SVSU

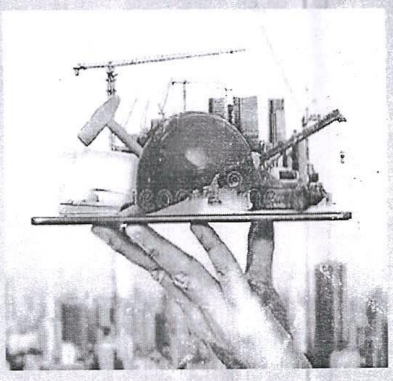
Shri Vishwakarma Skill University

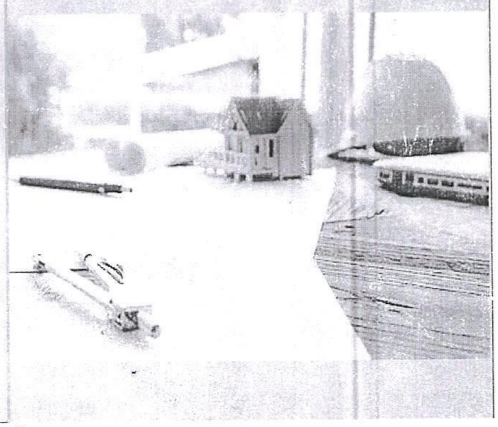
Dudhola, Palwal-121102, Haryana

Transit office: Plot 147, Sector 44, Gurugram-122001, Haryana

Website: www.svsu.ac.inContact No: +91-124-2746800

Detailed Project Report of U.G Diploma Expandable to B. Voc (Interior Design) Course offered by Skill Department of Construction Management and Technology





It is certified that this DPR, developed and checked by us, is complete in all respects.

Mr. Upkar Singh
Skill Instructor(Civil)

Prof. A. K. Watal
Chairperson of Skill Department of
Construction Management and Technology

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1. Preamble

1.1. Introduction

In line with Skill India Mission, the Government of Haryana has established Shri Vishwakarma Skill University under the Act 25 of 2016. The University is aiming at providing structured skill qualification programmes aligned with the existing and emerging job-roles in the Industry. The programmes have been mapped with NSQF levels that facilitate vertical mobility from Certificate to Doctoral level. SVSU aims at providing pathways to the Learners from school level to higher education level through a skill-based qualification framework for their career progression.

1.2. NSQF aligned Education System

Shri Vishwakarma Skill University has launched a scheme on skill development based short term courses, under the NSQF (National Skills Qualifications Framework). The course content which is developed is based on NSQF requirements.

The vision behind the establishment of Shri Vishwakarma Skill University (SVSU) is to facilitate and promote skill, entrepreneurship development, skill-based education and research in the emerging areas of various sectors and to raise skill level in various fields related to these areas and for matters connected therewith. It is the first Government Skilling University in India. Now University is offering a three-year course: B.voc Interior Design

1.3. About the Programme

B. Voc in Interior Design is a three-year undergraduate program that provides students with the skills and knowledge needed to pursue a career in interior design. The program focuses on both the theoretical and practical aspects of interior design, and students will gain experience in areas such as space planning, furniture selection, color theory, and lighting design.

Here are some key elements that might be covered in a program in B. Voc in Interior Design:

- Drawing Fundamentals:
  - Introduction to basic drawing techniques and principles.
  - Understanding line work, shading, and perspective.
  - Developing hand-eye coordination and observational skills.

- Technical Drawing Skills:
    - Familiarization with drafting tools and equipment.
    - Learning to create precise and accurate drawings using manual techniques.
    - Understanding scale, measurements, and dimensioning.
- Computer-Aided Design (CAD) Software:
    - Introduction to CAD software commonly used in draughtsmanship, Interior Design (e.g., AutoCAD, SolidWorks, Revit).
    - Learning the fundamentals of CAD software, including the user interface and basic tools.
    - Creating and modifying 2D and 3D drawings using CAD software.
- Architectural Drawings:
    - Understanding architectural drawing types, such as floor plans, elevations, sections, and site plans.
    - Learning architectural drawing standards and conventions.
    - Developing skills in creating accurate architectural drawings.
- Electrical and Electronic Drawings:
    - Familiarization with electrical and electronic symbols and notations.
    - Creating circuit diagrams, schematics, and wiring diagrams.
    - Understanding electrical and electronic drawing standards.
- Civil Engineering Drawings:
    - Learning to create civil engineering drawings such as site plans, topographic maps, and cross-sections.
    - Understanding civil engineering drawing symbols and conventions.
    - Incorporating survey data into drawings.
- Rendering and Visualization:
    - Techniques for adding shading, textures, and colours to drawings.

- Creating realistic renderings and visualizations.
- Introduction to 3D modelling and rendering software.

• Project Documentation and Management:

- Organizing and structuring project drawings.
- Incorporating drawings into project documentation and reports.
- Understanding drawing numbering, revision control, and document management.
- Industry Standards and Best Practices:
  - Compliance with relevant drawing standards and codes.
  - Quality control and checking procedures.
  - Effective communication through drawings.
  - Collaborative drawing and document management practices.
- Practical Exercises and Projects:
  - Hands-on practice with drawing exercises and projects.
  - Applying the learned techniques to real-world scenarios.
  - Feedback and guidance on improving Interior Design skills.

1.4. Objectives of the programme

This program is aimed at training candidates for the job of a Interior Designer. However, here are some common objectives that are typically associated with Interior Design courses:

1. Develop a strong foundation in design principles and theories such as space planning, color theory, lighting design, and furniture selection.
2. Provide students with hands-on experience in a variety of design skills, including drafting, rendering, and 3D modeling.
3. Develop Drawing Skills: The primary objective of a Interior Design course is to enhance students' drawing skills. This includes improving their ability to observe and represent objects accurately, understanding perspective, proportions, shading, and other fundamental elements of drawing.
4. Learn Visual Communication: Interior Design emphasizes the visual representation of ideas, concepts, and designs. A course in this subject aims to train students in

effectively communicating their thoughts and designs through drawings, sketches, and diagrams.

5. Develop Spatial Visualization: One of the key objectives of Interior Design is to enhance spatial visualization skills. This involves the ability to mentally manipulate and understand three-dimensional forms and translate them onto a two-dimensional surface.
6. Enhance Problem-Solving Skills: Interior Design courses often involve practical exercises and projects that require students to analyse and solve design problems through drawing. This objective focuses on developing critical thinking, creativity, and problem-solving abilities.
7. Explore Different Media and Tools: Students in a Interior Design course are typically exposed to a range of drawing media and tools such as pencils, pens, markers, charcoal, and digital drawing tools. The objective is to familiarize students with these different mediums and help them develop proficiency in their use.

Overall, the objectives of a Interior Design course revolve around developing technical proficiency, artistic skills, and the ability to effectively communicate ideas visually.

1.5. Learning Outcomes of the programme

- Students will develop proficiency in a variety of technical skills, such as space planning, furniture selection, color theory, lighting design, and construction documents. These skills are essential for creating functional and safe interior spaces.
- Students will learn how to develop creative and innovative design solutions that meet the needs of their clients. This includes understanding design principles, trends, and styles.
- Student should be able to translate ideas and concepts into visual form through sketches, diagrams, and plans.
- Student should be able to create accurate and visually appealing drawings using different media and tools.
- They should be able to identify constraints, evaluate options, and generate creative solutions using their Interior Design skills.

Deepika

1.6. Level of Award

The certification level:

Sr. No.	Award	Duration	NSQF/ NCrF Level attained after Skill Training
1.	Under Graduate certificate	1 Year	Level- 4.5
2.	Under Graduate Diploma	2 Year	Level- 5
3.	B. Voc Degree	3 Year	Level- 5.5

2. Programme Structure

2.1. Scope – Need of qualification

We will strive to build career for young and aspiring students who have finished their senior secondary education and want to take a job in this domain.

2.2. Scheme and Syllabus

The course content and the credit scheme for the certification course covering both the theory portion as well as practical portion in 40:60 credit ratio as follows:

Theory: 1 Credit = 15 hours

Practical: 1 Credit = 30 hours

OJT: 1 Credit= 30 hours.

SCHEME/ SYLLABUS: B. Voc Interior Design

Semester-I

Category	Subject Code	Subject Name	Credits			Marks							Hrs		
						Theory			Practical			Total			
			T	P	TO	I	E	TO	I	E	TO	(T+P)	T	P	TO
General Education Component	BEID101	Basic Design – I	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID102	Basic Building Material & Technology	3	0	3	15	35	50	-	-	-	50	45	-	45
	24UENG01	English Language and Business Communication	2	0	2	15	35	50	-	-	-	50	30	-	30
	BEID103	Interior Services – I	3	0	3	15	35	50	-	-	-	50	45	-	45
		Total	11	0	11	60	140	200	-	-	-	200	165	-	165
Skill Education Component	24UENG02	English Language and Business Communication Practical	1	0	1	-	-	-	35	15	50	50		30	30
	BEID111	Workshop – I	0	1.5	1.5	-	-	-	35	15	50	50	-	45	45
	BEID112	Rendering Techniques (Manual)	0	1.5	1.5	-	-	-	35	15	50	50	-	45	45
	BEID121	On-Job-Training (OJT) Assistant Carpenter – Wooden Furniture (FFS/Q0103) Assistant Furniture Designer (FFS/Q0106) (Any one)	0	15	15	-	-	-	120	120	240	240	-	450	450
		Total	0	19	19	-	-	-	225	165	390	390	-	570	570
Grand Total			11	19	30	60	140	200	225	165	390	590	165	570	735

Semester-II																
Category	Subject Code	Subject Name	Credits			Marks							Hrs		
						Theory			Practical			Total			
			T	P	TO	I	E	TO	I	E	TO	(T+P)	T	P	TO
General Education Component	BEID201	Basic Design – II	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID202	Design & Innovation (CBSE 772)	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID203	History of Furniture	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID204	Interior Services - II	3	0	3	15	35	50	-	-	-	50	45	-	45
		Total	12	0	12	60	140	200	-	-	-	200	180	-	180
Skill Education Component	BEID211	Workshop – II	0	1.5	1.5	-	-	-	35	15	50	50	-	45	45
	BEID212	Design & Innovation Lab	0	1.5	1.5	-	-	-	35	15	50	50	-	45	45
	BEID221	On-Job-Training (OJT) Lead Sofa Maker (FFS/Q0107) Assembler – Modular Furniture (FFS/Q5101) (Any one)	0	15	15	-	-	-	120	120	240	240	-	450	450
		Total	0	18	18	-	-	-	190	150	340	340	-	540	540
Grand Total			12	18	30	60	140	200	190	150	340	540	180	540	720

Semester-III																
Category	Subject Code	Subject Name	Credits			Marks							Hrs		
						Theory			Practical			Total			
			T	P	TO	I	E	TO	I	E	TO	(T+P)	T	P	TO
General Education Component	BEID301	Interior Design – I (Residential)	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID302	Auto CAD – I	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID303	Interior Services- III	3	0	3	15	35	50	-	-	-	50	45	-	45
	24UHPE01	Human Values and Professional Ethics	3	0	3	15	35	50	-	-	-	50	45	-	45
		Total	12	0	12	60	140	200	-	-	-	200	180	-	180
Skill Education Component	BEID311	Interior Design (Residential)	0	1.5	1.5	-	-	-	35	15	50	50	-	45	45
	BEID312	Auto CAD- I	0	1.5	1.5	-	-	-	35	15	50	50	-	45	45
	BEID321	On-Job-Training (OJT) Cabinet Maker – Modular Kitchen (FFS/Q5102) Lead Wood Quality Examiner (FFS/Q0109) (Any one)	0	15	15	-	-	-	120	120	240	240	-	450	450
		Total	0	18	18	-	-	-	190	150	340	340	-	540	540
Grand Total			12	18	30	60	140	200	190	150	340	540	180	540	720

Semester-IV

Category	Subject Code	Subject Name	Credits			Marks							Hrs		
						Theory			Practical			Total			
			T	P	TO	I	E	TO	I	E	TO	(T+P)	T	P	TO
General Education Component	BEID401	Interior Design – II (Commercial)	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID402	Interior Construction Technology - I	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID403	Quantity & Estimation	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID404	Interior services – IV	3	0	3	15	35	50	-	-	-	50	45	-	45
		Total	12	0	12	60	140	200	-	-	-	200	180	-	180
Skill Education Component	BEID411	Interior Design – II (Commercial)	0	1.5	1.5	-	-	-	35	15	50	50	-	45	45
	BEID412	Working Drawing – I	0	1.5	1.5	-	-	-	35	15	50	50	-	45	45
	BEID421	On-Job-Training (OJT) Assembler Door/Window- Glass (FFS/Q6101) Safe Executive – Furniture & Fittings (FFS/Q8101) (Any one)	0	15	15	-	-	-	120	120	240	240	-	450	450
		Total	0	18	18	-	-	-	190	150	340	340	-	540	540
Grand Total			12	18	30	60	140	200	190	150	340	540	180	540	720

Semester- V															
Category	Subject Code	Subject Name	Credits			Marks							Hrs		
						Theory			Practical			Total			
			T	P	TO	I	E	TO	I	E	TO	(T+P)	T	P	TO
General Education Component	BEID501	Interior Design – III (Institutional)	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID502	Interior Construction Technology - II	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID503	Specification Writing	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID504	Advance Building / Interior Materials	3	0	3	15	35	50	-	-	-	50	45	-	45
		Total	12	0	12	60	140	200	-	-	-	200	180	-	180
Skill Education Component	BEID511	Computer Presentation Techniques		1.5	1.5	-	-	-	35	15	50	50	-	45	45
	BEID512	Working Drawing - II	0	1.5	1.5	-	-	-	35	15	50	50	-	45	45
	BEID521	OJT Supervisor Interior Designer (FFS/Q9103) Finisher – Bamboo Furniture (FFS/Q4104) (Any one)	0	15	15	-	-	-	120	120	240	240	-	450	450
		Total	0	18	18	-	-	-	190	150	340	340	-	540	540
Grand Total			12	18	30	60	140	200	190	150	340	540	180	540	720

Accepted

Semester-VI																
Category	Subject Code	Subject Name	Credits			Marks							Hrs		
						Theory			Practical			Total			
			T	P	TO	I	E	TO	I	E	TO	(T+P)	T	P	TO
General Education Component	BEID601	Sustainable Interior Design	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID602	Universal Interior Trends in Design	3	0	3	15	35	50	-	-	-	50	45	-	45
	BEID603	Entrepreneurship in field of Interior design	3	0	3	15	35	50	-	-	-	50	45	-	45
		Total	9	0	9	45	105	150	-	-	-	150	135	-	135
Skill Education Component	BEID611	Project	0	6	6	-	-	-	70	30	100	100	-	180	180
	BEID621	OJT Senior Interior Designer (FFS/Q9104) Lead Carpenter Wooden Furniture – Lock Installer (FFS/Q0104)	0	15	15	-	-	-	120	120	240	240	-	450	450
		Total	0	21	21	45	105	150	190	150	340	340	-	630	630
Grand Total			9	21	30	45	105	150	190	150	340	490	135	630	765

Detailed Curriculum

Semester 1

Subject: Basic Design -I

Subject Code: BEID101

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

Basic design defines the base of design aspects, in terms of design elements and principles that are generically applicable to any design stream including interior design. The subject aims at developing observational and creative skills that would enhance the visual perceptionof students and evolve aesthetic sensitivity.

Learning Outcomes:

After the completion of course, students will be able to:
CO1: Understand the basic knowledge of design elements (lines, shapes, colors) and principles (balance, contrast, hierarchy) applicable across design fields.
CO2: understand of how elements work together in existing designs.
CO3: Refines the ability to "see" design in the world, noticing relationships, space utilization, and overall visual impact.

Unit – I

Physical demonstration presentation on parameters of design, anthropometrics andergonomics, human activity and use of interior spaces and furniture.

Unit – II

Demonstration on analysis of design process, concept formation for design, structuralcomponents and walling systems

Unit – III

Physical demonstration on joinery and openings

Unit –IV

Physical demonstration on doors and windows

Unit – V

Graphical project work (Pencil drawing of planning of any Flat/House/Bungalow)

Reference

1. Hanks, A. David, Decorative Designs of Frank Lloyd Wright, Dover Publications, Inc. NewYork, Latest edition.
2. Helper, E. Donald, Wallach, I. Paul. Architecture Drafting and Design, 3rd ed. McGraw-HillBook Company, New York, Latest edition.
3. John. F. Pile, Color in Interior Design, Mc-Graw Hill professional, Latest edition.
4. Basic Design of Anthropometry – Shiris Bapat.

(Leepika)

Subject: Basic Building Material & Technology

Subject Code: BEID102

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

The course shows a proper path for acquiring knowledge on the materials and products beforethey move to the concepts of interior decoration and construction.

Learning Outcomes:

After the completion of course, students will be able to:
CO1: understand the common building materials (Natural stones
brick, light weight concrete block, cement, concrete, wood, glass, timber, bamboo)
CO2: Understand the construction types (walls, floors, roofs)
CO3: Understand the knowledge of foundation for sustainable building practices like recycled materials and energy efficiency.

Unit – I

Natural stones and their properties

Unit –II

Bricks – classification and properties, light weight concrete blocks- manufacturing and compressive strength.

Unit – III

Cement- types of cement and testing, concrete- composition mixing, curing and testing procedure.

Unit – IV

Ceramics, types of ceramic building materials.

Unit – V

Commercial forms of wood and Timber- their properties, Bamboo- uses, Glass- types and properties.

Reference:-

1. Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and Methods ofConstruction, 19th ed. Dhanpat Rai Pub., New Delhi,(Latest Edition).
2. Moxley, R. Mitchell" s Elementary Building Construction, Technical Press Ltd.
3. Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
4. Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi,(Latest Edition).
5. Chowdary, K.P. Engineering Materials used in India, 7th ed. Oxford and IBH, NewDelhi,(Latest Edition).
6. Rangwala, S.C. Building Construction: Materials and types of Construction.
7. Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008.

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Subject: English Language and Business Communication

Subject Code: 24UENG01

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Objective:

To train students to enhance their skills in written as well as oral communication through practical conduct of this course. This course will help students in understanding the principles and techniques of business communication.

Learning Outcomes: After completing this course, the learns will be able to

1. Students would be able to understand the nature, structure, types and process of various dimensions of communication and apply them in communication.
2. Students would be able to make effective presentations in various business/professional situations incorporating the ethics of good negotiations and assertive behavior.
3. Students would develop competency to understand and perform the diversity of the globalized multicultural world.
4. Students would be able to draft various types of documents used inside the organization for various types of communication.
5. Students would develop interview skills and competency incorporating the use of different socialmedia platforms for networking.

Units	Topics
I Basics of Communication	Meaning, Process and Types of Communication; Principles of Effective Communication: Process and types of listening, deterrents to listening process, essentials of good listening.
II Presentation Skills	Prerequisites of effective presentation, format of Presentation. Negotiations-types, structures and basics of negotiations; Assertive behavior.
III Multicultural World and Communication	Business Communication in a globalized and multicultural world; understanding cultural diversity and developing cultural competency and inter-cultural business communication skills; Barriers to cross-cultural communication and strategies to overcome them.
IV Written Communication	Mechanics of writing, report writing, agenda and minutes; business correspondence – business letter format, style of letter arrangement, types of letters, electronic mail; Resume Writing
V Communication in Practice	Preparing for interviews- types of interviews, process of interview and group discussion; effective ways of performing well in interviews; Social media and Networking, Social media profiles, Editing and Posting onsocial media;

Recommended Readings:

- Bovee, C., & Thill, J.V., and Raina, R.L. *Business Communication Today*. New York: Pearson,2016.
- Lata, Pushp, and Sanjay Kumar. *Communication Skills*. 2nd ed. New Delhi: OUP, 2019.
- Lehman, C. M., Dufrene D. D., and Sinha, M. *BCOM: The South Asian Perspective on Business Communication*. New Delhi: Cengage Learning, 2016.
- Monippally, Matthukutty, M. *Business Communication: From Principles to Practice*. New Delhi: McGraw Hill Pub., 2018.
- Mukerjee, H. S. *Business Communication: Connecting at Workplace*. New-Delhi: OxfordUniversity Press, 2012.
- Murphy, H. A., Hildebrandt, H.W., and Thomas, J.P. *Effective Business Communication*. Boston:McGraw-Hill Companies, 1997.
- Post, Emily. *The Etiquette Advantage in Business*. New York: Collins, 2005.
- Ramesh, Gopalaswamy, and Mahadevan Ramesh. *The Ace of Soft Skills: Attitude, Communicationand Etiquette for Success*. Noida: Pearson, 2019.
- Sandra, M. O. *Handbook of Corporate Communication and Strategic Public Relations: Pure andApplied*. New Delhi: Routledge, 2004.
- Sinha, K. K. *Taxmann's Business Communication*.4th Revised ed. New Delhi: Taxmann's Pub.,2018.

Taylor, Grant. *English Conversation Practice*. Indian ed. Chennai: McGraw Hill Education Pvt.Ltd., 2017

Subject: Interior Services - I

Subject Code: BEID103

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

Introduction to the principles of water supply, sanitation and drainage system and various types of sanitary fittings and fixtures to enable learner design appropriate service layout.

Learning Outcomes:

After the completion of course, students will be able to:

CO1: Understand the core principles of water supply systems, including source selection, treatment methods, and distribution networks.

CO2: Understand the importance of sanitation and the different types of sanitation systems, including waste collection and treatment.

CO3: Design the cohesive plan for a building or community, ensuring proper layout and functionality.

Unit – I

Cold and hot water distribution systems, types of water supply pipes and joints, fixtures and fittings.

Unit – II

Soil and waste water disposal systems, Segregation of solid waste from waste water types of sanitary pipes and joints

Unit – III

Plumbing works for Kitchens, toilets, baths, washing machines, dishwasher, refrigerator, loft tanks etc.

Unit - IV

Detail for bath Tubs, Rain Shower, Shower system, Jacuzzis.

Unit – V

Distribution and disposal layout, Utilization of solid waste materials & Safety aspects.

Reference:-

1. Building Construction by B.C. Punmia
2. Building Construction by Sushil Kumar
3. Materials by RANGWALA
4. Sanitory engineering by RS DESHPANDEY
5. Water supply and sanitation by CHARANJIT SHAH
6. Z of practical building constructions & its management by SANDEEP MANTRI
7. Electrical engineering by O.P. SHUKLA
8. Water supply and sanitation engineering by P.K. UPADHYAY
9. Sanitary Engineering by R.S. Deshpandey
10. Water supply & Drainage Gurcharan Sing

Subject: English Language and Business Communication Practical

Subject Code: 24UENG02

Credit	Hours	Marks		
1.5	45	I	E	To
		35	15	50

Objective: This course is designed to strengthen the communication abilities of the learnersby providing them hands-on practice.

Learning Outcomes: After completing this course, the learns will be able to

1) Demonstrate knowledge and understanding of a range of professional or publiccommunication situations.
2) Perform effectively in diverse professional and public communication situations likeinterviews and negotiations, drafting emails and resume etc.

Details

1) Situational Conversations
2) Listening Skills
3) Resume Writing
4) Mock Interviews
5) Group Discussion
6) Presentation Skills
7) Negotiation Skills
8) Email Writing
9) Public Speaking
10) Extempore Speech.

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Subject: Workshop – I
Subject Code: BEID111

Credit	Hours	Marks		
1.5	45	I	E	To
		35	15	50

List of Experiments:

1. Introduction of carpentry tools and machines.
2. Different types of joints and their functions.
3. Introduction to modeling with paper, paper board, plastics, plaster of Paris, wood and clay.
4. Basic model making techniques using different types of materials .
5. Material collection- timber, sand brick, stone, aggregate etc.
6. Identification and selection of timber, timber operations.
7. Introduction of masonry tools.
8. Demonstration of brickwork, stonework, demonstration of plaster and textured finishes. (i) Mud (ii) Cement (iii) Lime.
9. Models for basic design and Architecture design studio work.
10. Study tours to sources of local building materials and to any local building under construction tostudy their actual use.
11. Educating about rates of material.

Subject: Rendering Techniques (Manual) - Lab

Subject Code: BEID121

Credit	Hours	Marks		
1.5	45	I	E	To
		35	15	50

List of Experiments:

1. Digital 2D rendering.
2. Digital 3D rendering.
3. Hand drawn rendering
4. Photo realistic rendering and non- photo realistic rendering
5. Light, colour, and colour spaces, Local illumination models
6. Global illumination, Ray tracing
7. Radio city computation, Volume rendering
8. Image-based rendering, 3D image warping
9. Light fields, Procedural and image-based texturing and shading
10. Non-photo realistic rendering, Parallel rendering

Reference

1. http://www.cs.jhu.edu/~cohen/RendTech99/syllabus.html

Semester II

Subject: Basic design - II
Subject Code: BEID201

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective
Evolving further from course content of semester 1, the focus of study shall be based on application of the observational and creative skills to Design and planning process.

Learning Outcomes:
After the completion of course, students will be able to:
CO1: Apply design principles like balance, harmony, and rhythm in creating construction plans.
CO2: Analyze the impact of these principles on the visual appeal and functionality of a space.
CO3: Understand the concepts of anthropometry (human body measurements) and ergonomics (designing for human comfort and use).
CO4 Apply knowledge of evolving technologies to propose innovative solutions for space modulation (division and organization of space).
CO5: Understanding of historical architectural styles and their key characteristics.

Unit- I
Interplay of planning principles like balance, harmony, rhythm etc.

Unit - II
Study and application of anthropometry and ergonomics as a tool to understand aesthetic and functional concepts of design.

Unit -III
Concepts of evolving technology and space modulation

Unit - IV
History, styling and theme based designs

References:
1. Hanks, A. David, Decorative Designs of Frank Lloyd Wright, Dover Publications, Inc. New York, Latest edition.
2. Helper, E. Donald, Wallach, I. Paul. Architecture Drafting and Design, 3rd ed. McGraw-Hill Book Company, New York, Latest edition.
3. John. F. Pile, Color in Interior Design, Mc-Graw Hill professional, Latest edition.
4. Basic Design of Anthropometry – Shiris Bapat.

Subject: Design & Innovation (CBSE 772)

Subject Code: BEID202

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

The Course on Design and Innovation is intended to introduce ideas, methodologies, principles, and skills that comprise a common knowledge base important to all design disciplines. It will provide the participants with foundation and fundamentals skills in design. The program is designed to provide a pathway to a range of vocational qualifications, including diplomas of graphic design, visual merchandising, visual arts, digital design, screen and performing arts.

Learning Outcomes:

After the completion of course, students will be able to:

CO1: Apply design principles like balance, harmony, contrast, rhythm, emphasis, and proportion to create visually appealing and functional construction plans.

CO2: Understand the color wheel and its properties (hue, saturation, value) to make informed color choices for construction projects.

CO3: Apply composition and perspective principles to create clear and effective construction drawings.

CO4: Understand the concept of texture and apply frottage techniques to incorporate textured elements into drawings.

CO5: Understand the importance of workplace safety and health for construction workers.

Unit–1: Introduction to Design

Concept of Design: - Design Definition, Design versus Art, Design and Environment, The basis of Design Process, Use Design in today's scenario.

Design Fundamental: - Principles of Design, Elements of Design, Colour Theory, and Understanding of Colour wheel, to increase and build sensitivity to the forms around them, To identify the revolving still life and outdoor in vicinity of environment, To relate the elements of design to understand design process for their projects, Understanding the colour quality, intensity, relationship with other colours, textures, shape.

Unit–2: Design Tools and Techniques

Produce Drawing:-Defining Drawing, Different techniques of drawing, Exploration of medium, Compositions and Perspectives, Tonal Techniques, Use of Dreams and Music for creative drawing, To identify the use of tone and value, Texture/Frottage, Identify to use contour line drawing (continuous or cross contour).

Unit–3: Occupational Health and Safety

Work Safe Review Module:- Safety and Health responsibility, Role of War safe Inspector, Hazard identification, Risk assessment and Risk control, PPE, Dealing with emergency, Design a promotional poster advertising what students need to know about Safety and Dangers, or be warned about while working at College.

Reference

1. Eppinger, S., & Ulrich, K. (2015). Product design and development. McGraw-Hill Higher Education.

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2.Green, W., & Jordan, P. W. (Latest Eds.). Human factors in product design: current practice and future trends. CRC Press.
3. Sanders, M. S., & McCormick, E. J.(Latest Eds.). Human factors in engineering and design.McGRAW-HILL book company.
4. Roozenburg, N. F., & Eekels, J.(Latest Eds.). Product design: fundamentals and methods (Vol.2). John Wiley & Sons Inc.
5. Lidwell, W., Holden, K., & Butler, J. (2010). Universal principles of design, revised and updated: 125 ways to enhance usability, influence perception, increase appeal, make better design decisions, and teach through design.

Subject: History of Furniture

Subject Code: BEID203

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objectives:
The course is designed to make the students familiar with the study of history and background of the antique and modern furniture.

Learning Outcomes:
After the completion of course, students will be able to:
CO1: Analyze how climate, social factors, lifestyle, technological advancements, and material availability have influenced furniture design throughout history.
CO2: Understand the art, architecture, and furniture of ancient Egypt, including those preserved in pyramids.
CO3: Analyze the strategies used by Greeks and Romans to overcome optical illusions in furniture design.
CO4: Analyze the development of utilitarian furniture in Europe from the Romanesque period to the Gothic era.
CO5: Understand the stylistic shifts from Renaissance to Baroque and Rococo furniture in 17th-century Europe.
CO6: Analyze the characteristics of the Victorian and Art and Crafts movements in furniture design.
CO7: Analyze the traditional and colonial styles of furniture in Japan, China, and India.

Unit- I
Introduction to furniture history, Evolution of furniture over a period based on climate, social factors, life style, technical and stylistic development availability of materials and various movements in design. Introduction to furniture terminology based on methods of joinery techniques such as parquetry, marquetry gilding, turning, pierced and chip carving.

Unit –II
Ancient civilization, art, architecture of Egypt. Furniture preserved in ancient pyramids, Ancient classical orders developed by them and various methods to overcome optical illusion, Furniture developed by Greeks and Romans by 3rd century A. D.

Unit - III
Medieval era in Europe, utilitarian furniture developed from Romanesque till Gothic times. Gothic cathedrals preserving art, manuscripts, furniture, paintings, sculptures, stain glass, Beginning of Renaissance - second golden era in Europe, age of discovery. Renaissance

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furniture of Italy and France. Baroque and Rococo furniture of 17th century Europe, Neoclassical and Regency period in history of furniture - 18th century, Prominent names in the field of Architecture, sculptures, paintings international and Indian.

Unit- IV

English furniture from 16th to 18th century. Tudor, Stuart, Jacobean, Restoration period, Queen Ann period, Gregorian period, Chippendale, Sheraton, Beginning of 19th century industrialization, Victorian Era in England, Art and Craft movement in design, Art Nouveau movement in art and furniture. Art movements before and after world wars, Cubism of Picasso, De - stijl movement, Bauhaus school of Design and its impact on modern design, Art Deco movement, Oriental furniture and how it is different from western counterparts. Furniture of Japan and China, Indian furniture, traditional and colonial.

Reference

1. History of Fine Arts in India and West by Edith Tomary[T2] History of World Architecture by Sir Banister Flecher.
2. Indian Architecture by Satish Kumar [R2]Interior Deign by Ahmed Kasu.
3. Edward Lucie-Smith , Furniture: A Concise History (World of Art) , Thames and Hudson.

Subject: Interior Services –II
Subject Code: BEID204

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

Introduction to the principles of Sanitation, Water supply, Electrification and Fire Protection to enable learner design appropriate service layout.

Learning Outcomes:

After the completion of course, students will be able to:
CO1: Design service layouts considering sanitation, water, electricity, and fire safety.
CO2: Understand the integrate hygiene, water access, safe electrical systems, and fire protection measures.
CO3: Apply these principles to create functional and safe service environments.

Unit - I

Sanitation: Sanitary fittings, and fixing methods, different materials, different drawings, systems and disposal methods, sanitary layout of different interior schemes.

Unit - II

Water supply: Different materials and fittings, Hot and cold water supply and its techniques underground and overhead tanks, water supply layouts of different interior schemes.

Unit- III

Electrification: Light, fighting design, light sources and listeners, natural light, artificial light, Electronic communication wiring. Generator / battery backup system, graphical symbols of electrical layout.

Unit- IV

Fire Protection: Definition, structural fire precaution, rules, fire resistance, firefighting, equipment's and detection alarms, sprinklers etc. Fire resisting, retarding materials, means of escape, staircase lifts.

Unit –V

Introduction to HVAC, Types of Gases used in A.C,s,Maintenace of A.C,s; Clean Room Construction ,Energy Efficiency in HVAC.

Reference :-

1. Sanitory engineering by RS DESHPANDEY.
2. Water supply and sanitation by CHARANJIT SHAH.
3. Water supply and sanitation engineering by P.K. UPADHYAY.
4. Electrical wiring and contracting (vol. 1 to vol.4), London. The New era Publishing Company.
5. Dr Frith Abnwos and others, Electrical Engineering hand book.
6. William . J. Guinness, Mechanical and Electrical Systems for Buildings, New York : McGraw Hill.

Subject: Workshop-II

Subject Code: BEID211

Credit	Hours	Marks		
1.5	45	I	E	To
		35	15	50

List of Experiments:

1. **Plaster of Paris Workshop:-**Introduction to plaster as material, Process of mixing and its use in reproduction, Mould making and casting, Use for plaster with other materials like cloth, thread, wires etc.

2. **Bamboo and Cane Workshop: -**The processing on bamboo (seasoning, treatment), Tools for working on bamboo, Precautions for safety in workshops, Cutting, Joinery details, strength, finishes, Application to constriction and furniture Interior.

References:-

Rendering with Pen and Ink by Gill.

Subject: Design & Innovation –Lab

Subject Code: BEID212

Credit	Hours	Marks		
1.5	45	I	E	To
		35	15	50

List of Experiments:

1. **Knowledge Workshop: -** Source and apply design industry knowledge, Source and applyinformation on the history and theory of design.
   - **Project 1:** Research on a Contemporary designer.
   - **Project 2:** Photograph and Report on Signage and Window display.
   - **Project 3**: Critique the Design of a Product.

2. **Design Concepts Workshop: -** Design concepts workshop road signs, Design concepts workshop zoological and botanical logo, Design concepts workshop T-shirts design.

3. **Graphic Design Workshop: -** Produce Designs for Clothing Range, Shoes or CD Cover, Colour zones applied Colour assessment, Poster Design for an Opera or Ballet.

Semester III

Subject: Interior Design –I (Residential)
Subject Code: BEID301

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

In this semester the learner is expected to apply the basic design acumen and anthropometric Observations in the designing of Residential interior spaces such as Individual rooms (Living/ Dining not less than 25.00 Sq. mts & Kitchen not less than 12.00 Sq. mts.) of an apartment andare expected to present the study through detailed measured drawings and sketches.
All specified areas are Carpet Areas.

Learning Outcomes:

After the completion of course, students will be able to:
CO1: Understand how anthropometrics and ergonomics influence furniture selection and space planning for interior environments.
CO2: Analyze human activities and their relationship to interior spaces and furniture layout.
CO3: Develop skills to identify design elements that shape the character and atmosphere of an interior space.

Unit – I

Introduction to parameters of design, anthropometrics and ergonomics, human activity and use of interior spaces and furniture.

Unit- II

Analysis of design to perceive elements which define the character of the environment.

Unit- III

Analysis of design process.

Unit - IV

Concept formation for design.

Reference:-

1. Ahmed Kasu, Interior Design, TWAIN Pub. Bombay.
2. Perspective & Sciography by Shankar Mulik, Allied Publishers.
3. Engineering Drawing, M.S. Kumar, D.D. Publications, Chennai Reference Book(s).
4. Geometrical drawing for Art Students, I.H. Morris, Orient Longman, Chennai
5. Perspective Principles, M.G. Shah & K.M. Kale, Asia Publications, Mumbai.

Subject: Auto CAD –I

Subject Code: BEID302

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

Drafting and development of drawings is an essential skill for a student of architectural assistantship and due to availability of the software the task of drafting has become simplified and easy. Student shall prepare architectural basic drawings, presentation drawings on a computer with CAD as drafting tool. In this course, the student acquires knowledge of CAD - 2D, It is mandatory for the students to possess the above-mentioned skills adding to their proficiency so that they are able to draw 2D drawings using computers as well as create new designs using 2D software.

Learning Outcomes:

After the completion of course, students will be able to:
CO1: Understand 2D CAD (Computer-Aided Drafting) software.
CO2: Understand precise architectural drawings using CAD tools
CO3: Understand design ideas into clear 2D digital drawings.
CO4: Understand design communication with professional presentations.

Unit – I –Introduction

Introduction to CAD and relevant software: - Prepare a new drawing from scratch with the "Create Drawing",
Simple drawing creation: - Save created drawing definition as a new drawing

Unit – II –CAD- 2D

Use 2D commands to draw building components such as wall, door, window: - line, poly line, spline, 3d ploy line, rectangle, multi-line, construction line, arc, circle, ellipse, polygon, donut.
Use Modification commands to alter the existing drawing: - offset, copy, paste, erase, trim, break, mirror, array, move, rotate, stretch, lengthen, trim, extend, break, chamfer, fillet
Replication of Drawn Objects: - Block, Insert block, Edit block, Explode block

Unit – III - Presentation Drawings

Make Presentation drawing using 2D commands and add text and dimensioning to them using appropriate commands:-
Multi line text and text:- Writing text, formatting text style, Editing text Dimensioning: - Formatting dimension style, Editing dimension style Use of leader
Multiple hatch commands
Applying components from AutoCAD Libraries (Design Centre) to drawing

Unit – IV - Plot/Print

Print/plot the prepared drawing: - Plot dialogue box, Printing in PDF and Save as PDF

Reference book

1. Harnessing AutoCAD Release -2012- Thomas A. Stellman, G. V. Krishnan, Robert A. Rhea- Delmar Publication
2. AutoCAD 2011- Ellen Finkelstein- Wiley India Pvt Ltd
3. Engineering Graphics with AutoCad- Kulkarni, D.M.Rastogi.

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Subject: Interior Services –III
Subject Code: BEID303

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective
To equip the learner with concept and principles of natural and mechanical ventilation and air conditioning.

Learning Outcomes:
After the completion of course, students will be able to:
CO1: Understand the fundamentals of HVAC systems
CO2: Analyze factors affecting human thermal comfort and design strategies for natural ventilation
CO3: Apply mechanical ventilation principles and understand the importance of acoustics in interior design

Unit – I
Introduction to HVAC.

Unit- II
Principles of thermal comfort parameters for humans, Principles of natural ventilation.

Unit - III
Heat load calculations, Introduction to air conditioning systems (at least few lectures should be given by AC agency), methods of air conditioning, equipment and components used in air conditioning.

Unit -IV
Selection criteria for air conditioning systems, Ducting principles, layout schemes and placement of air conditioner outlets in central air conditioning systems.

Unit - V
Mechanical ventilation and its application, Introduction to Acoustics and its application to interiors.

References
1. Norbert Lechner, Heating, cooling, Lighting Design, Library of congress Cataloguing in Publication Data
2. Donald Hoff, building services and equipments, Library of congress Cataloguing in Publication Data
3. Ernest Tricomi, ABC of Air-conditioning, D. B. Taraporevala & sons
4. Madan Mehta & James Johnson, Architectural Acoustics, Principles and Design
5. Frank and John Walk, Noise and vibration, British Library Cataloguing in Publication Data

Subject: Human Values and Professional Ethics
Subject Code: 24UHPE01

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

The course aims to inculcate core human values and professional ethics in thelearners to guide them in developing a strong sense of ethics and values that can help themnavigate their chosen profession with integrity and responsibility.

Learning Outcomes: After completing this course, the learns will be able to

- Understand of Human values to interact and connect with the outer world in apeaceful manner (Yama).
- To exhibit Professional Ethics at working place.
- Ability to work in team with human values and professional ethics.
- Appreciate the essential complementarity between 'VALUES' and 'SKILLS' toensure sustained happiness and prosperity.

UNIT I

Human Values-1:

- Values: Understanding values, Types of values, Role of trackingvalues for individual & social wellbeing.
- Integrity, Trustworthiness, Honesty, Courage, Love and Compassion, non-violence, Renunciation, Righteousness
- Co-operation: -Understanding cooperation and significance of cooperation, Teamwork, Cohesion of Self-Family-Society.

UNIT II

Human Values-2:

- Empathy, Emotional Intelligence– Emotional Competencies –Conscientiousness.
- Self-confidence, Spirituality, Character.
- Truthfulness: Understanding truthfulness, need for truthfulness and role of truthfulnessin relationship and social interaction.
- Customs and Traditions -Value Education – Human Dignity – Human Rights –Fundamental Duties.

UNIT III

Professional Ethics aiming at excellence and Harmony:

- Value Based Life and Profession, Professional Ethics and Right Understanding, Competence in Professional Ethics, Issues in Professional Ethics.
- Integrity, Trusteeship, Harmony, Accountability, Inclusiveness, Commitment, Respectfulness, Belongingness, Sustainability.

UNIT IV Deepika

Professional Ethics: Global Prospective:

- Globalization and MNCs –Cross Culture Issues,
- Business Ethics, Media Ethics, Environmental Ethics, Bio Ethics, ComputerEthics, War Ethics

UNIT V

Duties and Rights in Profession:

- Concept of Duty, Professional Duties, Consensus and Controversy
- Professional and Individual Right,
- Conflict of Interest-Ethical egoism,
- Gifts and Bribes, Plagiarism

Recommended Readings:

1. Alavudeen, A, R. Kalil Rahman, and M. Jayakumaran. *Professional Ethics andHuman Values.* Laxmi Publications, 2015.
2. Banerjee, B P. *Foundation of Ethics and Management*. Excel Books, 2005.
3. Gaur, R, R, R. Sangal, and G.P. Bagaria. *A Foundation Course in Human Values andProfessional Ethics.* Excel Books, 2010.
4. Hugman, Richard. *New Approaches in Ethics for the Caring Professions: TakingAccount of Change for Caring Professions.* Red Globe Press, 2005.
5. Hugman, Richard, and Carter Jan. *Rethinking Values and Ethics in Social Work*. NeyYork: Red Globe Press, 2017.
6. Titus, Smith and Nolan. *Living Issues in Philosophy*. Oxford University Press, 1995.

Subject: Interior Design (Residential) -Lab

Subject Code: BEID311

Credit	Hours	Marks		
1.5	45	I	E	To
		15	35	50

List of Experiments:

- Analysis of design to perceive elements which define the character of the environment.
- Analysis of design process.
- Concept formation for design.

Subject: Auto CAD Lab-I

Subject Code: BEID312

Credit	Hours	Marks		
1.5	45	I	E	To
		15	35	50

List of Experiments:

- Extension of presentation drawings like: -Site plan, Floor plans, Sections, Elevations
- Preparation of basic 3-D drawings
- Different rendering techniques
- Architectural drawing
- Complete a set of working drawing through Auto CAD

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Semester III

Subject: Interior Design- II (Commercial)

Subject Code: BEID401

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

In this semester the learner is expected to apply the basic design acumen and anthropometric observations in the designing of Commercial interior of an apartment and are expected to present the study through detailed measured drawings and sketches.
All specified areas are Carpet Areas.

Learning Outcomes:

After the completion of course, students will be able to:
CO1: Apply design thinking to solve interior design problems for service industries (hotels, hospitals, schools, etc.)
CO2: Design individual furniture pieces considering residential, commercial, and institutional settings
CO3: Develop a comprehensive design solution for a multi-activity space (residential, commercial, or institutional) within a limited area (50 sq ft).

Unit – I

One Interior Design problems of complete species with creative outlook (Hotels, Resorts, Hospitals, Educational buildings etc. – service industries)

Unit -II

Furniture design – Single items (Residential, commercial & Institutional)

Unit -III

Furniture design – Group of furniture elements along with surroundings.

Unit -IV

One design problem of multi activity residential, commercial & Institutional single room design including case study & area maximum 50 sqft.

a) Conceptual sketches.
b) Presentation drawing.
c) Large scale details of furniture items.

References:-

1. Ahmed Kasu, Interior Design, TWAIN Pub. Bombay
2. Sudhir Diwan, Sanskruti a manual of Interior DesignVol-1, Interior Affairs, Mumbai
3. Francis.D. Ching & Corky Bingelli, Interior Design Illustrared, latest edition, Wileypublishers.
4. Barner, R.M., (1980), Motion and Time Study, Design and Measurement of work, John Wiley, New York.

Subject: Interior Construction Technology – I
Subject Code: BEID402

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective
To introduce basic materials used in construction, basic components of a building and method of construction and representation of the same.

Learning Outcomes:
After the completion of course, students will be able to:
CO1: Understand the basic structural components of buildings.
CO2: Analyze different types of walling systems including brick walls, lightweight blocks, and aerated concrete blocks.
CO3: Understand principles of joinery and various joint types along with their limitations and applications.
CO4: Understand the different types of openings including doors, windows, and ventilators, focusing on their operation and jamb linings.

Unit –I
Structural components:- Introduction to structural components and elements of built structure.

Unit- II
Walling Systems: Brick walls for interior division of spaces and other uses (half brick and one brick thickness). Light weight concrete blocks, hollow blocks, aerated concrete blocks.

Unit -III
Joinery: Introduction to joinery and joints, limitations and applications.

Unit- III
Openings: Doors, windows, ventilators with focus on different modes of operation and their jamb linings. Types of Lintels and Arches based on structure and materials. Structural glazing.

Unit -IV
Doors and Windows: Types based on mode of operation, material and positioning.

References:-
1. Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.
2. Moxley, R. Mitchell" s Elementary Building Construction, Technical Press Ltd. Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
3. Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.

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Subject: Quantity Survey & Estimation
Subject Code: BEID403

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course objective

Estimating and Costing is a vital part of any construction project after preparation of drawing. No project can begin without total estimation and costing. The entire cost of construction and the infrastructure used for the purpose of construction is estimated and the final costing is done on the basis of which a certain percentage of the project cost is paid to the architect and other consultants involved in the project. This course enables the students to calculate the estimated construction cost of a building. This course also enables the students to know the present material and labour cost and to differentiate between them. To estimate the construction cost of a designed building is very important for an architect as it helps him/her to work within a budget and also helps his/her clients to know the finance he/she would have to arrange at various stages of construction. Thus this course helps the students to work efficiently in the field of architecture.

Learning Outcomes:

After the completion of course, students will be able to:

CO1: Understand the importance of estimating and costing in construction projects

CO2: Calculate the estimated construction cost of a building based on drawings

CO3: Differentiate between material and labor costs and understand their impact on overall project budget.

Unit – I– Introduction

1.1 Define term Estimating and Costing
1.2 Objectives of Estimating
1.3 Types of Estimate: - Approximate Estimate, Detailed Estimate
1.4 Methods of preparing approximate Estimate: - Service Unit Method, Plinth Area Method, Cubical Content Method, Typical bay Method
1.5 Data required to Prepare detailed Estimate
1.6 Methods of preparing detailed Estimate: - Long wall-Short wall method, Center line Method

Unit – II–Modes of Measurement as per SP: 27/IS 1200

2.1 Introduction
2.2 Units of Measurement of Construction Item
2.3 Importance of Modes of Measurement
2.4 Modes of measurement of various construction items

Unit – III–Rate Analysis

3.1 Introduction
3.2 Necessity of rate analysis.
3.3 Data required for rate analysis.
3.4 Factors affecting rate analysis.
3.5 Task work.
3.5.1 Factors affecting task work.
3.5.2 Task work of various skilled and unskilled labour.
3.6 Schedule of Rate and Market Survey.
3.7 Rate analysis of various construction items

Recipts

Unit – IV– Specification

4.1 Definition, purpose & importance of specifications.
4.2 Types of specifications.
4.3 Design and drafting of specifications.
4.4 Specification writing for some useful items
4.5 Living area proportion, carpet and super area

Unit – V– Estimating

5.1 Detailed Estimate
5.1.1 Detailed Estimate of Single Story residential building.
5.1.2 Detailed Estimate of R.C.C. Slab
5.1.3 Detailed Estimate of R.C.C. Beam
5.1.4 Detailed Estimate of R.C.C. Column with footing
5.1.5 Detailed Estimate of Septic tank with soak pit.

Reference:-

1) Estimating and Costing- B.N.Dutta- Laxmi publications
2) Estimating and Costing- S.C.Rangwala- Charotar Publishing House Private Limited, Anand
3) Hand book of Methods of Measurement of building works- SP:27(1987)- BIS
4) Schedule of Rates- HSR PWD Haryana , CPWD, Irrigation etc.
5) Estimating and Costing- M. C. Chakraborty.

Subject: Interior services –IV
Subject Code: BEID404

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

In this semester the learner will be introduced to the principles of lighting, heating, ventilation and conditioning of air as applicable interior spaces.

Learning Outcomes:

After the completion of course, students will be able to:
CO1: Apply illumination standards and lighting power density calculations to design effective artificial lighting systems
CO1: Analyze different types of illumination for various applications
CO1: Design lighting systems that comply with relevant standards and energy codes

Unit- I

Illumination standards and artificial lighting design and lighting power density.

Unit –II

Day light integrated lighting systems, timers and sensors. Different types of illuminations.

Unit - III

Study of lighting fixtures and fittings used in interior spaces, special lighting systems for malls or displays.

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Unit –IV

Provisions of standards and energy codes related to interior electrical services, Automation in lighting industry.

REFERENCES:

1. Interior Design - Ahmed Kasu.
2. Interior Design Principal and Practice- M. Prataprao.
3. Time Saver Standard for Interior Design and Space Planning - Mcgraw Hill New York.

Subject: Interior Design II (Commercial) –Lab

Subject Code: BEID411

Credit	Hours	Marks		
1.5	45	I	E	To
		35	15	50

List of Experiments:

1. Presentation drawings, enlarge detail drawings, Service layout drawings, views etc. to understand clearly concept of design. Area of Interior project should be @ 300.00 sq.mt. Minimum.
2. Furniture design – Single items (Residential, commercial & Institutional)
3. Furniture design – Group of furniture elements along with surroundings.
4. One design problem of multi activity residential, commercial & Institutional single room design including case study & area maximum 50 sqft.
   a) Conceptual sketches.
   b) Presentation drawing.
   c) Large scale details of furniture items.

Subject: Working Drawing Lab –I

Subject Code: BEID412

Credit	Hours	Marks		
1.5	45	I	E	To
		35	15	50

List of Experiments:

1. Working drawing & details of Interior Design project.
2. All furniture, flooring, ceiling, electrical, water supply, drainage layouts with details.
3. In details of furniture, doors, windows etc. of all types with specifications.
4. The drawings shall be sufficient to understand the design & fulfill the details required forestimation, tender form.

Semester V

Subject: Interior Design –III (Institutional)
Subject Code: BEID501

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective
In this semester the learner is expected to apply the basic design acumen and anthropometric observations in the designing of Institutional interior of detailed measured drawings and sketches.

Learning Outcomes:
After the completion of course, students will be able to:
CO1: Develop a comprehensive interior design solution for a large institutional space (minimum 300 sq. mt.)
CO2: Design individual furniture pieces specifically for institutional settings
CO3: Design a multi-activity space (residential, commercial, or institutional) within a limited area.

Unit - I
One Interior Design problems of complete species with creative outlook (Institutional) Drawings include – presentation drawings, enlarge detail drawings, Service layout, drawings, views etc. to understand clearly concept of design, Area of Interior project should be @ 300.00 sq.mt. Minimum

Unit -II
Furniture design – Single items (Institutional)

Unit –III
Furniture design – group of furniture elements along with surroundings.

Unit –IV
One design problem of multi activity residential, commercial & Institutional single room design including case study & area maximum 50 sqft.

a) Conceptual sketches.
b) Presentation drawing.
c) Large scale details of furniture items.

REFERENCES:
1. Ahmed Kasu, Interior Design, TWAIN Pub. Bombay
2. Sudhir Diwan, Sanskruti a manual of Interior DesignVol-1, Interior Affairs, Mumbai
3. Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, latest edition.
4. Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, latest edition.
5. Francis.D. Ching & Corky Bingelli, Interior Design Illustrared, Latest edition, Wileypublishers, 2004.

Subject: Interior Construction Technology –II
Subject Code: BEID502

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective
To equip the learner with various systems of partitioning and paneling with appropriate means of construction, assembly and joinery through detailed working drawing and to make student aware of future trends in furniture design.

Learning Outcomes:
After the completion of course, students will be able to:
CO1: Understand the different partition systems: wood framed, aluminum framed, drywall, and full glass with hardware.
CO2: Understand the appropriate wall cladding and paneling: wet vs dry systems, materials for various applications.
CO3: Understand the concept of modular furniture: benefits, selection criteria, materials, and construction.

Unit – I
Partition Systems: Wooden framed fixed partition with single/double skin, Aluminium framed Partition, Dry wall partition systems, Full glass partition with architectural hardware.

Unit -II
Wall Cladding and Paneling: Wet and Dry wall cladding in different materials, Wall paneling in different materials.

Unit - III
Modular furnitures: Introduction to modular furniture, analyzing the need and criteria for selection, materials used and constructional details.

References:-
1. Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.
2. Moxley, R. Mitchell" s Elementary Building Construction, Technical Press Ltd. Rangwala, S.C.Building Construction 22nd ed. Charota Pub. House Anand, 2004.
3. Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 200

Deepika

Subject: Specification Writing
Subject Code: BEID503

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Objective

A properly planned city/town infrastructure helps in utilizing the land capability and its resources to its maximum. These structures include schools, hospitals, market, parks etc., Town residents seeks that all the facilities are in most nearby locations. The town planning includes all these things and suitable selection of land area which is most appropriate for the residential, good environment, location and connecting distance with the roads & highways. The student must have the insight knowledge about city/town planning leading towards the development of a modern town. The course will provide a practical understanding of the basic planning of urban region and the built environment, and their applications and relationships to the planning and management of urban and regional environments and associated land use

Unit – I Introduction to Town Planning and Planning Concepts

Definitions of town planning, levels of planning and steps for preparation of a town plan, survey techniques in planning, concepts, functions, components and preparation of a development plan. Planning concepts related to garden city, geddesian triad, neighbourhood planning, radburn layout, ekistics, satellite towns and ribbon development.

Unit – II Ancient System of Town Planning in India

Indus valley civilization - Mohenjodaro, Harappa, Extracts from Chanakya's Arthasastra, manasara's Vastushastra, planning thought behind Fatehpur Sikhri, Shahjahanabad, Jaipur and Delhi.

Unit – III Modern Planning Concepts

Concept of Master Plan, Necessity of Master Plan, preparation of Master Plan, Neighborhood Planning, Idea of city planning such as Chandigarh., Gandhinagar.

Unit – IV Urban Roads

General requirements of a good city road. Classification of urban roads, types of street systems. Through and bypass roads, outer and inner ring roads, express ways, Freeways, Road junctions, parking, Traffic capacity of roads.

Unit – V Zoning and Development Control

Zoning, regulations and control, the comprehensive role of urban design in town planning process.

Unit – VI Introduction to Human Settlements

Introduction to human settlements, growth and decay of human settlements, influence of socio-economic factors in the development of human settlements.

Unit – VI Tendering

Types of tenders, invitation of tender and conditions of tender documents, Condition of contact, Execution of contact, various certifications

References:-

1. Town Planning- S.C. Rangwala- Charotar Publications
2. Radiant City- Le Corbusier- Orion Press
3. The Urban Pattern - City Planning & Design- Arthur B. Gallion, Simon Eisner- John Wiley & Sons
4. Town Planning- G.K. Hiraskar- Dhanpat Rai

Subject: Advance Building / Interior Materials
Subject Code: BEID504

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

To give an overview of the basic materials those are used in Interior and Architecture with reference to the material properties, feasibility, availability, durability and sustenance to climatic conditions.

Learning Outcomes:

After the completion of course, students will be able to:
CO1: understand the common building materials (Natural stones
brick, light weight concrete block, cement, concrete, wood, glass, timber, bamboo)
CO2: Understand the construction types (walls, floors, roofs)
CO3: Understand the knowledge of foundation for sustainable building practices like recycled materials and energy efficiency.

Unit – I

Compressed stabilized earth blocks (CSEB)

Unit –II

Precast technology using jointing technique

Unit –III

Cost effective technology like Ferro cement Walling and Roofing Panels

Unit –IV

Bamboo Mat Corrugated Roofing Sheet and ridge cap for roofing and bamboo mat wall panels

Unit – V

Cost effective bricks, blocks and other building components:

- Cellular light weight concrete blocks
- Interlocking compressed earth blocks
- RCC planks and joint system.

References:-

1. Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and Methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.
2. Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
3. Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.
4. Rangwala, S.C. Building Construction: Materials and types of Construction, 3rd ed. John Wiley and Sons, Inc., New York (Latest Edition)
5. Building Materials Technology Promotion Council New Delhi, Compendiums.

Subject: Computer Presentation Techniques-Lab

Subject Code: BEID511

Credit	Hours	Marks		
1.5	45	I	E	To
		35	15	50

List of Experiments:

1. CAD and its advanced application: - Creating & organizing 2D drawings, All 2D commands, all 2d edit commands
2. Working in layers, Presentation drawings.
3. MS-Excel.
4. Output of drawings through printers & plotters, 3D CAD drawings & views.
5. 2D presentation drawings with other than CAD software, CAD & 3 dimensionaldrawings views
6. Advance software like Google sketch up, 3D max etc. for 3D drawings presentation.
7. Use of Photoshop, corel draw or related software's for presentation.

Subject: Working Drawing Lab –II

Subject Code: BEID512

Credit	Hours	Marks		
1.5	45	I	E	To
		35	15	50

List of Experiments:

1. Design and develop plan for given buildings specification and its finalization for workingdrawings
2. Prepare site layout with necessary details for given buildings specification
3. Prepare all Basic Drawings for given building specification
4. Prepare all Detail Drawings for given buildings specification
5. Drawing all basic working drawings on computer for given buildings specification

Deepika

Semester VI

Subject: Sustainable Interior Design

Subject Code: BEID601

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective

The intention of sustainable design is to "eliminate negative environmental impact completely through skillful, sensitive design". Manifestations of sustainable design require renewable resources, impact the environment minimally, and connect people with the natural environment.

Learning Outcomes:

After the completion of course, students will be able to:
CO1: Understand the concept of sustainable interiors
CO2: Analyze the principles of sustainable interior design to minimize environmental impact
CO3: Understand the importance of Indoor Environmental Quality (IEQ) and identify its key elements
CO4: Design sustainable interiors by incorporating:
Indoor plants for improved air quality and aesthetics.
Human health-friendly materials to create a healthy indoor environment

Unit 1:

Concept of Sustainable Interiors, Principles of Sustainable Interior Design

Unit 2:

Benefits of Green Interiors: - What is Indoor Environment Quality (IEQ), Elements associated to IEQ.

Unit 3:

Interior eco finishes like Eco-furniture, reclaimed timber wood, eco palm wood, eco bamboo, eco cork, formaldehyde free fibre board & FSC certified fibre board, eco wheat board, strawboard, eco kirei board, rubber wood.

Unit 4:

Green interiors by indoor plants, Sustainable interiors by using human health friendly materials.

References:-

1. US EPA (2007), http://es.epa.gov/ncer/rfa/archive/grants/01/eagle01.html.
2. UNDP (1987), Our Common Future, Report of the World Commission on Environment and Development, Published as Annex to UN General Assembly document A/42/427, Development and International Cooperation: Environment.
3. Wackernagel, M., Schulz, N.B., Deumling, D., Linares, A.C., Jenkins, M., Kapos, V., Monfreda, C., Loh, J.,Myers, N., Norgaard, R., and Randers, J. (2002), "Tracking the ecological overshoot of the human economy",Proceedings, National Academy of Sciences, Vol. 99, No. 14, 9266-71.

Subject: Universal Interior Trends in Design
Subject Code: BEID602

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective
Universal design is the design of buildings, products or environments to make them accessible to all people, regardless of age, disability or other factors.

Learning Outcomes:
After the completion of course, students will be able to:
CO1: Understand the craft unique interiors with artisanal fixtures, velvet furnishings, natural elements, and floral patterns.
CO2: Understand the bold color trends: millennial pink, tonal reds, or burnt yellow
CO3: Understand to create modern spaces with geometric patterns, concrete accents, and vintage Lighting.

Unit -I
Artisanal Fixtures, Velvet Furnishing

Unit -II
Natural Elements, Floral Patterns, Copper Accents

Unit -III
Brass Decor, Black & White Decor

Unit –III
Millennial Pink, Tonal Reds

Unit- IV
Geometric Patterns, Concrete Accents, Vintage Lighting, Buckets Sink

Unit –V
Burnt Yellow, 70" S Chic, Agate Wall Paper, Matte Finishes, Canopy Beds

Unit - VI
Sticking with one Shade, Being Timid, Minimalism

Deepika

Subject: Entrepreneurship

Subject Code: BEID603

Credit	Hours	Marks		
3	45	I	E	To
		15	35	50

Course Objective:
The course aims to give a shape to understand the validity of various entrepreneurship development programs in the field of economics and its related concepts.

Learning Outcomes:
After the completion of course, students will be able to:
CO1: Understand entrepreneurship and entrepreneurs
CO2: Understand traits and characteristics of successful entrepreneurs
CO3: Understand the role of entrepreneurs in India's development
CO4: awareness of the concept of Entrepreneurship Development Programs
CO5: Understand legal requirements for establishing a new business venture opportunities in small businesses and recognize the support systems available for them
CO6: Understand the importance and components of a well-structured project report

Unit - I
To make the students understand about entrepreneurs and different classifications. Entrepreneur and entrepreneurship- Definition; traits and features; classification; Entrepreneurs; Women entrepreneurs; Role of entrepreneur in Entrepreneurs in India, Create an awareness about EDP. Entrepreneurial development programme concept; Need for training;phases of EDP; curriculum & contents of Training Programme; Support systems. Target Groups; Institutions conducting EDPs in India and Kerala.

Unit- II
General awareness about identification of project financing new enterprises; Promotion of a venture; opportunity Analysis Project identification and selection; External environmental analysis economic, social, technological a competitive factor; Legal requirements for establishment of a new unit; loans; Over rum finance; Bridge finance; Venture capital:Providing finance in Approaching financing institutions for loans.

Unit- III
To identify different Discuss opportunities in small business; Small business Enterprise - Identifying the Business opportunity in various sectors - formalities for setting up of a small business enterprise - Institutions supporting small business enterprise - EDII (Entrepreneurship Development Institute of India), SLDO (Small Industries Development Organization NSIC (National small Industries Corporation Ltd. (CNSIC) NIESBUD (National Institute for Entrepreneurship and small Business Development) Sickness in small business enterprise causes and remedies.

Unit- IV
To understand about a project report relating to a small business; Project formulation - Meaningof a project report significance contents formulation planning commissions guidelines for formulating a project report - specimen of a project report, problems of entrepreneur's case studies of entrepreneurs.

Reference:

1. Arora M., Natarajan K. and Gordan E., Entrepreneurship Development, 1st ed; Himalaya Publishing House Pvt Ltd, (Lt. Ed)
2. Hisrich, Robert D., Michael Peters and Dean Shephered, Entrepreneurship, Tata McGraw Hill, New Delhi. (Lt. Ed)
3. Barringer, Brace R., and R. Duane Ireland, Entrepreneurship, Pearson Prentice Hall, New Jersy (USA). (Lt. Ed)
4. Lall, Madhurima, and Shikha Sahai, Entrepreneurship, Excel Books, New Delhi
5. Charantimath, Poornima, Entrepreneurship Development and Small Business Entreprises, Pearson Education, New Delhi. (Lt. Ed)
6. Forbat John, "Entrepreneurship", New Age International, (Lt. Ed)
7. Havinal, Veerbhadrappa, "Management and Entrepreneurship", New Age International Publishers, (Lt. Ed).
8. John S.M., rural women Entrepreneurship, 6th ed; Discovery Publishing House, (Lt. Ed) 8.Janakiram B., Management & Entrepreneurship, Excel Books India, (Lt. Ed)
9. Prahlad, CK., Fortune at the Bottom of the Pyramid: Eradicating Poverty Through Profits, Ist Edition; Dorling Kindersley Ltd, (Lt. Ed)

Subject: Project
Subject Code: BEID611

Credit	Hours	Marks		
		I	E	TO
6	180	70	30	100

On the basis of learning in the U.G Diploma /B. Voc, a project to be taken up by the student strengthening his/ her vocational skills, in consultation with the Department.

Deepika

3.Admission process

3.1 Eligibility

- 12th standard
- Minimum Age: 18 years
- Age calculation: Age as on the last date of submission of form.

3.2 Seat details

Programme	Total seats
B.voc Interior Design	30

3.3 Mode of Application: online/offline, application fee

Candidates will apply online on the University website: www.svsu.ac.in for admission or in offline mode at Dudhola campus, on prescribed application form.

Online Application Fees

General	: INR 500
BC/Kashmiri Migrants	: INR 250
SC	: Free
PwD	: Free
Female	: INR 50

3.4 Fee structure

Fees Detail	Total: INR for 1 semester At the Time of admission -Rs 18500.00(Semester-wise)

4 Commencement of the Programme

4.1 Orientation

There will be an orientation programme conducted for the participants at the time of admission, as per the academic calendar, which will highlight the programme details, terms and conditions of University.

4.2 Procedure of rules of SVSU

There will be display of procedure and guidelines for the Programme by SVSU and the norms that a participant needs to follow during the course. The participants will also be made aware about the assessment criteria for the academic.

4.3 Attendance and leave rule

I. A Participants shall be required to maintain a minimum of 75% of the lectures delivered (In theory and practical's combined), to be eligible to appear in the final examination.

II. The attendance will be counted from the date of start of session, till the end of particular of the semester.

III. In case of late admission, the attendance shall be counted from the date of actual admission of the candidate by the competent authority.

IV. The name of the participants shall be struck off the rolls if he/ she remains absent for 4 consecutive working days, without leave.

V. A participant whose name has been struck off from the roll of the institution, may however be readmitted if the absence of the participants was due to the circumstance beyond his/ her control and his /her request considered and approved by the Dean/ competent authority.

VI. The Programme coordinator / Head may grant leave to the participants in exceptional circumstances only to the extent of 10 days per programme, subject to the condition that the participants complete the prescribed minimum attendance as per attendance rule and the leave has been prior approved by Dean/Chairman.

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5 Assessment process and Awards

5.1 Theory/practical assessment by SVSU

The assessment will be done by Examination department of university.

5.2 Grading system

Marks	Grade	Grade Point	Category
90-100	O	10	Outstanding
80≤marks<90	A+	9	Excellent
70≤marks<80	A	8	Very good
60≤marks<70	B+	7	Good
50≤marks<60	B	6	Above Average
45≤marks<50	C	5	Average
40≤marks<45	D	4	Pass
<40	F	0	Fail
Absent	AB	0	Absent

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