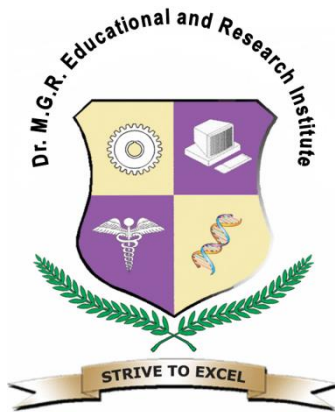


**Dr. M.G.R**  
**EDUCATIONAL & RESEARCH INSTITUTE**  
**UNIVERSITY**

(Declared U/s. 3 of UGC Act 1956)



**B.Design**  
**SYLLABUS - 2021**

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Dr. M.G.R. Educational and Research Institute Trust,  
Chennai - 600 095

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# SYLLABUS - 2021

## B. DESIGN

### SEMESTER- I

Code No	COURSE TITLE	L	T	P	C
<b>THEORY</b>					
BDE2101	Introduction to Design	3	0	0	3
BDE2102	History of Design I	3	0	0	3
<b>THEORY / STUDIO</b>					
BDE21L01	Graphics-I	1	0	3	3
BDE21L02	Design Sketching	1	0	3	3
<b>STUDIO</b>					
BDE21L03	Design Studio - I	1	0	3	3
BDE21L04	Basic Model	0	2	15**	10
<b>Total credits</b>		<b>9</b>	<b>2</b>	<b>25</b>	<b>25</b>

### SEMESTER- II

Code No	COURSE TITLE	L	T	P	C
<b>THEORY</b>					
BDE2103	Communication studies in Design	3	0	0	3
BDE2104	Physical Ergonomics	3	0	0	3
<b>THEORY /STUDIO</b>					
BDE21L05	Graphics II (Visualization and Illustration)	1	0	3	3
BDE21L06	Form studies	1	0	3	3
<b>STUDIO</b>					
BDE21L07	Material and Hand Tools Workshop	1	0	3	3
BDE21L08	Design Studio- II (Form space and structure)	0	2	15**	10
<b>Total credits</b>		<b>9</b>	<b>2</b>	<b>25</b>	<b>25</b>

### SEMESTER- III

Code No	COURSE TITLE	L	T	P	C
<b>THEORY</b>					
BDE2105	Critical Thinking & Creative Writing	3	0	0	3
BDE2106	Material Studies in Design	3	0	0	3
<b>THEORY CUM STUDIO</b>					
BDE21L09	Computer Application in Design - I*	1	0	3	3
BDE21L10	Design Documentation	1	0	3	3
<b>STUDIO</b>					
BDE21L11	Model Making Workshop-II	1	0	3	3
BDE21L12	Design Studio -III (Product Design)	0	2	15**	10
<b>Total Credit</b>		<b>9</b>	<b>2</b>	<b>25</b>	<b>25</b>

### SEMESTER- IV

Code No	COURSE TITLE	L	T	P	C
<b>THEORY</b>					
BDE2107	Introduction to Communication & Graphic Design	3	0	0	3
BDE2108	Consumer Psychology	3	0	0	3
<b>THEORY CUM STUDIO</b>					
BDE21L13	Computer Application in Design – II	1	0	3	3
BDE21L14	Branding & Identity	1	0	3	3
<b>STUDIO</b>					
BDE21L15	Model Making III	1	0	3	3
BDE21L16	Design Studio IV (Graphics Design)	0	2	15**	10
<b>Total Credit</b>		<b>9</b>	<b>2</b>	<b>25</b>	<b>25</b>

### SEMESTER- V

Code No	COURSE TITLE	L	T	P	C
<b>THEORY</b>					
BDE2109	Theory & History of Interior Design	3	0	0	3
BDE2110	Parameters of Art Design	3	0	0	3
<b>THEORY CUM STUDIO</b>					
BDE21L17	Material and Construction (set & I.A)	1	0	3	3
BDE21E	Elective -I	2	0	2	3
<b>STUDIO</b>					
BDE21L18	Model Making Workshop-IV	1	0	3	3
BDE21L19	Design Studio V (Interior /Set Design)	0	2	15**	10
<b>Total Credit</b>		<b>10</b>	<b>2</b>	<b>22</b>	<b>25</b>

### SEMESTER- VI

Code No	COURSE TITLE	L	T	P	C
<b>THEORY</b>					
BDE2111	Design and Technology	3	0	0	3
BDE2112	Strategic Design Management	3	0	0	3
<b>THEORY CUM STUDIO</b>					
BDE21L20	Materials & Process in Design	1	0	3	3
BDE21E	Elective -II	2	0	2	3
<b>STUDIO</b>					
BDE21L21	Working Drawing	1	0	3	3
BDE21L22	Design Studio VI (Industrial Design)	0	2	15**	10
<b>Total Credit</b>		<b>10</b>	<b>2</b>	<b>23</b>	<b>25</b>

**SEMESTER- VII**

<b>Code No</b>	<b>COURSE TITLE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>THEORY CUM STUDIO</b>					
BDE21L23	Swayam / NPTEL (MOOC Course)	2	0	0	2
BDE21L24	Practical Training	0	0	**	12
<b>Total Credit</b>		<b>2</b>	<b>0</b>	<b>**</b>	<b>14</b>

**SEMESTER- VIII**

<b>Code No</b>	<b>COURSE TITLE</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
<b>THEORY</b>					
BDE21E	Elective -III	2	0	2	3
BDE2113	Entrepreneurship development	3	0	0	3
<b>STUDIO</b>					
BDE21L25	Graduation Project (thesis)	0	0	21**	10
<b>Total Credit</b>		<b>5</b>	<b>0</b>	<b>23**</b>	<b>16</b>

**ELECTIVES**

<b>S.No</b>	<b>Semester/Elective</b>	<b>Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
		BDE21EL1	Creative art and craft	2	0	2	3
		BDE21EL2	Interior Photography	1	0	2	3
		BDE21EL3	Interior services	2	0	2	3

<b>S.No</b>	<b>Semester/Elective</b>	<b>Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
		BDE21EL4	Advanced Cad	1	0	3	3
		BDE21EL5	Furniture design	2	0	2	3
		BDE21EL6	Ergonomics for industrial design	3	0	0	3

<b>S.No</b>	<b>Semester/Elective</b>	<b>Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
		BDE21EL7	Soft sculpture	1	0	3	3
		BDE21EL8	Estimation & costing	3	0	0	3
		BDE21EL9	Textile design	2	0	2	3

## SEMESTER - I

**BDE2101**

**INTRODUCTION TO DESIGN**

**L T P C**  
**3 0 0 3**

### **PURPOSE**

To give brief Introduction of Design. This course will orient students for constructivist learning approach practiced in department of design.

### **INSTRUCTIONAL OBJECTIVES**

- To instill ethics, values and responsibilities observed in design.
- To understand and appreciate the interdisciplinary nature of design.
- To understand the psychological nature of visual perception

### **UNIT - I            ORIENTATION**

**8**

Differences between craft, art and design – Idea of design - Definition and understanding of the design process - Nature of Design Education – Design and society – Introduction to different design professions – Professional practices in design.

### **UNIT - II            VISUAL PERCEPTION**

**10**

Nature of Design – Aesthetic sense, Role of perception, Gestalt Principle. Laws of grouping (Pragnanz), visual principles – Balance: Formal and informal balance; Harmony / Unity; Emphasis / Focus; Rhythm: different types of rhythm; Pattern; Contrast; Scale and proportion; Visual hierarchy; Visual Order and Chaos; Positive – Negative space; Tessellation: Regular and Semi-regular tessellation, modular tessellations

### **UNIT - III           INTRODUCTION TO BASIC ELEMENTS**

**12**

Point- Line – Line as an expression, quality of lines, symbolic lines, line as a form etc. Space – Pictorial space, implied space, space illusion, actual space etc.  
Shape and form – Natural shapes, geometric shapes, abstract shapes, non-representational shapes; Natural forms, geometric forms, abstract forms, non-objective forms.

Color – Color theory, color properties, color relationships, color harmony, color interaction. Texture – Tactile texture, visual texture, texture and pattern, constructed texture, symbolic texture.

### **UNIT - IV           PROBLEM IDENTIFICATION**

**15**

Problem identification and definition. Scenario building. Mind maps a metaphor. Definition of a solution. Ideation, conceptualization and representation of solutions

**TOTAL: 45 PERIODS**

### **REFERENCE BOOKS:**

1. Meggs, P.B., A History of Graphic Design, Library of Congress Cataloging, 1998
2. Gonnella, Rose., Navetta, Christopher and Friedman, Max. Design Fundamentals: Notes on Visual Elements and Principles of Composition. Peachpit Press, 2015
3. Poopy Evans, Mark Thomas. Exploring the Elements of Design. Thomson Delmar Learning, 2008
4. Bryan, Peterson. Design Basics for Creative Results, How Design Books, 2003

**PURPOSE**

To engage with art and design history as a way of informing design practice as well thinking. This course will introduce students to the breadth of art and design history from India as well as western perspective.

**INSTRUCTIONAL OBJECTIVES**

- To introduce students to historical developments in art and design against the background of major movements, styles and periods and with relation to social, cultural, economic, scientific and philosophical developments.
- To introduce students to Indian as well as Western perspectives in history.
- To introduce students to resources for studying history that will enable them in their own future investigations.

**UNIT - I EARLY CLASSIC PERIOD 8**

Prehistoric Cave paintings – Primitive Designs Interiors during Egyptian, Greek, Roman, Gothic, Early Christian & Renaissance Periods.

**UNIT - II MIDDLE AGE AND COLONIAL PERIOD 10**

Interiors in Romanesque, Gothic, and renaissance periods - Colonial, Victorian designs, Arts & Crafts movement, Art Nouveau, Eclectism, Frank Lloyd's wright

**UNIT - III STUDY OF VARIOUS PHASES OF INDIAN ART HISTORY 15**

Study of various phases of Indian Art History from Pre – Historic times to 18th century- Prehistoric Cave paintings from Bhopal, Harappa & Mohenjo-Daro Civilization (town planning, sculpture-Beard man, dancing girl, seals and script), Rock cut architecture, Architecture- Ajanta, Brahminical cave, Architecture - Ellora

**UNIT - IV DEVELOPMENT OF MODERNITY IN 19TH AND 20TH CENTURY. 12**

Indian art with special reference to various art movements, medium, styles, individual artist's contributions in different regions of the country

**TOTAL: 45 PERIODS****REFERENCE BOOKS:**

- The Story of Art: E.H. Gombrich
- A People's History of the World: Chris Harman
- Gardner's Art Through the Ages: The Western Perspective: Fred S. Kleiner
- The Social History of Art Volume I & II: Arnold Hauser
- History of Art: Anthony F. Janson

**PURPOSE**

To make students improve their sketching skills & drawing abilities.

**INSTRUCTIONAL OBJECTIVES**

- To help students to learn & understanding the techniques of various methods of drawing.
- To develop an analytical attitude, understand and represent the structure of forms. To develop an ability to deal with the complexity of imagination and visualization.
- To conceptualize, visualize and communicate ideas through the concept of isometric and orthographic projections with precision and dexterity.

**UNIT - I BASIC SHAPES AND FORMS 12**

Basic exercise- concepts of dot, line and angles for hand eye coordination – concepts of figure and configuration - Still life, basic forms, effect of lines to represent textures.

**UNIT - II GEOMETRICAL DRAWING TECHNIQUES 24**

Introduction to tools: peg & strings (carpenter method), compass, straight edge, T-square, set squares. - Construction of: Angles, Division of line, tangents- Shapes: Circles, Ellipses, Spirals, Regular Polygons- Proportions: Root Proportions, Golden Proportion - Series and progressions – Fibonacci and Logarithmic- Symmetry: - Two-fold, threefold, four-fold, fivefold - Tiling and Surfaces: Regular tessellations, semi regular tessellations.

**UNIT - III ORTHOGRAPHIC PROJECTIONS 12**

Orthographic projections - projection of lines, planes and solids, section of primary solids such as pyramids, cones, cylinder, prism, sphere, cuboid, etc.

**UNIT - IV ISOMETRIC DRAWING 12**

Isometric projection of all platonic solids such as cube, cuboid, hexagonal prism, pyramids, cone and sphere etc. - isometric projection of single and doubly curve surfaces -grid and coordinates for generating 3- dimensional forms in isometric space.

**TOTAL: 60 PERIODS**

**REFERENCE BOOKS:**

1. Drawing - A Creative Process, Francis D. K. Ching, John Wiley Sons, New York
2. How to paint & draw, Bodo W. Jaxtheimer, Thames & Hudson, London
3. Geometrical drawing for art students, 2<sup>nd</sup> revised edition - I. H. Morris, Orient Longman, Calcutta, 1995
4. Building drawing, 3<sup>rd</sup> edition - M. G. shah, c. m. Kale, Tata Mcgraw - Hill publishing, New Delhi.
6. Francis Ching, Architectural Graphics, Van Nostrand Rein Hold Company, New York, 1964.
7. Engineering drawing by N D Bhatt



**PURPOSE**

Students should acquire knowledge of the various drawings, which effectively communicate their designs. To develop a quality of keen observation and experience space.

**INSTRUCTIONAL OBJECTIVES**

- To observe and represent images, ideas, concepts and ability.
- To develop an ability to visualize and articulate one's thinking process.
- To improve hand eye coordination
- To explore different mediums of presentations.

**UNIT - I BASIC EXERCISE****15**

Movement of fingers, elbows and arms in drawing – Different grades of pencils: properties and uses – representation of textures – Freehand plotting and layout. Representing the observed – sketching for ideation, lines, and geometric shapes. Grid based drawing- analytical representation.

**UNIT - II NATURE DRAWING****15**

Analysis and appreciation of natural form including Lawns, bushes, water bodies, plants & trees through visual reference. Capturing overall form-character, overall proportions and fine details. Understanding depth, light and shade.

Memory and imagination-object representation and abstraction.

**UNIT - III HUMAN FIGURE STUDY****15**

Overall human form study with actual model, quick sketching to enhance observation.

Human body details – understanding of form, relative proportions and details by rendering techniques

**UNIT - IV PERSPECTIVE****15**

Dimensional solid- Drawing basic solids (cube/ cone/ sphere) and understand its hidden dimension and structure in perspective.

One point, two point and three-point perspective of interior and exterior spaces.

**TOTAL: 60 PERIODS****TEXT BOOK:**

1. Perspective & Sociography by Shankar Mulik, Allied publishers

**REFERENCE BOOKS:**

1. Perspective Principles, M. G. Shah & K. M. Kale, Asia Publications, Mumbai
2. Betty Edwards, New Drawing on the Right Side of the Brain, 2002
3. Dalley Terence ed., the complete guide to illustration & design, Phaidon, Oxford, 1980
4. T. C. Wang, Pencil Sketching, John Wiley & Sons, 1997
5. Wily Pogany, The Art of Drawing, Madison Books, 1996
6. R. Kasparian, Design Media – Techniques for water color, pen and ink, pastel and colored markers, John Wiley & Sons, 1999

**PURPOSE**

To create a blend of theory and practice as it is amply evinced in the Indian tradition. To focus on the visual aspects of the Indian culture. To sensitize design students to the social context.

**INSTRUCTIONAL OBJECTIVES**

- To create an awareness of the multi layers nature of Indian culture
- To create awareness of the form and content of the past, present and future trends in cultural aesthetics.
- To equip design students with social science concepts. To bring ideas of identity.

**UNIT - I INTRODUCTION TO INDIAN CULTURE 10**

Stories behind stories – oral tradition of learning - story boarding - Indian aesthetics – palette- iconography- utility and beauty- symbols of Indian beauty - Ethics and value systems Panchatantra, Chanakya, Manu epics

**UNIT - II INDIAN ART FORMS 15**

Classic dance forms, community dances, language of mudra, Music Hindustani, Karnataka folk, festive, Indian painting – sculpture, crafts and architecture as repositories of culture

**UNIT - III INDIAN SOCIETY AND COMPOSITE CULTURE 15**

Unity and diversity in India: understanding differences

Discussions on basic concepts of identity formation, oppression, social hierarchy, hegemony, stigma, caste, class, religion, gender, tribal or other marginalized groups. Celebrations and rhythm of seasons, history and geography through food and cuisine, Interpersonal relationships, samskara and value systems, composite culture and continuity of tradition. Traditional ecology – sacred groves – Indian medicine and material medicine

**UNIT -IV ENVIRONMENTAL PERCEPTION 20**

Field work and methodology; socio- cultural structure of the Indian society, preparatory exercises in environmental perception as representation. Field studies of the chosen environment, interaction with it and communication of the understanding through maps, sketches and write ups. Observe and depict the changes in the same object and area at different times of the day and/or different objects at the same time.

**TOTAL: 60 PERIODS**

**REFERENCE BOOKS:**

1. Facets of Indian Culture. Vidya, Kalpana Rajaram, Spectrum,2014
2. Indian Culture, Art and Heritage- 2018, Dr. P. K. Agrawal, Prabhat Prakash an
3. Indian Art and Culture, Singhanian, Nitin, MC Graw Hill Education
4. Encyclopedia Of Indian Art And Architecture, Chaturvedi P.N, M D Publications Pvt. Ltd
5. Composite Culture - A Reappraisal, Srivastav Omprakash, LAP Lambert Academic Publishing
6. Glimpses of Indian Culture: Ancient and Modern, Dr. Pratap Chandra Chuder, Indian Museum, Kolkata,2007
7. Understanding Indian Society, Baviskar, Tulsi Patel, Orient Black swan Private Limited - New Delhi – 2011
8. Indian Society's C Dube, National Book Trust (2005)

**PURPOSE**

To develop the understanding of the basic elements and principles of visual composition and the process of arrangement of elements in proper inter relation with a logical approach such that it communicates the expected or intended.

**INSTRUCTIONAL OBJECTIVES**

- To develop sensitivity towards visual perception
- To acquire conceptual ability and the necessary skills for creating communicative compositions using basic elements of point, line, plane, volume etc. in an abstract way.
- To develop an understanding of visual dynamics that exists between any two or more elements within a given format.
- To develop visual sensitivity through application of color and be able to differentiate the steps in hue, value and Chroma.

**Core Course:** Project based

**Emphasis:**

- Enquiry into making of space through its elements,
- Understanding of form and its transformations
- Introduction to basic principles of 'what is design?'

**Content:**

- Understanding vocabulary of space -making with its basic elements.
- Study of Basic Form by applying actions of everyday life.
- Working with different materials, skill development and understanding spatiality in a given form and its representation in 2D.
- Understanding functioning of an instrument and its graphical representation, reconstructing its meaning of abstract expression in innovative materials [realistic to abstraction 3D]

**TOTAL: 270 PERIODS**

**REFERENCE BOOKS:**

1. Samara Timothy, Design Elements, 2nd Edition: Understanding the rules and knowing when to break them, Rockport Publishers, 2014
2. Evans Poppy & Thomas Mark A., Exploring the Elements of Design, Delmar Cengage Learning, 2012
3. Beech R., Origami – The Complete Guide to the Art of Paper Folding, Lorenz Books, 2001
4. Wong W., Principles of Two-Dimensional Design, John Wiley & Sons, 1972
5. White Alex W., The Elements of Graphic Design, Allworth Press, 2011
6. Gail Greet Hannah, Elements of Design, Princeton Architectural Press, 2002
7. Itten J., The art of color: the subjective experience and objective rationale of color, John Wiley and Sons, 1974
8. Sherin, A., Design Elements, Color Fundamentals: A Graphic Style Manual for Understanding How Color Impacts Design, Beverly, Mass: Rockport Publishers, 2011
9. L. Hotzschue, Understanding Color, VNR, 1995

## SEMESTER – II

**BDE2103**

**COMMUNICATION STUDIES IN DESIGN**

**L T P C**  
**3 0 0 3**

### **PURPOSE**

To improve life skills of designer by better communication skills. To help the designer to understand the mechanisms of human conversation.

### **INSTRUCTIONAL OBJECTIVES**

- Ability to analyze communication with research subjects
- Ability to gain actionable insights from day-to-day conversations
- Understanding persuasive dialogue
- Using persuasion in visual language

### **UNIT - I PERCEPTION AND COMMUNICATION THEORIES 10**

Reality, Experience, Subjective Constancy, Contrast Effect, Grouping; Concepts of Information and Data, Defining and investigating communication; Contextual Design; Models of communication;

### **UNIT - II OBJECTIVIST& INTERPRETIVE - THEORY & APPLICATION 15**

Introduction to quantitative research, Uncertainty reduction theory, Expectancy violations theory, Social judgment theory, Elaboration likelihood model, Communication accommodation theory, Face negotiation theory; Objectivist research/ practice: Creating hypotheses & testing relationships, Surveys/questionnaires;

Introduction to qualitative research, Symbolic convergence theory, Symbolic interactionism, Speech codes theory, Relational dialectics theory, and communication privacy management theory, Knowledge Gap Theory; Ethics; Interpretive research/practice: Interviews and focus groups; Ethnography;

### **UNIT - III INFORMATION & COMMUNICATION 10**

Processing information – Coding & Decoding; Sender, Channel and Receiver; Signs and their meanings in Indian cultures- Study of relationships between Signifier, Signified and context, Denotation and Connotation; Communicating through gestures, voice, type and visuals; Designing visual messages to send meanings.

### **UNIT - IV INTRODUCTION TO SEMIOTIC PERSPECTIVE, INTERPRETATIONS & CULTURE 10**

Goals of Semiotic Analysis; Sign: Concept and Types; Codes: Concepts, Types and Sharing; Process of Signification: Connotation and Denotation

Metaphors; Myths: Concept and Debates; Communication as Text / Discourse; Ideology: Link to Meaning Making

**TOTAL: 45 PERIODS**

**REFERENCE BOOKS:**

1. Griffin, E. (2012). A first look at communication theory (8 th ed.). New York: McGraw-Hill.
2. Lewis, J. (2002). Cultural studies: The basics. London: SAGE Publications.
3. Watson, J. (1985). What are communication studies? London: Edward Arnold.
4. Berko Roy (1989) Basically Communicating. C. Brown Publishers
5. Roloff, M. E., & Miller, G. R. (1987). Interpersonal processes: New directions in communication research. Newbury Park, Calif: Sage Publications
6. Carey, J. W. (1989). Communication as culture: Essays on media and society. Boston: Unwin
7. Ronald H. Forgas, Perception, The basic process in cognitive development, USA, McGraw-Hill 1996
8. Carey, J. W. (1989). 'Communication as culture: Essays on media and society. Boston: Unwin Hyman
9. Ghanekar, A (1998) Communication skill for effective management. Everest Publishing House. Gilligan, Pune
10. Fiske, J. (1982). Introduction to communication studies. London, Angle Terre: Methuen
11. Schlenker, B. R. (1980). Impression management: The self-concept, social identity, and interpersonal relations. Monterey, Calif: Brooks/Cole Pub. Co.

**PURPOSE**

The course aims at understanding human anatomical, anthropometric, physiological and biomechanical characteristics as they relate to physical activity

**INSTRUCTIONAL OBJECTIVES**

- To help harmonize things that interact with people in terms of people's needs, abilities and limitations
- To design and evaluation products and systems in order to make them compatible with the needs, abilities and limitations of people.
- Understanding how vehicle interiors are designed
- Ability to predict mistakes people make while using machines and how component or feature failure may injure users

**UNIT - I      MAN-MACHINE INTERACTION      10**

Definition of Ergonomics and its application and overview, Concept of Man Machine Environment System;

**UNIT - II      ANTHROPOMETRICS      15**

Anthropometrics. Understanding and applications of anthropometry; Posture, reach, grip and movement. Quantification of comfort levels; Access, Reach, Posture and movement; Product Ergonomics: Object handling, Macro and Micro Reach, Object handling effort and posture;

**UNIT - III      EFFORT      10**

Static and Dynamic effort. Quantification of effort; Endurance, Strength, Physical environment and its impact on human performance; Cognition, perception and performance, Task Analysis;

**UNIT - IV      SAFETY      10**

Injury prevention, Safety, Vibration, Shock, Fatigue and occupational hazards; Error Handling: Human Errors; Forgiveness; Allowance for Errors; Component resilience; desirable use scenarios and user manual construction; safety against human error; safety against feature malfunction; troubleshooting manual;

**TOTAL: 45 PERIODS**

**REFERENCE BOOKS:**

1. R. S. Bridger, Introduction to Ergonomics, 2nd Edition, Taylor & Francis, 2003
2. J. Dul, and B. Weerdmeester, Ergonomics for beginners, a quick reference guide, Taylor & Francis, 1993
3. E. Grandjean, Fitting the task to the man, Taylor & Francis Ltd. 1980
4. P.W. Jordan and W.S. Green, Human Factors in Product Design: current practice and future trends, Taylor & Francis, London, 1999
5. Dr. Debkumar Chakraborty, Indian Anthropometric Dimensions For Ergonomic Design Practice, National Institute of Design, 1997

**PURPOSE**

The course aims to develop sensitivity towards 3D volumes and their interrelationship with respect to space. And enables the analysis and description of forms, structures and their interpersonal relationships.

**INSTRUCTIONAL OBJECTIVES**

- To use traditional methods of three-dimensional geometric construction with precision & dexterity. To seek, observe, analyze. occurrences of Geometry in the world.
- To understand the role of visualization in design and to learn how to externalize the visualizations through various illustrations.

**UNIT - I SOLIDS, ORDER AND STRUCTURE 15**

Introduction to the geometry of platonic solids and study of their interrelationship; Derivation of Archimedean solids through truncation of regular solids; Boolean solids; duality; space filling. Order and structure- interrelationship of 2D and 3D forms; Construction of solids using paper;

**UNIT - II FORM MANIPULATION AND ILLUSTRATION 10**

Form manipulation; Form transition; Expressive form, combinatory forms and topology of 3D forms; Division and extension of the solids.

**UNIT - III VISUALIZATION 15**

Understanding basic principles of perception including depth and its representation; Inter-relationship of visual forms in terms of size, scale and overall proportion. Rendering objects by observation, Rapid sketching techniques; Visual compositions of objects;

**UNIT - IV ILLUSTRATION 20**

Introduction to different medium, tools and instruments to create illustrations; Nature drawing - to study form, structure and various shapes; Representation of 3-dimensional forms; principles of perspectives; Conceptualizing ideas into an illustrative format; Exploring the area of realistic to experimental illustrations;

**TOTAL: 60 PERIODS****REFERENCE BOOKS:**

1. D. K. Francis Ching, Design Drawing, John Wiley & Sons,1998
2. Tom Porter, Design Drawing techniques for architects, graphic designers and artists, Oxford Architectural Press,1991
3. Terence ed. Dalley, The complete guide to illustration & design, Phaidon, Oxford, 1980
4. W. Wong; Principles of Two-Dimensional Design, John Wiley & Sons, 1972
5. K. Critchlow; Order in Space: A design Source Book, Thames and Hudson, 1969
6. E. H. Dobrich; The Sense of Order, Phaidon Press, 1994
7. R. Beech, Origami: the complete guide to the art of paper folding, Lorenz Books, 2001
8. C. Akner-Koler, Three-Dimensional Visual Analysis, Konftfack, Sweden, 1994
9. I. Johannes, Design and Form, John Wiley & Sons,1975

**PURPOSE**

To understand form and its transformation; Develop ability to manipulate form for demonstration of varied expressions; Understand and develop family of forms with a common design language.

**INSTRUCTIONAL OBJECTIVES**

- Ability to control surfaces of objects created from imagination
- Function oriented look at product aesthetics
- Applying Logic and mathematics to generate volumes

**UNIT - I UNDERSTANDING OF FORM 10**

Definition of form, evolution of a flat shape into a volume, Classification of form 2D & 3D, Solids (Platonic, Archimedean)

**UNIT - II VOLUME RELATIONSHIPS 15**

Form, Feature and Content, Dominant, subdominant and subordinate elements, transition elements; Creating a family of forms; Abstraction, Expression and Meaning in Product Form; Generative algorithms; Generated Forms;

**UNIT - III TRANSFORMATION AND MOVEMENT 15**

Addition, subtraction, conformation, Transition, Morphing; Radian Manipulation; creating volumes through imaginary movements;

**UNIT - IV FORM, EMOTIONS, EXPLORATION & IDENTITY 20**

Abstraction & expression of form, Identity experimentations with form, texture & color, Family of forms - Form explorations: Through different materials (Like- Paper Mache, thread, Plaster of Paris, Clay etc.)

**TOTAL: 60 PERIODS****REFERENCE BOOKS:**

1. Gyorgy Kepes, Language of Vision, Dover Publications, 1995
2. Kimberly Elam, Geometry of Design: Studies in Proportion and Composition, Princeton Architectural Press, 2001
3. Gaston Bachelard and Maria Jolas (Translator), The Poetics of Space, Beacon Press; Reprint edition, 1994
4. Gail Greet Hannah, Elements of Design, Princeton Architectural Press, 2002
5. H. G. Greet and R. R. Kostellow, Elements of Design and the Structure of Visual Relationships, Architectural Press, NY, 2002
6. Mario Livio, the Golden Ratio: The Story of PHI, the World's Most Astonishing Number, Broadway, 2003



**PURPOSE:**

- To understand the various kinds of materials and their properties, the process and the tools. And the interrelationships required working on them.
- To develop sensitivity to experience different materials.

**INSTRUCTIONAL OBJECTIVES**

- To enhance the understanding of different materials and their properties – technical, structural, behavioral and visual
- To explore the potential of these material through the use of various hand tools.
- Understanding of the interactions among humans and other elements of a system
- Understanding how injuries happen when the product is not ergonomically designed.

**UNIT - I INTRODUCTION****15**

Introduction to basic forms – solid, sheet, clay and liner form. Introduction to hand tools – safety and precautions- safety gears.

Properties of natural materials like wood, bamboo, cane, leather, cloth, jute and paper and their use at craft and industry.

**UNIT - II WOOD****15**

Wood removal of materials, understanding of the grain structure and form explorations. Woodworking and wood carving;

**UNIT - III METAL****15**

Shaping and forming, space filling possibility; Turning – Metal Lathe applications.

**UNIT - IV CLAY****15**

Moulding and shaping (pinching, slab work and coiling);

**TOTAL: 60 PERIODS****REFERENCE BOOKS:**

1. J. Garratt, Design and Technology, Cambridge University Press, UK, 20004
2. R. Thompson, Manufacturing processes for design professionals, Thames & Hudson, London 2007
3. Michael Ashby and Kara Johnson, Materials and Design: The Art and Science of Material Selection in Product Design, Butterworth Heinemann, 2002

**PURPOSE**

- To enable the students to understand the immediate environment and explore the physical forms, spaces, structure as well as elements of time involves in any happening.
- Helps to sharpen the perception of meaning in the visual structure and narrative.

**INSTRUCTIONAL OBJECTIVES**

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

- Multi space design Exercises- E.g: Types of Residence.
- Exercise to involve the development of services along with the design problem.
- Site Planning and analysis
- Contextual Exploration of materials and usage.
- Working of the Basic structural systems.
- Working drawings with respect to the Plumbing, Electrical details.

**TOTAL: 255 PERIODS****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, 1

## **SEMESTER – III**

**BDE2105**

**CRITICAL THINKING CREATIVE WRITING**

**L T P C**  
**3 0 0 3**

### **Purpose:**

- The purpose of English is to teach technical writing skills to a diverse group of students.
- Development of technical writing skills and styles; various technical writing assignments, including a technical report.

### **Objectives**

- Providing learners with the skills and abilities
- Communicate in ways that make learners effective to operate confidently
- To develop strong conversation & role play skills
- To improve vocabulary

### **UNIT I: SPEAKING FOR EXPRESSION**

**10**

Speaking: Individual presentation - Introducing oneself and others, Making Requests and responses, Inviting and Accepting/Declining invitation.

### **UNIT II: TECHNICAL AND EFFECTIVE WRITING**

**10**

Writing: Business letters and Emails, Minutes and Memos- Structure/template of common business letters and emails: inquiry/complaint/placing an order; formats of Minutes and memos. Stimulate effective linguistics for writing: content and style.

### **UNIT III: ACADEMIC WRITING AND EDITING AND WRITING STRATEGIES**

**15**

Writing: Editing/Proofreading Symbols-Citation formats- Structures of an abstract and Research paper -Joining the sentences, word order, sequencing the ideas, introduction and conclusion.

### **UNIT IV: REPORT WRITING AND CONTENT WRITING**

**10**

Enhancing reportage on relevant audio-visuals – Watch a documentary on social issues and draft a report, identify a video on any social issue and interpret.

**TOTAL: 45 PERIODS**

### **Reference**

Raman. Meenakshi, Sharma. Sangeeta (2019). Professional English. Oxford university press. New Delhi.

**PURPOSE**

To help the student to understand material and process involved in manufacturing of products.

**INSTRUCTIONAL OBJECTIVES**

- Knowledge of where most materials come from
- Ability to identify which processes are used to make a product

**UNIT 1: INTRODUCTION TO MATERIALS 10**

Classification of materials, History of significant materials. - Properties and Applications Wood, bamboo, cane, leather, fabric, jute, Steel, Brass, Bronze, Copper, Aluminium, Nickel, Tin, Lead, Zinc and Alloys etc.

**UNIT 2: EXPLORATION OF MATERIALS 8**

Exploration of materials such as fabrics, leather, wood and metals, Steel, Brass, Bronze, Copper, Aluminium, Nickel, Tin, Lead, Zinc and Alloys

**UNIT 3: CONVENTIONAL MANUFACTURING PROCESSES 12**

Manufacturing process introduction - Casting, Forging, lathe, drilling, milling, welding, grinding, knurling, Foundry Tools and Equipment's, Metal Cutting, other industrial practices

**UNIT 4: BASIC HANDS-ON PRACTICES 15**

Primary Importance of hands-on practices in product design; working with wood, paper, fabric, leather thread, wire, acrylic sheets, sun board, fibre board, Introduction to making material boards.

**TOTAL: 45 PERIODS****References:**

1. William D. Callister Jr., Materials Science and Engineering, Wiley, 2015
2. S. K. Hajra Choudhary and A. K. Hajra Choudhary, Elements of Workshop Technology Vol. I,
3. C. Baillie and L. Vanasupa, Navigating the Materials World, Academic Press, San Diego, CA, 2003

**PURPOSE:**

To provide the student of Interior Design a foundation in the techniques of drafting using computer as a tool.

**INSTRUCTIONAL OBJECTIVES**

- To help the student understand the technology of computer and its terminology.
- To enable the student to understand the applications of the software and graphic system.

**UNIT - I INTRODUCTION TO COMPUTER AIDED 2D DRAFTING 10**

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.

**UNIT - II ADVANCE COMPUTER AIDED 2D DRAFTING 10**

Advance command programming – Transparent overlays, hatching utilities, assigned colour and line type, use of multi-line, style, block, symbol library, manipulation for accurate drawings, incorporating the above-mentioned utilities.

**UNIT - III 3D MODELING WITH PARAMETERIC SOFTWARE 20**

3D modelling with Parametric Software- ArchiCAD /Revit: Walls, floors, doors, windows, stairs etc./ Revit families: Using components, creating new types and new families

**UNIT - IV 3D CONTENT 20**

Plans, interactive models (3D for the web), schedules, materials Using Revit and SketchUp models for analysis: Spatial analysis, Solar analysis, energy performance etc.

**TOTAL: 60 PERIODS**

**Reference Books**

- V. Rajaraman, principles of Computer Programming – Prentice Hall of India
- Byron Gottfried, Theory and Problems of Programming with C. Schaum's outline series, McGraw Hill Publishing Co.
- Auto CAD Reference Manual – Autodesk UNC, 1998
- Sham Tickoo, Understanding Auto CAD – 14
- Mastering Autodesk Revit Architecture 2014: – by James Vandezande, Eddy Krygiel & Phil Read, Sybex; First edition (June 2013)

**PURPOSE:**

This course aims to develop an understanding and appreciation for India's rich cultural heritage and vast repertoire of craft traditions to a designer who may choose to function as a design professional in the craft sector. Indigenous crafts offer a phenomenal base for drawing inspiration and developing culturally relevant designs in a contemporary context.

**Instruction Objectives:**

- To establish an appreciation and understanding of our rich culture, heritage and vast vocabulary of craft techniques.
- To expose the students to the gamut of contextually responsive space design of a community, craft activity and the role of design thereof.
- To evaluate the possibility of extending the traditional material, construction techniques and craft techniques to contemporary application.
- To equip the students to undertake field research using suitable research tools wherein they directly interact with communities, artisans and skilled craftsman to collect analyze and record data.

**Methodology:**

- Field work - Analysis and synthesis- Discussions and feedback sessions - Documentation.
- Preparing Individual Report writing & sketches about the construction techniques, craft community and craft identified

**COURSE CONTENT:**

The course primarily focuses on an in-depth study, research and documentation of a particular context, craft community and craft: keeping in view various aspects such as the evolution of the craft, communities engaged in practicing the craft, socio-cultural economic influences on the craft, traditional methods of designing and production, use of indigenous materials and use of local technology, market linkages, external influences, etc.

The students are required to spend a part of their project time on field interacting directly with practitioners of the selected craft. They collect and analyze the data using multiple tools in written and visual form. This is recorded by the students in form of a document wherein the students are also encouraged to present their individual insights, findings, and suggestions to effectively converge the traditional craft with the contemporary scenario.

**TOTAL: 60 PERIODS**

**PURPOSE**

To introduce the students to basics of model making with various materials.

**INSTRUCTION OBJECTIVES:**

Understanding and working under workshop conditions;  
Understanding and specific tools for different jobs; Using conventional methods for product prototyping

**UNIT 1: WORKSHOP TOOLS & PRACTICES 10**

Introduction to workshop practices, Tools; metrology; machines and workshop work ethos; importance of PPE, safety procedures; and first aid.

**UNIT 2: WORKING WITH PLASTICS & ELASTOMERS 15**

Working with thermoplastics and thermosets; limitations; environmental impact; Advantages and disadvantages of working with plastics.

**UNIT 3: WORKING WITH CERAMICS & GLASS 15**

Ceramics Types and Properties, Processing and use of ceramics and glass.

**UNIT 4: WORKING WITH WOOD & Metal 20**

Woodworking joints, Carving, and finishing- Working with flat products and long products of steel, aluminum copper etc. sizes and availability, joining techniques

**TOTAL: 60 PERIODS**

**References:**

J. Garratt, Design and Technology, Cambridge University Press, UK, 2000  
R. Thompson, Manufacturing processes for design professionals, Thames & Hudson, London 2007  
Michael Ashby and Kara Johnson, Materials and Design: The Art and Science of Material Selection in Product Design, Butterworth Heinemann, 2002

**BDE21L12**

**PRODUCT DESIGN – DESIGN STUDIO III**

**L T P C**  
**0 2 15\*\* 10**

**PURPOSE**

To understand the process of design and be able to find solutions to simple problems by modifying forms and functions.

**INSTRUCTION OBJECTIVES:**

- To introduce the students to the technically complex product design challenges, considerations and deliverables.
- The focus is on being able to identify and analyze the need, articulate it and generate solution with an understanding of how things work.

**COURSE CONTENT:**

- Identifying the need /area of product to be designed.
- Identifying the nature of products through examples- analysis of existing products.
- Use of analogies to generate product forms.
- Product design by generative process, by inspiration, by iteration.
- Use of 'SCAMPER' to generate product design ideas.
- Use of metaphors to generate product forms.
- Study of iconic designers and their designs.

**TOTAL: 255 PERIODS**

**References:**

- The complete book of Product Design, Development, by Steven Selikoff
- Product Design and Development by Karl Ulrich



## SEMESTER – IV

**BDE2107 INTRODUCTION TO COMMUNICATION & GRAPHIC DESIGN**

**L T P C  
3 0 0 3**

### **PURPOSE**

- To equip students with the necessary communication skills that would help them in their career.
- Students acquire the basic skills by understanding the basics of the free hand sketching and help in realizing the final sketches and presentations that equip the student's ability to express the ideas in a professional method.

### **INSTRUCTION OBJECTIVES:**

- To prepare students to adapt themselves with ease to the industry environment, thus rendering them as prospective assets to industries
- To train the students in all forms of communication to standardize the quality of academic exercises
- To understand the role of visualization in design and to learn how to externalize the visualizations through various illustrations and to learn the fundamental skills and knowledge of image representation in order to be able to represent objects, nature and living beings.

### **UNIT 1: SPEAKING AND LISTENING COMPREHENSION:**

**10**

Phonetics: Intonation – Ear training - Correct Pronunciation – Sound recognition exercises – Common Errors in English.

Listening and typing – Listening and sequencing of sentences – Filling in the blanks - Listening and answering questions. Reading Comprehension: Filling in the blanks - Close exercises – Vocabulary building - Reading and answering questions.

### **UNIT 2: RESUME/ REPORT PREPARATION AND PRESENTATION AND SOFT SKILL**

**10**

Resume / Report Preparation / Letter Writing / Précis writing Structuring the resume / report - Letter writing / Email Communication - Samples.

Elements of effective presentation – Structure of presentation - Presentation tools– Voice Modulation – Audience analysis - Body language Soft Skills:

### **UNIT 3: STRUCTURED INTRODUCTION TO SKILLS OF DRAWING**

**15**

Simple geometric forms and composition, principles of perspective, effect of light and shadows on surface composition, understanding the basics of proportions and application of scales in drawing and representation of the same. Introduction to lettering and typography.

### **UNIT 4: FIGURE AND OBJECT DRAWING AND INTRODUCTION TO THE NEW MEDIUMS AND TOOLS:**

**10**

Natural forms and sketching, natural forms animals, birds, trees, flowers etc, the human body and its parts, human proportions and proportioning systems.

Manmade form sketching, introduction to product sketching, understanding the proportions and material properties, importance of line weights in representation. Introduction to different mediums tools and instruments to create illustrations, rendering of man-made and natural objects using various mediums, creation of product presentation sheets.

**TOTAL: 45 PERIODS**

**References:**

- Anderson, P.V, Technical Communication, Thomson Wadsworth, Sixth Edition, New Delhi, 2007.
- Evans, D, Decision maker, Cambridge University Press, 1997.
- John Seely, The Oxford Guide to Writing and Speaking, Oxford University Press, New Delhi, 2004.
- Prakash, P, Verbal and Non-Verbal Reasoning, Macmillan India Ltd., Second Edition, New Delhi, 2004.
- Edwards Betty; New drawing on the right side of the brain. Publisher: Tarcher 2002
- D.K Francis; Design Drawing, John Wiley and Sons, 1998
- T C Wang; pencil sketching, John Wiley & sons, 1997
- Dalley Terence Ed; the complete guide to illustration & design, Phaidon, Oxford 1980

**PURPOSE**

To help the students understand basics of management and the design cycle.

**INSTRUCTIONAL OBJECTIVES**

- Understating of why people buy things
- Ability to offer relevant products which people need
- Awareness about Design Rights and their enforcement by law

**UNIT - I AN INTRODUCTION TO CONSUMER PSYCHOLOGY 8**

Definition and understanding of consumer, consumer needs, Identification of problems and User needs and Driving Factors; Emotional Design, Analysis of an existing problem in a given

**UNIT - II MARKET STUDY AND BUSINESS COMMUNICATION 12**

Consumer Vs Buyer, Consumer Groups, Buyer Groups, Periodic Trends, Market Gaps, Market Oriented Innovation.

**UNIT - III BUSINESS EVOLUTION 15**

Explaining Ideas through briefs, detailed briefs and concept notes, Informal and Formal Business Communication. - Product Planning for the future, Disruptive

**UNIT - IV PRODUCT LIFECYCLE MANAGEMENT 10**

Procurement, Process monitoring, Quality Assurance, Guarantee Statement, Warrantee Statement, Buybacks, refurbishing; Component interchangeability, Process Homogenization, Material Homogenization, Feature Standardization;

**TOTAL: 45 PERIODS**

**REFERENCE BOOKS:**

1. Kathryn Best, The Fundamentals of Design Management, AVA Publishing, 2010
2. Brigitte Borja De Mozota, Design Management: Using Design to Build Brand Value and Corporate Innovation, Allworth Press, 2004
3. Kenneth B Khan, Product Planning Essentials, M E Sharpe Inc, 2011
4. John Stark, Product Lifecycle Management: 21st Century Paradigm for Product Realisation, Springer, 2011
5. Craig M. Vogel and Jonathan Cagan, Creating Breakthrough Products: Innovation from Product Planning Program Approval, FT Press, 2001
6. David L. Rainey, Product Innovation: Leading Change through Integrated Product Development, Cambridge University Press, 2011

**PURPOSE**

To help the present the ideas of solid visualization through the digital medium.

**INSTRUCTIONAL OBJECTIVES**

- To understand the basic parametric fundamentals that is used to create and manipulate geometric models.
- To learn about the concepts of Geometric modelling and to acquire knowledge for generating high quality images.
- To learn about different tolerance methods, mass property calculations and animation techniques used in designing.

**UNIT - I GEOMETRIC MODELING****15**

Geometric modeling techniques - Multiple view 2D input, Wire frame geometry, Surface models, Geometric entities - Curves and Surfaces, Solid modelers, Feature recognition.

**UNIT - II COMPUTER AIDED DRAFTING****15**

AutoCAD tools, 3D model building using solid primitives and Boolean operations, 3D model building using extrusion, Editing tools, Multiple views: Orthogonal, Isometric.

**UNIT - III VISUAL REALISM AND GRAPHIC AIDS****10**

Shading solids, Coloring, Color models, Using interface for shading and coloring. - Geometric modifiers, Naming scheme, Layers, Grids, Groups, Dragging and rubber banding.

**UNIT - IV THREE DIMENSIONS****20**

Three dimensions: 3D geometry, 3D primitives, 3D transformations, Parallel projection, Perspective projection, Isometric projections, Viewing parameters, Special projections.

**TOTAL: 60 PERIODS****REFERENCE BOOKS:**

- Christoph M. Hoffmann, Geometric and Solid Modelling: An Introduction
- William Howard and Joseph Musto. Introduction to Solid Modeling Using solid works. McGraw Hills

**PURPOSE**

Understanding of why organizations invest in maintaining their identity

**INSTRUCTIONAL OBJECTIVES**

- Knowledge of Branding and Identity design process

**UNIT - I PRINCIPLES OF VISUAL DESIGN REFRESHER 8**

Understanding visual culture; Visual Theories; Visual Design; Symbolism, Time, Sound; Point of View

**UNIT - II VISUAL ART 7**

Visual art History; Painting; Architecture and Sculpture; Artistic Styles;

**UNIT - III AESTHETIC AND VISUAL EXPERIENCE 15**

Modes of Aesthetic Experience; Basics of Aesthetic values; Aesthetics of Thinking and Creativity; Taste and Aesthetes; Aesthetics of Symbols and Language; - Photography and Moving Images; Historical, Technical and Cultural Perspective; Ethical and Critical Perspective; Motion Pictures; Television and Video; Reality Shows;

**UNIT - IV BRANDING AND IDENTITY 15**

History of branding; structure of a Brand; Brand language; Logos; Copywriting; Typeface; Brand Placement; Brand Guidelines; Structure of Identity; Visual Abstraction; Metaphors; Communication; Representativeness; Evolution;

**TOTAL: 45 PERIODS**

**REFERENCE BOOKS:**

1. Paul M., Visual Communication: Images with Messages, 2006
2. Ralf E. Wileman, Visual Communication
3. David Sless, Learning & Visual Communication
4. Friedrich O. Huck and Carl L. Fales, The Digital Evolution: Visual Communication in the electronic age
5. Zia-Ur-Rehman, Visual Communication an Information Theory Approach
6. Margaret Mark, Carol Pearson, the Hero and the Outlaw: Building Extraordinary Brands through the Power of Archetypes, McGraw Hill, 2001

**PURPOSE**

To introduce the students to basics of Model making with various materials.

**INSTRUCTIONAL OBJECTIVES**

Acquisition of hands-on experience in model - building

**UNIT - I INTRODUCTION TO MODEL MAKING 8**

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

**UNIT - II BLOCK MODELLING 12**

- Preparation of base for models using wood or boards
- Introduction to block models of buildings (or 3D Compositions) involving the usage of various materials like Thermocol, Soap/Wax, Boards, Clay etc.

**UNIT - III DETAILED MODELLING 20**

- Making detailed models which include the representation of various building elements like Walls, Columns, Steps, Windows/glazing, Sunshades, Handrails using materials like Mount board, Snow white board, acrylic sheets.
- Representing various surface finishes like brick/stone representation, stucco finish etc.
- Various site elements – Contour representation, Roads/Pavements, Trees/Shrubs, Lawn, Water bodies, Street furniture, Fencing etc.

**UNIT -IV INTERIOR MODELS OF INTERIOR SPACES 20**

Making models of the various interior spaces such as

- Residences
- Offices
- Retail Spaces
- Recreational Spaces Scaled models of furniture same.

**TOTAL: 60 PERIODS**

**REFERENCE BOOKS**

1. BENN, The book of the House, Ernest Benn Limited, London
2. Jannsen, Constructional Drawings & Architectural models, Karl Kramer Verlag Stuttgart, 1973.
3. Harry W. Smith, The art of making furniture in miniature, E.P. Dutton Inc., New York, 1982.

**PURPOSE**

- To develop the skill & knowledge of Web page design
- Students will understand the knowhow and can function either as an entrepreneur or can take up jobs in the multimedia and Web site development studio and other information technology sectors.

**INSTRUCTIONAL OBJECTIVES**

The student will be able to

- Define the principle of Web page design
- Define the basics in web design
- Develop the concept of web publishing
- Practice Hyper linking, Designing of webpage-Working with Frames, Forms and Controls.
- Designing of webpage-Document Layout, Working with List, Working with Tables.

**COURSE CONTENT:**

Basic principles involved in developing a web site - Planning process - Five Golden rules of web designing - Designing navigation bar - Page design - Home Page Layout -Design Concept. - Brief History of Internet - What is World Wide Web - Why create a web site - Web Standards - Audience requirement. - Creating the Web Site - Saving the site - Working on the web site - Creating web site structure - Creating Titles for web pages - Themes- Publishing web sites

Designing of webpage-Document Layout. - Working with List. - Working with Tables- Practicing Hyper linking of webpages- Designing of webpage-Working with Frames. - Working with Forms and Controls- Acquaintance with creating style sheet, CSS properties and styling. - Working with Background, Text and Font properties- Working with List properties

**TOTAL: 255 PERIODS**

**REFERENCE BOOKS**

1. Web Designing & Architecture-Educational Technology Centre University of Buffalo
2. Kogent Learning Web Technologies: HTML, JavaScript Wiley India
3. Murray, Tom/Lynchburg Creating a Web Page and Web Site College,2002

## **SEMESTER -V**

<b>BDE2109</b>	<b>THEORY &amp; HISTORY OF INTERIOR DESIGN</b>	<b>L T P C</b> <b>3 0 0 3</b>
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<b>UNIT I UNDERSTANDING STYLES &amp; THEORIES OF INTERIOR DESIGN</b>	<b>8</b>
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Categorizing design into key elements, including space, light, display, storage, and offering new terminology to describe each area, the author breaks new ground in the field of interior design in an approach that brings vitality and clear communication to a misunderstood and often free-wheeling design discipline.

<b>UNIT II UNIVERSAL DESIGN MOVEMENTS</b>	<b>8</b>
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Landmark events in the history of international design movement historical development of artifact overview of major styles like Regency, Colonial, Romanticism, Art Nouveau, Eclectic, Art Deco, Cubism, Modernism, Late Modernism, Post Modernism & Deconstructivism.

<b>UNIT III MODERN DESIGN MOVEMENTS IN INDIA</b>	<b>8</b>
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Industrialization changes in technology and production systems impact on lifestyle & interiors Modern movement & its impact in India Shift from historical to modern methods of building spaces, change in the interior elements of design Elements of Interior Design.

<b>UNIT IV INDIAN STYLES IN INTERIOR DESIGN</b>	<b>6</b>
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Indian Elements of space making – Concepts of Traditional symbols and spatial organization. Creative and ethnic approaches to interior elements and its adaptations in the Contemporary design methods. The adaptive re-use of Architectural Built forms for the modern Interiors.

**TOTAL:30 PERIODS**

### **REFERENCE:**

1. A History of Interior Design -John Pile; Harry. Abraham, Inc. Publishers.
2. Interior design Illustrated; Francis.D.K. Ching.
3. History of Interior Design – 2<sup>nd</sup> edition – 2005 – John Wiley & Sons.Inc
4. Handbook of Human Factors & Ergonomics – Gavriel Salvendy
5. Geoffrey Broadbent – Design in Architecture – Architecture & the human sciences – John Wiley & Sons , New York , 1981.
6. Nigel Cross – Developments in Design Methodology, John Wiley & Sons.1984



**PURPOSE**

To introduce the student to the parameter of the specialization to develop skills required for the same.

**INSTRUCTIONAL OBJECTIVE**

The course concentrates on three stages of learning that involve brief history of the subject of specialization, the contemporary trends, the evolving nature of user's requirements the technological developments and design parameters.

The main aim is to provide background knowledge on the subject to the students to enable them to provide practical solutions.

**UNIT - I DESIGN INTRODUCTION FOR FILMS & TELEVISION 10**

History film & theatre – different time periods growth of theatre -History of stage play (Greek, Roman, Indian theatre). History of production design for films.

**UNIT - II PARAMETERS OF SET DESIGN 10**

1. Team discussion (script discussion genre).
2. Pre-visualisation methods – sourcing, designing.
3. Location hunts – outdoor / indoor.
4. Budgeting / costing, time constraints.
5. Difference in designing for film / TV (how different is set designing events for all these)

**UNIT - III METHODOLOGY OF SET DESIGN (Pre-Production & Production) 15**

Involvement of architectural history (Roman / Baroque, Art Deco, New classicism) styles in set design.

(a) Pre-Production - Script Reading – quoting of characters action props and their need. What the director wants to convey to the audience. Understanding the design aspect of the script like – time period, economic status of characters, colour palatting.

(b) Pre- Visualisation –designing deferent elements of sets – ground plan, 3D modelling, scale model/ miniature, lighting (preproduction stage, set practical's), Propping (design/ sourcing), Budgeting & timeline.

**UNIT - IV PRODUCTION EXECUTION 10**

Line marking (location), building, prop making, shooting (designing for the frame), SFYC special effects material for special requirement

**TOTAL: 45 PERIODS****REFERENCE BOOKS:**

1. Theatre of the World, by Frances A. Yates,1987
2. Stock Scenery Construction Handbook, by Bill Raoul, Mike Monsos ,2015
3. Fundamentals of Theatrical Design: A Guide to the Basics of Scenic, Costume, and Lighting Design -Karen Brewster, Melissa Shafer, 2011
4. Movie Sets 101: The Definitive Survivor's Guide, by Paul J. Salam off, 2005

**BDE21L17**

**MATERIAL AND CONSTRUCTION - I  
(Set design and I.D)**

**L T P C  
1 0 3 3**

**Purpose:**

This course emphasizes practical application of and experiences in technical theatre, including scene design, set construction, color and texture, lighting, sound, and the use of stage materials.

**Instructional objectives:**

At the end of the course the student should be able to

1. Understand the process and techniques for the production, performance of theatre arts and the principles and elements of theatre arts
2. Understand Theatre arts in historical and cultural context
3. Evaluate the perceptions about and evaluations of works in theatre arts.
4. Understand the Techniques, technology and trends in constructing Theatre Design and actual sets

**UNIT I INTRODUCTION TO THEATRE & FILM SET DESIGN 10**

Technology and innovation in theatre & set designs from concept to execution.

Trends and techniques adopted with a historical context to present day context  
Theatre design - techniques and usage of materials - texture - color- and other innovations in theatre design vis-a-vis the impact achieved.

Set design: - technology, techniques, innovation and material aspects - adopted- for various typologies of set designs -

**UNIT II FALSE ROOF AND VARIOUS CONCEPTS OF CEILING DESIGN 10**

Various type of materials used for false ceilings, like wood, pop metal, ACP etc.

**UNIT III UPHOLSTRY & ITS CONSTRUCTION. 15**

Materials used as upholstery-cotton, synthetic, [rexins, foam leather,]-different types of frames used for upholstery like wooden, plywood, metal, composite frames.

**UNIT IV PARTITIONS 10**

Single skin and double skin, Traditional and Innovative with composite materials partition in wood, aluminum frame partitions and gypsum / POP, other innovative materials, construction terminology and details – various kind of partitions

Timber framed with building board paneling, Stone for paneling and cladding, cladding with other innovative material.

**TOTAL: 45 PERIODS**

**REFERENCE BOOKS:**

“The art of illusion: The design of film set construction”, urdesign august 2, 2019

**BDE21L18**

**DESIGN STUDIO V (Interior /Set design**

**L T P C  
0 2 15\*\* 10**

**PURPOSE:**

To introduce the interior design problems of complete species with creative outlook.

**COURSE CONTENT:**

This course prepares the student to prepare enlarge detail drawings, service layout and presentation drawings.

**COURSE CONTENT:**

Two Interior Design problems of complete species with creative outlook. (Five-star hotels, resorts, hospitals, theatres) Drawings include – presentation drawings, Enlarge detail drawings, services layout drawings. Area of Interior project should be @ 500.00 sq.mt.

**TOTAL: 255 PERIODS**

**REFERENCES:**

1. The Fundamentals of Interior Architecture, Coles, AVA
2. Interior Design -John Pile; Harry. Abraham, Inc. Publishers.
3. Interior design Illustrated; Francis.D.K. Ching.
4. Time Saver standards for Interior Design & Space Planning – Joseph de Chiara, Julius Panero, and Martin Zelnic – 2003.

**PURPOSE**

To introduce the students to basics of model making with various materials.

**INSTRUCTIONAL OBJECTIVES**

Acquisition of hands-on experience in model - building.

**UNIT - I BLOCK MODELLING****15**

Preparation of base for models using wood or boards.

- Introduction to block models of buildings ( or 3D compositions ) involving the usage of various materials like thermocol, soap / wax, boards, clay etc.

**UNIT - II DETAILED MODELLING****15**

• Making detailed models which includes the representation of various building elements like walls, columns, steps, windows / glazing, sunshades, handrails using materials like mountboard, snow - white board, acrylic sheets.

- Representing various surface finishes like brick / stone representation, stucco finish etc.
- Various site elements - contour representation, roads / pavements, trees / shrubs, lawn, water bodies, street furniture, fencing etc.

**UNIT - III INTERIOR MODELS OF INTERIOR SPACES****15**

Making models of the various interior spaces such as

- Residences
- Offices
- Retail spaces
- Recreational spaces
- Scaled models of furniture

**UNIT - IV CARPENTRY****15**

Introducing the techniques of planning, chiseling & jointing in timber to learn the use of hand tools. Exercise involving the design of simple furniture and making a model of the same.

**TOTAL: 60 PERIODS****REFERENCE BOOKS:**

1. BENN, The book of the House, Ernest Benn Ltd, London
2. Janssen, Constructional Drawings & Architectural models, Kari Kramer Verlag Stuttgart, 1973.
3. Harry W. Smith, The art of making furniture in miniature, e. P. Dutton Inc., New York, 1982

## SEMESTER- VI

**BDE2111**

**DESIGN AND TECHNOLOGY**

**L T P C**  
**3 0 0 3**

**UNIT – I**

**NATURE OF DESIGN**

**10**

- inventing ideas mentally and communicating these ideas to others in a form that is easily understood. ...
- Designing is a multidisciplinary task influenced by technological and social factors.
- Designing is iterative, team work and continually learning process.

**UNIT – II**

**10**

The role of science and technology in design

**UNIT – III**

**10**

- Characteristics of a good designer
- Nature of design technology

**UNIT – IV**

**15**

Design cycle

**TOTAL: 45 PERIODS**

### **REFERENCE BOOKS:**

1. Learning, Design, and Technology An International Compendium of Theory, Research, Practice, and Policy
2. Teaching Design and Technology By John Eggleston · 2001



**Objectives:**

- To understand the nature and qualities of metals
- To understand the various processing techniques for achieving desired form and color for newly designed products.

**Expected Course Outcome:**

The Students will have,

1. Thorough understanding of metals for designing of products.
2. Ability to analyze various metal products and understand its properties.
3. Knowledge on various metal properties for processes.

**UNIT I WOOD****10**

Physical properties – growth rings, knots, heart wood and sap wood. Colour, water content, structure. Hard wood and soft wood. Joineries – dovetail, scissor joint etc., Uses & defects of wood.

**UNIT II METAL****10**

Ferrous & non-ferrous metals – steel, copper, brass. Steel – material properties, types of steel, treatments, history of steel making. Copper – physical characteristics, history, applications, degradation. Brass – physical properties, corrosion resistance, history, applications.

**UNIT III GLASS****10**

Types of Glass, ingredients, properties & application. Stained glass., Glass in Green Buildings.

**UNIT VI PLASTICS****10**

History, types of plastics. Polystyrene, Nylon, Rubber and its properties. Environmental effects of plastics. Recycling of plastic. Common plastics and its uses. Types of moulding plastics – blow moulding, extrusion moulding, injection moulding.

**TOTAL: 40 PERIOD****. Reference Books**

1. Thompson R, 'Manufacturing process for design professionals', Thames and Hudson, London, 2007. 2. Garratt J, 'Design a
2. Ashby, Michael, Johnson, Kara, 'Materials and Design: The Art and Science of Material Selection in Product Design', Butterworth-Heinemann, 2002

**PURPOSE**

The students learn to draw working drawings used for building construction.

**INSTRUCTIONAL OBJECTIVES**

Reading of working drawing, their co-relation and cross – referencing in various technical projections like plans, elevations, sections, detailing etc.,

<b>UNIT - I</b>	<b>PRODUCT</b>	<b>15</b>
Working drawing of different types of Products and windows.		
<b>UNIT - II</b>	<b>BUILDING SURFACES</b>	<b>15</b>
Working drawing of wall murals, reflected ceiling plans and flooring patterns.		
<b>UNIT - III</b>	<b>FURNITURE</b>	<b>15</b>
Working drawing of work station, living room furniture, bedroom furniture and dining room furniture's.		
<b>UNIT - IV</b>	<b>DETAILING OF SPECIAL AREAS</b>	<b>15</b>
Working drawing toilets with plumbing diagram – working drawing of kitchen with detailing of shelves and cupboards.		

**TOTAL: 60 PERIODS**

**REFERENCE BOOKS:**

1. De Chiara and Callendar – Time Saver Standards for Interior Design, 1982.
2. De Chiara et al –Time Saver standards for Interior Design and Space planning, Mcgraw Hill, 1982.



**BDE21L22**

**DESIGN STUDIO VI (INDUSTRY DESIGN)**

**L T S C  
0 2 15\*\* 10**

**PURPOSE**

An Industrial designer is committed to the cause of improving the quality of human environment with products that are functional and aesthetic. who finds creative solutions by correlating technical and ergonomic aspects with human needs? During the programme, students interact with the industry and with institutions and social organizations to understand, study, analyze and solve various kinds of existing problems. The choice and outcome of the final degree projects reflect the student's aspirations to change the Indian product scene.

Design Project I - This is a summer project that can be done with an industry, professional design firm, an institution or an organization like an NGO. The objective of this project is to be part of the process where design is being implemented, contribute towards the process and learn from the situation. The project is meant to expose the student to design practices in his chosen area of interest. This project is expected to influence the degree project in many cases.

Design Project II - An independent project with one of the following focus:

- Design project of student interest and / or faculty interest and / or industry project
- Re-design project that relooks at an existing problem or situation
- Research project, delving into methodological or pedagogic issues
- Exploration project, exploring application possibilities in a new technology or medium or variations

**TOTAL:255 PERIODS**

**REFERENCE:**

**BDE21L23**

**SEMESTER- VII**  
**SWAYAM / NPTEL (MOOC COURSE)**

**L T P C**  
**2 0 0 2**

The NPTEL is a joint initiative of IITs and IISc and certification courses are offered through the Massive Open Online Courses (MOOCs) format. Learners must watch videos online, submit assignments on a weekly basis and register for an in-person final exam which is invigilated.

The students should take minimum 12 weeks course. And finally, they should submit the grade card.

**AIM:**

To expose students to gain knowledge on Professional practice through one semester intensive internship program in an established Interior design Firm.

**OBJECTIVE:**

To facilitate an understanding of the evolution of an Interior design project from design to execution. To enable an orientation that would include the process of development of conceptual ideas, presentation skills, involvement in office discussions, client meetings, development of the concepts into working drawings, tendering procedure, site supervision during execution and coordination with the agencies involved in the construction process.

The progress of practical training shall be assessed internally through submission of log books supported by visual documents maintained by students every month along with the progress report from the employer/s of trainees.

- Adherence to time schedule, Discipline.
- Ability to carry out the instructions on preparation of schematic drawings, presentation drawings, working drawings.
- Ability to work as part of a team in an office.
- Ability to participate in client meetings and discussions.
- Involvement in supervision at project site.

At the end of the Internship program a portfolio of work done during the period of internship along with certification from the offices are to be submitted for evaluation by a viva voce examination. This will evaluate the understanding of the students about the drawings, detailing, materials, construction method and service integration and the knowledge gained during client meetings, consultant meetings and site visits

## **SEMESTER- VIII**

**BDE2113**

**ENTREPRENEURSHIP DEVELOPMENT**

**L T P C  
3 0 0 3**

### **INSTRUCTIONAL OBJECTIVES**

- Understand the process and procedure involved in setting up a small enterprise.
- Acquire the necessary managerial skills required to run a small-scale industry.
- Know the pros and cons in becoming an entrepreneur.

#### **UNIT – I**

**10**

Entrepreneur – Meaning – Definition – Characteristics – Functions – Role of Entrepreneurs in the economic development – Classification of entrepreneurs – Factors affecting entrepreneurial growth.

#### **UNIT – II**

**10**

Entrepreneurship – Concept – Distinction between Entrepreneur and Entrepreneurship - Entrepreneurship Development Programmes – Objectives - Stages in EDP- Pre-training Stage – Training phase – Post Training – Evaluation and Feedback of EDP.

#### **UNIT - III**

**10**

Project Identification - Sources of ideas – Preliminary evaluation and testing of ideas – Constraints - Project formulation – Stages- Feasibility study and Feasibility Report – Selection Criteria.

#### **UNIT – IV**

**15**

Project Report - Project Appraisal – Technical – commercial appraisal – Financial appraisal – Sources of finance – Steps to start an industrial unit. Incentives and subsidies of State and Central Govt. – Aims – Backward areas – Industrial Estates – Role of DIC, SISI, TCO in entrepreneurial growth.

**TOTAL: 45**

### **PERIODS**

#### **REFERENCE BOOKS**

1. Singh, P, N (1986) Developing Entrepreneurship for Economic Growth.
2. Guide to Entrepreneurs – Industrial Development – Govt. of Tamil Nadu – SIPCOT
3. Guide to Entrepreneurs – Industrial Development – Govt. of Tamil Nadu – SIPCOT
4. Thierry Burger Helmchen (2012), Entrepreneurship Born, Made and Educated, Marina Jozipovic.
5. Thierry Burger Helmchen (2012), Entrepreneurship Creativity and Innovative Business Models, Marina Jozipovic.

**BDE21EL25**

**GRADUATION PROJECT WORK**

**L T P C**  
**0 0 21\*\* 10**

**OBJECTIVES:**

All the four years of B. Design course culminate in the thesis project to motivate student to involve in individual research and methodology. This is to train in handling projects independently.

**PURPOSE:**

The main areas of study and research shall be commercial spaces / corporate interiors / exhibit designs / media studios / hotels / entertainment spaces / educational spaces / hospital interiors / conservation, and landscape in interiors / transportation hubs / digital models/ residential etc.

**However, the specific thrust should be interior design of built environment relating to their specialization.**

**METHOD OF SUBMISSION**

The thesis project shall be submitted in the form of drawings, project report, slides and reports. The students shall be provided guidance by staff in their thesis during the semester. Monthly reviews shall be conducted to assess their progress 50% weightage will be given to continuous internal assessment and 50% weightage for project VIVA VOCE conducted with an external examiner at the end of the semester.

**TOTAL: 315 PERIOD**



**PURPOSE**

In this module student shall learn the finer points of photography. It is intended to interweave the camera handling skills; technology and techniques. Student shall learn about various types of cameras, photography equipments and techniques from historical perspective. They shall also learn to shoot great images, understand concept of framing and composition from artistic and communicative point of view. It shall make them understand the application of camera techniques, processing, developing films, and using prevalent digital photography technology for visual media.

**OBJECTIVES:**

- To help the student understand the principles and technology of photography.
- To enable the student to understand the applications of photographs in interior

**UNIT-I PRINCIPLES OF COMPOSITION 7**

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

**UNIT-II PRINCIPLE OF PHOTOGRAPHY 7**

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

**UNIT-III PRINCIPLES OF INTERIOR LIGHTING 8**

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

**UNIT-IV PRINCIPLES OF COLOUR 8**

Color rendering in photographic medium, color rendering in photographs under different lighting condition, lighting colors and its effect on a photograph, color filters in a camera Exercise on color photography of interiors.

**TOTAL: 30 PERIODS****REFERENCES:**

- Point view – The art of architectural photography, E.Manny A Ballan, VNR
- Professional photography – photography buildings, David Wilson, Rotovision
- Direction & Quality of Light: Your Key to Better Portrait Photography Anywhere by Neil van Niekerk

**OBJECTIVES:**

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

**COURSE CONTENT:****UNIT I: WATER SUPPLY****15**

- 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.

**UNIT II: SANITATION****15**

- 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 drawing of various fittings and fixtures of water supply and sanitary installations.

**UNIT III: 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.

**UNIT IV: 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: 60 PERIODS****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".

**BDE21EL4**

**ADVANCED CAD**

**L T P C  
1 0 3 3**

**UNIT I            3D MODELING & RENDERING**

**15**

3D Modeling using Revit, auto cad. Wire frame, surface & solid modeling. Rendering using 3DSMax & Presentation Techniques

**UNIT II            WALKTHROUGH**

**15**

Presentation through still images & walkthrough

**UNIT III           GRAPHICS**

**15**

Adobe Photoshop & Illustrator for graphic design & corrections Aldus Photo style, Adobe premiere sound forge, Director & razor pro for A-V Editing Alternative software's – Accu render, Artisan, Spotlight ray tracer.

**UNIT IV           SIMULATION SOFTWARE**

**15**

Light scape; CATIA; Eco Software.

**TOTAL: 60 PERIODS**

**REFERENCES:**

1. Mastering Autodesk Revit Architecture 2013
2. Phil Read, James Vandezande , Eddy Krygiel
3. Interior Design Visual Presentation: A Guide to Graphics, Models and Presentation
4. Published in 2012 by Wiley

**PURPOSE:**

To provide the students' knowledge on history of furniture design and various aspects involved in the design of furniture for various spaces.

**INSTRUCTIONAL OBJECTIVES:**

- To help the students understand about the various anthropometric aspects, human factors & other design criteria involve in the design of furniture's.
- To make the students understand about the various materials & technology involved in the making of furniture's.

**UNIT - I HISTORY OF FURNITURE DESIGN & HUMAN FACTORS 15**

Furniture designs during Egyptian, Greek, roman, Romanesque, gothic, Renaissance, Industrial Revolution - contributions in the beginning of the 20th century by the four pioneer architects in furniture design - Bauhaus, De Stijl & other modern furniture designs.

Study of Anthropometry & Design criteria involved in the design of Sofa, settee, couch, etc. - cot, bedside lockers, wardrobes - cupboards, shelves - bunk beds, study table - Display furniture - furniture for the physically challenged

**UNIT - II PRINCIPLES OF DESIGN & DETAILING 10**

Form-colour-symbols - Materials & finishes - wood, glass, metal, plastics and upholstery - include various finishes. Fabrication techniques involved. Multiple utility-oriented approaches to furniture design.

**UNIT - III ROOM PLANS AND FURNITURE ARRANGEMENT 15**

Type of furniture - built in furniture - movable furniture - systems furniture - specially designed furniture - readymade furniture - modular, knockdown & economy furniture. Traffic pattern and furniture layout for residence, commercial and office areas.

**UNIT - IV PROJECT 20**

Designing & Detailing of Residential furniture - seating, sleeping, storage & children's furniture. Commercial furniture - showcases, counters, display units, restaurant furniture, bar furniture. Office furniture - adjustable desks & storage, mobile & resilient chairs, portable chairs, movable tables, lounge seating.

**TOTAL: 60 PERIODS****REFERENCE BOOKS:**

1. Interior Design, John F.Pile, Harry N.Abrams Inc Publishers, New York.
2. Interior Design Course, Mary Giliat Coyran, Octopus Ltd., London
3. The Encyclopaedia of Furniture, Joseph Aronson, Crwon Publishers, New York
4. Interior Design & Decoration, Sherril Whiton, Prentice Hall
5. Interior Design, Francis D. K. Ching, John Wiley & sons, New York
6. Office Furniture, Susan S. Szenasy, facts on file inc, New York
7. Time Saver Standards for Interior Design, Joseph De Chiara, McGraw Hill, New Yor



**PURPOSE**

This course takes an interdisciplinary approach to working with the *soft* side of sculpture: design and fabrication techniques that utilize flexible, liquid, gaseous materials meet design needs that usually require wood, metal, hardware and other *hard* materials.

**INSTRUCTIONAL OBJECTIVES**

- This course will explore the advantages and disadvantages of traditional, as well as new and emerging materials that allow for soft-sculptural work.
- This course will also expose students to a wide range of artists, works and practices that expand the scope of traditional sculpture in softly.
- The course works is primarily hands-on learning, practice and building; in class hours will also include short lectures, demonstrations on techniques and technologies as well as show-and-tells on related artists and repertoire.

**UNIT – I FOLDING AND ORIGAMI 10**

Introduction to the basic concept of folding and origami, form and surface, the materials used, the techniques used, different types of folding to create unique models, create three-dimensional forms using various sculptural materials and techniques such as wire, plaster, clay, wood, metal, and found objects.

**UNIT - II KNOTTING 15**

Introduction to the concept of knotting, the materials used for knotting, various types of ropes, sculptures created using knotting, Analyze the concepts of line, composition, shape, value, space, color, and texture for representational and non-representational sculpture.

**UNIT - III SEWING 15**

Introduction to the techniques of sewing, materials used for sewing, various sculptures created out of sewing, the art of sewing, embroidery, creation of sculptures by sewing, augmented /computational sewing, Demonstrate the ability to apply historical, contemporary, and cultural information from research to art critiques, discussions and classroom projects.

**UNIT - IV SOFT TO HARD MOULD MAKING AND PROJECT WORK 20**

Introduction to mold making, using materials such as Silicone and Plastic, various sculptures that can be made from Silicone and Plastic, resin casting, welding and scale, identify relevant artists, materials, techniques, works, provide thoughtful critique to peer artwork utilizing professional terminology and methodology. Project work - Create a soft sculpture using silicone/ plastic / resin/ paper folding and origami/sewing- Artist research presentation- Gallery or museum review.

**TOTAL: 60 PERIODS****REFERENCE BOOKS**

1. Material Difference: Soft Sculpture and Wall Works by Polly Ullrich , Camille J. Cook
2. Soft Sculpture Hardcover, by Carolyn Vosburg Hall

**PURPOSE**

To provide the student adequate knowledge to prepare the estimate & find the cost of overall project of works.

**INSTRUCTIONAL 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.

**UNIT - 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.

**UNIT - II RATE ANALYSIS & ESTIMATION FORMAT 10**

Rate analysis - definition, method of preparation, quantity & labour estimate for woodwork, steelwork, aluminium work, glass & it's 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 panelling in the estimate format of the project.

**UNIT - 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.

**UNIT - IV COSTING OF FIXTURES & FITTINGS 15**

Cost of the following items: electrical fitting like, luminaries, fan cables, switches etc., tiles in skirting & dado, cement plaster, joinery in wood , steel & aluminium, painting to walls - cement paint, oil paints, distemper acrylic emulsion, enamel paint painting to joinery, varnishing, French polishing plumbing equipment's like piping, shower panels, cubicles, tubs, Jacuzzis, taps, motors, fountains, false ceiling of aluminium panels, steel & wooden frame work, thermocol etc. wall panelling of ceramic tiles & other tiles of materials suitable for the same, partitions made of materials like aluminium wood, steel etc.

**TOTAL: 45 PERIODS****TEXT BOOKS:**

1. M. Chakraborti, Estimation, Costing, Specification and Valuation in Civil Engineering
2. Dutta, Estimating and Costing, S. Dutta and Co., Lucknow 1983.

**REFERENCE BOOKS:**

1. S. C. Rangwala, Elements of Estimating and Costing, Charoter publishing House, Anand, India, 1984.
2. The Interior Designers Guide: To Pricing, Estimating Budgeting. By Theo Susan

**PURPOSE**

To familiarize the students of interior design on textile materials used in interior.

**INSTRUCTIONAL OBJECTIVES**

To gain knowledge and understanding of the functional and aesthetic requirements of textiles for a range of applications.

**UNIT - I INTRODUCTION TO FABRICS 8**

Fabric, yarn and finer structure, fabric structure - woven -warp, weft, selvedge, knitted - course, non-woven, fabric types and classification - woven, including plain, twill, satin, jacquard, crepe and pile weaves, knitted – including single knit, double knit, tricot knit, pile knit, lace and net, non-woven –including felts webs and films, identification and properties of fabrics, yarns and fibres.

**UNIT – II APPLICATION OF ELEMENTS AND PRINCIPLES 7**

Application of elements and principles of design across a range of textiles.  
Describe and analyze elements and principles of design - furnishings, textile arts, non-apparel.  
Functional and aesthetic requirements and features of textile range.

**UNIT - III COLOUR ON FABRICS 7**

Fabric coloration and decoration- principles of applying colour to fabrics.  
Textile arts and crafts in interiors, traditional and modern materials and methods.  
Preparing samples on tie and die printing, batik printing, appliqué, macramé and braiding.

**UNIT - IV FURNISHINGS 8**

Furnishings - classification, types of curtain, curtain construction, selection criteria relation to backgrounds in walls, floors and ceilings.  
Slip covers, cushion covers, bed linen and table linen.  
Floor coverings - rug and carpets, types selection, care and maintenance, installation of floor coverings.

**TOTAL: 30 PERIODS**

**REFERENCE BOOKS:**

1. Inside today's home, Faulkner, R and Faulkner 1987, Rinebart Winston, New York
2. Interior Design & Decoration, Sherril Whiton, Prentice Hall
3. Introduction to Home Furnishings, Stepat D.D. 1991, the Macmillan Company, New York.
4. The Themes and Hudson Manual of Textile Printing, Storey Joyce, 1992, London
5. Colour in Interior Design Jhon, F.P.1997, McGraw Hill company.





## **WEB DESIGNING**

### **PURPOSE:**

1. Gather data to identify customer requirements. Develop and present design specifications and concept alternatives.
2. Documenting application/site changes. Recommending web site improvements

### **UNIT- I**

Introduction to web page design Fundamentals-HTML-Introduction-Basic layout of HTML scripts-HEAD and BODY section: Title, Base HREF. Link, Meta tags-BODY section: Text formatting and alignment, fonts, colours, ordered and unordered list

### **UNIT- II**

Link Images, sounds video, Background - advanced elements: Tables, forms, frames.

### **UNIT- III**

Authoring web pages using editors-DHTML: Java script: Introduction, architecture of Java script applications- Tags in Java script.

### **UNIT- IV**

Data types variables, expressions and operations, looping and Branching, Events and Event Handling-Core Java Script elements: Array, Boolean, Data, Function, math Number, Object string, Reg Exp.

#### References:

1. HTML & XHTML: The Definitive Guide (6th Edition) by Chuck Musciano and Bill Kennedy (Paperback- Oct 17, 2006) – Illustrated
2. Web Design: The Line, the Express Line to Learning (The Line: The Express Lint to Learning) by Sue Jenkins (Paperback-Feb 27, 2007)
3. Head First HTML with CSS & ZHTML (Head First) by Elisabeth Freeman and Eric Freeman (Paperback – Dec 1, 2005) – Illustrated

4. JavaScript: A Beginner's Guide, Second Edition by John Pollock (Paperback – Dec 18, 2003)

## **INTRODUCTION TO VISUAL COMMUNICATION**

### **UNIT- I:**

Communication- Definition, Characteristics, scope & Functions of Communication; Communication process; Elements of Communication, Types of Communication, Barriers of Communication.

### **UNIT- II:**

Visual Communication-definition & concept; historical development of Visual Communication; nature, functions and elements of visual Communication. Types of visual Communication- graphic design, art, photography & multimedia.

### **UNIT-III:**

Perception- definition & concept; Visual Perception- definition & concept- Illusions- Basics of Illusion; Types of Illusion- Visual Illusion, Perspective Illusions, Geometric Illusions, Colour & Irradiation Illusions.

### **UNIT- IV:**

Vision and Visually-Visual Culture-Social Conditions and Effects of Visual Objects Critical Visual Methodology-Visual Production: Technological, Compositional and Social aspects of visuals

### **UNIT- V:**

Creativity- definition & concept- Characteristics & Process- Creativity Tools- Approaches to Creativity; Lateral Thinking & Vertical Thinking; Creativity & Visual Communication; Level & reach of Visual Communication; Process of developing ideas to different medium.

**BDE21E03**

**VISUAL AND PERFORMING ART**

**L T P C**

**2 0 0 2**

### **PURPOSE:**

Visual Art is an art of Aesthetics. Sense of Aesthetics helps us to create the simple things of life in a more presentable manner. Visual Arts/Aesthetics is an art of sensitive appreciation

