NOIDA INTERNATIONAL UNIVERSITY

SCHOOL OF ARCHITECTURE

COURSE CURRICULUM

FOR

Bachelor of Interior Design

(4 Year Course)

W.E.F Session 2021-2022 onwards

Course Curriculum

FOR B. INTERIOR DESIGN COURSE
(Effective from Academic session 2021-2022)

Introduction-The Bachelor of Interior Design (B.ID) Course is programmed to give an all-round exposure, with subjects delineated in the four streams of Art, Humanities, Science, and Technology. While the arts stream would train the students in creative thinking and skills through subjects such as. The course consists of Four years out of which 3 1/2 years will be of formal contact instructions and six months will be devoted to professional training in a recognized professional office/ industry. Basic course areas are scheduled as:

The course consists of Four years out of which 3 1/2 years will be of formal contact instructions and six months will be devoted to professional training in a recognized professional office/ industry. Basic course areas are structured as:

1. Interior Design
2. Interior Construction & Materials
3. Interior, Structures- Analysis & Designs

In addition to these the other courses such as Building Sciences, Services, Interior Drawing, Interior Graphics, Computer Application, and History of Interior design have been suitably incorporated in the curriculum. Some elective courses have been introduced to impart specialized training for some of the subjects in 3rd. year teaching scheme. Workshop courses are the backbone of practical knowledge and exposure.

Programme educational objectives (PEO)

PEO1- Ability to apply technological knowledge, as well as aesthetical principles in addressing interior environment issues through new ideas and knowledge.

PEO2- Ability to engage with other economic activity for the betterment of society and perform standard competencies at national and local practice of Interior with the integration of other disciplines.

PEO3- Ability to apply holistic approach and perceive the context of man and society with environment and also provide sustainable and humane approach for design development.

Programme specific outcome (PSO)

PSO1- Design built environment and surrounding considering foundational design principles and considering users need, context and environment.

PSO2- Effectively explain the approach verbally, two and three-dimensional graphic representation, and in writing for design process and approach to any built form, spaces throughout all stages in design concept approach, construction phases and completion.

PSO3- Understand the interior design evolution, historical background, cultural background of people of any place and use them appropriately in design approach and related solution.

PSO4- The knowledge and ability to apply appropriate technical, sustainable, aesthetic, cost effective, and social approach in design decision while handling for any project.

PSO5- Demonstrate the ability to integrate other engineering by employing appropriate building materials, building systems, and construction practices and techniques.

PSO6- Understanding role of every individual, authorities, stakeholder in the process of design conceptual to implement and ability to lead the team from different discipline utilizing knowledge of the diverse forms and the dimensions of professional practice.

Programme learning outcome (PLO)

PLO1- Inculcate creative intellectual capability for new ideas.

PLO2- Understand architectural design principles, elements design and process to apply in building design.

PLO3- Inculcate skills to communicate graphically through knowledge of 2d and 3d presentation of ideas and drawings.

PLO4-Understand design approach for various types of buildings interior like residential, commercial, institutional, healthcare, recreational etc.

PLO5- Learn various components of a building and techniques of building construction, with appropriate use of materials; in context of environment and finances and need.

PLO6- Understand various aspects of environment like climatology, ecology, energy efficiency & alternative methods of energy use and its conservation, integration of renewable energy systems, need and benefits.

PLO7- Apply the knowledge of design fundamentals and Principles with applicable specialization for the solution of complex design challenges.

PLO8- Apply ethical principles and commit to professional ethics and responsibilities and norms of professional practice.

PLO9- Use research-based methods including surveys, design, analysis and interpretation of data and synthesis of information leading to logical conclusions

PLO10- Understand the impact of design solutions human psychology and environmental contexts, and demonstrate / apply the knowledge and the need for humane developments.

Credit System -Credit requirement for award of B.I.D:

- Every semester shall offer a minimum of **24 credits** and a maximum of **30 credits**.
- Credits for the Interior Design Project or Thesis can vary from 15 to 18.
- The total number of credits for the B. ID Degree Course could vary from a **minimum of 200** credits to a **maximum of 240** credits.
- All courses of study put together would engage the students for a **minimum of 24 periods** or hours of study a week and a **maximum of 30 periods** or hours a week.

Under the Choice based credit system, which is a student or learner centric system, the courses of study in the Interior Degree course shall be as under:
(1) Professional Core (PC) Course: A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.
(2) Building Sciences and Applied Engineering (BS and AE) Course: A course which informs the Professional core and should compulsorily be studied.
(3) Elective Course: Generally a course which can be chosen from a pool of courses and are of two types:
(i) Professional Elective (PE) which may be very specific or specialised or advanced or supportive to the discipline or subject of study or which provides an extended scope
(ii) Open Elective (OE) which enables an exposure to some other discipline or subject or domain or nurtures the candidate‘s proficiency or skill

(4) Employability Enhancement Courses (EEC) which may be of two kinds: Employability Enhancement Compulsory Courses (EECC) and Skill Enhancement Courses (SEC)
The Weightage in terms of Credits for each of the above in the prescribed curriculum of the institution shall be as follows:

S.no.	Credit Breakups	Percentage
1	Professional Core Courses	50%
2	Building Sciences and Applied Engineering	20%
3	Elective Courses (i) Professional Electives (ii) Open Electives	 10% 5%
4	Professional Ability Enhancement (i) Professional Ability Enhancement Compulsory Courses (ii) Skill Enhancement Courses	 10% 5%

Note:- Where it is not possible to offer Open Electives, Professional Electives may have a weightage of 15 per cent. of the total credits.

While calculating credits the following guidelines shall be adopted, namely: -
(i) 1 lecture period or hour shall have 1 credit;
(ii) 1 lab/workshop or studio exercises or seminar periods or hours shall have 1 credit and
(iii) 1 design studio or construction studio or project or thesis period or hour shall have 1 credit.
For Practical training total number of credits shall be specified for one semester only.

Credit distribution in each semester (**200** credits to 8 semester)

Semester	Credits
Semester-I	25
Semester-II	25
Semester-III	26
Semester-IV	26
Semester-V	25
Semester-VI	25
Semester-VII	24
Semester-VIII	24
Total	**200**

Course coding system
Every course coded by Alphanumeric structure has 4 sequential order (SQs) :-
SQ1- UG/PG degree
SQ2- Name of Program
SQ3- No. of semester
SQ4- No. of course in that particular semester

Example : for Course **BID101,**

- Course code for 1 course in 1st semester of architecture UG degree course program is **BID101** (where "1" represents no. of semester, "01" represent one course)

Scheme of studies

Bachelor of Interior Design

SOA/01/UG/002/04

Scheme of studies and examination
B. I.D
FIRST SEMESTER

Sr. no.	Course Code	Course Names	L	T	S/P	Periods Per Week	Credits	Exam Type	Exam Duration	Evaluation		
										Internal	External	Total
1.	BID101	Interior Design-I	1	-	5	6	6	Practical	External viva	100	100	200
2.	BID102	Interior Construction-I	1	-	3	4	4	Practical	External viva	75	75	150
3.	BID103	Materials and Finishes-I	2	-	-	2	2	Theory	2	25	25	50
5.	BID105	Interior Drawing-I	1	-	3	4	3	Theory	4	50	50	100
6.	BID106	Interior Graphics-I	1	-	3	4	3	Theory	4	50	50	100
7.	BID107	History of Interior Design-I	2	-	-	2	2	Theory	2	25	25	50
8.	BID108	Model Workshop	1	-	3	4	3	-	No External exam	50	-	50
9.	BID109	Theory of Design-I	2	-	-	2	2	Theory	2	25	25	50
10.	BID110	Health Education-I	-	-	2	2	NA	-	No Exam	-	-	-
		Total	**11**	**-**	**19**	**30**	**25**			400	350	750

Scheme of studies and examination
B.I.D
SECOND SEMESTER

Sr. no.	Course Code	Course Names	L	T	S/P	Periods Per Week	Credits	Exam Type	Exam Duration	Evaluation		
										Internal	External	Total
1.	BID201	Interior Design-II	1	-	5	6	6	Practical	External viva	100	100	200
2.	BID202	Interior Construction-II	1	-	3	4	4	Practical	External viva	75	75	150
3.	BID203	Materials and Finishes-II	2	-	-	2	2	Theory	2	25	25	50
5.	BID205	Interior Drawing-II	1	-	3	4	3	Theory	4	50	50	100
6.	BID206	Interior Graphics-II	1	-	3	4	3	Theory	4	50	50	100
7.	BID207	History of Interior Design -II	2	-	-	2	2	Theory	2	25	25	50
8.	BID208	Carpentry Workshop	1	-	3	4	3	-	No External exam	50	-	50
9.	BID209	Theory of Design-II	2	-	-	2	2	Theory	2	25	25	50
10.	BID210	Health Education-II	-	-	2	2	NA	-	No Exam	-	-	-
		Educational Tour	1 Week Duration									
		Total	**11**	**-**	**19**	**30**	**25**			400	350	750

Scheme of studies and examination
B. I.D
THIRD SEMESTER

Sr. no.	Course Code	Course Names	L	T	S/P	Periods Per Week	Credits	Exam Type	Exam Duration	Evaluation		
										Internal	External	Total
1.	BID301	Interior Design-III	1	-	7	8	8	Practical	External viva	100	100	200
2.	BID302	Interior Construction-III	1	-	5	6	6	Practical	External viva	100	100	200
3.	BID303	Materials and Finishes-III	2	-	-	2	2	Theory	2	25	25	50
4.	BID304	Interior Services-I	2	-	-	2	2	Theory	2	25	25	50
5.	BID305	Environmental Science	2	-	-	2	2	Theory	2	25	25	50
6.	BID306	Material Techniques and process	1	-	3	4	2	-	No External exam	50	-	50
7.	BID307	History of Interior Design-III	2	-	-	2	2	Theory	2	25	25	50
8.	BID308	Computer Applications-I	-	-	2	2	2	-	No External exam	50	-	50
9	BID309	Health Education-III	-	-	2	2	NA	-	No Exam	-	-	-
		Total	**11**	**-**	**19**	**30**	**26**			400	300	700

Scheme of studies and examination
B. I.D
FOURTH SEMESTER

Sr. no.	Course Code	Course Names	L	T	S/P	Periods Per Week	Credits	Exam Type	Exam Duration	Evaluation		
										Internal	External	Total
1.	BID401	Interior Design-IV	1	-	7	8	8	Practical	External viva	100	100	200
2.	BID402	Interior Construction-IV	1	-	5	6	6	Practical	External viva	100	100	200
3.	BID403	Furniture Design-I	1	-	3	4	2	Theory	4	25	25	50
4.	BID404	Interior Services-II	2	-	-	2	2	Theory	2	25	25	50
5.	BID405	Interior Landscape	2	-	-	2	2	Theory	2	25	25	50
6.	BID406	Interior Illumination	2	-	-	2	2	Theory	2	25	25	50
7.	BID407	History of Interior Design-IV	2	-	-	2	2	Theory	2	25	25	50
8.	BID408	Computer Applications-II	-	-	2	2	2	-	No External exam	50	-	50
9	BID409	Health Education-IV	-	-	2	2	NA	-	No Exam	-	-	-
10.		Educational Tour	1 Week Duration									
		Total	**11**	**-**	**19**	**30**	**26**			400	300	700

Scheme of studies and examination
B. I.D
FIFTH SEMESTER

Sr. no.	Course Code	Course Names	L	T	S/P	Periods Per Week	Credits	Exam Type	Exam Duration	Evaluation		
										Internal	External	Total
1.	BID501	Interior Design-V	1	-	7	8	8	Practical	External viva	150	150	300
2.	BID502	Interior Construction-V	1	-	5	6	6	Practical	External viva	100	100	200
3.	BID503	Furniture Design-II	1	-	3	4	3	Theory	4	50	50	100
4.	BID504	Interior Services-III	2	-	-	2	2	Theory	2	25	25	50
6.	BID505	History of Furniture Design	2	-	-	2	2	Theory	2	25	25	50
7.	BID508	Computer Applications-III	1	-	2	3	2		No External exam	50	-	50
		Elective (Any one)	2	-	-	2	2	Theory	2	25	25	50
8.	BID506	Lighting Design										
9.	BID507	Human behaviour & Interior Environment										
		Total	**9**	**-**	**18**	**27**	**25**		-	425	375	800

Scheme of studies and examination
B. I.D
SIXTH SEMESTER

Sr. no.	Course Code	Course Names	L	T	S/P	Periods Per Week	Credits	Exam Type	Exam Duration	Evaluation		
										Internal	External	Total
1.	BID601	Interior Design-VI	1	-	7	8	8	Practical	External viva	150	150	300
2.	BID602	Interior Construction-VI	1	-	5	6	6	Practical	External viva	100	100	200
3.	BID603	Interior Product Design	1	-	3	4	3	Theory	4	50	50	100
4.	BID604	Interior Services-IV	2	-	-	2	2	Theory	2	25	25	50
5.	BID605	Estimation costing and Specification	2	-	-	2	2	Theory	4	25	25	50
7.	BID606	Professional Practice	2	-	-	2	2	Theory	2	25	25	50
		Elective (Any one)	2	-	-	2	2	Theory	2	25	25	50
8.	BID607	Sustainable design in Interior										
9.	BID608	Interior photography										
		Total	**11**	**-**	**15**	**26**	**25**		-	400	400	800

Scheme of studies and examination
B. I.D
SEVENTH SEMESTER

Sr. no.	Course Code	Course Names	L	T	S/P	Periods Per Week	Credits	Exam Type	Exam Duration	Evaluation		
										Internal	External	Total
1.	BID701	Professional Training /Internship	-	-	-	NA	24	Practical	External viva	400	400	800
		Total					**24**					800

Scheme of studies and examination
B. I.D
EIGTH SEMESTER

Sr. no.	Course Code	Course Names	L	T	S/P	Periods Per Week	Credits	Exam Type	Exam Duration	Evaluation		
										Internal	External	Total
1.	BID801	Thesis Project	1	-	17	18	18	Practical	External viva	500	500	1000
2.	BID802	Career Development & Portfolio	1	-	1	2	2		No External Exam	100	-	100
3.	BID803	Dissertation (case study)	1	-	3	4	4	Practical	External viva	50	50	100
		Total	**3**	**-**	**21**	**24**	**24**			650	550	1200

Course code:	BID101				Course Name:	INTERIOR DESIGN-I
Teaching Scheme	L	T	S/P	Total	Total Credits	6
	1	-	5	6		

Course Objective

Introduction to fundamentals of basic design and understanding of form and space.

Course Description

This course provides a specific design methodology for understanding the nature of spaces, scales and space within a space along with elements and organization. The aim of the course is to impart an understanding of perception of interior space through architectural elements.

Course Content

UNIT-I: Introduction

- Definition of design, Arrangement and composition.
- Exercise with two- and three-dimensional shapes on composition to understand basic principles of design example, harmony, balance, contrast, rhythm etc.

UNIT-II: Interior Ergonomics

- Average measurements of human body in different postures – its proportion and graphic representation, application in the design of simple household and furniture. Role of mannequins in defining spatial parameter of design. Basic human functions and their implications for spatial planning.

UNIT-III: Interior design Methodology

- Detailed study of spaces such as living, dining, bedrooms, kitchen, toilet etc. including the furniture layout, circulation, clearances, lighting and ventilation, etc. Case study of existing house and analysis of the spaces

UNIT-IV: **Analysis of spaces**

- Visual analysis designed spaces of noted for comfort and spatial quality; analysis of solid and void relations, positive and negative spaces. Integration of spaces and function in the design of Milk booth, Watchman's cabin, traffic police/ snacks/ jewelry / flower kiosk, ATM center, etc.

UNIT-V: **Measured drawing**

- Scales and construction of scales, measured drawing of simple objects, furniture, rooms, doors and windows etc. in plan, elevation and section etc.
- Reduction and enlargement of drawings.

Course Learning Outcome

1. Understand concepts of architecture: space, form, enclosure and quality of space, principles of design like harmony, symmetry etc. and their application.
2. Investigate forms and spaces through exercises in geometry and other methods by experimenting with models.
3. Evaluate the Elements of design and relationships, anthropometrics, human activity and the use of space
4. Develop the ability to translate abstract principles of design into architectural solutions for simple problems / nonfunctional units.
5. Apply basic design principles of using elements of architecture.

Reference Books /Test books

1. Ching, Francis D. K. "Architecture: Form, Space and Order", John Wiley and Sons
2. Inc.Lidwell, William, Holden, Kestina, Butler, Jill, "Universal Principles of Design", Rockport – Publications, Massachusetts.
3. Neufert's Architects' Data, Wiley-Blackwell Publishing Ltd, 2012

Assessment method : (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term	N.A	Sessional work	External Viva
30%	20%	50%		**100**	**100**

Course code:	BID102				Course Name:	INTERIOR CONSTRUCTION-I
Teaching Scheme	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

To familiarize the students with construction details of various components of a small single - storeyed building.

Course Description

Traditional and conventional knowledge systems that enable construction of a complete building; various structural systems and methods of construction and detailing of buildings of medium complexity using natural and manmade materials including foundation, walls, roofs, staircase, joinery and finishes;

Course Content

UNIT- I: Introduction (Building component)

- Introduction to various components of a building (wall, foundation, floor, roof, doors, windows, etc.) and their structural and functional roles.

UNIT- II: Wall

- Brick Masonry; various types of bonding in walls (English, Flemish & Rat Trap) of varying thickness having various types of junctions.
- Stone masonry of various types

UNIT- III: Foundation

- Construction of foundations (brick and stone) for load-bearing and toe walls.
- Damp-proof course, detailing of horizontal & vertical DPC.

UNIT- IV: Roof

- Types of roofs
- Construction of flat Roof (Tile & Batten, RBC, RCC), and Concept of water proofing and thermal insulation of roofs.

UNIT- V: Floors

- Type of floors
- Construction of PCC and terrazzo floors.

UNIT- VI: Opening and Stair case

- Type of lintels and Arches
- Types of doors and windows
- Types of staircase

Course Learning Outcome

1. Students will be able to understand basic building components and their functions.
2. Learn construction techniques for various building components.
3. Students will be able to understand naturally occurring materials and their properties.
4. Learn application of materials in building construction.
5. Apply appropriate details and material for building construction.

Reference Books/ Text Books

1. McKay, W.B., "Building Construction Volume I, II, III and IV", Longmans, 1955.
2. Ching, Francis D. K. and Adams, Cassandra, "Building Construction Illustrated", Wiley and Sons, 2000.
3. The Construction of Buildings – Barry Volume I, II, III and IV
4. Chudley, Roy, "Construction Technology", Longman, 2005.
5. Building Construction_Mitchell (Elementary and Advanced)
6. Rangwala, S. C., "Building Construction", Charotar Publishing House, 2007

Assessment method : (Continuous Internal Assessment = 50% , Final Examination =50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A	Sessional work	External Viva
30%	20%	50%		**75**	**75**

Course code:	BID103				Course Name:	MATERIALS AND FINISHES-I
Teaching Scheme	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

Introduce the students' different materials and finishes used in building construction and interiors.

Course Description

Properties and behavior of both natural and man-made building materials such as bricks, stones, timber, and finishing materials in contemporary buildings.

Course Content

UNIT- I: Stone

- Various types of stone and their availability in India.
- Stone quarrying, dressing of stones, deterioration of stone, preservation of stone.
- Sizes, application properties and visual text/check for different types of stone (flooring, cladding, masonry)
- Artificial stone, uses and properties.

UNIT-II: Clay

- Mud including stabilized earth, burnt brick, brick tile, block etc.
- Manufacturing, classification, types, sizes and properties of brick.
- Different types of brick; uses and properties - Fire brick, sand lime brick, coloured brick.
- Cost effective brick and their uses in construction industry'
    - Different types, manufacturing process and application
    - Terracotta tiles, Pavement tiles, Roofing tiles cladding tiles
    - Stoneware, Porcelain, Refractories: application n in construction
    - Advances Ceramics: Product and application-Vitrified tiles, Glazed tiles.

UNIT-III: Timber

- Sources of timber, Classification, characteristics, defects in timbers, Preservation and treatment of timber.
- Industrial timber products and their applications - plywood, particleboard, laminated board, block board, batten board.

Course Learning Outcome

1. Understand primary building materials (Brick, Stone, Cement & Lime) used in building construction, their properties, classification & types available.
2. Understand the process of using materials in building construction.
3. Gather knowledge of manufacturing and judicial usage of building materials.

Reference Books

1. Building Materials by SC Rangwala: Charotar Pub. House, Anand
2. M. Gambhir, NehaJamwal, Building Materials Products, Properties and Systems, Tata McGraw Hill
3. Publishers, New Delhi, 2011.
4. R.K.Gupta, Civil Engineering Materials and Construction Practices, Jain brothers, New Delhi, 2009
5. National Building Code of India (Latest Edition), Bureau of Indian Standards.
6. Engineering Materials-Deshpande
7. Engineering Material-Roy Chowdary

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID105				Course Name:	INTERIOR DRAWING-I
Teaching Scheme	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

To familiarize the students with a basic knowledge of drafting, lettering techniques and visualization of geometrical forms through plan, elevations & sections.

Course Description

Various mediums and techniques of art for artistic expression; free hand drawing; orthogonal projection of geometrical forms and representation; architectural and building representation through 2 dimensional and three-dimensional drawings.

Course Content

UNIT- I : drawing basics

- Lettering techniques
- Types of lines used in architectural drawing
- Basic geometrical shapes drawings
- Scales

UNIT – II : Projection

- Orthographic projection Definition/meaning
- Planes of projection, First and third angle projection
- Projection of points, Projection of lines, Projection of planes
- Projection of solids (Prisms, Pyramids, Cones and Cylinders).
  Note: First angle projection to be followed for all exercises.

UNIT – III: Surface Development

- Development of surfaces of 3d shapes

UNIT – IV : Measured drawing

- Representation of a single room unit (one bed/study room with attached toilet & kitchen) in plans, elevations and sections showing the various building elements and furniture layout.

Course Learning Outcome

1. Understand and apply various drawing tools and accessories used in drafting and lettering techniques to produce any geometrical composition and form.
2. Gather understanding about the scale measurement; plane geometry, solid geometry and projections used as drawing technique.
3. Demonstrate basic understanding and handling techniques of orthographic projection.
4. Represent three dimensional forms in design projects using graphical presentation skills.

Reference Books/ Text Books

1. IH. Morris, Geometrical Drawing for Art Students - Orient Longman, Madras, 2004.
2. Francis Ching, Architectural Graphics, Van Nostrand Rein Hold Company, New York, 1964.
3. N.D.Bhatt, Elementary Engineering Drawing (Plane and Solid Geometry), Charotar Publishing House, India
4. George K.Stegman, Harry J.Stegman, Architectural Drafting Printed in USA by AmericanTechnical Society, 1966.
5. C.Leslie Martin, Architectural Graphics, The Macmillan Company, New York, 1964

Assessment method : (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	4hrs	Sessional work	Examination
30%	20%	50%		**50**	**50**

Course code:	BID106				Course Name:	INTERIOR GRAPHICS-I
Teaching Scheme	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

To learn the techniques of drawing and rendering with pencil in Interior design and graphic composition.

Course Description

Presentation in graphic form all elements of design; study of shapes and shapes composition, sketching of natural surrounding and rendering using manual mode; hands on working with various mediums and materials.

Course Content

Effects created by different pencil grades by varying thickness and pressure in the pencil - understanding the language of lines, freedom of lines for design visualisation, drawing lines with the support of wrist and elbow, representation of various textures with thick, thin and flat pencil strokes.

UNIT-I: **Sketching basics**

- Free hand line on paper- horizontal and vertical lines, free hand circles, curves, parallel etc.
- Exercises with different pencil grades to check varying intensities and create textures with demonstration.

UNIT-II: Rending with pencil shading

- Indoor sketching, rendering of different solids like, sphere, cube, cone, cylinders, etc. with shades and shadows.
- Rendering of stone and brick wall in pencil.

UNIT-III: Sketching of still and living life

- Sketching of indoor furniture and accessories.
- Representation of human figures.
- Representation of different kinds of trees, foliage of trees and shrubs with proper light and shade

UNIT-IV: Composition

- Composition with coloured paper using the basic principles of design.
- Sketching of room interior with special emphasis on foreground and background.

Workshops

1. To impart the practical aspect of 3-D composition, sculpture workshop in clay modelling will be organized by the concernedteacher.
2. Another workshop in pencil rendering will also be organized, highlighting its technique and styles. The workshop can be organized outdoor or indoor.

Course Learning Outcome

1. Understand and apply elements, principles and theories of arts and architectural composition.
2. Understand the conceptual, visual and perceptual issues involved in the design process.
3. Understand aesthetics and art appreciation from the perspective of theory and application.
4. Use various rendering techniques and types of rendering methods for presentations

Reference Books/ Text Books

1. Arnold Dana, "Art History – A Very Short Introduction" , Oxford University Press.
2. Stallabrass, Julian, "Contemporary Art – A Very Short Introduction" , Oxford University Press.
3. Architectural Graphics, Ching Frank
4. Rendering with pen and ink

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	4hrs	Sessional work	Examination
30%	20%	50%		**50**	**50**

Course code:	BID107				Course Name:	HISTORY OF INTERIOR DESIGN-I
Teaching Scheme	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

Objective of his course is to make the aware of historical backgrounds of World Interiors to derive designs and Patterns based on it for contemporary and Modern Interiors.

Course Description

The course emphasizes on developments of interior elements in response to social, religious, aesthetic and environmental factors. The course focuses on the three-dimensional forms, plan forms and ornamentation.

Course Content

UNIT-I: Introduction

- A survey of history of art forms: pre historic times to present times: changing nature of art through time in terms of content: form and material.

UNIT-II: Ancient world

- Elements of style and determinants of Interior environments in Ancient Civilization: emphasis shall be on Architectural elements, furniture, decorative arts, colours & materials. Egyptian - Indus Valley Civilization - The ancient Near East - Samarians, Babylonians, Assyrians, Persians.

UNIT-III: Classical world

- Elements of style and determinants of Interior environments in Greek, Roman architecture and Eastern influences - China and Japan. emphasis shall be on Architectural elements, furniture, decorative arts, colours & materials

UNIT IV: Middle ages Period

- Early Christian and Byzantine, Romanesque and Gothic, Renaissance in Italy, Spain, France and England, Baroque, Rococo, Neoclassicism-Boulle,Ledoux,. emphasis shall be on Architectural elements, furniture, decorative arts, colours & materials

UNITI V :Oriental Japanese &Chinese style

- Elements like fusena, Shoji, Tkonoma, Zen garden etc emphasizing on interiors of traditional materials used ,Color themes

Course Learning Outcome

1. Overview the development of art form and furniture style from ancient India.
2. Understanding about ancient western interiors.
3. Knowledge about post industrial revolution of major countries.

Reference Books/ Text book

1. Sir Banister Fletcher, A History of Architecture, University of London, The AntholonePress, 1996.
2. Spiro Kostof - A History of Architecture - Setting and Rituals, Oxford UniversityPress, London, 1985
3. Gadalla Mustafa, The Ancient Egyptian Metaphysical Architecture, Tehuti Reseach Foundation, 2017

Assessment method : (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID108				Course Name:	MODEL WORKSHOP
Teaching Scheme	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

To develop skills in model making to express design ideas and final design.

Course Description

Introduction to type of model making material and techniques to support the designs.

Course Contents

UNIT-I: Model Introduction

- Need for models. Role of scale-models in design. General practices in model making. Types of models: block, detailed, construction & interior models

UNIT-II: Materials

- Various materials and tools to be used in model making. Use of materials, viz. paper, mount board, cardboard, thermocol in interior models.

UNIT-III : Process and techniques

- Model making of basic 3d shapes in paper like cube, cylinders, pyramids etc.

UNIT-IV :Clay and POP

- Use of materials viz. Clay, Plaster of Paris (POP) in architectural models

Course Learning Outcome

1. Inculcate skills of laying and joining bricks and preparation models by using materials like thick paper, thermocol, mountboard, wooden veneers etc.
2. Prepare models of 3D geometrical forms and other abstract forms.
3. Develop skills in creating art forms using bricks and various soft and flexible materials.

Suggested Teaching Methodology

- A demonstration of brick work, stone, timber works, textures and various exterior finished through audio-visual aids, to be presented to the class
- Masonry work shall be attempted in groups.
- Site visits for knowing Brick Bonding and *jali* type and various exterior finishes.

Assessment method : (Continuous Internal Assessment = 100% , Final Examination = -%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Sessional work	Examination
100%	-	-		**50**	No Exam

Course code:	BID109				Course Name:	THEORY OF DESIGN-I
Teaching Scheme	L	T	S/P	Total	Total Credits::	2
	2	-	-	2		

Course Objective

To establish a need for the basic theory of design with a view to help the student appreciate the difference between an irresponsible opinion and a well-reasoned judgment by looking at design in a deep, critical way as a process grounded into rational.

Course Description

Understanding design and design elements, colours design principles used in design composition scale, proportion etc.; course focus on creativity and techniques to enable creative thinking; creativity in architecture; pattern language and participatory approach to design.

Course Contents

UNIT-I:

- Meaning of Design, Design in everyday life, Basic art forms,
- Elements of design: line, direction, shapes, form, color, value, tones and textures.
- Principles of design: Repetition, Rhythm, Harmony, Unity, Balance, Dominance, Scale, Proportion, Contrast.

UNIT-II:

- Objectives of Design, Truth, Beauty order, efficiency and economy.
- Forms and shapes in everyday life.

UNIT-III

- Theory of colours (Colour wheel)
- Methodology of Creative Design.
- Art Appreciation
- Scale-basics

UNIT-IV

- Analysis and classification: space usage.
- Inter-relationship of different spaces within a building.
- Accommodation and circulation.
- Analysis and classification of the elements of circulation, (horizontal and vertical) such as entrance halls, corridors and stairs, ramps, lifts, escalators different types of planning.
- Study of exercises in the relationship of plan, section and elevations of the building.

Suggested Teaching Methodology

- This subject must be taught in coordination to site visits to Mughal Garden, Qutub Minar etc. for topics relating to theory of basic forms.
- Maximum use of audio-visual aides to be made from slides and library books.

Course Learning Outcome

1. Understand and apply elements, principles and theories of arts and architectural composition.
2. Understand the conceptual, visual and perceptual issues involved in the design process.
3. Understand aesthetics and art appreciation from the perspective of theory and application.
4. Use various rendering techniques and types of rendering methods for presentations

Reference Books/ Text Books

1. A Pattern Language, Alexander Christopher
2. Design Fundamental in Architecture, Walter Gropius
3. Pattern of Nature, Peter Streens
4. Architecture: Form, Space and Order, Francis D.K. Ching
5. Architectural Graphic standards editor, Boaz Joseph

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID110				Course Name:	HEALTH EDUCATION-I
Teaching Scheme	L	T	S/P	Total	Total Credits:	-
	-	-	2	2		

Course Objective

To make the students learn the various aspect of health fitness.

Course Description

Importance of physical health and participation in various physical activity to stay healthy.

Content Contents

UNIT-I

- Definition of exercise and physiology and an introduction to human body system.
- Effects of exercise on muscular, circulatory and respiratory systems.
- Phenomena like fatigue, second wind, and oxygen debt.

UNIT-II: Health and Fitness

- Development of physical fitness and its components.
- Sports performance in different games and sports.
- Yogic Activities.
- Adventure Activities.
- S.U.P.W. (Socially Useful ProductiveWork).

Course Learning Outcome

1. Students will know body system and importance of good health.
2. They will learn to participate in physical activity.
3. Learn team spirit and coordination to achieve common goal.

Course code:	BID201				Course Name:	INTERIOR DESIGN-II
Teaching Scheme	L	T	S/P	Total	Total Credits:	6
	1	-	5	6		

Course Objective

The objective of this course is to train students basic designing for residential Interiors and to develop Skills required for the same.

Course Description

To teach proper utilization of space by understanding the client's requirements with the help of principles and Elements of Design the students are required to prepare layout plans of single room suggesting colour scheme Material specifications with plan, elevations of perspective in colour.

Course Content

UNIT-I

- Minimum and optimum areas for various functions in day to day life. Preparing user profile, bubble and circulation diagrams.
- Planning the flow of space, negative & positive space, space requirement, usage with furniture and functional Spaces. Space distribution and factors influencing it.
- Simple Layout plans of different rooms for different Functions. Placement of Furniture, making furniture layout, plans and elevations of rooms of different functions.

UNIT-II

- **Concepts in bedroom & Living room interiors**- various layout of these spaces - the use of furniture and accessories to create a good ambience - materials & finishes - lighting, colour & Texture
- **Toilets:** Anthropometry - various types of sanitary ware and their use - types of layouts - concepts in modern day toilet interiors - with materials & finishes -lighting, Colour, Texture & pattern.

UNIT-III

- **Kitchens:** Work triangle, planning for activity - types of kitchen - Modular Kitchens. Materials Used for counters, shelves, worktops, washing areas.
- **Lighting & Colour Scheme** - natural & artificial light.

Course Learning Outcome

1. Understand the grammar of creating architectural space and form.
2. Understand and apply individual variables like light, movement, transformation, scale, structure and skin in the formation and evolution of architectural form.
3. Explore the relationship between human feelings and architectural form.
4. Develop the ability to translate principles of design with project requirements into architectural solutions for simple units.

Reference Books/ Test Books

1. Ching, Francis D. K. "Architecture: Form, Space and Order", John Wiley and Sons Inc.
2. Lidwell, William, Holden, Kestina, Butler, Jill, "Universal Principles of Design", Rockport – Publications, Massachussets, 2015
3. "Neufert Architect's Data", Blackwell Publishing, 2001
4. Donald Watson and Michael J. Crosbie, "Time – Saver Standards for Architectural Design, Technical Data for Professional Practice", McGRAW - HILL.

Assessment method : (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A	Sessional work	External Viva
30%	20%	50%		**100**	**100**

Course code:	BID202				Course Name:	INTERIOR CONSTRUCTION-II
Teaching Scheme	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

To familiarize the students with traditional construction methods of a single storeyed building in timber with sloping roof.

Course Description

Traditional and conventional knowledge systems that enable construction of a complete building; wooden structural systems and methods of construction and detailing; Technology that informs the construction of contemporary buildings using wooden structural systems and materials.

Course Content

UNIT-I: Wooden Construction

- Introduction to the nature and characteristics of wood construction, its advantages and limitations.
- Various types of timber frame walls, with details of joints and cladding, Windows and doors in Frame walls.

UNIT-II: Wooden Door and Window

- Various types of doors in timber
  - Battened, ledged and braced doors; Battened, braced & framed doors; Flush doors, etc.
  - Sliding and sliding folding doors.
- Construction details of single and double-leaf panel doors in timber
- Windows in timber.

UNIT-III: Wooden floor and Stair case

- Flooring: Various types of timber floors & their construction methods.
  - Floor finishes for timber floors
  - Staircases in timber

UNIT-IV: Wooden roof

- Roofing: Types of timber roofs
  - Lean-to roofs
  - King Post and Queen Post trusses.
  - Roof coverings using AC/CGI sheets. Gutters, Ridge and Valley detail.

Course Learning Outcome

1. Become aware of the primary building materials (timber and wood products) used in construction, their properties, classification & types available.
2. Equip themselves with the knowledge of building materials and their judicial usage.
3. Understand timber joinery for building works / doors / windows / furniture.
4. Analyse modalities and work out / apply appropriate details for building construction.

Reference Books/ Test Books

1. McKay, W.B., "Building Construction Volume I, II, III and IV", Longmans, 1955.
2. Ching, Francis D. K. and Adams, Cassandra, "Building Construction Illustrated", Wiley and Sons, 2000.
3. The Construction of Buildings – Barry Volume I, II, III and IV
4. Rangwala, S. C., "Building Construction", Charotar Publishing House, 2007
5. Building Construction-Bindra&Arora.
6. Punmia B. C., Jain A. J., and Jain A.J., Building Construction, Laxmi Publications, 2005.

Assessment method : (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A	Sessional work	External Viva
30%	20%	50%		**75**	**75**

Course code:	BID203				Course Name:	MATERIALS AND FINISHES-II
Teaching Scheme	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

To make the students understand the properties of timber and concrete as used in buildings as also to be aware of the application of services, water supply and drainage in small buildings.

Course Description

Properties and behaviour of both natural and man-made building materials such as, cement concrete, metals, glass, clay products in contemporary buildings; Application of these materials in construction.

Course Content

UNIT-I : Cement, sand aggregates

- Cement, sand aggregates: types, properties and uses.
- Properties and various types of concrete, Different Grades and their uses.
- Method of preparation, laying and curing of concrete.

UNIT-II : Reinforced Cement Concrete and Reinforced Brick Concrete

- Types, Mixing, Curing, Water Cement Ratio, Qualities and Workability.

UNIT-III : Metals and Metal Products for Building

- Iron: Various types of iron, properties of various types of iron, iron products and their uses in construction.
- Aluminium: Different types of section and uses in construction Copper, Zinc Brass, Stainless steel, tin etc.
    - Properties uses, treatment.
    - Available Section, Products (Hardware)

UNIT-IV : Glass and glass products

- Composition and fabrication of glass, classification, types of glass- wired glass, fiber glass, rock wool, laminated glass, glass concrete blocks - their properties and uses in buildings.
- Commercial forms available – their physical and behavioral properties, tools and technology of its application in built forms. Materials and workmanship specifications

Course Learning Outcome

1. Become aware of the building materials concrete and metal products and used in construction, their properties, classification & types available.
2. Equip themselves with the knowledge of building materials and their judicial usage.
3. Understand concrete, metal and clay as building component.
4. Analyse modalities and work out / apply appropriate details for building construction.

Reference Books /Text Books

1. Building Materials by SC Rangwala: Charotar Pub. House, Anand
2. M. Gambhir, NehaJamwal, Building Materials Products, Properties and Systems, Tata McGraw Hill Publishers, New Delhi, 2011.
3. R.K.Gupta, Civil Engineering Materials and Construction Practices, Jain brothers, New Delhi, 2009.
4. National Building Code of India (Latest Edition), Bureau of Indian Standards.
5. Engineering Materials-Deshpande.
6. Morris, M., "Architecture and the Miniature: Models", John Wiley and Sons, 2000.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID205				Course Name:	INTERIOR DRAWING -II
Teaching Scheme	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

To enable the students to have a better understanding of the 3-D through isometric/axonometric views, perspective drawing and Sciography.

Course Description

Various mediums and techniques of art for artistic expression; free hand drawing; orthogonal projection of geometrical forms and representation; architectural and building representation through two dimensional and three dimensional drawings; measured drawing of building elements and simple building forms; presentation in graphic form all elements of building design; study of shades and shadows etc.;

Course Contents

UNIT-I : Isometric Projection

- Axonometric/isometric views of compositions/complex forms.
- Conversion of Axonometric/isometric views into orthographic projections.

UNIT-II: One Point Perspective

- One-point perspective using plan method of simple and complex objects leading to perspectives of room interior.

UNIT-III: Two Point Perspective

- Two-point Perspectives of simple and complex objects leading to perspectives of building interior using the conventional plan method.

UNIT-IV: Sciography

1. Sciography of points, Sciography of lines, Sciography of planes of different shapes on H P. and V.P. w.r.t. distance from H.P. and V.P.
2. Sciography of simple solids ,Sciography of building elements like Recesses and projection of different shapes Stairs/ramps, Colonnades, etc.

Course Learning Outcome

1. After successful completion of this course, students shall be able to;
2. Familiarize themselves with the relevant terminology and different types of 3D views.
3. Understand significance and prepare perspective views of building interior and exterior.
4. Identify the importance & need of presentation skills, economy of time, for effective communication in design.
5. Identify a type of line, intensity, thickness, text to draw a shape to implement a scale, dimension for a layout of sheet or drawing.
6. Understand basic principles of sciography and its application to the field of architecture

Reference Books/ Text Books

1. IH. Morris, Geometrical Drawing for Art Students - Orient Longman, Madras, 2004.
2. Francis Ching, Architectural Graphics, Van Nostrand Rein Hold Company, New York, 1964.
3. N.D.Bhatt, Elementary Engineering Drawing (Plane and Solid Geometry), Charotar Publishing House, India
4. George K.Stegman, Harry J.Stegman, Architectural Drafting Printed in USA by AmericanTechnical Society, 1966.
5. C.Leslie Martin, Architectural Graphics, The Macmillan Company, New York, 1964

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	4 hrs	Sessional work	Examination
30%	20%	50%		**50**	**50**

Course code:	BID206				Course Name:	INTERIOR GRAPHICS -II
Teaching Scheme	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

To appreciate the role of colour in presentation and rendering techniques in Interior design.

Course Description

Presentation in graphic form all elements of building design; study of shades and shadows, textures, tones, colours etc.; rendering using manual mode; hands on working with various mediums and materials.

Course Content

UNIT-I: Introduction of colours

- Introduction of transparent water colours, poster colours, pastel colours and their tonal values. Study of primary, secondary and intermediate colours in the form of geometric compositions.

UNIT-II: Rendering with colour

- Colour rendering of blocks.
- Use of overlapping effects in wafer colour and poster colour in mural composition based on geometric elements.
- Exercises on human figures and furniture in colour.

UNIT-III: Material representation in colours

- Rendering of stone & brick wall in colour.
- Representation of fabric, glass, wood, metal, stone etc.

UNIT-IV: Use of colour in sketching

- Indoor sketching with graphite pencil to create monochromatic effect in design with colour.

Workshop

1. There will be the sculpture workshops, either in terracotta or in a separate medium.
2. Different techniques in architectural rendering. Rendering of assignments done in the subject of Architectural Design-I

Course Learning Outcome

1. After successful completion of this course, students shall be able to;
2. Develop sensitivity towards freehand drawings and various artistic expressions.
3. Understand architectural elements as determining factor to perceive and articulate space.
4. Stimulate form space relation and to understand the principles of composition in the organization of space, shape, form, colour and texture.
5. Develop eye-mind-hand synchronization and perpetual skills

Reference Books/ Text Books

1. Arnold Dana, "Art History – A Very Short Introduction" , Oxford University Press.
2. Stallabrass, Julian, "Contemporary Art – A Very Short Introduction" , Oxford University Press.
3. Rendering with pen and ink
4. Practical Plane and Solid Geometry, H.Joseph and Morris

Assessment method : (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	4 hrs	Sessional work	Examination
30%	20%	50%		**50**	**50**

Course code:	BID207				Course Name:	HISTORY OF INTERIOR DESIGN -II
Teaching Scheme	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

The course emphasizes on developments of interior elements in response to social, religious, aesthetic and environmental factors. The course focuses on the three-dimensional forms, plan forms and ornamentation.

Course Description

Architecture as evolving within specific cultural contexts including a aspects of politics, society, religion, climate; geography and geology, etc. through history Indian sub-continent; Development of architectural form with reference to Technology, Style and Character- Examples from every historical style illustrating the same.

Course Content

UNIT-I: Ancient India

- The Development of art form and furniture styles in sites from ancient India. Examples from Indus valley civilization, Maurya Dynasty, Gupta Dynasty

UNIT-II: Temple Architecture

- North and South Indian Styles and their different architectural &interior elements. Art form of India-Tagore paintings, Kalamkari works Madhubani paintings etc

UNIT-III: Jainism , Buddhism and Islamic Architecture

- Introduction to various elements like stupas, toranas, chaityas, viharas, and other art forms painting and sculptures Hindu,
- Islamic and, Secular architecture of the princely states like Rajasthan, etc. art work ,study of mosque and tombs, development in sultanate period Emphasis on interior elements, furniture's, interior finishes.

UNIT IV: Colonial period

- Indian Colonial Architecture-Portuguese, French and British : The styles and trends of architecture and design brought to India and their evolution – Their impact on architecture and design in India – The characteristics of Colonial Architecture with examples from Goa-Bom Jesus Cathedral Complex-Old Goa- Fountainahs , Puducherry, Mahe and Edwin Lutyen etc.,

UNIT V: Vernacular architecture and interior

- Jammu and Kashmir, Southern India, Gujarat, , Himachal Pradesh , states of North & eastern India, Maharashtra, Uttar Pradesh, Orissa etc.

Course Learning Outcome

1. Understanding gradual changes from past to modern period.
2. Understand transformation patterns in architecture during various kingdoms / time periods and analyse the contributing factors for the design development of different styles.
3. Familiarize themselves with the socio–economic, historical and political influences of time period in interior style development.

Reference Books / Text Books

1. Sir Banister Fletcher, A History of Architecture, University of London, The Antholone Press, 1996.
2. Leland M Roth; Understanding Architecture: Its elements, history and meaning; Craftsman House; 1994
3. "Concepts of space in Traditional Indian Architecture" by Yatin Pandya
4. "The History of Architecture" by Sir Bannister Fletcher
5. "Buddist and Hindu Architecture" in India by Satish Grover
6. Traditions in Architecture – Dora Couch
7. History of Architecture – J E Swain

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID208				Course Name:	CARPENTRY WORKSHOP
Teaching Scheme	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

To understand the constraints and complexities and versatility of joinery in carpentry.

Course Description

Introduction to various carpentry tools and production of simple joints used in joinery; techniques for preparation of block models using various materials; detailed model of a small project using appropriate materials; exploration with plastic material such as clay, plaster of Paris, etc.

Course Content

- Introduction to carpentry tools.
- Sketches of these tools.
- Exercise in sawing, chiselling, planning to learn the use of hand tools joinery.
- Construction of half lap, tongue and groove joints.
- Construction of mortice and tenon joint and dovetail joints.
- Construction of rafter joints intension and compression.
- Varnishing exercise. Varnishing of joints made in the class.
- Making one wooden item or small furniture e.g. a pencil box, a stool bench, miniature door/windows columns.

Suggested Teaching Methodology

1. Audio-visual lectures on types of joinery should be presented.
2. Exercise on furniture items shall be attempted in groups. Site visit to furniture shop to understand carpentry, joinery and varnishing works shall be undertaken.

Course Learning Outcome

1. Inculcate knowledge of joinery details and importance.
2. Prepare models of small furniture to understands joint.
3. Develop skills of understanding behavior of wood and varnishing.

Assessment method : (Continuous Internal Assessment = 100% , Final Examination = 0%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Sessional work	Examination
100%	-	-		**50**	No Exam

Course code:	BID209				Course Name:	THEORY OF DESIGN-II
Teaching Scheme	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

To enable the students to understand the theory of colour, understand the application of colour in interiors and know the effect of light and colour together on interiors.

Course Description

Basic colour theories and their application to design are studied in depth. The effect of environment, and the psychological implications related to the application and use of colour are also included. Students apply these theories and influences to appropriate projects.

Course Contents:

UNIT- I

- Introduction to Colour
- Rodes & cones, after images and their effects.

UNIT- II

- The Prang Colour System:
    - Hue: classes of colour (primary, binary, intermediate, tertiary, quaternary), neutrals, changing of hues, warm & cool colours, advancing & receding, hues & the seasons.
    - Value: value of normal colours, tints & shades, changing of values, effects of different values
    - Intensity: dull and bright colours, complimentary colours, changing of intensity, texture & its influence on intensity & taste.

UNIT- III

- The Munsell Colour System
- The colour spheres
- Munsell colour notation
- Complementary hues in Munsell colour system
- Hue, value, chroma
- Colours and emotions
- Effect of colour on each other

UNIT - IV

- Principles of Design Applied to Colour
- Harmony in colour: standard colour schemes (related & contrasting harmonies), how to use colour harmonies, background colours, keyed colours through neutralizing, mixing etc
- Balance in colours: balancing dull and bright colours, light & dark colours, warm & cool colours, crossing or repetition.
- Proportion, Rhythm and Emphasis in colour: law of colour areas

Course Learning Outcome

1. To understand the theory of colour
2. To understand the application of colour in interiors
3. To know the effect of light and colour together on interiors

Reference Books/Text Books

1. Beazley Mitchell, Colour Book, Reed Consumer Books Pvt. Ltd.
2. Chi Jiwa Hideaki, Colour Harmony; Rockport Publishers
3. Halse A. O, The Use of Colour in Interiors; McGraw Hill Book Company
4. Stochton Tomes, Designer's Guide to Colour, Chronicle Books

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID210				Course Name:	HEALTH EDUCATION-II
Teaching Scheme:	L	T	S/P	Total	Total Credits:	-
	1	-	3	4		

Course Objective

To make the students learn the various aspect of health fitness.

Course Description

Importance of physical health and participation in various physical activity to stay healthy.

Course Content

UNIT-I

- Concept of vital capacity, blood pressure, pulse rate, general and specific conditioning
- Food requirements, and balanced diet
- Physical Fitness arid its components: speed, strength, endurance, agility, etc.

UNIT-II

Health and Fitness

- Development of physical fitness and its components.
- Sports performance in different games and sports.
- Yogic Activities.
- Adventurous Activities.
- S.U.P.W. (Socially Useful Productive Work).

Course Learning Outcome

1. Students will know body system and importance of good health.
2. They will learn to participate in physical activity.
3. Learn team spirit and coordination to achieve common goal.

Course code:	BID301				Course Name:	INTERIOR DESIGN- III
Teaching Scheme	L	T	S/P	Total	Total Credits:	8
	1	-	7	8		

Course Objective

The objective of this course is to train students in understanding the detailing required to complete a Design project through collaboration with the Architecture students and present a mature detailed project.

Course Description

This studio based course synthesises the knowledge gained from other courses and is central to the learning and practice of architecture. This course will engage in using conventional methods and linear processes of design to more exploratory nonlinear methods.

Course Content

- Working on Interior Renovation project.
- Introduction to basics of Site Planning and designing for human comfort.
- Application of the above in design of single-storeyed buildings such as a residence, nursery/primary school, health centre, clinic/dispensary, etc.

Note:

1. At least 2 projects, of 6-9 weeks duration each, should be completed.
2. Students should be guided to achieve necessary relationship between indoor and outdoor spaces and concept of local bearing structure.
3. Each problem should be attempted in a minimum of three developmental stages incorporating the requirements of Note 2 above.

Course Learning Outcome

1. Acquire knowledge of principles of Interior Design for residential spaces.
1. Learn to provide adequate facilities for work, relaxation, comfort, privacy, aesthetics, and maintenance through design and proper choice of materials, services, fittings and fixtures in interiors of residences.
2. Gain understanding of furniture design through anthropometric measurements.

Reference Books/Text book

1. Ching, Francis D. K. "Architecture: Form, Space and Order", John Wiley and Sons Inc.
2. Lidwell, William, Holden, Kestina, Butler, Jill, "Universal Principles of Design", Rockport – Publications, Massachussets, 2015
3. "Neufert Architect's Data", Blackwell Publishing, 2001
4. Donald Watson and Michael J. Crosbie, "Time – Saver Standards for Architectural Design, Technical Data for Professional Practice", McGRAW - HILL.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Sessional work	External Viva
30%	20%	50%		**100**	**100**

Course code:	BID302				Course Name:	INTERIOR CONSTRUCTION- III
Teaching Scheme:	L	T	S/P	Total	Total Credits:	6
	1	-	5	6		

Course Objective

To familiarize the students with traditional construction methods of a single storeyed building in timber & Reinforced cement concrete with finishes.

Course Description

Traditional and conventional knowledge systems that enable construction of a complete building; frame RCC structure Technology. The course will combine lecture and studio exercises whose results will be in the form drawings and models, culminating in a studio which will translate an architectural design.

Content

UNIT-I: Aluminium and UPVC door

- Sliding doors
- Sliding and folding doors
- Revolving doors
- Swing doors
- Types of door closing devices
- Shop window front

UNIT-II: Aluminium and UPVC window

- Different types - Bay, Bow, Corner, Dormer, Sky light, Louvered (French
- Casement, clerestory, Pivoted, Sliding, Ventilators.

UNIT-III : Partition

- Aluminium
- Glass

UNIT-IV Wall Cladding

- Stone, Timber, Weather Board, Fibre cement, Brick
- Vinyl, Glass, metal, etc.

UNIT-IV: Wall finishes

- Various type of wall paper and panels
- Application process of wall paper and different panels

Course Learning Outcome

1. To introduce, the students to the construction details and techniques of the basic elements of interior spaces like wall, flooring their finishes beam and post cladding and glazed wall system.
2. To integrate the learning of materials their processing and construction techniques.
3. Reinforcement of knowledge through lectures, site and workshop visits and Market Survey. Acquainting them with the tools and machines required for its handling and processing.

Reference Books/Text Books

1. Time-saver standards for interior design & space planning, second editionby Joseph DeChiara, Julius Panero and Martin Zelnik
2. McKay, W.B., "Building Construction Volume I, II, III and IV", Longmans, 1955.
3. Ching, Francis D. K. and Adams, Cassandra, "Building Construction Illustrated", Wiley and Sons, 2000.
4. The Construction of Buildings – Barry Volume I, II, III and IV
5. Chudley, Roy, "Construction Technology", Longman, 2005.
6. Building Construction Mitchell (Elementary and Advanced)
7. Rangwala, S. C., "Building Construction", Charotar Publishing House, 2007
8. Building Construction-Bindra&Arora.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Sessional work	External Viva
30%	20%	50%		**100**	**100**

Course code:	BID303				Course Name:	MATERIALS AND FINISHES-III
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

To make the students understand the properties of timber and stones used in buildings

Course Description

Properties and behaviour of both natural and man-made building materials such as glass, Paints, insulation materials, PVC.UPVC, and finishing materials in contemporary buildings; Application of these materials in construction.

Course Content

UNIT-I : Paint, varnishes and adhesive

- ***Paints****:* types of paints – water paints, distempers, cement-based paints, emulsion paints, anti-corrosive paints etc. - Composition, functions, preparation and application method, painting on different surfaces, defects in painting;
- ***Varnishes*** : Oil and spirit; various types – French polish, damp proofing finishes etc. and methods of application.
- ***Adhesives***: Natural and Synthetic, their varieties, thermoplastic and thermosetting adhesives, epoxy resin. Method of application, bond strength etc.

UNIT- II: **PVC, UPVC, Rubber**

- Products and uses in construction of HDPE and composite material.
- Materials related to wall finishes, False Ceiling, Partitions, Flooring, and Acoustics.

UNIT-III: Fabrics and other furnishing materials

- Fabrics and other furnishing materials – fibers – natural – silk, cotton, linen, damask, furs, etc: artificial - polyester, nylon, rayon, etc , textiles, fabric treatments, carpets, durries, tapestries, Drapery, upholstery, wall coverings, etc. – properties, uses and application in the interiors.

UNIT-IV: Soft furnishing

- Details of soft furnishings : types of Draperies, curtains, blinds, types of stitches, valences, linings, tiebacks, hanging details, etc.

Course Learning Outcome

1. To become aware of the existing and new trends and availability of interior materials.
2. To learn to make wise selection of suitable building materials for various surfaces.
3. To learn to compare the cost of different building materials and make worthy selection

Reference Books/Text Books

1. Building Materials by SC Rangwala: Charotar Pub. House, Anand
2. M. Gambhir, NehaJamwal, Building Materials Products, Properties and Systems, Tata McGraw Hill Publishers, New Delhi, 2011.
3. R.K.Gupta, Civil Engineering Materials and Construction Practices, Jain brothers, New Delhi, 2009.
4. National Building Code of India (Latest Edition), Bureau of Indian Standards.
5. Morris, M., "Architecture and the Miniature: Models", John Wiley and Sons, 2000.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID304				Course Name:	INTERIOR SERVICES-I
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objectives:

To enable the students to understand the basic principles of drainage and water supply in buildings and learn calculations and connections for water supply and sanitation

Course Description

Study of and design and detailing for water supply, drainage, sewage disposal, garbage disposal, electrification, illumination, air conditioning compliance requirements w.r.t. National Building Code and Energy Conservation Building Code.

Course Contents:

UNIT-I: Water supply

- Introduction to water supply, types of water supply systems,
- Calculation of water supply requirements and storage of water.
- Supply of hot and cold water to a residential building and its distribution fitting and fixture used in system.

UNIT-II: Sanitation

- Introduction to sanitation, types of sanitation,
- Introduction to drainage system, types of drainage system, traps - different types used. Septic tank,
- Two types of plumbing systems - ventilation systems, inspection chambers/manholes.

UNIT-III :Sanitary fittings

- Introduction to sanitary fitting and classification.
- Different types of hand wash basins, water closets and urinals, showers/diverters/panels, mixers/cisterns and bath tubs/Jacuzzi, towel rails/rods, mirrors, storages, materials application, and its benefits.
- Toilet plans tiling plan, drainage sanitary piping plans.

UNIT-IV: water and sanitary layout

- Preparing internal piping layout for toilet, kitchen utility areas. Preparing external piping layout for water supply and drainage system.

Course Learning Outcome

1. Understand water requirements in various types of buildings and integration of water supply services in architectural design.
2. Understand terminology and basic principles of water supply and sanitation.
3. Understand functions of various plumbing fittings and fixtures, applicable IS Codes.
4. Develop design skills for water supply and drainage systems in buildings and prepare architectural drawings / drainage layouts.

Reference Books/ Test Books

1. Ch'ing, Francis D K, Binggeli, Cork, "Interior Design Illustrated", Wiley Publications, New Jersey, 2004.
2. Hall, Fred, Greeno, Roger, "Building Services Handbook", Butterworth Heinemann, UK, 2001.
3. Purnima B C, 'Environmental Engineering - I - Water Supply Engineering", Laxmi Publications (P)
4. Ltd, New Delhi, 2005.
5. Rangwala S C, "Water Supply and Sanitary Engineering", Charotar Publishing House Pvt. Ltd., 29th edition, 2016.
6. Singh, Gurcharan, "Water Supply and Sanitation Engineering (Environmental Engineering)", Standard
7. Publishers Distributors, 2007.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID305				Course Name:	ENVIRONMENTAL SCIENCE
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objectives:

Understand the concepts of ecosystems, biodiversity and solid waste management, and environmental ethics, climate changes, global warming etc.,

Course Description

Natural systems; Complex relationships between the built and natural environments; Impact of pollution on natural and man-made environments; Understanding the Social Issues.

Course Content

UNIT –I : Importance of Environment

- Definition, scope and importance, of environmental studies, Need for public awareness. Renewable and non- renewable resources: Natural resources and associated problems. Forest resources: Water resources: Mineral resources : Food resources : Energy resources: Land resources :

UNIT –II : Eco systems

- Structure and function of an ecosystem, Concept of an ecosystem , Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids, Types of Ecosystem

UNIT –III : Bio diversity and its conservation

- Bio- geographical classification of India, Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values, Hot- sports of biodiversity. Threats to biodiversity. Endangered and endemic species of India. Conservation of biodiversity.

UNIT –IV : Pollution and its effects

- Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards, Solid waste Management, Disaster management: floods, earthquake, cyclone and landslides.

UNIT –V : Social issues and the environment

- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. Wasteland reclamation. Consumerism and waste products. Environment Protection Act. Air (Prevention and Control of Pollution) Act. Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation. Public awareness

Course Learning Outcome

1. To acquaint the students with the problems of the environment and its pollutant.
2. To understand the potential and limitations of different energy sources and the environmental impacts of their uses
3. To understand the need and the ways of green buildings
4. To understand innovations in eco-friendly structures

Reference Books/Text Books

1. Text book of environmental studies for undergraduates courses by Erach Bharucha, Published by – University, Grants Commission, Universities Press, India.
2. Text book of environmental studies for under graduate courses by Benny Joseph Published by Tata McGraw Hill Publishing Company limited.
3. Text book of environmental studies by Kaushik & Kaushik.
4. Agarwal, K.C.2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
5. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc.480p.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID306				Course Name:	MATERIAL TECHNIQUES AND PROCESS
Teaching Scheme:	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective:

Understanding the properties of different materials used in interior design, and ability to manipulate soft and pliable material to create new form.

Course Description:

To develop knowledge, skills and understanding in working safely and creatively with the materials, techniques and processes associated with their specialist pathway. It will enable learners to explore, experiment with and understand the use of a range of materials, techniques and processes.

Course Content

UNIT- I : Materials and techniques (clay)

- **Ceramics** – clay/ plaster of Paris : Introduction to model making, Need; role of scale models in design: general practices - The potter's wheel – kneading the clay, function of hands in throwing. Learning basic techniques in making different objects like bowl, plate, cylinder, vase, etc. Essentials of model making: understanding of various tools and machines employed, best practices involved in operating the tools and the techniques. Introduction to the Ceramic materials used for model making – clay, types and mixtures, properties etc. Hand building techniques- coiling, hand building with clay strips- making a small sculpture in Relief work – addition - making a mural, scooping – tile work.

UNIT- II: Materials and techniques (metal)

- **Metal -** Types of metals, properties of metals, definitions of terms with reference to properties and uses of metals, various methods of working with metals, fixing and joinery in metals, finishing and treatment of metals., finishes on metals. Standard specifications. Metals in built form activity – horizontal, vertical and inclined surfaces – in interior environment elements- products and furniture forms - doors, windows, grilles, railing, stair etc. Metals and other materials – form and joinery.

UNIT- II I: Materials and techniques (textiles)

- **Textiles** – Weaving & printing : Introduction to fibers and yarns, table loom and floor loom, preparing warp, setting up loom for weaving. Basic weaves and their variations. Variation weaves and design quality, weaves as light controlling device, weaves and its quality for upholstery, curtains and floor coverings, Rugs and durries – motifs design, patterns and color variations. Development of textile design in different cultures from primitive art to contemporary designs. Criteria of design of the elements and principles of textile design. Analysis of a motif, developing repeat as a basic unit of design in textile printing. Printing – developing block, understanding the material used, colors, types and their mixing process, various color printing. Screen printing – design evolution for wall hangings, preparing screen and understanding the technique, printing on paper and printing on fabric.

Course Learning Outcome

1. Understand the transformation of material to product
2. Knowledge of different type of material and their use to make useful product
3. Develop skill to design product for various use and user.

Reference Books/Text Books

1. Bradley Quinn, Mid-Century Modern: Interiors, Furniture, Design Details, Conran Octopus Interiors, 2006.
2. eter Korn, Wood working Basics : Mastering the essentials of craftsmanship, Taunton , 2003
3. Fabrics: A guide for architects and Interior Designers, Marypaul Yates, Norton publishers, 2002. • Materials for Interior Environments, Corky Bingelli, John wiley and sons, 2007

Assessment method: (Continuous Internal Assessment = 100% , Final Examination = 0%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	4hrs	Sessional work	Examination
100%	-	-		**50**	**No External Exam**

Course code:	BID307				Course Name:	HISTORY OF INTERIOR DESIGN-III
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective:

To understand the material and lifestyle of past civilization their furniture style construction style and link up with the contemporary interior design.

Course Description

Architecture as evolving within specific cultural contexts including a aspects of politics, society, religion, climate; geography and geology, etc. through history in the Indian sub-continent; Development of architectural form with reference to Technology, Style and Character- Examples from every historical style illustrating the same

Course Contents

UNIT- I : Industrial revolution

- Reviewing Industrialisation: - Industrial revolution and its influence on social, economic conditions of that period, Scientific and technological progress, invention of new materials. –Joseph Paxton – Gustav Eiffel etc an overview of Art and Crafts movement in Europe and America.

UNIT-III: **Modern Art movements**

- Context for new directions in art in the late 19th and early 20thcentury - Impressionism - post Impressionism – Fauvism- Expressionism- Cubism –Dadaism – Surrealism - abstract art – Futurism - Constructivism – Suprematism –- De-Stijl -Abstract Expressionism - Pop art - Op art- new forms and media of art. Study of famous and influential Artists, Craftsmen and people who pioneered innovations in their own fields and their influence on design and other fields. Works of Van Gogh, Dali, William Morris,Piccaso,Da Vinci
- Impressionism –Expressionism – Cubism – Neoclassicism – Neoplasticism Suprematicism – Art Noveau Constructivism – Futurism – Post modernism- Post- Post Modernism– Deconstructivism Antonio Gaudi, Victor Horta, Charles Renee Mackintosh, Le Corbusier.

UNIT-IV: Post modernism

- Critical regionalism, Bauhaus, International style, Post Modernism.-Walter Gropius.

UNIT-V: Master pieces

- Study the work & philosophies of the Great Master of Interior design across the globe and in India.

Course Learning Outcome

1. Acquire knowledge about different culture that occurred in the past.
2. Develop understanding various art and craft movement and their impact on building interior.
3. Familiarize themselves with the socio–economic, historical and political influences of time period in internal part of building.

Reference Books/Text Books

1. "Glimpses of World History" by Pt. Jawahar Lal Nehru
2. "The History of Architecture" by Sir Bannister Fletcher
3. Indian Architecture (Islamic Period) – Percy Brown
4. Indian Architecture – Islamic Period – 1192 – 1857 b – Dr. Surinder Bahai
5. Islamic Architecture of the Indian Subcontinent – Bianca Maria Alferia
6. Traditions in Architecture – Dora Couch
7. The great age of world architecture –By G K Hiraska

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID308				Course Name:	COMPUTER APPLICATIONS -I
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	-	-	2	2		

Course Objective:

This part of the course has been designed as a primer for the Interior design students. At the end of the course they should have some idea of the potential of computers & its applications in Architecture.

Course Description

Computer operation principles and image editing through a graphical Composition; Computer aided 2D drafting and 3D Modeling through simple exercises; Rendering of a building to create a photo realistic image.

Course Content

UNIT- I: Presentation software like Power Point

- Creating a simple presentation.
- Viewing
- Editing
- Different types of images
- Use of clipart.

UNIT- II: 2D in AUTOCAD

- Creating a new drawing
- Commands and option to create drawing entities.
- Layers, blocks, attributes, text, Dimensioning etc.
- Viewing an existing drawing Methods of Selection.
- Commands and options to Zoom, Pan, Snap etc.
- Inquiry Commands Editing an existing drawing System Variables.
- Commands and options for modification Plotting.
- Application in architectural drawings
- Presentation drawings
- Introduction to working drawings.

UNIT- III: Modelling with Sketch Up software

- Use drawing tools to create lines, surfaces, circles, rectangles, arcs, and polygons.
- Draw shapes on Edge and utilize SketchUp -sticky| geometry
- View and orbit models in a 3D space
- Create boxes using drawing tools and inferences.
- Design complex combined shapes with the Push/Pull and Move Tools
- Create and manipulate cylinders and cones
- Use three different modelling techniques to quickly create 3D forms.
- Create concentric surfaces with the Offset tools.
- Arrange an array of duplicated objects.
- Use colours and styles to render detailed surfaces.

Course Learning Outcome

1. Understand the fundamental concepts of computer systems.
2. Develop understanding of hardware and software, their purpose and use.
3. Develop basic skills in application of Information Technology tools and techniques.
4. Use features of MS Office packages for documents.
5. Prepare Architectural Drawings using CAD software

Reference Books/Text Books

1. Introducing AutoCAD and AutoCAD LT – George Omura
2. Mastering AutoCAD – George Omura
3. AutoCAD 2016 and AutoCAD LT 2016 "BIBLE" - Ellen Finkelstein

Assessment method : (Continuous Internal Assessment = 100% , Final Examination = -)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Sessional work	Examination
100%	-	-		**50**	No external Exam

Course code:	BID309				Course Name:	HEALTH EDUCATION-III
Teaching Scheme:	L	T	S/P	Total	Total Credits:	-
	-	-	2	2		

Course Objective

To make the students learn the various aspect of health fitness.

Course Description

Importance of physical health and participation in various physical activity to stay healthy.

Content Content

UNIT-I

- Definition of exercise and physiology and an introduction to human body system.
- Effects of exercise on muscular, circulatory and respiratory systems.
- Phenomena like fatigue, second wind, and oxygen debt.

UNIT-II: Health and Fitness

- Development of physical fitness and its components.
- Sports performance in different games and sports.
- Yogic Activities.
- Adventure Activities.
- S.U.P.W. (Socially Useful ProductiveWork).

Course Learning Outcome

1. Students will know body system and importance of good health.
2. They will learn to participate in physical activity.
3. Learn team sprit and coordination to achieve common goal.

Course code:	BID401				Course Name:	INTERIOR DESIGN -IV
Teaching Scheme::	L	T	S/P	Total	Total Credits:	8
	1	-	7	8		

Course Objective:

To introduce the basics of designing for office interiors and to develop skills required for the same and implement a basis for Design thinking.

Course Description

The course concentrates on three stages of work spaces with an emphasis on planning office spaces. The main aim is to develop visually literate students who are proficient at analytical thinking, conceptualisation and the problem-inquiry, solution cycle. The course also examines the connection between abstract design principles and the physical and visual environments.

Course Content:

UNIT- I: Consulting office for professional practitioner

- Planning for small office – office of architects, interior designers, lawyer, and auditor – individual layouts, Modular Units. Playing with levels.
- Lighting & colour scheme – natural & artificial light.

UNIT-II: Corporate office

- Interior designing for multi-functional, multi-level planning, design and detailing of various work spaces,
- Interaction Zones, Recreational Areas
- Design of corporate Environments such as BPO, corporate office at Conceptual Stage

Course Learning Outcome

1. To develop the skill in visualizing and designing spaces of commercial interiors considering the principles of designs, anthropometric data and ergonomic criteria.
2. To understand the criteria for selection of appropriate material for different surfaces taking into consideration of ergonomic factors, aesthetics and cost..
3. To understand the different aspect of office interiors and their space requirements.

Reference Books/Text Books

1. Designs for 20th century Interiors – Fiona Leolie, VH Publications, London.
2. Interior Design; The New Freedom, Barbaralec Diamonstein, Rizzoli International Publications, New York, 1982.
3. Interior Colour by Design, Jonathan Poore, Rockport Publishers, 1994.
4. Worldwide Interiors – International Federation of Interior Architects & Designers, Rikuyo-Sha, Japan, 1987.

Assessment methode: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Sessional work	External Viva
30%	20%	50%		**100**	**100**

Course code:	BID402				Course Name:	INTERIOR CONSTRUCTION-IV
Teaching Scheme:	L	T	S/P	Total	Total Credits:	6
	1	-	5	6		

Course Objective:
To familiarize the students with contemporary construction methods of a single storeyed building in timber & framed construction services with finishes.

Course Description
This course aims towards acquainting students with standard and simple construction techniques and practices, which are used, related and applied in the interior space design. This also bridges the gap between the design ideas and its execution on site practically.

Course Content:

UNIT-II: Partitions (space dividers- full or half partitions)

- Types
- Simple partitions in wood, glass and metal
- Movable partitions
- Sound proof partition
- Various modern materials available in markets

UNIT-I: Panelling

- Design and fixing details of panelling
- Materials used for panelling in interior
- Panelling in plywood

UNIT-III: False ceiling (timber)

- Purpose
- Materials used for fixing and finishing.
- Design and details of false ceiling in timber.

UNIT-IV: False ceiling (other materials)

- Role of glass, gypsum, POP in false ceiling
- Fixing of Plaster of Paris in false ceiling

Course Learning Outcome

1. To introduce, the students to the construction details and techniques of the basic elements of interior spaces like partitions, paneling and suspended ceiling. Using various materials.
2. To integrate the learning of materials their processing and construction techniques.
3. Reinforcement of knowledge through lectures, site and workshop visits and Market Survey. Acquainting them with the tools and machines required for its handling and processing.

Reference Books/Text Books

1. Building Construction by Sushil Kumar
2. Building construction by W.B.Mckay, V.P. Sikka, B.C. Punmia, Arora And Birdi
3. Modern Architecture by Curtis W.J.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Sessional work	External Viva
30%	20%	50%		**100**	**100**

Course code:	BID403				Course Name:	FURNITURE DESIGN-I
Teaching Scheme:	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective:
Develop problem solving skill and understand the various techniques related to furniture design.

Course Description
Functional use of furniture, evolution from ancient to present, role of furniture in different walk of life and technical aspect related to design.

Course Description

UNIT- I :Functional and formal issues in design

- Study and evaluation of popular dictums such as "Form follows function", Form and function are one", "God is in Details", "Less is more" or "Less is bore" etc. Evaluation of visual design: study of Gestalt theory of design – law of closure, law of proximity, law of continuity etc. Typology of furniture with respect to the different states in India.

UNIT-II: Ergonomics and Human Factors

- Human factors, engineering and ergonomic considerations: Principles of Universal Design and their application in furniture design,

UNIT-III: Evolution of furniture's

- Evolution of furniture from Ancient to present: Various stylistic transformations. Furniture designers and movements for various types of furniture.

UNIT-IV : Role of furniture

- Furniture categories – role of furniture in interior design, exploration of the idea of furniture as elements of living units, education institutes, health facilities, street elements office, educational institutes, banks, stores, street furniture, etc.

UNIT-V : Seating Design

- Seating Design: Different types of seating with Functionality, Aesthetics , Style, Human factors and ergonomics

Course Learning Outcome

1. Understand the transformation of furniture design from past to present.
2 Knowledge of different type of furniture and their role.
3 Develop skill to design furniture for various use and user.

Reference Books/Text Books

1. Bradley Quinn, Mid-Century Modern: Interiors, Furniture, Design Details, Conran Octopus Interiors, 2006.
2. Jim Postell, Furniture Design, Wiley publishers, 2007.
3. Robbie. G. Blakemore, History of Interior Design and Furniture: From Ancient Egypt to • Nineteenth-Century Europe, Wiley publishers, 2005.

Assessment methode: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	4hrs	Sessional work	Examination
30%	20%	50%		**25**	**25**

Course code:	BID404				Course Name:	INTERIOR SERVICES-II
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective:
To enable the students to understand basic principles of illumination and application of natural and artificial lighting in interiors.

Course Description
Overview of the study of interior lighting as it relates to residential and commercial industry including terminology, lamps, fixtures, lighting plans, design techniques, codes and energy efficient lighting practices and regulations.

Course Content

UNIT-I : Introduction and terminology of electricity

- Introduction to electricity- its generation, transmission and supply. Terminology used in electrical supply- ampere, circuit, conductor, volt, watt, single phase, three phases, etc.

UNIT-II: electricity supply & distribution

- Different wire and types of wiring systems- open batten, conduits and casing, their advantages and disadvantages.

UNIT-III: lighting and lighting fixtures

- Purpose of lighting- ambient, task and accent lighting, forms of lighting source- point, linear, planar and 3D source.
- Lighting types- incandescent, fluorescent, CFLs, LEDs, halogen, etc.
- Methods of lighting- Direct & indirect, up lighting, down lighting, combination of up & down lighting, concealed lighting etc.

UNIT-IV: electrical fitting & load calculation

- Electrical outlets 5/6 Amp, 15/16 Amp, switch boards, switches, sockets, etc. precautions & thumb rules for provision of switch boards, etc.
- Electrical appliances and their power consumption: preparation of electrical layouts.

Course Learning Outcome

1. To introduce, the students to the theory /concept of natural lighting and artificial lighting.
2. To develop an understanding of market trends in electrification and interior spaces.
3. To bridge the gap between theory and practicality through the site visits.

Reference Books/Text Books

1. Anna Yudina, " Lumitecture-Illuminating Interiors for Designers And Architects", Thames and
2. Hudson, 2016, ISBN:9780 500 518342
3. Jason Livingston, "Designing With Light", Wiley Publisher, 2014, ISBN: 9781 118 70477
4. Gary Gordon, "Interior Lighting for Designers", 5th edition, Wiley Publishers, 2015, ISBN:978
5. 0 47011 422 3
6. Malcolm Innes, "Portfolio Skills, Lighting for Interior Design", Laurence King Publishing Ltd,
7. London, 2012, ISBN: 9781856698368
8. Mark Karlen, "Lighting Design Basic" Wiley publishers, 2003, ISBN: 0471 38162 4

Assessment methode: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID405				Course Name:	INTERIOR LANDSCAPE
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

To develop the skill of using and integrating landscape elements and plant materials to transform different interior spaces through interior landscaping.

Course Description

Overview of the study of interior landscaping its elements, interior landscape plans, design techniques in enhancing and improving the quality of building environs, functionally and aesthetically.

Course Content

UNIT – I

- Introduction to landscape architecture. And role of landscaping design in the built environment. Types of natural elements – stones, rocks, pebbles, water forms, plants and vegetation. Elements of interior landscape.

UNIT – II

- Introduction to study of plants in relation to landscape design and interiors. Types of indoor plants, plant characteristics: i.e., biology, soil, moisture, light nutrient, atmospheric conditions, growing medium, pests & diseases. Botanical nomenclature, anatomy and physiology of plant growth. Indoor plants in Indian context. Market survey and costs.

UNIT – III

- Design with plants – Basic principles of designs. The physical attribute of plants and relation to design. Appearance, functional and visual effects of plants in landscape design and built environment. Selection and management of plant material in relation to the built environment. Design concepts related to use of sculpture, lightings, garden furniture, architectural feature and grouping them into meaningful composition s for visual and functional effects.

UNIT – IV

- Landscaping design parameters for various types of built forms- indoor and outdoor linkage to spaces. Landscaping of courtyards- residential and commercial forms. Indoor plants and their visual characteristics- colour, texture, foliage. Science of maintaining and growing greenery. Flowers- its colours, texture and its visual perception in various indoor spaces and science of flower arrangement. Automatic irrigation costing and installation of micro irrigation system.

Course Learning Outcome

1. Understand different types of materials, their application in the landscape design
2. Understand role of landscape design in built environment.
3. Understand different types of elements in site planning for landscape.
4. Understand different types of materials, their application in the designing of Exterior /landscape projects.

Reference Books/Text Books

1. Laurie, Michael, an Introduction to Landscape. 2nd edition, Prentice Hall, New Jersey, 1986.
2. Trivedi. P.Prathiba. Beautiful Shrubs. Indian council of Agricultural Research. New Delhi, 1990.
3. Hacheat, Blan. Plant Design.
4. Gerald Robert Vizenor, A Guide to Interior Landscapes, Univ of Minnesota Press, 1990.
5. Nelson Hammer and Mel Green, Interior Landscape Design, Mc Graw Hill, 1991.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID406				Course Name:	INTERIOR ILLUMINATION
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objectives:
To gain knowledge about lighting planning in interior space, use of appropriate lighting and effects of light in colours and interior space.

Course Description
Illumination standards and artificial lighting design and, Day light integrated lighting systems, timers and sensors, Different types of illuminations, Study of lighting fixtures and fittings used in interior spaces, special lighting systems for malls or displays, Provisions of standards and energy codes related to interior electrical services, Automation in lighting industry

Course Contents:

UNIT I: Introduction to Lighting in Interior

- The household activities with special reference to light requirement
- Cultural and social aspects of lighting
- Physiology of vision
- Lighting sources: natural lighting and artificial lighting (traditional to modern)
- Light measurements and units of measurement of lighting

UNIT II: Quantity & Quality of Illumination

- Factors affecting the quantity of illumination in a room: room proportion, colour, texture and cleanliness of room surface, lamp lumen, lamp lumen depreciation
- Competition of room index, coefficient of utilization, maintenance factor of luminance
- Planning lighting installation for a given interior space
- Evaluation of illumination at task/work place against the recommended requirements of illumination for various activities (ISI & IES recommendations)
- Colour rendition
- Spatial distribution of light: direct, indirect and diffused.
- Glare: luminance contrast, luminance uniformity

UNIT III: Types of Lighting

- Local & general lighting
- Applied lighting
- Architectural lighting
- Recessed lighting
- Luminous walls & ceilings

UNIT IV: Luminance & Lighting

- Controls type, selection, care, maintenance and economic use, lamp holders, lighting switches, motion sensors

Course Learning Outcome

1. To gain insight into the factors to be considered while planning home lighting
2. To learn to evaluate the illumination available at task in relation to different activities and plan appropriate lighting
3. To know the effect of light and colour together on interiors

Reference Books/ Test Books

1. Davidson J, The Complete Home Lighting Book, Casell, UK, 1997
2. De Chiara Joseph & Callender John, Time Saver Standards for Architectural Types & Interior
3. Design & Space Planning, Mc Graw Hill Book Co.
4. Wieltide, Elizabeth, Lighting, Ryland, Peters & Small, London
5. Whitehead R, Home Lighting Ideas Bedrooms & Baths, Rockport Publishers, Masachusetts
6. Whitehead R, Home lighting Ideas Dining Rooms & Kitchen, Rockport Publishers, Masachusetts

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID407				Course Name:	HISTORY OF INTERIOR DESIGN-IV
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

To understand the role of geo-physical, societal, political and technological factors in the evolution of architecture and urban form, and develop a holistic approach to architecture as an integral component of the built environment

Course Description

Examination of the history and the global, social, cultural, and political influences on design of Western and non-Western architecture, interiors, and furniture from the beginning of the 19th Century to the present time, and their impact on current design trends.

Course Content

UNIT – I: Modern Movement

- Return to the fundamentals and origins in nature and geometry; new inventions of iron and glass; horizontal and vertical expansions; responses to the vernacular. Social intentions and the search for the 'ideal' world; simplicity, abstraction, non-objective, no representative and neglect of content and ornament; new notions of technology; importance and precedence of function; De Stijl, etc. – an overview of the works of Louis Sullivan, C. R. Mackintosh, Edwin Lutyens, Antoni Gaudi, Walter Gropius, Frank Llyod Wright, Le Corbusier, Mies van der Rohe..

UNIT – II: International Style

- Simplification of the Modern architecture into steel and glass cubes – an overview of the works of Philip Johnson.

UNIT – III: Post Modernism

- Architecture entrenched in place and history; sarcastic approval of expression, ornament, symbolism and context – an overview of the works of James Stirling, Michael Graves, Charles Moore. Post modernism of Resistance: Disregard for historical imagery; revival of the ideals of the Modern Architecture of the 20's; exaggerated and sophisticated revival of the grid and Corbusier's geometry – an overview of the works of Richard Rogers, Norman Foster, Richard Meier.

UNIT – IV: Hi-tech Architecture

- Synthesis of the Hi-Tech and Historicism – an overview of the works of Cesar Pelli, Aldo Ross.

UNIT – V: Deconstuctism

- Deconstruction as a reaction to the Post Modern; non-perfection as important as perfection, narrative and representational; traditional purity of form, geometry and structure in question – an overview of the works of Frank O. Gehry, Peter Eisenman, Bernard Tschumi, Rem Koolhas, Zaha Hadid

Course Learning Outcome

1. Understand the history in Architecture and Interior decoration.
2. Analyze the art and architecture with respect to religious, cultural and social conditions.
3. Examine the evolution of art and architecture from Vedic times to Mughal period.
4. Explain the styles in Interior Design.
5. Discuss the contemporary interiors with prehistoric and primitive construction methods.

Reference Books/Text Books

1. Hinchman, Mark. History of Furniture: A Global View: New York: Fairchild Books, Inc., 2009.(ISBN: 978-1-56367-544-7)
2. Irelan, Jeannie. History of Interior Design. New York: Fairchild Books, Inc., 2009. (ISBN: 978-1-56367-462-4)
3. Wim Pauwels (2012), Contemporary Architecture & Interiors.

Assessment methode: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID408				Course Name:	COMPUTER APPLICATIONS-II
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	-	-	2	2		

Course Objective

At the end of this part of the course the student should be able to create three- dimensional objects in space, which can also be used for the purpose of presentation as well as visualization, using different rendering techniques

Course Description

Computer operation principles and image editing through a graphical Composition; Computer aided 2D drafting and 3D Modeling through simple exercises; Rendering of a building to create a photo realistic image.

Course Content

UNIT I: Fundamentals of 3-D drafting

- Basic features.
- Coordinate System
- 3D entities and surfaces

UNIT-II: 3D Modelling

- Wire-frame, Surface and Solid modelling
- Viewing 3D models
- Introduction to rendering
- Convention for representation of different materials.
- Importing and expulsary material (importing and exporting material library).

UNIT III: Customisation of CAD Software (suggested software: AutoCAD

- Custom line types, hatch patterns, shapes & fonts.
- Menu-customisation, short-cuts, etc.

UNIT lV: Graphics. Software like Corel Draw

- Creating a new graphics file.
- Viewing existing graphics file.
- Editing
- Making 3-D logo.

Course Learning Outcome

1. To equip students with skills required in using Computers as a tool for design, 3D modeling and rendering.
2. To familiarize the students with 3D drawing and sketching using appropriate softwares for Building visualization & Design representation.
3. Produce architectural drawings using CAD and illustration software programs with demonstrate an understanding of furniture, people and accessories, 3- dimensional renderings.

Reference Books/Text Books

1. Adobe: Introduction to photoshop
2. Autodesk: introduction to Archi- cad
3. Introduction to 3D –max

Assessment method: (Continuous Internal Assessment = 100% , Final Examination = NA

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A	Sessional work	External Viva
100%	-	-		**50**	No external Exam

Course code:	BID409				Course Name:	HEALTH EDUCATION-IV
Teaching Scheme:	L	T	S/P	Total	Total Credits:	-
	-	-	2	2		

Course Objective

To make the students learn the various aspect of health fitness.

Course Description

Importance of physical health and participation in various physical activity to stay healthy.

Course Content

UNIT-I

- Concept of vital capacity, blood pressure, pulse rate, general and specific conditioning
- Food requirements, and balanced diet
- Physical Fitness arid its components: speed, strength, endurance, agility, etc.

UNIT-II

Health and Fitness

- Development of physical fitness and its components.
- Sports performance in different games and sports.
- Yogic Activities.
- Adventurous Activities.
- S.U.P.W. (Socially Useful Productive Work).

Course Learning Outcome

1. Students will know body system and importance of good health.
2. They will learn to participate in physical activity.
3. Learn team sprit and coordination to achieve common goal.

Course code:	BID501				Course Name:	INTERIOR DESIGN-V
Teaching Scheme:	L	T	S/P	Total	Total Credits:	8
	1	-	7	8		

Course Objectives

To develop creative conceptual visualization and the process of design. To understand accessibility and universal design issues.

Course Description

This course is intended to provide skills for designing interior spaces with emphasis on transformation and adaptive re-use as one of the important aspects in interior design.

Course Contents

UNIT- I

- The primary focus should be on – Introduction to building codes Way finding, Signage and graphics Universal Design Accessible design Design Disabled Materials, furniture and finish selections Introduction to construction detailing Ergonomics and Human Factors Digital representation (3-D modelling) Space planning process Colour Interior environmental control issues Rendering

UNIT- II

- The list of suggested topics to be covered as design problems: Institutional spaces in urban, semi-urban and rural contexts with an aim to explore and understand transformation and adaptive re-use. Historic and abandoned sites provide scope for rejuvenation through multi-dimensional programs covering functions like museums, cultural and resource centers, libraries, convention centers, exhibitions etc. that also aim in making a social contribution. Recreational spaces such as auditoriums, halls, cinema houses, stage design etc. Knowledge of audio-visual communication, colour and light interaction, sound control system, design of interior elements, products and furniture forms.

UNIT- III

- Design issues in addition to the primary focus for the above are statement of institution character through interior environment responses to site and context, integration of interior architectural elements to other interior elements, dialogue between the existing and the newly added insert, interpretation of institutional activities and their spatial correlation.

Note: At least two major exercises and two minor design/time problems should be given. In the end exam, which is a viva-voce the students have to present the entire semester work for assessment.

Course Learning Outcome

1. Use of standards, transformation of spaces for reuse and application of knowledge gained from other subjects, in design.
2. To understand accessibility and universal design issues
3. To develop creative conceptual visualization and the process of design.

Reference Books/ Test Books

1. Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
2. Francis.D. Ching & Corky Bingelli, Interior Design Illustrared, 2nd edition, Wiley publishers, 2004.
3. Julius Panero & Martin Zelnick, Human Dimension & Interior Space: A source book of Design Reference standards, Watson – Guptill, 1979.
4. Shaping Interior Space, Fairchild Books & Visuals, 2002
5. Neufert Ernest, Architect‟s Data, Granada pub. Ltd. London, 2000.
6. Maryrose McGowan & Kelsey Kruse, Interior Graphic Standards, Wiley and sons, 2004.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination =50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A	Sessional work	External Viva
30%	20%	50%		**150**	**150**

Course code:	BID502				Course Name:	INTERIOR CONSTRUCTION-V
Teaching Scheme:	L	T	S/P	Total	Total Credits:	6
	1	-	5	6		

Course objectives:

To develop a total understanding of project execution on site, including building services through a combined studio and construction program

Course Description

This course aims towards acquainting students with standard and simple construction techniques and practices, which are used, related and applied in the interior space design. This also bridges the gap between the design ideas and its execution on site practically.

Course contents:

UNIT-I

- Construction drawing system & methods-civil works
- Services
- Built-in furniture, partitions, paneling
- Wall finishes, ceiling, flooring.

UNIT-II

- Choice of materials, fixtures, fittings
- Availability & constructional feasibility
- Application of materials

UNIT-III

- Designing of details, Writing spcifications of the materials and design
- Prepare a full set of working drawings for a project preferably previous semesters Studio project (in part of full) computerized working drawings not desirable.

Course Learning Outcome

1. Develop a total understanding of project execution on site, including building services through a combined studio and construction program.
2. Learning to make highly involved technical drawings with specifications.
3. Knowledge of detailed constructional - working drawings for implementation of a project

Reference Books/ Test Books

1. Architecture – Form, Space & Order (2nd Edition) – Francis D.K.Ching
2. Design- a creative process by Francis D K Ching
3. Graphical Thinking for Architects & Designers – Paul Lasseau
4. Interior Design Illustrated – Francis D K Ching
5. Neufert's Architect Data – Vincent Jones
6. A Visual Dictionary of Architecture – Francis D. K. Ching
7. Experiencing Architecture – Steen Eider Rasmussen
8. The Timeless Way of Building – Christopher Alexander
9. Pattern Language – Christopher Alexander
10. Time – Saver Standards for Interior Design and Space Planning – Josheph De Chiarg, Julius Panero, Martin Zelnik

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A	Sessional work	External Viva
30%	20%	50%		**100**	**100**

Course code:	BID503				Course Name:	FURNITURE DESIGN-II
Teaching Scheme:	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective:
To understand the different storage system in different spaces and their manufacturing processes.

Course Description
Functional use of furniture, space requirement, role of furniture in different walk of life and technical aspect related to design and manufacturing

Course Contents

UNIT- I: Kitchen storage system

- Functional analysis of storage systems and thereby deriving types of cabinets needed for interior spaces – kitchen cabinets, wardrobes closets & respective hardware for modular kitchen. Assignment: Exercise to design kitchen cabinets for a given kitchen in details.

UNIT-II: Book cases & showcase

- Functional analysis book cases, show cases, display systems, compactors, mechanical storage, etc. and respective hardware for these. Survey of several modular systems available for different functions in the market

UNIT-III : Modular furniture

- Various materials, combination of materials, their hardware and applications. Cost criteria of furniture design. **Assignment**s : Survey of several modular systems available for different functions in the market
- An introduction of various manufacturing processes most frequently adopted in furniture design such as Injection Molding, investment casting, sheet metal work, die casting, vacuum - forming etc. Assignments : Survey of different types of moulded or casted furniture available for different functions in the market

UNIT-IV : Furniture designers

- Charles & Ray Eames, Eero Saarinen,Jean Prouve,Paul Mccobb,Ettore Sottass,Knoll,Jens Risom etc

Course Learning Outcome

1. Understand the transformation of furniture design from past to present.
2. Knowledge of different type of furniture and their role.
3. Develop skill to design furniture for various use and user.

Reference Books/Text Books

1. Bradley Quinn, Mid-Century Modern: Interiors, Furniture, Design Details, Conran Octopus Interiors, 2006.
2. Jim Postell, Furniture Design, Wiley publishers, 2007.
3. Robbie. G. Blakemore, History of Interior Design and Furniture: From Ancient Egypt to Nineteenth-Century Europe, Wiley publishers, 2005

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Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	4 hrs	Sessional work	Examination
30%	20%	50%		**50**	**50**

Course code:	BID504				Course Name:	INTERIOR SERVICES-III
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objectives:
To enable the students to understand the basic principles of natural and mechanical ventilation in buildings and learn calculations.

Course Description
Study of design and detailing of natural and air conditioning compliance requirements w.r.t. National Building Code and Energy Conservation Building Code.

Course Contents:

UNIT-I : HVAC system

- Introduction to natural and mechanical ventilation-,Ventilation with fans, ventilation with ducts, recommended fresh air supply
- Air-conditioning and duct table system, Need and atmospheric conditions for human comfort,
- Process of air conditioning- types of air conditioning system and window units, Packaged air conditioner, vertical air cooled packaged unit, horizontal package unit, Central plant systems, ducts grills and diffusers.

UNIT-II : Fire safety

- Introduction to fire protection, causes of fire and preventive measures. ire resistant construction, responsibility of designer towards fire resistance. specification and requirements, application usage

UNIT-III : **Vertical Transport**

- Services for multi storied buildings - Vertical transportation systems – Introduction – lifts, escalators vertical & horizontal, definition, location, arrangement, structure, drives, traffic analysis, supervisory control, remote monitoring

UNIT-IV: Safety & security

- Introduction, designing a security system – burglar alarm, CCTV, central alarm systems, intrusion sensors and space sensors. Other services – cable TV, PABX, computer labs – access flooring, server rooms.

UNIT-IV: Building Automation

- Building automation and energy management – Introduction, History of development of BAS, typical BAS, criteria for choosing the right BAS, open system architecture. Information technology, communications & artificial intelligence in intelligent buildings. Design in computer age, engineering intelligence through nature.

Course Learning Outcome

1. Understand natural ventilation in various types of buildings and design feature.
2. Understand terminology and basic principles of natural and mechanical ventilation.
3. Knowledge of fire fighting. ,vertical transport and building outomation

Reference Books/ Test Books

1. Ch'ing, Francis D K, Binggeli, Cork, "Interior Design Illustrated", Wiley Publications, New Jersey, 2004.
2. Hall, Fred, Greeno, Roger, "Building Services Handbook", Butterworth Heinemann, UK, 2001.
3. Purnima B C, 'Environmental Engineering - I - Water Supply Engineering", Laxmi Publications (P) Ltd, New Delhi, 2005.
4. Rangwala S C, "Water Supply and Sanitary Engineering", Charotar Publishing House Pvt. Ltd., 29th edition, 2016.
5. Singh, Gurcharan, "Water Supply and Sanitation Engineering (Environmental Engineering)", Standard Publishers Distributors, 2007.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID505				Course Name:	HISTORY OF FURNITURE DESIGN
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objectives:

To create awareness of History as an aid to design process

Course Description

Course Contents:

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, ormolu mounts.

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 furniture of Italy and France.

UNIT- IV

- 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- V

- Study of architectural elements in interiors in India from Mughal period onwards such as doors, windows, pillars, columns, staircases, fireplaces, paneling, dado, frieze, architectural decoration, study sketches and creative designs.

UNIT- VI

- Architectural characteristics of Buddhist, Hindu and Muslim with special emphasis on decoration, ornaments.
- Chinese and Japanese interior and furniture.

Course Learning Outcome

1. To understand different historical elements and their reference in design
2. To develop an understanding for different style with their relevance to the context
3. To understand about the contextual reference of historical era into design

Reference Books/ Test Books

1. Mid-Century Modern: Interiors, Furniture, Design Details Hall, by Bradley Quinn
2. Furniture Design by Jim Postell
3. History of Interior Design and Furniture: From Ancient Egypt to Nineteenth-Century Europe by Robbie. G. Blakemore

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	**BID506**				**Course Name:**	**LIGHTING DESIGN**
Teaching Scheme:	**L**	**T**	**S/P**	**Total**	Total Credits:	**2**
	2	-	-	**2**		

Course Objective

To introduce methods of determining qualitative & quantitative lighting requirements both for interiors and exteriors.

Course Description

Building performance assessment and energy simulation tools, understanding of National Building Code (NBC) and Energy Conservation Building Code (ECBC) of India to provide minimum requirements for energy efficient design and construction of buildings; various compliance approaches; Building Envelope; Comfort Systems; Lighting systems; Electrical and renewable energy systems.

Course Content

UNIT-I

- Basic anatomy and functions of the eye. Adjustments made by the eye, Age- related defects and their design implication.
- Visual arc, Visual acuity, resolution angle, Contrast, Colour Contrast, Colour Adaptation, Visual performance and its relationship to Contrast, Size of task and Illuminance. Central and peripheral vision.
- Photometric terms used in the lighting industry and their interrelationship. Measurement of these terms.
- Colour Specification with Munsel and CIE system, Additive and Subtractive colour mixing.

UNIT-II

- Lamp Properties; Effect of voltage & Temperature fluctuation on functioning of lamps, lamp cost, Lumen Loss, Lamp photometry, etc. Brief history of lamps.
- Lamps - Incandescent, Discharge sources. High intensity discharge sources. Fibre optics, Induction Lamps, LED lamps. Recent developments in lamp technology.
- Luminaire properties like intensity distribution for ceiling luminaries & floodlights, LOR, ULOR, DLOR, IP rating, Glare control methods, Aesthetics and applications.

UNIT-III

- Quantitative lighting design of a simple space manually using lumen methods. Lighting design- using computers.
- Design principles used for lighting of various types of internal spaces. Design principles used for lighting of various external situations.
- Day lighting, Importance and method to calculate illumination due to daylight using daylight factor, day lighting practices. Integration with electric lighting.

Course Learning Outcome

1. Inculcate a general understanding of the importance of lighting in buildings.
2. It will develop an ability to address Architectural Design in terms of space and form for areas of lighting design concerns.
3. Uses and application of lighting principals in interior space
4. Analysing day light and integration of artificial lighting in building interior.

Reference books/ Text books

1. Basic electrical engineering by D.P Kothari, I.J Nagrath
2. Introduction to the design and analysis of building electrical system by John Mathew Electrical design guide for commercial buildings by William H. Clark
3. Handbook of electrical design details by Neil Sclater Building construction illustrated by Dr. D.K. Ching

4. Mechanical and electrical equipment for building by Walter T. Gondzik

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	25

Course code:	**BID507**				**Course Name:**	**HUMAN BEHAVIOUR & INTERIOR ENVIRONMENT**
Teaching Scheme:	**L**	**T**	**S/P**	**Total**	Total Credits:	**2**
	2	-	-	**2**		

Course Objective

To acquaint the students with the problems of the environment and its pollutants.

Course Description

Overview of fundamental concepts of environment and ecosystem so that they can appreciate the importance of individual and collective efforts to preserve and protect our environment. This course must raise various questions in student's mind that how our environment is interdependent on various factors and how human being must care for their natural surroundings.

Course Content:

UNIT I: Human Ethics & Environment

- Resource consumption pattern and the need for equitable utilization
- Equity-disparity in the northern and southern countries
- Urban-rural equity issues
- Need for gender equity
- Preserving resources for future generations
- The ethical basis of environment education and awareness

UNIT II: System Concept in Ecology

- Ecosystem, and its functional attributes
- Energy flow in the ecosystem
- Material cycling
- Development and evolution of ecosystems

UNIT III: Environment & Public Health

- Environmental pollution and community health
- Waste management: types of waste and solid waste management
- Environmental registration and policies
- Environmental ethics and human rights issues relating to environment
- Women and environment

UNIT IV: Pollution & Environment with Reference to Air, Water, Soil & Noise

- Concept of pollution
- Sources of pollution
- Remedies to control pollution

Course Learning Outcome

1. Understand the influence of surrounding color/temperature/aesthetics/sound, etc or human behavior and to be able to integrate the same while designing
2. To be able to design an enabling environment
3. Understand the human behavior and its impact on spaces.

Reference Books/ Test Books

1. Cllicott B, In Defense of Land Ethics: Essays in Environmental Philosophy, Albany State University of New York Press,1989
2. Enrlich P R &Heldren J P, Human Ecology, 1973.
3. Nash R F, The Rights of Nature: A History of Environmental Ethics, Madison University of Wisconsin Press, 1989

4. Owen D F, What is Ecology? Oxford University press, 1974
5. Scheneider S H, Global Warming: Are We Entering the Greenhouse Century, 1989

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	**BID508**				**Course Name:**	**COMPUTER APPLICATIONS-III**
Teaching Scheme:	**L**	**T**	**S/P**	**Total**	Total Credits:	**2**
	-	**-**	**2**	**2**		

Course Objective

At the end of this part of the course the students should be able to create three- dimensional objects in space & presentation of 2D/3D drawings, using different rendering techniques.

Course Description

Computer operation principles and image editing through a graphical Composition; Computer aided 2D drafting and 3D Modeling through simple exercises; Rendering of a building to create a photo realistic image.

Course Content

UNIT-I: Photoshop

- Basic Concepts, Bitmaps and Vector, Using the Toolbox, ruler Guides and Grids, Info Palette, Palette Techniques.
- Taking Snapshots, Opening and Saving Files. Opening images of Photoshop, Scanning into Photoshop.
- Opening an EPS File, Placing an EPS File Saving Files, TIFF and JPEG Formats, Photoshop EPS.
- Rotating an Cropping an image, Resizing without Resampling, Image Modes, Duotone mode, Defining Colors, Foreground and Background Colors, Eyedropper and color, Sampler Tools, Color Picker Palette, Selecting Pantone Colors, Color palette
- The Painting Tools, Brushes Palette, Painting Tool Techniques and Settings, The Editing Tools.
- Making Selections, Marquee Options, Feathering Selections, Modifying Selections, Transforming Selections

UNIT-II: Introduction to Archi-CAD

- Grid & Background, Snap Settings, Preferences & Working Units etc., Interface tools and toolboxes, Work Environment Settings.
- 2 D Module: Lines, Rectangle, Poly line, Rotated rectangle Arcs, Circles, Selection methods, Line type, Editing Options.
- Introduction to Slab tool in Archi CAD, Wall Tool and its construction methods, Relative Construction methods, Introduction to Layer Manager, Dimensioning Tool (Auto dimensioning).
- Documentation & Visualization Module
- Section and Elevation tool, Detail tool, Figure tool, Fill tool and hatches.
- Display options, Creation of Materials/Material Textures, creating perspectives with Camera tool, VR Object and VR Scene, Photo-rendering with light works engine, Rendering through sketch rendering.

UNIT-III: Introduction and Context for 3D Studio Max.

- Types of modelling; modifiers and the modifier stack.
- Modelling/deformation-animation techniques: lathing; displacement, lofting, Booleans.
- Modelling with Lofts; Modelling with Compound Objects; other, techniques, Patch modelling.
- Low-polygon modelling. Edit Poly vs. Edit Mesh; Symmetry modifier; tools and techniques.
- Modelling with combined techniques:
- Textures and texture mapping.

Course Learning Outcome

1. To equip students with skills required in using Computers as a tool for design, 3D modeling and

rendering.

2. To familiarize the students with 3D drawing and sketching using appropriate softwares for Building visualization & Design representation.
3. Produce architectural drawings using CAD and illustration software programs with demonstrate an understanding of furniture, people and accessories, 3- dimensional renderings.

Reference Books:

1. Adobe: Introduction to Photoshop.
2. Autodesk: introduction to Archi- cad
3. Introduction to 3DS –max

Assessment method: (Continuous Internal Assessment = 100% , Final Examination = 0%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Sessional work	Examination
100%	-	-		**50**	No exam

Course code:	BID601				Course Name:	INTERIOR DESIGN-VI
Teaching Scheme:	L	T	S/P	Total	Total Credits:	8
	1	-	7	8		

Course Objectives:

To enable the students to: Understand the methodology, process, stages of designing studio w.s.r.t. interior and interior designing.

Course Description

Introduction to the concept of Inclusive Design as applied to space planning. Emphasis is in creating spaces in the built environment that are responsive, adaptable, accessible, and secure to everyone through the Design Process.

Course Contents:

UNIT -I

- Students have to identify a client, a practical site and develop the design requirement, related design issues and provide alternate design scenarios and develop the most practical alternative. He has to organise the working drawings for the same including service drawing (with assistance from the Consultants) with Budget Provision and Project Schedule and probable management strategy.

UNIT -II

- Spatial designing that focusses on interior finishing for a public program on a given site. Exploring and researching materials-patterns-connections-constructions on scale 1/1 in order to develop an interior skin. This skin needs to be in relation to the given program, the thematic and functional specifications and the analysis of the reconversion. Simultaneous designing process via implementing the program and materializing the skin on diverse scales.

Course Learning Outcome

1. To develop the skill of observation.
2. To give exposure to theatrical time and space.
3. To develop the skill of creative thinking… Theatrical possibilities.

Reference Books/ Test Books

1. Natural History: Herzog & De Meuron : Philippe Ursprung : Lars Muller Publischers.
2. Skin + Bones: Parallel practices in Fashion and Architecture by Brooke - Hodge: Thames and Hudson.

Assessment method: (Continuous Internal Assessment =540% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A	Sessional work	External Viva
30%	20%	50%		**150**	**150**

Course code:	BID602				Course Name:	INTERIOR CONSTRUCTION-VI
Teaching Scheme:	L	T	S/P	Total	Total Credits:	6
	1	-	5	6		

Course Objective

To equip the learner with various partitioning systems, false ceiling systems, false floors and means of construction, assembly and joinery through detailed working drawings.

Course Description

This course aims towards acquainting students with standard and simple construction techniques and practices, which are used, related and applied in the interior space design. This also bridges the gap between the design ideas and its execution on site practically.

Course Contents

UNIT I: Advance Partition Systems

- Advance Partition Sliding folding partition in metal and glass.
- Thermal/Acoustical partition and Systems: panelling in metal frame finished in various materials, movable partitions

UNIT II: Concept Systems: Commercial Facilities:

- Mezzanine Floors
- Curtain Wall Systems

UNIT-III: Raised flooring

- Raised floor for commercial spaces and I.T. rooms.

Course Learning Outcome

1. Understand Plastic, PVC and Paints as building material, their use in building construction, properties & application method.
2. Gather knowledge of fabrication of doors and windows in buildings and work out their construction details.
3. Understand construction techniques / methods as per procedures recommended by IS Codes.
4. Work Out / Apply appropriate details for building construction considering various materials.

Reference Books/ Test Books

1. Joseph De Chaira Jullius Panero Martin Zelnik, Time Saver Standard for Interior Design &Space Planning, Mcgraw Hill New York
2. John Pile, Interior Design, Harry N. Adry Publishers
3. Ahmed Kasu, Interior Design, TWAIN Pub. Bombay
4. Jullius Panero Martin Zelnik, Human Dimensions and Interior Spaces, Whitney Library New York
5. Phillis Sleen Allen, Beginning of Interior Environment, New York
6. Shirish Bapat, Basic Design of Anthropometry, Bela books Publishers
7. Shirish Bapat Living Area (Interior Space) Bela books Publishers
8. V. S. Parmar, Design Fundamental in 1st architecture, Somaiya Pub. Pvt. Ltd.
9. Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A	Sessional work	External Viva
30%	20%	50%		**100**	**100**

Course code:	BID603				Course Name:	INTERIOR PRODUCT DESIGN
Teaching Scheme:	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

To make aware of various product, integration in interior their design and material.

Course Description

The course prepares the student for mass production of decorative accessories and products for various life styles of people with the parameters of economy.

Course Contents:

UNIT- I

- Insight of various products and lifestyle accessories in the interiors. Role of accessories in interiors. Integration of accessories in interior design. Design approaches in product and lifestyle accessories design with a focus on functionality, ergonomics, aesthetics, multiple usages etc.

UNIT- II

- Stylistic development of decorative accessories from the past to present with insight into technological advances and the influences of social, economic and political factors on their design. Brief study of period room settings with the context of decorative accessories complementing the architecture and interior design.

UNIT- III

- Study of materials and processes adopted in accessories design. Basic understanding of construction principles, anthropometrics, principles of sizes and proportions, modelling, rapid prototyping, colour, texture etc. with broad orientation to socio-cultural and historical context of the sector. Orientation to Indian as well as global context of interiors, trends and market.

UNIT- IV

- Design approach with limited constraints inherent in accessory products. Evolving the strategy of design with integration of technical complexities and lifestyle influences. Development of the design of products and accessories to specific interiors and prevailing trends. Broad based approach towards innovative design and application to multi products and multi materials in manufacturing interior products and lifestyle accessories.

UNIT- VI

- A detailed study involving all the design aspects of any of the following lifestyle accessories: luminaire design, glassware, lighting, textiles, mirrors, clocks, wall coverings etc.

Course Learning Outcome

1. Imparts the knowledge of various styles, systems and products available in the market.
2. Enhances the aesthetic perception, materials, design and working parameters in designing products and life style accessories.
3. Develops systematic design approach and integration of designed accessories with the interior.

Reference Books:

1. Laura Slack, What is product Design? Roto Vision publishers, 2006
2. Treena Crochet and David Vleck, Designer"s Guide to Decorative Accessories, Prentice Hall, Ist edition, 2008.
3. Michael Ashby, Kara Johnson, Materials and Design: The Art and Science of material selection in product design, Butter Worth Heinemann, 1st edition, 2002.
4. International Design Yearbook, 1995: Furniture, Lighting, Tableware, Textiles and Products, Books Nippan, 1996.
5. Karl. T. Ulrich, Steven D. Eppinger, Product Design and Development, McGraw-Hill

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	4 hrs	Sessional work	External Viva
30%	20%	50%		**50**	**50**

Course code:	BID604				Course Name:	INTERIOR SERVICES-IV
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

To enable the students to understand the basic principles of acoustical insulation to interior spaces and learn various methods to manage sound

Course Description

Study of and design and detailing for, air conditioning, fire hazard protection, acoustical treatment, rainwater harvesting, etc. in buildings and building premises, etc.; compliance requirements w.r.t. National Building Code and Energy Conservation Building Code

Course Content

UNIT- I

- Introduction to acoustics, objectives of acoustics, terminology.
- Sound in interiors, factors involved in sound.
- Classification of sound
- Sound transmission defects due to reflected sound.

UNIT- II

- Introduction to absorbents
- Classification of absorbent
- Types of sound absorptive materials
- Porous absorbents, commercial porous materials, resonant panels

UNIT- III

- Fundamentals of sound - Nature of sound waves, terminology,
- Sound insulation materials, wall insulation, flooring insulation, ceiling insulation
- Timber floor floating construction, window insulation, ventilation
- Air conditioning systems for auditoriums.

UNIT- IV

- Ways to control room noise, control of sound transmission.
- Speech privacy, room geometry and planning concepts,
- Control of impact noise, acoustic ratings of ceilings.

UNIT- V

- Advanced technology in acoustics.
- Acoustics and environment - Introduction, material, methods, applications and its benefits.

Course Learning Outcome

1. Understand water requirements in various types of buildings and integration of water supply services in architectural design.
2. Understand terminology and basic principles of water supply and sanitation.
3. Understand functions of various plumbing fittings and fixtures, applicable IS Codes.
4. Develop design skills for water supply and drainage systems in buildings and prepare

Reference Books/ Test Books

1. David Egan M, “Architectural Acoustics”, J Ross Publishing, 2007.
2. Jiri Tichy, “Acoustics of Small Rooms”, CRC Press, 2014.
3. Kuttruff H, “Room acoustics”, CRC Press, 5th edition, 2009.
4. Lawrence E Kinsler, “Fundamentals of Acoustics”, Wiley Publishers, 2000.

5. Lothar Cremer, “Principles and Application of Room Acoustics”, Peninsula Publishing, 2016.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID605				Course Name:	ESTIMATION, COSTING AND SPECIFICATIONS
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

To enable the students to understand the concept of estimation and costing for interiors and analyze various components based on specification.

Course Description

Specifications of various building works as per National Building Code (NBC) and Energy Conservation Building Code (ECBC); Writing specifications for materials and various items of work; Systems of taking out quantities and estimating for all trades involved in construction of medium complexity; preparation of Bill of Quantities (BOQ); Cost estimating for building works (material and labor); valuation report preparation; Budgeting for specific project

Course Contents:

UNIT- I

- Introduction to costing, terminology, its application and benefits, cost influences and construction costs, furniture, fixtures and equipment, contractor's overhead and profit, professional fees, taxes and contingencies other installation.

UNIT- II

- Introduction to estimation, benefits, types of square footage, parameter, items-wise estimation, take- offs. Factors to be considered for special design with estimation.

UNIT- III

- Introduction to specifications, types of specifications, prosperity specifications, based – bid specifications, descriptive specifications, performance specifications, master specifications its advantages and disadvantages.

UNIT- IV

- Introduction to writing of specification, purpose and definition of specification, guidelines for writing specifications, coordination with the construction drawings, furniture specification, checklist for construction drawing and specification, specification for walls, floors, wardrobes, ceiling, painting. Procedure for writing specification for the purpose of calling tenders.

UNIT- V

- Introduction to V Rate analysis, Rate analysis - Definition, method of preparation, quantity and labour estimation for woodwork, steelwork, aluminium work, glass and its rate for different, thickness & sections, finishing (enamel paint, deco paints, melamine, du coats, and hand polishing, veneering and laminating) for walls and ceilings. Electrical and plumbing products, wiring, ducting, and laying of tiles and wall panelling in the estimate format of the project.

UNIT- VI

- Introduction to costing of fixtures and fitting, cost of the following items - Electrical fitting - luminaries, fan, cables, switches, joinery in wood, enamel paint painting to joinery, varnishing, French polishing plumbing equipment - piping, shower panels, cubicles, tubs.

Course Learning Outcome

1. Understand Brief & Technical Specifications of building materials & works.
2. Develop skills in writing specifications for various building materials and items.
3. Understand need and procedure of preparing building estimates and tender documents.
4. Learn and apply good practices in writing specifications, preparing building estimates and tender documents for building works.

Reference Books/ Test Books

1. Patil B S, “Civil Engineering Contracts and Estimates”, Orient Longman Publishers, 2015.
2. Dutta B N, “Estimating and Costing in Civil Engineering”, UBS Publishers Distributors Pvt. Ltd., New
3. Delhi, 2014.
4. Mantri, Sandeep, “The A to Z of Practical Building Construction and its Management”, Satya
5. Prakashan, New Delhi, 2013.
6. Rangawala S C, “Estimating Costing and Valuation”, Charotar Publishing House, 2011.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID606				Course Name:	PROFESSIONAL PRACTICE
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objectives:

To develop entrepreneurship skills in students and help the students understand the process & procedure of setting up small enterprises.

Course Description

Introduction to entrepreneurship; leadership skills and self-motivation; marketing and finance management; starting a small business; future-oriented design principles to increase the design organization‘s innovative and competitive qualities; Sustainability; Risk-taking; Job procurement; Employee management; marketing; Social entrepreneurship and its relevance to the practice of architecture.

Course Content:

UNIT- I Enterprise Management

- Concept of entrepreneurship development
- Need, scope, process & role in economy.
- Types of enterprises: merits & demerits.
- Institutional support, government polices & schemes for enterprise development.

UNIT- II The Entrepreneur

- Definition behavior, characteristics, entrepreneurial competency, concepts & development.
- Self-awareness, interpersonal skills, creativity, assertiveness.
- Factors influencing entrepreneur's role.

UNIT-IIII Setting & Managing an Enterprise

- Need, scope & approaches for project formation, market assessment, S.W.O.T analysis & techno-economic feasibility of project.
- Resource mobilization-finance, technology, raw materials, site & manpower.
- Costing, marketing management & quality control institutions.
- Book of accounts, financial statements, funds flow analysis & financial incentives.
- Feedback, monitoring & evaluation

UNIT- IV Project Management Review:

- Critical Path Method
- Project Evaluation Review Techniques for Establishing Small-Scale Industries.

UNIT- V Creativity & Problem Solving Personnel Management.

- Salaries, wages & incentives
- Performance appraisal,
- Quality control etc.

UNIT- VI Marketing &. Sales Management

- Marketing management & sales techniques
- Packaging
- Label intervention,
- Pricing &after sales service.

UNIT- VII Legislation

- Licensing,
- Registration,
- Principal Laws,

- Business Ethics,
- Income Tax,
- Labour Law Application
- Consumer Complaint Redressed.

Course Learning Outcome

1. To develop entrepreneurship skills in students.
2. To motivate students towards seeking an entrepreneurial career.
3. To help the students understand the process & procedure of setting up small enterprises.
4. To develop analytical skills of students regarding the environment related to small-scale industries & businesses.

Reference Books/ Test Books

1. A handbook of learning Systems, Entrepreneurship Development, Institute of India, New Delhi,
2. 1982
3. Deshpande M V, Entrepreneurship of Small Scale Industries, Concept, Growth & Management,
4. Deep & Deep Publications, New Delhi, 1984
5. Hirsch R D. & Peter M P, Entrepreneurship, Starting Developing & Managing a New Enterprise,
6. Richard. D Irwin, Inc, U.S.A, 1995
7. Parekh V & Rao T V, Personal Efficiency in Developing Entrepreneurship Learning System,
8. New Delhi, 1978

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID607				Course Name:	SUSTAINABLE DESIGN IN INTERIOR
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

To sensitize students about need for environmental design and study the various factors involved in environmental and sustainable buildings

Course Description

Passive design considerations; active systems; design for energy efficient building- day lighting and natural ventilation; technologies for alternative sources of energy; Net Zero buildings; software tools for the design of a building and the performance evaluation of a building with respect to energy; Rating systems: IGBC, LEED, GRIHA.

Course Content

UNIT- I

- Introduction to sustainable design, green buildings and methods adopted in current scenario.

UNIT- II

- Analysis of ecology to understand the working principles of nature and different climatic conditions according to seasons, positive and negative causes of transformation in its pattern, its implications and effects on built environment.

UNIT- III

- Detail study of tools, materials and techniques adopted in green buildings. Studying the principles of sustainability to incorporate in interior design projects.

UNIT- IV

- Role of solar energy within built environment in addition to understanding of design principles such as day-lighting and ventilation requirements for a particular activity in a given space and according to the size of the space.

UNIT- V

- Study of sustainable materials available and its application in the building construction. Certification systems and certification authority-IGBC, GRIHA, BEE. For E.g. Mud bricks, AAC, fly ash blocks, UPVC, WPC boards, paints, glass etc.

UNIT- VI

- Detail study of techniques, methods and limitations involved in designing green spaces, using renewable energy such as tapping the wind to blow inside the building which can cut down on usage of fans and air-conditioner. Using rainwater harvesting methods for watering and maintaining indoor plants and water bodies.

Course Learning Outcome

1. Understand features of sustainable design and methods.
2. Knowledge of principals and techniques adopted in designing sustainable interior.
3. Aware of various authorities and techniques and limitation involved in designing.

Reference Books/ Test Books

1. Abbaszadeh, S, L. Zagreus, D. Lehrer, and C. Huizenga, “Occupant Satisfaction with Indoor Environmental Quality in Green Buildings”, University of California, Berkeley, Center for the Built Environment, 2006.
2. Mardiana Idayu, Ismail, Mazran, Saffa (Eds.), “Renewable Energy and Sustainable Technologies for Building and Environmental Applications”, Springer International Publishing AG, 1st edition, 2016.
3. Michael J, “Biodiversity and Conservation”, Routledge Taylor & Francis Group, 2nd edition, 1997.
4. Miles Keeping, David Shiers, “Sustainable Building Design: Principles and Practice”, Wiley-
5. Blackwell, 1st edition, 2017.

6. Susan M Winchip, “Sustainable Design for Interior Environment”, Fairchild Publication, 2nd revised edition, 2011.

Assessment method: (Continuous Internal Assessment = 50% , Final Examination = 50%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	**25**

Course code:	BID608				Course Name:	INTERIOR PHOTOGRAPHY
Teaching Scheme:	L	T	S/P	Total	Total Credits:	2
	2	-	-	2		

Course Objective

To familiarize students with the basic skills of photography for use in architecture, and related fields like, landscape design interior design both as a tool of documentation and aesthetic interpretation.

Course Description

Photography has become a tool to strengthen the understanding of architecture, to highlight aesthetic and design ideas and to critically interpret the space, architectural photography and the photography of urban space, both in relation to their historical roots and contemporary practice. this offers a perfect environment to develop one's artistic talent while learning the art of photography and discovering the secrets

Course Contents

UNIT-I: Principles of composition

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

UNIT-II: Principles of photography

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

UNIT-III: Principles of interior lighting

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

UNIT-IV: Principles of colour

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

Course Learning Outcome

1. Have improved their ability to express their ideas clearly through their pictures.
2. Have improved their understanding of the opportunities to independently produce photographs in a broad range of styles.
3. Have developed a sensitivity to the importance of light and composition in creating a photograph.
4. Have worked towards a cohesive body of work to be shown in the final exhibition and final critique

Reference books/ Text books

1. "Professional Secrets of Advertising Photography", Paul Markow; Amherst Media, 1998
2. Encyclopedia of practical photography, Eastman Kodak Company; Amphoto, 1979
3. "The New 35mm Photographer's Handbook: Everything You Need to Get the Most Out of Your Camera", Julian Calder, John Garrett; Three Rivers Press, 1999
   Digital Photography for Dummies,Julie Adair King;John Wiley & Sons, 2012

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	2 hrs	Sessional work	Examination
20%	30%	50%		**25**	25

Course code:	BID701	Course Name:	PROFESSIONAL TRAINING / INTERNSHIP
Teaching Scheme:	NA	Total Credits:	24

Course Objective

The objective of the 'Professional Training' is to enable the students to gain the various range of practical/feild experience which will prepare them for their likely responsibilities, immediately after qualifying B. ID. Course.

Course Description

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

NOTE:

1 This entire semester will be used for Practical Training, which is to be undertaken with an architect/Interior Designer having a minimum professional experience of 8 years.

2 Trainees are required to submit monthly progress reports of the work done by them in the office. These reports will be monitored by a faculty member designated as the Practical Training Coordinator.

3 A Practical Training Examination will be conducted at the end of the training period, in which the work done by the trainee will be assessed through a viva voce.

4 A detailed Training Programme will be drawn up on the above guidelines by the Practical Training Coordinator and approved by the Principal each year before implementation. The intention is to continually update the programme in view of the changing demands of the profession.

Content

The following work is to be done by each trainee during the Practical Training:

- During office hours:
  - Drafting, tracing, presentation drawings, perspectives, models, etc.
  - Working drawings and details.
  - Site visits.

- In extra-office hours:
  The trainee is also required to prepare a study report on building/buildings designed by his/her employer. The report is to be based on site visits and personal observations and will cover aspects of design, structure, use of material, construction methods, services etc.

The total marks assigned to the Practical Training are 400. These shall be distributed as detailed below:

A	Periodical Reports	
	1) Joining Report	
	2) Monthly progress report (6 Nos.) Of 20 marks each	100
B	Work to be presented for Training Examination	
	1) Work done during office hours	100
	2) Interior Analysis Report	100
C	Viva Voce	100

NOTE:

1) Detailed guidelines regarding the nature and quantum of work to be presented for the Training Examination and the Periodical Reports will be specified in the Training Schedule.
2) The Training Examination will be conducted by the Principal, the Practical Training Coordinator and two External Examiners appointed by the Principal.

Course Learning Outcome

1. The student gets a real-time exposure of how architectural/Interior projects are carried out.
2. Office management and team-work to enhance the employability of the student.
3. To acquaint students with their roles and responsibilities of dealing with various related agencies and the freedom/ limitations as a professional as well as their real status in the society.

Assessment method: (Continuous Internal Assessment =N.A , Final Examination =100%)

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Portfolio work	External Viva
-	-	100%		**400**	**400**

Course code:	BID801				Course Name:	THESIS PROJECT
Teaching Scheme:	L	T	S/P	Total	Total Credits:	16
	1	-	15	16		

Course Objective

To use and synthesise knowledge of various disciplines in an architectural project of the students 'own choice.

Course Description

This is culmination of undergraduate studies and hence shall display the capability of the candidate to conceive/ formulate a design project and provide solution, aptly demonstrated through supporting research. The main areas of study and research can include advanced architectural design, including contemporary design processes, urban design including urban-infill, environmental design, conservation and heritage precincts, housing etc. However, the specific thrust should be architectural design of built environment. Preparation of presentation drawings, working drawings, detailed drawings and study model are part of the requirements for submission. Submission of the Architectural Design Thesis Project shall be in the form of drawings, project report, models, slides, CDs and reports

Course Content

A. The thesis project will comprise the following

- An illustrated report, which will include the validity and scope of the chosen project, methodology, prototype studies, site analysis, client's and architect's briefs, delineation of programme and design criteria.
- A fully worked-out design proposal including consideration of site planning structures, services, and any other aspects/specific tothe project.

B. Stages of Work

- Approval of project:
  - The intent of the thesis project as well as the criteria for selection of the project will be introduced to the students around the 16th week of the previous semester, i.e. 9th Semester B.Arch.
  - Before the closing of the 9th Semester, students will submit brief write-ups on three projects out of which one will be approved.
- Rough Report: comprising all analytical aspects of the project including the synopsis, library studies prototype studies, site analysis, delineation of building program, etc.
- Evolution of Design, to be worked out in a minimum of four stages.
- Draft of Final Report, including Evolution of Design
- Final Report, drawings and model, to be evaluated through a University Examination.

NOTE

1. Students will submit two copies of the final report (original and one photocopy) on a standard format prescribed in the thesis programme issued every year by the Thesis Coordinator.
2. The report must also include A-4/A-3 size copies of all final drawings and at least two photographs of the final model/models.
3. The original copy of the report, the final drawings arid models will be returned to the student after the declaration of the result. The photocopy of the report will be retained for reference in the college library.

C. **Schedule of submissions/examination**

(Note: Commencement of the semester is considered as 0 week)

Stages of Work			Time allocated	Max. Marks
1.	Sessional Work			
(a)	Rough Report			
	i)	Introduction topic finalization	1 week	-
	ii)	Synopsis	2 week	25
	iii)	Preliminary Library studies	2 weeks	25
	iv)	Site analysis, Prototypes additional library studies	2 weeks	100
(b)	Evolution of Design			
	i)	Design Criteria and Concept	2 week	50
	»)	Design Proposal Stage-I	2 week	50
	iii)	Design Proposal Stage-2 (incorporating structures & services)	2 week	50
(c)	Pre-final Design		2 weeks	150
	Draft Final report (Incorporating improvements suggested in Rough Report, Design Criteria and explanatory sketches of Evolution of Design).		1 week	50
2.	External Examination		-	500
	Total		16 weeks	1000

NOTES:

- Students are required to submit the Final Report, all final drawings and model/s in the standard format prescribed in the Thesis Programme.
- Submission will be made one day before the date of examination.

D. **Teaching and evaluation system**

1. The thesis studio will be conducted under the overall coordination of the Thesis Coordinator. In addition, two members of the Visiting Faculty would also be associated throughout the duration of the studio. Each student will be assigned a Thesis Guide (from amongst the faculty) who will supervise the progress of the student‘s work on a regular basis.
2. The Principal, the Thesis Coordinator and the concerned Thesis Guide will do approval of the thesis project/topic.
    a. All stages of sessional work will be evaluated jointly by the Principal and the entire studio team (Thesis Coordinator, Visiting Faculty members and the concerned Thesis Guide).
    b. Jury for the External Examination will comprise the Principal, Thesis Coordinator, the concerned Thesis Guide and two External Examiners appointed by the Noida International University.
    c. Marks awarded at each stage will be based on the average of those awarded by all jury members. The decision of the Principal will be final in case of dispute/discrepancy.
    d. Students will be required to attend weekly reviews for their sessional and attendance.

    e. In view of the practical and creative nature of the thesis projects, the presence of the candidate at the viva voce examinations at all the prescribed stages shall be mandatory. If the candidate fails to

appear in the viva voce examination at any stage, the thesis project submitted by him/her shall not be accepted

f. Candidate who fails to clear the thesis examination either in the periodic assessment or in the final examination can only be allowed to reappear with the regular batch of thesis students in the next academic year.

g. Students, who fail to obtain pass marks in the periodic assessment, shall be required to change their thesis project.

Course Learning Outcome

1. To use all the skills acquired in the duration of preceding academic courses.
2. Methodically self-direct effort by choosing the project of choice, builds capacity to work independently and methodically in a variety of intellectually and professionally demanding contexts.
3. Learn to make an original and individual, creative contribution to the academic discipline and/or the professional field in some cases.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination =50%

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Sessional work	External Viva
50%	-	50%		**500**	**500**

Course code:	BID802				Course Name:	CAREER DEVELOPMENT AND PORTFOLIO
Teaching Scheme:	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

The objective is to prepare students for professional field and create awareness about higher education prospects.

Course Description

Introduction to entrepreneurship; leadership skills and self-motivation; marketing and finance management; starting a small business; future-oriented design principles to increase the design organization‘s innovative and competitive qualities; Sustainability; Risk-taking; Job procurement; Employee management; marketing; Social entrepreneurship and its relevance to the practice of architecture.

Course Content

UNIT-I

- Sessions to educate students about career prospects in diverse architectural fields.
- Preparing students for interviews.
- Personality development.

UNIT-II

- Creating awareness among students with respect to higher education.
    - Higher Education in India.
    - Higher education abroad.

UNIT-III

- Teaching skills for portfolio making.
- Portfolio compilation.

NOTE: Analysis of architectural style/building typology must include functional, constructional/structural and ornamentation aspects.

Course Learning Outcome

1. Clarify their values, interests, strengths and skills
2. Gain experience and insights through site visits, job shadowing and internship
3. Identify and use relevant tools in the job search, including activating professional networks
4. Understand and plan for future educational pursuits (graduate school, professional credentials, professional development, etc.)
5. Knowledge of portfolio for relevant field job and higher education.

Assessment method: (Continuous Internal Assessment = 100%, Final Examination = N.A.

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	N.A.	Sessional work	Examination
100%	-	-		**100**	No Exam

Course code:	BID803				Course Name:	DISSERTATION
Teaching Scheme:	L	T	S/P	Total	Total Credits:	4
	1	-	3	4		

Course Objective

To introduce students to the techniques of collecting and synthesizing the data , documenting the data through research , fact findings and establishing the fact , which will ultimately lead to their graduation project.

Course Description

This course provides the student with an opportunity to investigate an Design topic negotiated with a member of academic staff. The student will undertake sustained and in-depth research and present a coherently argued, fully referenced and appropriately illustrated piece of academic writing. An independent research study or project, which addresses a question or topic relevant to the management of building Interior projects. Based on the research proposal, students will conduct the research, collect data, analyse data and submit the final dissertation.

Course Content

1. Selecting a subject .establishing relevance through facts, statistics of the social, cultural economic feasibility etc.
2. Doing research by reading, collecting information and statistics, questionnaire etc.
3. Learning various data collection methods.
4. Selecting the related case studies either live or book to understand the typology.
5. Synthesizing and documenting the data, information, findings etc. and establishing the fact by concluding to establish the feasibility of the design proposal which ultimately leads to the generation of a design opportunity

Course Learning Outcome

1. Demonstrate detailed knowledge of the chosen subject demonstrating sufficient understanding of relevant cultural, historical and philosophical themes.
2. Demonstrate ability to construct and synthesis an intellectual argument expressed against stated objectives and presenting original conclusions.
3. Demonstrate ability to product a substantial piece of academic writing, coherent, attractive, illustrated, well-written, using correct referencing conventions and the acknowledgement of sources.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%

Continuous Assessment			Exam Duration	Maximum Marks	
Class Assignments	Mid Term	End Term exam	External exam	Sessional work	External viva
50%	-	50%		**50**	50