

Syllabus
Bachelor in Design (B.Des) (Foundation)
 Silpa-Sadana, Visva-Bharati, Sriniketan

Total Semester: 04

Semester	Course Code	Course Name	Course Type	Credit	Full Marks	Int. Assessment	End Sem
Sem-01	F-I/01	Tagore Studies	Foundation	4	50	10	40
Sem-01	F-I/02	English Language	Theory	0			
Sem-01	F-I/03	Applied Science-I (Mathematics & Statistics)	Practical	5	100	50	50
Sem-01	F-I/04	Computer Basic	Practical	3	100	50	50
Sem-01	F-I/05	Exposure to Materials-I*	Practical	7	200	100	100
Sem-01	F-I/06	Freehand Drawing	Practical	4	100	50	50
Sem-01	F-I/07	Visual & Cultural Studies	Practical	5	100	50	50
					600		300
Semester	Course Code	Course Name	Course Type	Credit	Full Marks	Int. Assessment	End Sem
Sem-02	F-II/01	Tagore Studies	Foundation	4	50	10	40
Sem-02	F-II/02	English Language (Communicative)	Theory	0			
Sem-02	F-II/03	Applied Science-II	Practical	4	100	50	50
Sem-02	F-II/04	Drawing & Rendering	Practical	4	100	50	50
Sem-02	F-II/05	Exposure to Materials-II	Practical	7	200	100	100
Sem-02	F-II/06	Material Science	Practical	4	100	50	50
Sem-02	F-II/07	Technical Drawing	Practical	5	100	50	50
					600		300
Semester	Course Code	Course Name	Course Type	Credit	Full Marks	Int. Assessment	End Sem
Sem-03	F-III/01	Environmental Studies	Foundation	4	50	10	40
Sem-03	F-III/02	Aesthetic Skills	Practical	5	100	50	50
Sem-03	F-III/03	Design Process	Practical	6	150	75	75
Sem-03	F-III/04	Exposure to CAD	Practical	3	100	50	50
Sem-03	F-III/05	Exposure to Materials-III	Practical	7	200	100	100
Sem-03	F-III/06	Rural Studies	Practical	3	100	50	50
					700		365
Semester	Course Code	Course Name	Course Type	Credit	Full Marks	Int. Assessment	End Sem
Sem-04	F-IV/01	Environmental Studies	Foundation	4	50	10	40

Sem-04	F-IV/02	Design & Environment	Practical	2	50	25	25
Sem-04	F-IV/03	Design Project (Mixed Materials)	Practical	8	200	100	100
Sem-04	F-IV/04	Exposure to Manufacturing Techniques & Processes	Practical	8	200	100	100
Sem-04	F-IV/05	Representation Techniques	Practical	6	150	75	75

Semester- I

[F-I/01]- Tagore Study (as per University system.)

Credits: 4

[F-I/02] – English Language

Non-Credit

Relevance: This course would provide to develop effective communication skill to the students. This would be very relevant in their professional carrier.

Course objective: The course intends to enhance both written and spoken communication skill in English.

Course Contents:

Module-1 (To Focus on Written Communication)

- Grammar: Change of Voice, Changing the Tense, Direct and Indirect speech, Simple and Complex sentences.
- Formal Written Communication: Letter Writing (Official and Business correspondence), Emailing, Drafting Applications and Resume.

Module-2 (To Focus on Basic Verbal Communication)

- Formal Greeting & Talking: How to greet people when meeting them, how to take leave, how to apologize, how to talk to a stranger, and the ways of responding to messages, telephone, responding in class.
- Self-introduction: Introducing oneself to somebody, to talk about one's own country, town/ village, family, education, etc. This exercise intends to make oneself more familiar with the language and to facilitate his/ her comfort level with the language.

Methodology: Lectures, Demonstrations and creating different Mock Situations (like mock interviews, group discussions and others) and asking students to take part in these.

Materials, Tools and Facilities: Equipments concerned with Board Work; necessary arrangements to circulate to the student are relevant reading materials and handouts.

Evaluation Criteria: Internal Examinations (Written and Viva Voce)

[F-I/03] - Applied Science-I

Credit: 5

Relevance:

The course has been introduced to make the students equipped with mathematical understandings to develop design skill.

Should acquire mathematical knowledge in the area of procurement, production, costing, quality evaluation, process & product optimization etc. related to run an entrepreneur

Objectives:

To develop problem solving, reasoning, and analytical skills

Course Contents:

Practical problem-oriented inputs should mainly cover the following topics:

- Ratio & Proportion
- Profit, Loss & Interest
- Mensuration: Cylinder, Pyramid, spheroids cuboids, measurement of area and volume of two and three dimensional spaces, organic forms etc.
- Trigonometry: Review of Pre-Matric knowledge on Trigonometry, Compound angle, Application of Trigonometry to solve practical problems.
- Co-ordinate Geometry: concept, Polar & Cartesian, Area of triangle, quadrant, equation of circle & Straight line.
- A.P & G.P.
- Statistics: Measurement of central tendency: Mean, Median, Mode, Variance, Standard deviation and Coefficient of variation

Methodology:

Classroom lectures, Audio Visual Media, Practical Assignments, Books and Demonstration

Materials, Tools and Facilities:

In-house departmental infrastructure

Evaluation Criteria:

Internal Class Test and assignments

[F-I/04]- Computer Basics

Credit: 3

Relevance:

This course is important for students to gain elementary knowledge of application of computers. To familiarize the students with the basics of computer applications as a prerequisite to the course in Computer Aided Design

Objectives:

This course familiarizes the students with the basics of computer applications. Help them to use computer as a tool to develop their documentation presentation and make them informative. This will be a prerequisite to the course in Computer Aided Design

Course content:

- History and generation classification of computers, Theory of computers, about RAM ROM, Mother board etc.
- Binary and allied number system representation of sign & unsigned number. BCD, ASCH. Binary arithmetic.
- Software concepts and terminology, Operating Systems concept. File attribute
- Fundamentals of data communication, Computer network concepts and emerging trends, Management of computer security, Virus, Firewalls
- Introduction to GUI, Manage system in Windows XP, File & Folders, Program and accessories, Multimedia in Windows XP
- Application basics and various Office automation suites like MS Word, MS Excel, MS PowerPoint
- Internet overview: E-mail, DNS, FTP, Client/ Server, Browser, Search Engines, Visiting useful websites.
- Basic concept of manipulating graphics and of creating design /Drawing through Corel Draw, Photoshop or abatable appropriate software tools.

Methodology:

- Demonstrations
- Assignments

Evaluation criteria:

Internal Class Test and assignments

[F-I/05]- Exposure to Material-I

Credits: 7

(Any two subjects to be allotted from i)Paper, ii) Clay, iii) Textile, iv) Leather, v) Wood and vi) Metal)

Relevance:

An overall understanding of this course would provide basic understanding of the concerned material and related processes; it will also provide insights into the various possibilities and limitations of the material. This understanding will reflect on the concepts while one is visualizing and conceptualizing the products.

Objectives:

To develop behavioral understanding of a few natural & manmade materials through First-hand practical knowledge and explore their possibilities in making objects

The inputs will consist of direct exposure to inherent qualities of materials including its working properties.

Course Contents:

Introduction to the relevant materials viz. Paper, Clay, Textile, Leather, Wood and Metal

Develop basic understanding on:

- Behavioral understanding of materials & processes.
- Physical and chemical properties of materials through lectures and practice ➤ Structural formations & relevant characteristics.
- Various interfaces of materials with tool & equipments.
- Exploration through different conventional & unconventional techniques
- Understanding of its limitations through practical explorations ➤ Identification of the uniqueness of the material

Paper

- Basic information on Hand Made Paper industry and their importance.
- Different types of raw materials & techniques used in HMP industries.
- Specification of different type of Hand Made Paper.
- Different types of paper-pulp and their use.
- Digestion process and Preparation of Waste Paper-Pulp for making Paper-Pulp toys.
- Playing with Waste Paper-Pulp, exploration & making of Toys & utility articles.
- Colouring & finishing of the prepared articles

Clay

- Basic information on pottery & ceramic Formation and their importance.
- Different types of raw materials & techniques used in Pottery & Ceramic.
- Types & specifications of Ceramic.
- Digestion process and Preparation of toys and other small articles by hand builds technique.
 - Playing with clay and their processes and exploration & making of Toys & utility articles.
- Decorating in plastic stage and colour slips & finishing and firing of the prepared articles

Wood

- Different Type of woods and their uses
- Behavioral understanding of different processes for use in woodwork
- Understand the different type of wood and their structure (Specification of wood) □
Exploration of physical and mechanical property of wood.
- Understanding of its limitation through exploration
- Finishing and different treatment of wood
- Playing with wood and their processes and exploration & Making of Toys & Utility Articles.

Metal

- Behavioral understanding of different metal and their process for use in woodwork □
Exploration of physical property of different metal through working process.
- Understanding of different types of metals and their characteristics.
- Exploring the uniqueness and limitation of various metals.
- Exploring surface finishes and coloring techniques.
- Playing with the metals and processes and develop Toys and Utility Articles.

Textile

- Basic information on Textile Materials
- Different types of Raw materials and their characteristics
- Identification of different materials and their uses
- Exploring different material for making utility articles
- Exploring the material according to their esthetic sense and colour combination

- Preparation of different material before weaving.

Leather

- Understanding the behavioral quality of leather as a raw material
- Understanding the different processes of raw materials and tools, equipments and machineries
- Exploring the different techniques of surface treatment and decoration
- Exploring the different method of fabrication and their uniqueness
- Making small toys and utility articles

Methodology:

- Practical assignments of different process
- Exploring the physical & chemical properties in general
- Exploring finishing techniques to add more value to a product
- Finished products with indigenous inspiration
- Exploring different types of techniques (according to the respective material)

Through Lectures, Practical demonstrations & explorations, Individual & Group Assignments, Field-visit, etc

Materials & Tools and Facilities: According to available departmental workshop facilities.

Ceramic- Red Clay Prepare, Roller pin, Wooden Stripe, Cloths or canvas, coloring oxide, covering sheet, bending wheels, etc

Evaluation criteria:

- Learning Ability (observation and demonstration of skill)
- Skill exploration (Analyses the process and explore. Neatness of work Quality of skill acquired & workmanship)
- General Attitude (attendance, punctuality. Involvement. Sincerity and timely submission of class assignments and attentiveness)

[F-I/06]-Freehand Drawing

Credit : 4

Relevance:

The importance of Visual Learning has tremendous relevance for a product based professional course like B.Des. A designer usually is more dependent on visual mode of communication made through pencil sketches drawn in freehand for communicating his/her ideas. Developing freehand drawing skill through rigorous practice is a basic requirement to learn and practice design.

Course Objective:

To introduce Drawing as a visual language for effective design related communication.

Course Contents:

1. General instructions on freehand drawing & lettering
 - Introduction of “Drawing” as a visual language

- Basic information on Drawing materials & tools: - Drawing board, Drawing paper, Pencils, Eraser, Cello tape, etc.
 - Different types of Drawing sheets, & their use.
 - Gradation of Pencil & their use; Tonal gradation of lines
 - Freehand Lettering: - Style in lettering- Vertical & Italics; Single stroke Architectural style; Upper case & Lower case
 - Study of Compositions of lettering; Borderlines & Nameplate.
2. Straight Lines, Angles and Curve Lines
 3. Color theory
 - Basic information on, Colouring materials: - Colour mixing Pallet, Brushes and Colour (Water colour, colour pencil, crayon, poster, pastel etc).
 - Colour Science & Basic information on use of colour
 4. Freehand Composition with set of lines & marks in pencil & color.
 - Aesthetic organization:

Methodology:

Lectures, Demonstration, Practical class assignments and continuous evaluation

Materials, Tools and Facilities:

Drawing board, drawing paper, Different types of soft Pencils (HB, B, 2B & 6B) Soft eraser, cello tape, Colour mixing Pallet, Seibel hair brushes, Colour (Water colour, colour pencil, crayon, poster, pastel etc).

Evaluation criterion:

1. Explorations, Neatness of work, Quality of skill & workmanship, Quantity of work done, Involvement & gradual improvement;
2. General attitude, Sincerity and timely submission of class assignments; and
3. Class attendance & Punctuality.

[F-I/07] -Visual & Cultural Studies Credit: 5

Relevance:

This will help develop taste and understanding of various art and cultural practices. This will help understanding the importance of craft & culture in context to the fabric and development of society and relationship the socio-economical environment which influences the design.

The course also acts as a preamble to design method and takes an overview of learning areas directly related to the design process typical for industrial design problems.

Objectives:

- Introduce students to various art forms and cultural practices.
- Study would include creative areas such as architecture, food, music, dance, art & craft forms from various part of the world.
- Help student understand how to take design ideas from different art forms.
- develop research skills
- Introduction to “Design is a team work”.

Course content:

To be able to contextualize the contents, historical facts, ideologies, beliefs this together comprises our culture

Methodology:

- Videos of different art forms are shown in the class.
- Students would select an art from every week and do the research in groups.
- Submit a report while making presentation.

Evaluation

criteria: □

Quality
of work

- Quantity of work □ Consistency
- Time punctuality
- Neatness
- Presentation Skills

Semester - II

[F-II/01] - Tagore Study (as per university system.)

Credits: 4

[F-II/03] - Applied Science –II

Credits: 4

Relevance:

Knowledge on basic science should certainly help to develop product design to be viable and sustainable. Scientific understanding should lead to develop production process environmentally friendly and economically viable.

Objectives:

To develop basic scientific reasoning for product designing

Course Contents:

- Concept of particles, molecules, atoms and ions; their structures – idea of electron, proton and neutron; reason of radioactivity.
- Oxidation and Reduction phenomena with simple examples.
- Acid, alkali and their salts – concept of weak and strong acids and alkalis with practical examples.
- Brief ideas on valency, Different bonding systems and their common examples.
- Organic and Inorganic compounds with practical examples.
- Idea about pH, indicator and their applications.
- An introductory idea on periodic table along with relevant properties of different elements.
- Matter- its different state and transformation, element, metal, non-metal, compound, mixture, solution. Gravity, Mass, Volume, Density, Weight. Buoyancy, Surface tension and Viscosity. Stress, Strain, Modulus, Work of Rupture, Elasticity and Plasticity etc.
- Moments, Couples and Centre of Gravity
- Heat and temperature, Light, Colour: Contrast and Matching, Magnetism, Electricity: Static & Current, X-Ray and Sound.
- Gases & its behavior, toxic and non-toxic substances.
- Brief ideas on the common chemicals viz. spirit, wax, paraffin, resin etc. used.

Methodology:

Classroom lectures, Audio Visual Media, Practical Assignments, Books and Demonstration

Materials, Tools and Facilities

In-house departmental infrastructure

Evaluation Criteria:

Internal Class Test and assignments

[F-II/04] -Drawing and Rendering

Credits: 4

Relevance:

Scientific observation & studying visual elements of product (object) & interior space and ability to draw perspective view in still-life situation (in black & white and colour) is a very important skill to be acquired by any would be designer. In such profession one should be able to draw, represent and communicate one's creative ideas & concepts in visual form using various representation techniques. Learning such representation technique would help in visual communication of a design concept to a client. This would - i) help one to make 3- D sketches of any existing product & interior, ii) enhance one's visualizing and conceptualizing capacity in designing a product or an interior space, iii) Equip one with the requisite skill for preparing a realistic presentation drawing.

Course objective:

To equipped one with the 3-D language of visual communication. Drawing as a visual language for effective design related communication.

Course content:

1. Nature, Man-made object & Space:
 - Study of Natural & manmade Form & Environment.
 - Analytical Drawing of natural & manmade form: i) Simple object, ii) Complex object
2. Principles of perspective drawing:
3. Freehand perspective of natural & man-made environment: ➤ Still-life Drawing
 - Drawing from memory.
 - Effect of Light & shade effect on manmade object:
 - Visual effects of perspective in black & white & in colour.

Methodology:

Lectures, Demonstration and Practical assignments

Materials, tools and facilities: Drawing board, paper, Different types of soft Pencils, eraser, cello-tape, Colour mixing Pallet, brushes, Colour (pencil, crayon, poster, pastel etc).

Evaluation criteria:

i) Learning ability, Neatness of work, Quality of skill, & workmanship, Quantity of work done, Involvement & gradual improvement; ii) General attitude, Sincerity and timely submission of class assignments & continuous evaluation; and iii) Class attendance & punctuality

[F-II/05] -Exposure to Material-II**Credits: 7**

(Any two subjects to be allotted from i) Paper, ii) Clay, iii) Textile, iv) Leather, v) Wood and vi) Metal)

Relevance:

An overall understanding of this course would provide basic understanding of the concerned material and related processes; it will also provide insights into the various possibilities and limitations of the material. This understanding will reflect on the concepts while one is visualizing and conceptualizing the products.

Objectives:

To develop behavioral understanding of a few natural & manmade materials through First-hand practical knowledge and explore their possibilities in making objects

The inputs will consist of direct exposure to inherent qualities of materials including its working properties.

Course Contents:

Introduction to the relevant materials Paper, Clay, Textile, Leather, Wood and Metal

Develop basic understanding on:

- Behavioral understanding of materials & processes.
- Physical and chemical properties of materials through lectures and practice ➤ Structural formations & relevant characteristics.
- Various interfaces of materials with tool & equipments.
- Exploration through different conventional & unconventional techniques
- Understanding of its limitations through practical explorations ➤ Identification of the uniqueness of the material

Paper

- Basic information on Hand Made Paper industry and their importance.
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- Specification of different type of Hand Made Paper.
- Different types of paper-pulp and their use.
- Digestion process and Preparation of Waste Paper-Pulp for making Paper-Pulp toys.
- Playing with Waste Paper-Pulp, exploration & making of Toys & utility articles.
- Colouring & finishing of the prepared articles

Clay

- Basic information on pottery & ceramic Formation and their importance.
- Different types of raw materials & techniques used in Pottery & Ceramic.
- Types & specifications of Ceramic.
- Digestion process and Preparation of toys and other small articles by hand builds technique.
□ Playing with clay and their processes and exploration & making of Toys & utility articles.
- Decorating in plastic stage and colour slips & finishing and firing of the prepared articles

Wood

- Different Type of woods and there uses
- Behavioral understanding of different processes for use in woodwork
- Understand the different type of wood and their structure (Specification of wood) □
Exploration of physical and mechanical property of wood.
- Understanding of its limitation through exploration
- Finishing and different treatment of wood
- Playing with wood and their processes and exploration & making of toys & utility articles.

Metal

- Behavioral understanding of different metal and their process for use in woodwork □
Exploration of physical property of different metal through working process.
- Understanding of different types of metals and their characteristics.
- Exploring the uniqueness and limitation of various metals.
- Exploring surface finishes and coloring techniques.
- Playing with the metals and processes and develop Toys and Utility Articles.

Textile

- Basic information on Textile Materials (Yarns only)

- Different types of Raw materials and their characteristics
- Identification of different materials and their uses
- Exploring different material for making utility articles
- Identification of yarn numbers and their uses
- Exploring the material according to their esthetic sense and colour combination
- Preparation of different material before weaving.

Leather

- Understanding the behavioral quality of leather as a raw material
- Understanding the different processes of raw materials and tools, equipment's and machineries
- Exploring the different techniques of surface treatment and decoration
- Exploring the different method of fabrication and their uniqueness
- Making small toys and utility articles

Methodology:

- Practical assignments of different process
- Exploring the physical & chemical properties in general
- Exploring finishing techniques to add more value to a product
- Finished products with indigenous inspiration
- Exploring different types of techniques (according to the respective material)

Through Lectures, Practical demonstrations & explorations, Individual & Group Assignments, Field-visit, etc

Materials & Tools and Facilities:

According to available departmental workshop facilities

Evaluation criteria:

- Learning Ability (observation and demonstration of skill)
- Skill exploration (Analyses the process and explore. Neatness of work Quality of skill acquired & workmanship)
- General Attitude (attendance, punctuality. Involvement. Sincerity and timely submission of class assignments and attentiveness)

[F-II/06] - Material Science

Credit: 4

Relevance:

A designer needs to have knowledge and information on different types of materials and their properties. This would help them in understand limitation of different materials.

Objectives:

To provide scientific & Technical information on different raw materials used in productive purpose.

Course contents:

- Versatility of wood as a material; Physical, chemical and structural properties, Wood constituents; Moisture content of wood; Wood drying; Wood anatomy; Wood mechanics.

- A brief introduction of ceramic materials & processes, Shrinkage, Hardness, Abrasion, Flexural strength, Diffusion, Solid-state reaction, Specific heat, Thermal expansion, Thermal conductivity, Thermal stress, Sintering and Melting phenomenon, Phase equilibria and phase diagrams; Concept of heat capacity, Gibb's phase rule and its interpretation, One component system, Binary phase diagrams.
- A brief introduction on textile materials - fibres, its classification and application. Different types of yarns and its use to create textile products, Different types of fabrics like woven, knitted, non-woven, etc. and its utilities for product designing; Structural property of Yarn and Fabrics.
- Definitions of common terms related to metal and alloys; General properties of commonly use metals and alloys; Extraction and melting of different metals and alloys.
- Basic information on Paper industry and their importance & use; Difference between Hand Made Paper and Mill Made Paper; Classification, characteristics, Physical & Chemical properties; Different types of raw materials used in HMP industries; Chemicals used in Hand Made Paper Making; Manufacturing process for high grade Hand Made Papers.
- Nature of Different types of Leather and their behavioral aspects & use; Processing of raw Leather; Technical properties & processes involved in making Leather product; Tools & equipments.

Methodology:

Classroom lectures, Audio Visual presentation, Practical assignment, Books.

Evaluation criteria:

Internal class test

Materials & Tools and facilities:

In-house departmental infrastructure

[F-II/07] - Technical Drawing

Credits: 5

Relevance:

This subject is introduced as the course being a productive based technical course. Technical drawing is a universal visual language used by any technical person for carrying out any productive work. Technical persons communicate amongst themselves through such drawing.

Objective:

To equipped the student with the knowledge & skill on how to make a technical drawing of an object for designing and making purpose. Technical Drawing creates a bridge between the designer & maker.

Course content:

1. General instructions on Technical drawing and basic information on drawing materials & drawing tools & their use
2. Useful information & exercises:
 - Units of measurement: - FPS and Metric systems.
 - Scale: - Different types of scale and their application
 - Different types of line
 - Descriptive geometry
 - Construction of 2-D geometrical shapes & figures
3. Representation of three-dimensional objects on pain surface

- Orthographic Drawing: - Orthographic projection methods including first angle and third angle; Plan, Elevation, Side Elevation, Sectional drawing with methods of dimensioning.
 - Orthographic Drawing of 3-D geometrical forms and object.
 - Different types of 3-D Technical drawing: - Axonometric, Isometric etc.
 - Different types of Technical Drawing
4. Layout & Surface development

Methodology:

Lectures, Demonstration, Class assignments and sessional work

Materials, tools and facilities:

Drawing board, drawing paper T-square, set square, divider, Compass, Steel scale, measuring tape, Eraser, Erasing shield, Pencil (0.5 mm, HB, 2B etc), card board scale, cello tape etc.

Evaluation Criterion:

- Explorations, Neatness of work, Quality of skill & workmanship, Quantity of work done, Involvement & gradual improvement;
- General attitude, Sincerity and timely submission of class assignments & Sessionals; and
- Class attendance & Punctuality.

Semester - III

[F-III/02]- Aesthetic Skills

Credits: 5

Course objective:

This subject is introduced to develop & enhance aesthetics acumen and skill amongst the student that is fundamental to any creative man-made activity and product-oriented design course.

Course Contents:

A General information on appearance & aesthetics – Indian Design Principles in creative fields (SilpaSastra); Nava-Rasa. B. Sense, Sensibility, perception & Gestalt psychology – Geometrical organization: order, Graph, Grid Symmetry & Asymmetry; Reflection, Rotation & Translation with examples – Elements of Drawing: – Point, Line, Shape, Form, Colour, Texture and Pattern – Principles of Design – Balance, Proportion, Mass, Harmony & Diversity, Center of Interest, Repetition, Gradation – Expression of Form (Natural & Manmade) Optical illusion – C. Form & Space: Shape & Form (Geometrical & Organic), 3-D Form generation; Form transition; Radian manipulation (positive & negative), Form integration (2-D & 3-D) – D. Useful exercises on Aesthetics, Principles of design & Design fundamentals

Methodology:

Lectures, Demonstration, Class assignments and sessional work

Materials, tools and facilities:

- Lecture facilities for 30 to 36 students.
- Group discussion spaces for at least 6 groups
- Space (Hall) for group presentations and discussions
- Overhead projector, Slide projector for case studies, Computer based presentation materials on methodology, Video tape recorder/player.
- Students are required to get their own stationary and large sheets for group assignments.
- Paper size A3 (minimum)
- Use of ink or felt pen etc
- Use of color only when asked for

Evaluation criteria:

- Internal Class Test and assignments
- Observation & Perception: Attentive to subtle variations in the environment and ability to apprehend it.
- Curiosity: An ability to probe further into available clues & make relevant connections.
- Application: Ability to relate theoretical concepts to practice.
- Sensitivity: Response to distinctive and subtle features, details and variations of material, tools and medium.
- Group Skills: Ability to work in a group, share responsibilities
- Self-Management: Honesty to oneself & group, ability to organize & regulate one's own activities.

[F-III/03] - Design Process

Credits: 6

Relevance:

The course introduces the student to the various stages of problem solving in design from insight of the problem through broad-based investigation, analysis, synthesis and communication. Different methodologies in each stage of the process is introduced and applied. The course include introduction to the systematic approach of the problem-solving process, methodologies and strategies related to various stages of the design process, includes economic, environmental and political issues and their effect on design, case studies to illustrate the process and assignments to generate understanding of the methodologies

Course objective:

The course would synthesize students to the stages in problem solving from perception of the problem through broad based investigation, analysis, synthesis and communication. Different methodologies each stages of the process would be introduced and applied. This course acquaints students to interdisciplinary and multidimensional nature of design. This will consist of several small tightly defined assignments to introduce students to various design and related technological concepts which they will be required to learn and use later in depth. These are not solution-oriented assignments but to understand the role of a particular subject area in further studies.

- Adequate with the morphology of the problem-solving process
- Ample to methodologies and strategies related to various stages of the design process
- Case studies to illustrate the process
- Assignments to generate understanding of methodologies
- Individual Crash Design Project

Course content:

This course consists of several small tightly defined assignments to introduce students to various design and related technological concepts which they will be required to learn later in depth. These are not only solution-oriented assignments but to understand the role of a particular subject area in design learning. It also introduces them to the fact that a designer's work area is interdisciplinary and will be characterized with his constant pre-occupation of co-relating disciplines, some of which might not seem to be directly related and others even opposite in nature. These are the sources from which design constraints would eventually emerge.

The course also acts as a preface to design method and takes an overview of learning areas directly related to the design process typical for craft design problems.

Methodology:

- The course would be conducted at basically deferent levels. These would include lectures on the various aspects of the problem-solving process in design. These lectures would be interspaced with time bound assignments related to each topic. These lectures and assignments are the preparatory phase, while the individual design projects that follow this course should be used, to generate a deeper understanding of the application of the various methodologies and strategies introduced in the course. These would be group discussions at several stages clarifying ideas.
- Each subject area is introduced in form of a short, tightly defined assignment.
- Students are given minimum guidance because what is asked for is not a solution but the process of solving.
- The teacher will be specifically concerned about how the problem is perceived and attempted.
- The most important feature of the course is the requirement for the student to develop alternative concepts.
- It is set aside for critique-in-round. This method helps students to learn through critical discussions with teachers and peers.

- The student must make sure that each assignment is properly recorded in form preliminary sketches with details and explanation. The missing detail can be added even after the critique.

Materials, tools and facilities:

- Lecture facilities for 30 to 36 students.
- Group discussion spaces for at least 6 groups
- Space (Hall) for group presentations and discussions
- Overhead projector, Slide projector for case studies, Computer based presentation materials on methodology, Video tape recorder/player.
- Students are required to get their own stationary and large sheets for group assignments.
- Paper size A3 (minimum)
- Use of ink or felt pen
- Use of color only when asked for

Evaluation criterion:

- Observation, Knowledge & Comprehension, Communication, Analysis & Synthesis
- Sensitivity, Exploration,
- Originality/Innovation, Imagination, Form, Functionality, content/Meaning
- Motivation, Commitment, Punctuality, Attentiveness, Interaction

[F-III/04] - Exposure to CAD

Credits: 3

Relevance:

Because of the growth of technology in this day and age, it is necessary to have the ability to work with digital media. In this class module we will introduction to the basics of 2D and introduction to 3D software. Digital media knowledge benefits such as lower product development costs and a greatly shortened design cycle. CAD enables designers to layout and develops work on screen, print it out, by this saving time on the drawings and visualization. The importance of 3D design software is to reduce costs and thus increase competitiveness - both for Designers as well as client.

2D Software is one of the important tools for graphics programs in the world. It has been used by many designers to carry out a variety of projects, from photo editing and retouching to web page design. Students should familiar to creating an ambiance or to present their work to client or to upload in web its need to know 2D software where they can give the actual picture of the product.

Objectives:

There are several different types of CAD. Each of these different types of CAD systems requires the operator to think differently about how students will use them and they must design their virtual components in a different manner for each.

3D is basically an extension of 2D drafting. The final product has no mass properties associated with it and cannot have features directly added to it, such as spheres, cubes, cuboids etc the software selection will be on the, presently availability and requirement according to type of product development.

Course Contents:

In this CAD module, is a short introduction into 2D construction techniques. Consequently, methodologically sound software should visualize points for example as prominent squares or circles, to facilitate input and identification of points. Moreover, a good beginner's software has to support

snapping of elements in such a way, that the user can easily recognize that he does snap or not. Other important requirements of a beginner's software are

- ✓ 3D viewing techniques
- ✓ Working with simple and composite solids
- ✓ Creating complex solids and surfaces
- ✓ Creating 2D drawings from 3D models
- ✓ Working with the User Coordinate System.

Upon completion of this course students will be:

- Familiar with the software environment.
- Understand and use the software Toolbox tools. □ Use options with each tool with the Option Bar.
- Use the various work area Palettes.
- Create images using Layers.

Methodology:

- Demonstrations
- Assignments

Evaluation criteria:

- Internal Class Test and assignments
- Observation & Perception: Attentive to subtle variations in the environment and ability to apprehend it.
- Curiosity: An ability to probe further into available clues & make relevant connections.
- Application: Ability to relate theoretical concepts to practice.
- Sensitivity: Response to distinctive and subtle features, details and variations of material, tools and medium.
- Group Skills: Ability to work in a group, share responsibilities
- Self-Management: Honesty to oneself & group, ability to organize & regulate one's own activities.

[F-III/05] - Exposure to Material-III

Credits: 7

(Any two subjects to be allotted from i) Paper, ii) Clay, iii) Textile, iv) Leather, v) Wood and vi) Metal)

Relevance:

An overall understanding of this course would provide basic understanding of the concerned material and related processes; it will also provide insights into the various possibilities and limitations of the material. This understanding will reflect on the concepts while one is visualizing and conceptualizing the products.

Objectives:

To develop behavioral understanding of a few natural & manmade materials through First-hand practical knowledge and explore their possibilities in making objects

The inputs will consist of direct exposure to inherent qualities of materials including its working properties.

Course Contents:

Introduction to the relevant materials Paper, Clay, Textile, Leather, Wood and Metal

Develop basic understanding on:

- Behavioral understanding of materials & processes.
- Physical and chemical properties of materials through lectures and practice ➤ Structural formations & relevant characteristics.
- Various interfaces of materials with tool & equipment's.
- Exploration through different conventional & unconventional techniques
- Understanding of its limitations through practical explorations
- Identification of the uniqueness of the material

Paper

- Basic information on Hand Made Paper industry and their importance.
- Different types of raw materials & techniques used in HMP industries.
- Specification of different type of Hand Made Paper.
- Different types of paper-pulp and their use.
- Digestion process and Preparation of Waste Paper-Pulp for making Paper-Pulp toys.
- Playing with Waste Paper-Pulp, exploration & making of Toys & utility articles.
- Colouring& finishing of the prepared articles

Clay

- Basic information on pottery & ceramic Formation and their importance.
- Different types of raw materials & techniques used in Pottery & Ceramic.
- Types & specifications of Ceramic.
- Digestion process and Preparation of toys and other small articles by hand builds technique.
 - Playing with clay and there processes and exploration & making of Toys & utility articles.
- Decorating in plastic stage and colour slips & finishing and firing of the prepared articles

Wood

- Different Type of woods and there uses
- Behavioral understanding of different processes for use in woodwork
- Understand the different type of wood and their structure (Specification of wood) □
Exploration of physical and mechanical property of wood.
- Understanding of its limitation through exploration
- Finishing and different treatment of wood
- Playing with wood and there processes and exploration & Making of Toys & Utility Articles.

Metal

- Behavioral understanding of different metal and their process for use in woodwork □
Exploration of physical property of different metal through working process.
- Understanding of different types of metals and their characteristics.
- Exploring the uniqueness and limitation of various metals.
- Exploring surface finishes and coloring techniques.
- Playing with the metals and processes and develop Toys and Utility Articles.

Textile

- Basic information on Textile Materials
- Different types of Raw materials and their characteristics
- Identification of different materials and their uses

- Exploring different material for making utility articles
- Exploring the material according to their esthetic sense and colour combination
- Preparation of different material before weaving.

Leather

- Understanding the behavioral quality of leather as a raw material
- Understanding the different processes of raw materials and tools, equipments and machineries
- Exploring the different techniques of surface treatment and decoration
- Exploring the different method of fabrication and their uniqueness
- Making small toys and utility articles

Methodology:

- Practical assignments of different process
- Exploring the physical & chemical properties in general
- Exploring finishing techniques to add more value to a product
- Finished products with indigenous inspiration
- Exploring different types of techniques (according to the respective material)

Through Lectures, Practical demonstrations & explorations, Individual & Group Assignments, Field-visit, etc

Materials & Tools and Facilities: According to available departmental workshop facilities.
Ceramic- Red Clay Prepare, Roller pin, Wooden Stripe, Cloths or canvas, coloring oxide, covering sheet, bending wheels, etc

Evaluation criteria:

- Learning Ability (observation and demonstration of skill)
- Skill exploration (Analyses the process and explore. Neatness of work Quality of skill acquired & workmanship)
- General Attitude (attendance, punctuality. Involvement. Sincerity and timely submission of class assignments and attentiveness)

[F-III/06] - Rural Studies

Credits: 3

Relevance:

It would help sensitizing the student to observe and understand the social, cultural, economic and physical environment where the indigenous designs are created and used. Students shall have a direct exposure on how society functions in grass root level and the environment in which his/her design has to operate, so that it will be meaningful or relevance to the people of the place.

Course objective:

- To widen one's perception about Indian village environment in terms of interrelationships and interdependence of its physical components.
- To develop ability to approach and mix with the people in the rural environment; interact and share their experience and learn directly from the situation.
- Learn to collect, analyze and represent macro to micro level information in the form of an illustrated document.

Course content:

- Introduction to fieldwork and methodology: socio-cultural structure of Indian society, preparatory work for the survey.
- Field studies of the chosen environment, interaction with and its inhabitant its understanding through maps, sketches and write-ups.
- Depict its main catachrestic with the help of sketches, writing, chart & maps.
- Observe and depict the changes that take place in the same subject and area at different times of the day.

Methodology:

- Lectures, field study, discussions and critiques.
- Mapping, sketching and illustrated journal.
- Interviews and interaction.
- Group activities.

Assignments:

1. Mapping and Articulation:

- Village mapping and articulation in context to the particular village. □ Their living area architectural structure along and its features & articulation

2. Socio Culture Religion:

- Festival, Social, Religions and Communal harmony
- Arts, Culture, Crafts and other livelihood activity and relevance □ Other activities like Sports & games, Community Affairs.

3. Employment:

- Business and Economic activities (Business of men/women)
- Public administration and socio hierarchy
- Agricultural and socio-economic condition and intra-family job distribution in families along with children.

4. Resources and Facilities:

- The water resources and needs in different session.
- Women's position in the society and responsibility

Materials, tools and facilities:

- Through Lectures
- Through discussions with the teacher and groups based on survey and Analysis of information □ Analyze the data of information in the required format.
- Presentations with sketches, drawing, computer etc
- Compilation of project in the form of documentation/report

Evaluation criterion:

- Observation & Perception: Attentive to subtle variations in the environment and ability to apprehend it.
- Critical Thinking: Understanding of issues, ability to think critically and reflect.
- Communication & Articulation: Fluency in verbal/ written/ visual presentation.
- Analysis & Synthesis: Analysis and synthesis of issues, observation & logical reasoning.
- Curiosity: An ability to probe further into available clues & make relevant connections.
- Group Skills: Ability to work in a group, share responsibilities. □ Initiative & Leadership: Self initiative and ability to take lead.
- Self-Management: Honesty to oneself & group, ability to organize & regulate one's own activities.

Semester - IV

[F-IV/02]- Design & Environment

Credits: 2

Relevance: Education would remain incomplete without proper knowledge and understanding of design and impact of the design on our environment. The course will help students also to know how and why the design profession came, and how design is related to our immediate & overall environment.

Objective: To develop a clear-cut understanding of design and impact of materials & processes on our environment.

Course Content:

A.

- Historical development of Design
- Various design related historical movements
- Visual pollution and appropriate environmental design
- To acquaint students with a broad framework of design history, which recognizes that design is the material embodiment of social, cultural and economic values. ➤ Environmental Design
- Contemporary Design profession and its present state of affairs.
- Understanding of design in context of our environment and design considerations for keeping a sustainable eco-friendly environment as well as enhancing quality of life for human beings.

B.

- Classification of environmental pollution;
- Major air and water pollutants related to different materials & processes;
- Effects of air and water pollution on human beings, animals and plants;
- Control of pollution, Green house effect, Ozone layer and its role, Acid rain, Waste water treatment, treatment and disposal of solid wastes;
- Carbon cycle, ISO Standard in relation to environment, Carbon credit, carbon footprint and Kyoto protocol.

Methodology: Classroom lectures, Audio Visual presentation, Field visit (if needed).

Evaluation criteria: Internal test, class attendance

Materials & Tools and facilities: In-house departmental infrastructure

[F-IV/03] - Design Project (Mixed Materials)

Credits: 8

Relevance:

Using all the inputs of semester 1st, 2nd, 3rd & 4th in making a product which can substantiate the basic property of material by means of local motifs and which can be made using uncomplicated production process. To relate the learning of design process, material science, production process, ergonomics inputs to solve design problem keeping in mind needs of user.

Students are encouraged to develop sensitivity to the material, in order to design functional product for everyday use in the contemporary context. Very simple scientific principle involved in its function. Minimum involvement of complexity of machines but can be produced in mass. This project lays emphasis on form, detailing and finishing

Course objective:

The objective of the course is to realize the of Design process. Also to reflect the understanding of Material science, Production process, ergonomic inputs to solve design problem, keeping in mind needs of the user.

- Understand the language of design in different material and according to the material property.
- Use the appropriate material from giving more dimensions to the product. ➤ Incorporate the Elective input and combine the material.

Course content:

- To understand and analyze available information ➤ Define a problem statement.
- Develop concept keeping user's need in view
- Developing alternative solutions
- To make prototype with design drawing
- To realize products with market situation

Methodology:

- The designer would give a scenario like home furnishings for the students to work upon □ Each one will identify his/her scope of products within the scenario.
- The student will entail to think how he/she will use two or more diverse materials to build the range of products.
- They will carry out a market and user survey
- Students will then generate concepts according to the findings of their survey.
- Lectures in ergonomics will be imparted to the students according to their concepts for the product
- Refinement of the concept will follow the ergonomic modification
- Mock up model will have to be prepared
- Final product will be made for testing and final modification.
- Final refined product will then me made in multiple numbers using simple production method(wheel or hand tools)

Evaluation Criterion:

- Understanding of material behavior and processes
- Level of understanding of the problem solving process in design and its components
- Quality of concepts & alternatives
- Originality of approach and solutions
- Quality of skill for making model

[F-IV/04] - Exposure to Manufacturing Techniques & Processes

Credits - 8

Relevance:

Craft being a multidisciplinary activity, there needs expose the students to various Craft Techniques and Processes. This course would provide exposure to the versatile richness of Indian craft. Basic approach for this course is multi disciplinary in nature at multi-material level so that one would develop understanding about various crafts like Dogra, Filigari, Batik, Can & Bamboo, etc. This expose will help them in generating concepts while designing ay product and for fusion of different crafts to cope with the contemporary trends. It will also provide insights into the various possibilities and limitations of different materials and their processes.

Objectives:

The inputs will comprise of exploring some classical craft making processes. This will give them a fairly high degree of understanding each material according to its individual characteristics. This will be helpful to analyze different raw materials and their appropriate use and proper utilization of available resources. This would also provide enhanced understanding towards the complexity of working with different materials and subsequently convert the leanings in making appropriate products. .

Course content and methodology:

This course will be conducted more like in workshop mode. Craft experts from different areas shall be invited to conduct these workshops. Student should participate in these workshops in groups and would get a direct exposure to work with a master craftsman in exploring technical complexity of each material and its processes. Students would be asked to learn and apply these techniques in developing simple products.

The types of workshop will be decided well in advance as per available experts.

The details of the workshops will be intimated to the students after consulting the concerned expert.

Methodology:

- Practical assignments of different process
- Exploring finishing techniques to add more value to a product
- Finished products
- Exploring different types of techniques (according to the respective material)

Through Lectures, Practical demonstrations & explorations, Individual & Group Assignments, Field-visit, etc

Materials & Tools and Facilities:

According to the requirements

Evaluation criteria:

- Learning Ability (observation and demonstration of skill)
- Skill exploration (Analyses the process and explore. Neatness of work Quality of skill acquired & workmanship)
- General Attitude (attendance, punctuality, involvement, sincerity and timely submission of class assignments and attentiveness)

[F-IV/05] – Representation Techniques**Credits: 6****Relevance:**

The aim of this course is to develop the ability to express and enhance the representation of concepts of 3D in a 2D format using orthographic, isometric and perspective etc including competence in rendering in a variety of media. Through freehand object drawing, students also learn to visualize 3D forms.

Course objective:

Objective of this course is to learn the abilities to express and visualize the image of an object in three dimensional freehand drawings. The selected object should have size, perspective volume and combination of materials.

- To understand and analyze the proportion of Visualize object by orthographic view using free hand drawing.

- To learn the methods of free hand construction line drawing to understand the geometry and proportion of an object.
- To learn the abilities for free hand three dimensional drawing/sketching and rendering. ➤ To learn the use of drawing instruments for drawing.
- To learn the abilities to express the object's form, surface and details through free hand drawing.

Course content:

- Free hand orthographic drawing of an object.
- Free hand construction line drawing of an object.
- Free hand line drawing / sketch of an object.
- Free hand exploded view drawing of an object. □ Rendering of the objective in different materials □ Different light effects.
- Use different number pencils
- Creating effects by use different medium (like acrylic, pestle, pencil, water, charcoal colour etc.)

Methodology:

- ✓ Lectures
- ✓ Demonstration
- ✓ Practical Assignment

Evaluation Criterion:

- ✓ Observation, Communication, Synthesis
- ✓ Sensitivity, Exploration,
- ✓ Originality/Innovation, Imagination, Form,
- ✓ Motivation, Commitment, Punctuality, Attentiveness, Interaction