2. Interior Design; The New Freedom, Barbaralec Diamonstein, Rizzoli International Publications, New York, 1982.
3. National Building code of India 2005 – Bureau of Indian Standards.

4. Worldwide Interiors – International Federation of Interior Architects & Designers, Rikuyo-Sha, Japan, 1987.

5. Peter templeton & Saunders – Detailing for architectural acoustics – Architectural press, 1994.

OUTCOMES:

- Students get proficient at analytical thinking, conceptualization and the problem-inquiry, solution cycle.
- They will understand organizations of different types and development of language that is appropriate to the public realm.
- They gain knowledge on MEP services.
- To familiarize the students with the basic principles of acoustic design and working towards the practical approach in treating interior spaces based on the usage.

IA C 3502	ALLIED DESIGN STUDIO- V: Construction Techniques & Representations- V	L	T	P	C
		2	0	4	4

AIM:

- Allied Design Studio aims in elevating the material knowledge acquired to next level by educating on the various finishes available in the industry.
- Understanding of materials and its various finishes used in buildings and interiors.

OBJECTIVES:

- The course focuses on applied materials understanding with the idea of non-engineering materials, their finishes, applications, techniques and processes.
- To gather knowledge on interior fittings and its various brands.

COURSE CONTENT:**PHASE I: SURFACE FINISHES - WALLS 20**

- Types of wall coverings – wall cladding & wall panelling. Materials - Natural and faux, Installation technique.
- Types of wall finishes – based on climate and its exposure, durability, cost.

PHASE II: SURFACE FINISHES – FLOOR COVERINGS 20

- Types of Flooring, Flooring for different building typology, Flooring material – size, thickness and laying on site.
- Types of floor finishes based on their usage.

PHASE III: SURFACE FINISHES – FALSE CEILING 20

- False ceiling- materials, finishes and its fixing details.

PHASE IV: FITTINGS - HARDWARE 15

- Types of Kitchen and Toilet fittings – various brands.
- Door and Window coverings.
- Types of hardware and other related accessories – fixing details.

TOTAL HOURS – 75

TEXT BOOKS:

1. W.B. McKay, "Building Construction", Vol.1, 2, 3, Longmans, U.K., 1981.
2. B.C.Punmia, "Building Construction", Lakshmi Publications Pvt. Ltd., N.Delhi.

REFERENCES:

1. Don A.Watson, "Construction Materials and Processes", McGraw Hill Co., 1972.
2. Alanwerth, "Materials", The Mitchell Pub. Co. Ltd., London, 1986.
3. R.Chudleu, "Building Construction Handbook", British Library Cataloguing in Publication Data, London, 1990.
4. S.C. Rangwala, "Engineering Materials", Charotar Pub. House, Anand, 1997.

OUTCOMES:

- The students gain knowledge on various materials and its finishes used in interiors.
- The students gain technical knowledge on various wall, floor and ceiling installation.
- Practical knowledge on material properties – durability, cost etc.
- Information on different brands – fixtures and fittings.

IA C 3503**WORKSHOP – V: Furniture Design- III**

L	T	P	C
1	0	4	3

AIM:

This studio attempts to understand the relationship of form with combination of materials and design of furniture with reference to space.

OBJECTIVES:

- A critical understanding of the manufacturing processes.
- It focuses on understanding furniture design from the perspective of its evolution in history, the development of design styles, with respect to various designers.

COURSE CONTENT:**PHASE I: MODULAR APPROACH TO FURNITURE DESIGN 15**

- Combination of various materials in furniture design, their hardware and applications. Cost criteria of furniture design based on the material and finishes.
- Study of several modular systems available for different functions in the market.

PHASE II: FURNITURE DESIGN APPROACH 15

- Analysing manufacturing processes most frequently adopted in furniture design such as injection moulding, investment casting, sheet metal work, die casting, vacuum - forming etc.
- Study of different types of moulded or casted furniture available for different functions in the market.

PHASE III: STUDY ON DESIGNERS – FURNITURE 10

- Furniture designers and movements for various types of furniture. Charles & Ray Eames, Eero Saarinen, Jean Prouve, Paul Mccobb, Ettore Sottass, Knoll, Jens Risom etc.

TOTAL HOURS – 45

REFERENCES:

- Carol Stangler, The crafts and art of Bamboo, Rev. updated edition, Lark books, 2009.
- Peter Korn, Wood working Basics : Mastering the essentials of craftsmanship, Taunton , 2003
- Materials for Interior Environments, Corky Bingelli, John wiley and sons, 2007.
- Kilmer, Working Drawings & Details for Interiors, John Wiley & Sons., 2009
- Bradley Quinn, Mid-Century Modern: Interiors, Furniture, Design Details,
- Jim Postell, Furniture Design, Wiley publishers, 2007.
- Robbie. G. Blakemore, History of Interior Design and Furniture: From Ancient Egypt to Nineteenth-Century Europe, Wiley publishers, 2005.

OUTCOMES:

- Exploration of appropriate materials and the social and spatial impact of the furniture will be addressed.
- Gain knowledge on the manufacturing methods and techniques according to the current trends in the industry.
- Experimenting on the ideas of famous designers and applying it to the current needs with a new style.

IA C 3504**INTEGRATED DESIGN STUDIO - V
BUILDING SERVICES - III**

L	T	P	C
1	0	4	3

AIM:

- To expose students to understand noise control and sound transmission and absorption to increase the quality of the interior space.

OBJECTIVES:

- To familiarize the students with the basic principles of acoustic design for various interior spaces.
- To develop the practical knowledge and skills required for understanding acoustics and integrating with interior design.

COURSE CONTENT:**PHASE I:****INTRODUCTION TO ACOUSTICS****20**

- Nature of sound, Transverse and longitudinal waves.
- Properties of sound, behavior of sound in enclosures, reflection of sound, echoes, dispersion, sound shadows.

PHASE II:**SOUND TRANSMISSION, NOISE CONTROL AND SOUND ABSORPTION****20**

- Building material, absorption co-efficient and measurements, choice of absorption material, resonance, reverberation, echo, exercises involving reverberation time and absorption co-efficient.
- Noise reduction: Sound isolation, transmission loss TL, TL for walls, sound leaks indoors, noise reduction between rooms, Construction details for noise reduction.

PHASE III:**ACOUSTICAL CONSIDERATION****20**

- Acoustical Considerations and design criteria - Room shape, volume, treatment for interior surfaces and elements of audio visual setting. Walls/partitions, floors/ceilings, window/doors insulation techniques and acoustical treatments.
- Acoustic design process for different types of interiors.

TOTAL HOURS – 60

REFERENCES:

1. Frederick .S, "Building Engineering and systems Design", Merritt James Ambrose.
2. David Eagan "Concepts in Architectural Acoustics".
3. Dr.V.Narasimhan, " An Introduction to Building Physics", Kabeer Printing Works, Chennai-5, 1974.
4. Neufert Architects'Data Third Edition.

OUTCOMES:

- To make the students understand the science behind acoustical design.
- To familiarize the students with various interior elements which lend to better hearing conditions.
- To familiarize the students with the basic principles of acoustic design and working towards the practical approach in treating interior spaces based on the usage.

IA C X07	ADVANCED PRODUCT DESIGN	L	T	P	C
		3	0	0	3

AIM:

- To understand the importance of design of products and accessories in the design of interiors.

OBJECTIVES:

- To analyze on past and current trends and to arrive at solutions for future.
- Hand skilled products and manufacturing techniques using latest technologies.

COURSE CONTENT:

PHASE I	NEED OF PRODUCT DESIGN	10
	<ul style="list-style-type: none"> • Role of products and accessories in interiors and the integration of accessories in interior design. • Design methods in product and accessories design with an emphasis on functionality, ergonomics, aesthetics, multiple usages etc. 	
PHASE II	PRODUCT DESIGN – STYLES	10
	<ul style="list-style-type: none"> • Development of decorative accessories from the past to present. • Technological advances and the influences on their design. 	
PHASE III	DESIGN APPROACH	10
	<ul style="list-style-type: none"> • Strategies for evolving design with integration of technical complexities and influences. • Innovative design and application to multi products and multi materials in manufacturing interior products and lifestyle accessories. 	
PHASE IV	MATERIAL AND DETAILING	15
	<ul style="list-style-type: none"> • Study of materials and processes adopted in accessories design. • Orientation to Indian as well as global context of interiors, trends and market. • A detailed study involving all the design aspects of any of the following lifestyle accessories: luminaire design, glassware, lighting fixtures, textiles, mirrors, wall decors etc. 	
		TOTAL HOURS – 45

REFERENCES:

1. Laura Slack, What is product Design? Roto Vision publishers, 2008
2. Treena Crochet and David Vleck, Designer's Guide to Decorative Accessories, Prentice Hall, 1st edition, 2008.
3. Michael Ashby, Kara Johnson, Materials and Design: The Art and Science of material selection in product design, Butter Worth Heinemann, 1st edition, 2002.
4. Karl. T. Ulrich, Steven D. Eppinger, Product Design and Development, McGraw-Hill Education Singapore; 4th edition, 2007
5. William Lidwell, Kritina Holden, Jill Butler ,Universal principles of Design, Rockport publishers, 2008.

OUTCOMES:

- To familiarize on various interior products available on market.
- To understand the need of products to enhance the design of interiors.
- To gain knowledge on manufacturing techniques adopted in the industry.

IA C X08**ADVANCED LIGHTING DESIGN**

L	T	P	C
3	0	0	3

AIM:

- To understand the importance of design of products and accessories in the design of interiors.

OBJECTIVES:

- To analyze on past and current trends and to arrive at solutions for future.
- Hand skilled products and manufacturing techniques using latest technologies.

COURSE CONTENT:

PHASE I	INTRODUCTION TO DAY LIGHTING	10
	<ul style="list-style-type: none"> • Nature of light – Wavelength, intensity, Flux, illumination and luminance, visual efficiency, sources of light, day light factor concept, day lighting requirements. 	
PHASE II	ARTIFICIAL LIGHTING	15
	<ul style="list-style-type: none"> • Different types of lights in interior and exterior - task lighting, special purpose lighting. • Electric lamps – incandescent, fluorescent, sodium vapour, mercury, halogen and neon. • Guidelines for lighting design and Calculation of artificial lighting. 	
PHASE III	LUMINARES & FIXTURES	15
	<ul style="list-style-type: none"> • Different luminaries for lighting, lighting control system. • Impact of lighting, fixture types - free standing or portable, fixed, light fixture control. • Lighting accessories- switches, sockets, fused connection units, lamp holders, ceiling roses etc. 	
TOTAL HOURS – 45		

REFERENCES:

1. Gary Gordon, Interior lighting for designers, John Wiley & Sons Inc.
2. Interior lighting for Designers, Third edition – Gary Gordon & Jamco L. Nuckolls – John Wiley & Sons, New York, 1995.

OUTCOMES:

- To familiarize on various interior products available on market.
- To understand the need of products to enhance the design of interiors.
- To gain knowledge on manufacturing techniques adopted in the industry.

SEMESTER VI**IA C 3601****INTERIOR DESIGN STUDIO – V****L T P C****0 0 22 9****AIM:**

- . The main aim is to develop multi-dimensional design principles and its application in interior environments.

OBJECTIVES:

- . The course concentrates on larger scale design and understanding of transformation of interior spaces.
- . Emphasis is placed on the design requirements, space planning & constraints, anthropometric & ergonomic requirements of the users and the selection of appropriate materials for non-residential interiors

PHASE I

Renovation interior projects provide scope for rejuvenation through multi-dimensional programs covering functions like cultural and resource libraries, exhibitions etc. that also aim in making a social contribution, Exhibition displays for a convention center / museum.

PHASE II

Interior design and detail of recreational spaces such as halls, cinema houses, stage design etc.

Knowledge of audio-visual communication, color and light interaction, sound control system, design of interior elements, products and furniture forms.

TOTAL HOURS – 225**OUTCOMES:**

The students are exposed to building codes & standards and spaceplanning.

They will have an understanding of the requirement basics of any renovation project.

IA C 3602**ALLIED DESIGN STUDIO Building Systems****L TPC
2 0 05****AIM:**

- To schematically represent the service layout for the spaces mentioned.

OBJECTIVE:

- To understand the building systems of large scale-built environment.
- To understand the allied services pertaining to hospitals, commercial spaces like offices/malls, institutions etc.

COURSE CONTENT:

This course covers all the related systems in a building in sufficient depth to provide the students with a general understanding while designing the interior. It is mandatory to understand the allied services related to the typology of the buildings especially larger scale hospitals, commercial spaces like offices/malls, institutions etc.

PHASE I:**20**

Plumbing & Electrical Systems:

Water supply and sanitation systems –Waste water - Planning and layout of sanitary fittings - Lighting systems - Electrical systems- Application of lighting & electrical system for shops, showrooms - Representation of the services in the design layout

PHASE II:**20**

HVAC - Mechanical Systems - Fire Safety:

Heating Systems - Cooling - Heating, Ventilating, and Air-Conditioning (HVAC) Systems, Fire Detection and Alarms – Representation of the services in the design layout.

Office Communications Systems - Security and Communications Applications – Elevators – Escalators

PHASE III:**35**

Representation and Preparation of Detail drawings, Allied to the design studio with the understanding from the above building systems applied for large scale projects.

TOTAL HOURS – 75**REFERENCE BOOKS :**

1. Building Systems For Interior Designers Corky Binggeli A.S.I.D.
2. Fuller Moore, Environmental Control Systems, McGraw Hill Inc., New Delhi, 1997.
3. Handbook for Buildings Engineers in Metric Systems, NBC, New Delhi, 1998.
4. Philips Lighting in Architectural Design, McGraw Hill, New York, 1998.

COURSE OUTCOME:

- □ The students get exposed to electrical services and power distribution system inside & outside buildings.
- They get to know about importance of lighting in indoor spaces.

- The students obtain knowledge about various vertical transportation systems.
- It enlightens the importance of services in interior space planning.
- The students were trained to read & represent various layouts for the buildings and individual design projects.

IA CX 09**ENTREPRENEURSHIP IN DESIGN**

L	T	P
C 3	0 0	0
		3

AIM:

To introduce the basic concepts, methods, and terms in the area of entrepreneurship and to understand the role and importance of entrepreneurs in the field of design.

OBJECTIVES:

- Understanding the role and importance of entrepreneurs for economic development
- Developing personal creativity and entrepreneurial initiatives
- Adopting key steps in the elaboration of business idea
- Understanding the stages of the entrepreneurial process and the resources required for successful ventures

COURSE CONTENT:**PHASE I INTRODUCTION TO ENTREPRENEURSHIP 09**

- Introduction - terminologies, and core concepts - the role and importance of entrepreneurs - types of businesses - small scale to large scale - market sizes - success and failure models

PHASE II BRANDING AND MARKETING - DIFFERENT BUSINESS MODELS 12

- Introducing branding and marketing terms, positives and negatives of branding and marketing - identifying businesses
- Analyzing different business models - definitions, approaches, tools, and strategies - understanding the positives and negatives of a business - customer discovery

PHASE III ENTREPRENEURSHIP AND DESIGN THINKING 12

- Individual design ideas - understanding customer and user need - Overview of the individual business model canvas - decision making - initial business ideas - idea selection and teamwork.
- Distinguishing a vision from an idea - clarifying your idea - Customer, Problem, Solution - branding and marketing ideas

PHASE IV IDEATION INNOVATION AND VALIDATION 12

- Innovation cycle - the power of prototyping - identifying problems and solutions - overview of experimental methods - recording predictions for maximum learning
- Running first experiments - from experiments to learning - using validated

learning to set your priorities - final individual business model canvas.

TOTAL HOURS: 45

REFERENCES:

- The Lean Startup by Eric Ries, Crown Business, 2011.
- The Innovation Catalysts by Roger L. Martin, Harvard Business Review, June 2011. (<https://hbr.org/2011/06/the-innovation-catalysts>)
- The Innovator's Solution, Chapter 2 by Clayton Christensen, Harvard Business School Publishing Corp., 2003.
(<http://www.hbs.edu/socialenterprise/pdf/TheInnovatorsSolutionChpt2.pdf>)
- The One Number You Need to Grow by Frederick F. Reichheld, Harvard Business Review, December 2003. (<https://hbr.org/2003/12/the-one-number-you-need-to-grow>)
- Design Kit by IDEO.org (<http://www.designkit.org/methods>)
- A Whole New Mind: Why Right-Brainers Will Rule the Future by Daniel H. Pink, Riverhead Books, 2005.
- Creative Confidence: Unleashing the Creative Potential Within Us All by Tom Kelley and David Kelley, Crown Business, 2013.

COURSE OUTCOMES:

- Basic marketing terminologies
- Analyzing the business environment in order to identify business opportunities
- Identifying and analyzing existing entrepreneurial practices from small scale to large scale
- Evaluation of different entrepreneurial strategies
- Importance of branding, marketing, and management in small to large scale business ventures
- Interpreting their own business plan and strategies.

IA C X10 : COLOUR, MATERIAL AND LIGHTING**L T P C 3 0 0 3****AIM:**

To introduce the concepts of color, material, lighting and its applications in interior architectural design. Enabling students to understand the importance, processes, and effects of color, material, lighting from history to the present context.

OBJECTIVES:

- Understanding the importance of color and its impact on interiors.
- To understand the material's visual and physical characteristics, properties, and functions through exploring, studying and designing with interior architecture building and finishing materials.
- To understand the basic principles of illumination and application of natural lighting in interiors, different types of lighting and fixtures used in interiors.
- Increase design skills through applying knowledge of color principles, theories, and systems when learning to make finish material selection and through applying and exploring theories of design and design composition when selecting and arranging interior finish material

PHASE I**08****COLOR CONCEPTS**

Introduction to Colour Schemes and types, Colour harmonies-related and contrast, Advanced and receding factors considered in selecting color harmonies, Application of color harmonies in the interiors and exteriors –Effects of light, form, surface qualities, distances and scales on color, Illusion of color, the effect of color on each other

PHASE II**15****MATERIAL UNDERSTANDING**

Wood-Soft and hardwood, plywood, laminated wood and particle boards – properties, manufacture, and uses. Synthetic Materials–Different types of Glass, their properties, manufacturing processes and uses. Plastics–injection molding and other manufacturing methods, etc. Fabrics–textile, Jute, leather, linen etc. different types and their uses. Fixtures- components of a bathroom – sanitary ware -w.c, washbasin, bidet, bathtub, jacuzzi, etc. Sanitary fittings – taps, mixers, shower units.

PHASE III**12****INTERIOR LIGHTING**

Importance of lighting – Artificial lighting - light sources, types, and uses of light, specific factors in lighting, Psychological aspects of light, Avoidance of glare – Glare its types and prevention. Lighting accessories – Selection of lamps and lighting fixtures, lighting for various areas and specific activities, modern features in lighting design. Style of

lighting fixtures with direct lighting.

PHASE IV**10****APPLICATION - IMPACTS AND EFFECTS**

The psychological impact of color – warm, cool and neutral colors, material and lighting. Problems with color, material, and lighting. Use of color, material, and lighting in various functional contexts – Residential interiors, Non Residential interiors, use in special situations – outdoor/indoor spaces, accessories, artworks, etc.

TOTAL HOURS: 45**REFERENCES**

1. Faulkner, R. and Faulkner, S.(1987), Inside Today 's Home, Rine hart publishing company, Newyork.
2. Judy, M.,(1994), How to see, how to paint it, Harpencolling publishers, London.
3. Jan Orcharchd (1993), Lighting for a beautiful Home, Dunestyle publishing Ltd.,U.S.A.
4. Seetharam, P, and Pannu, P.Interior Design and Decoration, CBS publishers and distributors, NewDelhi.
5. Stewart and Sally .W., (1997), The Complete Home Decorator, Anne's publishers Ltd., New york.
6. Understanding Buildings: A Multidisciplinary Approach (Paperback) by Esmond Reid
7. R.J.S.Spencke and D.J.Cook, Building Materials in Developing Countries, John Wiley and Sons, 1983.

OUTCOME:

- To understand the basic principles of illumination and application of natural lighting in interiors, different types of lighting and fixtures used in interiors.
- Increase design skills through applying knowledge of color principles, theories, and systems when learning to make finish material selection and through applying and exploring theories of design and design composition when selecting and arranging interior finish material.

