

Model Curriculum for
B. Voc
in
Interior Design

Curriculum for
B. Voc Interior Design (3 Years Degree Course)

Level	Code	Educational Component	Credit	Marks
6 Semester I	Theory			
	6.GE.01	Basic Design – I	3	50
	6.GE.02	Basic Building Material & Technology	3	50
	6.GE.03	Technical Communication: Easy & Report Writing	3	50
	6.GE.04	Interior Services – I	3	50
	Lab/Practical/Studio			
	6.GP.01	Workshop – I	1.5	50
	6.VP.02	Rendering Techniques (Manual)	1.5	50
	On-Job-Training (OJT)			
	Assistant Carpenter – Wooden Furniture (FFS/Q0103)		(Any one)	15
Assistant Furniture Designer (FFS/Q0106)				
6 Semester II	Theory			
	6.GV.01	Basic Design – II	3	50
	6.GV.02	Design & Innovation (CBSE 772)	3	50
	6.GV.03	History of Furniture – I	3	50
	6.GV.04	Interior Services - II	3	50
	Lab/Practical/Studio			
	6.VP.02	Workshop – II	1.5	50
	6.VP.03	Design & Innovation Lab	1.5	50
	On-Job-Training (OJT)			
	Lead Sofa Maker (FFS/Q0107)		(Any one)	15
Assembler – Modular Furniture (FFS/Q5101)				
6 Semester I	Theory			
	6.GV.01	Interior Design – I (Residential)	3	50
	6.GV.02	Auto CAD – I	3	50
	6.GV.03	History of Furniture – II	3	50
	6.GE.01	Interior Services- III	3	50
	Lab/Practical/Studio			
	6.VP.01	Interior Design (Residential)	1.5	50
	6.VP.02	Auto CAD- I	1.5	50
	On-Job-Training (OJT)			
Cabinet Maker – Modular Kitchen (FFS/Q5102)		(Any one)	15	200

Level	Code	Educational Component	Credit	Marks
		Lead Wood Quality Examiner (FFS/Q0109)		
6 Semester II	Theory			
	6.GV.04	Interior Design – II (Commercial)	3	50
	6.GV.05	Interior Construction Technology - I	3	50
	6.GV.06	Quantity & Estimation	3	50
	6.GV.07	Interior services – IV	3	50
	Lab/Practical/Studio			
	6.VP.03	Interior Design – II (Commercial)	1.5	50
	6.VP.04	Working Drawing – I	1.5	50
	On-Job-Training (OJT)			
	Assembler Door/Window- Glass (FFS/Q6101)		(Any one)	15
Safe Executive – Furniture & Fittings (FFS/Q8101)				
7 Semester I	Theory			
	7.GV.01	Interior Design – III (Institutional)	3	50
	7.GV.02	Interior Construction Technology - II	3	50
	7.GV.03	Specification Writing	3	50
	7.GV.04	Advance Building / Interior Materials	3	50
	Lab/Practical/Studio			
	7.VP.01	Computer Presentation Techniques	1.5	50
	7.VP.02	Working Drawing - II	1.5	50
	On-Job-Training (OJT)			
	Supervisor Interior Designer (FFS/Q9103)		(Any one)	15
Finisher – Bamboo Furniture (FFS/Q4104)				
7 Semester II	Theory			
	7.GV.05	Sustainable Interior Design	3	50
	7.GV.06	Universal Interior Trends in Design	3	50
	7.GV.07	Entrepreneurship in Field of Interior Design	3	50
	Lab/Practical/Studio			
	7.VP.03	Project	6	150
	On-Job-Training (OJT)			
	Senior Interior Designer (FFS/Q9104)		(Any one)	15
Lead Carpenter Wooden Furniture –Lock Installer (FFS/Q0104)				

Detailed Curriculum
Level 6 (Semester I)
(6.GE.01) Basic Design -I

Objective

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

Unit – I

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

Unit – II

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

Unit – III

Physical demonstration on joinery and openings

Unit –IV

Physical demonstration on doors and windows

Unit – V

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

Reference

1. Hanks, A.David, Decorative Designs of Frank Lloyd Wright, Dover Publications, Inc. New York, 1999.
2. Helper, E.Donald, Wallach, I.Paul. Architecture Drafting and Design, 3rd ed. McGraw-Hill Book Company, New York, 1977.
3. John.F. Pile, Color in Interior Design, Mc-Graw Hill professional, 1st edition, 1997
4. Johannes Item, The Art of color, John Wiley & Sons; Revised edition, 1997
5. Krier, Rob. Architectural Composition, Academy Editions, London, 1988.

(6.GE.02) Basic Building Material & Technology

Objective

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

Unit – I

Natural stones

Unit –II

Bricks, light weight concrete blocks

Unit – III

Cement, concrete

Unit – IV

Ceramics

Unit – V

Commercial forms of wood

Unit – VI

Timber

Unit – VIII

Glass & Bamboo

Reference:-

1. Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and Methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.
2. Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.
3. Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
4. Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.
5. Chowdary, K.P. Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi, 1990.
6. Rangwala, S.C. Building Construction: Materials and types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963.
7. Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008.

(6.GE.03) Technical Communication: Easy & Report Writing

Objective

To enhance verbal and non-verbal communication skills of students with an intension to improve the skills of reading and writing, language and conversational ability in various mediums such as presentation (written - graphics and audio) face to face etc. To enable the student to ultimately explain / defend his/her design to single person or panel.

Unit – I

Verbal and non-verbal communication

Unit - II

Body language and vocalic

Unit – III

Writing skills

Unit – IV

Presentation skills

Unit - V

Personal grooming and confidence building

Unit – VI

Debates, Skits, Group discussions

Unit – VII

Interpersonal skills, Analytical writing skills, Business writing skills, Technical writing skills

Unit - VIII

Personal grooming and confidence building

Unit- IX

Debates, Skits, Group discussions

Reference

1. K K Nelson, F Dubors, Learning to learn, Allyn & Bacon
2. E. H. McGrath, Basic Managerial Skills for all, Prentice hall of India
3. P D Kulkarni & B B Sharma, Independent Study Techniques, TTTI, Chandigarh
4. Elizabeth Hierney, 101 Ways to Better Communication, Kogan Page
5. Malvika Nagarkar, Communication Skills, MSBTE
6. Wren & Martin, English Grammar, Chand Books
7. Burgoon Michael, Human Communication, London: Sage Pub.
8. G Leech & Jan Svartvik, A Communicative grammar of English, ELBS
9. R K Bansal & J B Harrison, Spoken English for India, New York: Mcgraw
10. Geetha Jajivan, Kiranmai: Course in listening and speaking Skills part I, Foundation Books Pvt Ltd.
11. Lorven: Enrich your communication in English

(6.GE.04) Interior Services - I**Objective**

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

Unit – I

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

Unit – II

Soil and waste water disposal systems, types of sanitary pipes and joints.

Unit – III

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

Unit - IV

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

Unit – V

Distribution and disposal layout.

Reference:-

1. Rangawala, S.C Engineering Materials, Charter publishing house, Anand 1963.
2. Rangawala, S.C, Building construction, Charter publishing house, Anand 1963
3. Rangawala .S.C., Water supply and sanitary Engineering, publishing house, Roorkee.
4. Pratap R.M (1988) Interior Design Principles and practice, Standard publishers distribution, Delhi.
5. F. Hall, Plumbing technology, British Library Cataloguing in Publication Data

6. Shubhangi Bhide, Building services & equipments, Rudra offset
7. H. L. Ohri, Water Supply and Sanitary Engineering, Charotar Publishing House
8. C. Panchdhari, Water Supply and sanitary installations, Bureau of Indian Standards, N.Delhi
9. Sandeep Mantri, Practical Bldg. Const. & its mgmt., Mantri proj. & consultancy Pvt.ltd

Lab / Practical / Studio
(6.GP.01) Workshop – I - Lab

Unit- I

Introduction of carpentry tools and machines.

Unit- II

Different types of joints and their function.

Unit – III

Introduction to modeling with paper, paper board, plastics, plaster of Paris, wood and clay.

Unit - IV

Basic model making technique, different types of material and their techniques.

Unit -V

Material collection- timber, sand brick, stone, aggregate etc.

Unit - VI

Identification and selection of timber, timber operations.

Unit -VII

Introduction of masonry tools.

Unit - VIII

Demonstration of brickwork, stonework, demonstration of plaster and textured finishes.
i) Mud ii) Cement iii) Lime.

Unit – IX

Models for basic design and Architecture design studio work.

Unit - X

Study tours to sources of local building materials and to local building under construction to study their actual use.

(6.VP.02) Rendering Techniques (Manual)- Lab

Unit – I

Light, colour, and colour spaces, Local illumination models

Unit – II

Global illumination, Ray tracing

Unit – III

Radio city computation, Volume rendering

Unit – IV

Image-based rendering, 3D image warping

Unit - V

Light fields, Procedural and image-based texturing and shading

Unit - VI

Non-photorealistic rendering, Parallel rendering

Reference

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

Level 6 (Semester II) (6.GV.01) Basic design - II

Objective

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

Unit- I

Interplay of planning principles like balance, harmony, rhythm etc.

Unit - II

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

Unit -III

Concepts of evolving technology and space modulation

Unit - IV

History, styling and theme based designs

Reference Books:

1. Helper, E.Donald, Wallach, I.Paul. Architecture Drafting and Design, 3rd ed. McGraw-Hill Book Company, New York, 1977.
2. John.F. Pile, Color in Interior Design, Mc-Graw Hill professional, 1st edition, 1997
3. Krier, Rob. Architectural Composition, Academy Editions, London, 1988.
4. Smithies, K.W. Principles of Design in Architecture. Chapman and Hall, 1983.
5. Wucius, Wong. Principles of two Dimensional Design. Van Nostrand Reinhold 1972.

(6.GV.02) Design & Innovation (CBSE 772)

Objective

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

Unit–1: Introduction to Design

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

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

Unit–2: Design Tools and Techniques

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

Unit–3: Occupational Health and Safety

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

Reference

1. Eppinger, S., & Ulrich, K. (2015). Product design and development. McGraw-Hill Higher Education.
2. Green, W., & Jordan, P. W. (Eds.). (1999). Human factors in product design: current practice and future trends. CRC Press.
3. Sanders, M. S., & McCormick, E. J. (1993). Human factors in engineering and design. McGRAW-HILL book company.
4. Roozenburg, N. F., & Eekels, J. (1995). Product design: fundamentals and methods (Vol. 2). John Wiley & Sons Inc.
5. Lidwell, W., Holden, K., & Butler, J. (2010). Universal principles of design, revised and updated: 125 ways to enhance usability, influence perception, increase appeal, make better design decisions, and teach through design.

(6.GV.03) History of Furniture - I

Objectives:

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

Unit- I

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

Unit –II

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

Unit - III

Medieval era in Europe, utilitarian furniture developed from Romanesque till Gothic times. Gothic cathedrals preserving art, manuscripts, furniture, paintings, sculptures, stain glass, Beginning of Renaissance - second golden era in Europe, age of discovery. Renaissance furniture of Italy and France. Baroque and Rococo furniture of 17th century Europe, Neoclassical and Regency period in history of furniture - 18th century, Prominent names in the field of Architecture, sculptures, paintings international and Indian.

Unit- IV

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

Reference

1. Joseph Aronson, The Encyclopedia of Furniture: Third Edition ,1961
2. Bradley Quinn, Mid-Century Modern: Interiors, Furniture, Design Details, Conran Octopus Interiors, 2006.
3. Jim Postell, Furniture Design, Wiley publishers, 2007.
4. Edward Lucie-Smith , Furniture: A Concise History (World of Art) , Thames and Hudson,
5. Robbie. G. Blakemore, History of Interior Design and Furniture: From Ancient Egypt to Nineteenth-Century Europe, Wiley publishers, 2005.

(6.GV.04) Interior Services –II

Objective

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

Unit - I

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

Unit - II

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

Unit- III

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

Unit- IV

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

Reference :-

1. Electrical wiring and contracting (vol. 1 to vol.4), London. The New era Publishing Company.
2. Dr Frith Abnwo and others, Electrical Engineering hand book.
3. William . J. Guinness, Mechanical and Electrical Systems for Buildings, New York : Mc Graw Hill.
4. Faber, Oscar and Kell, J.R. Heating and Air conditioning of Building. Architectural Press, surrey, 1945.
5. Prasad Manohar, Refrigeration and air-conditioning. 5th ed, New Age Intl. pub, New Delhi, 1996.

Lab / Practical / Studio (6.VP.02) Workshop –II- Lab

UNIT – I

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

UNIT – II

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

References:-

Rendering with Pen and Ink by Gill

(6.VP.03) Design & Innovation –Lab**Unit – I**

Knowledge Workshop: - Source and apply design industry knowledge, Source and apply information on the history and theory of design.

- **Project 1:** Research on a Contemporary designer.
- **Project 2:** Photograph and Report on Signage and Window display.
- **Project 3:** Critique the Design of a Product.

Unit - II

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

Unit - III

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

Level 6 (Semester I)**(6.GV.01) Interior Design –I (Residential)****Objective**

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

All specified areas are Carpet Areas.

Unit – I

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

Unit- II

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

Unit- III

Analysis of design process.

Unit - IV

Concept formation for design.

Reference:-

1. Ahmed Kasu, Interior Design, TWAINE Pub. Bombay
2. Sudhir Diwan, Sanskruti a manual of Interior Design Vol-1, Interior Affairs, Mumbai
3. Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.
4. Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
5. Julius Panero & Martin Zelnick, Human Dimension & Interior Space : A source book of

Design Reference standards, Watson – Guptill, 1979. Karlen

(6.GV.02) Auto CAD -I

Objective

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

Unit – I –Introduction

Introduction to CAD and relevant software: - Prepare a new drawing from scratch with the “Create Drawing”,

Simple drawing creation: - Save created drawing definition as a new drawing

Unit – II –CAD- 2D

Use 2D commands to draw building components such as wall, door, window: - line, poly line, spline, 3d ploy line, rectangle, multi-line, construction line, arc, circle, ellipse, polygon, donut.

Use Modification commands to alter the existing drawing: - offset, copy, paste, erase, trim, break, mirror, array, move, rotate, stretch, lengthen, trim, extend, break, chamfer, fillet

Replication of Drawn Objects: - Block, Insert block, Edit block, Explode block

Unit – III - Presentation Drawings

Make Presentation drawing using 2D commands and add text and dimensioning to them using appropriate commands:-

Multi line text and text:- Writing text, formatting text style, Editing text

Dimensioning: - Formatting dimension style, Editing dimension style

Use of leader

Multiple hatch commands

Applying components from AutoCAD Libraries (Design Centre) to drawing

Unit – IV - Plot/Print

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

Reference book

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

(6.GV.03) History of Furniture -II**Objective**

To create awareness of History as an aid to design process.

Unit- I

English furniture from 16th to 18th century. Tudor, Stuart, Jacobean, Restoration period, Queen Ann period, Gregorian period, Chippendale, Sheraton.

Unit- II

Beginning of 19th century industrialization, Victorian Era in England, Art and Craft movement in design.

Unit - III

Art Nouveau movement in art and furniture, Art movements before and after world wars.

Unit – IV

Cubism of Picasso, De-still movement, Bauhaus school of Design and its impact on modern design.

Unit- V

Art Deco movement, Oriental furniture and how it is different from western counterparts. Furniture of Japan and China, Indian furniture, traditional and colonial.

References

1. John F. Pile, A history of interior design, 2nd edition, Laurence King Publishing, 2005.
2. Jeannie Ireland, History of Interior Design, air child publications, illustrated ed., 2009.
3. Elaine, Michael Dywer, Christopher Mackinnon, Norman A. J. Berisford Denby , A History of Interior Design, Rhodex International, 1983.
4. Giedion Sigfried, Space, Time and Architecture: The growth of a new tradition, 4th ed. Harvard University Press, Cambridge, 1962.
5. Tadjell Christopher, The History of Architecture in India: From the dawn of civilization to the End of the Raj , Om Book Service, New Delhi, 1990.

(6.GE.01) Interior Services –II**Objective**

To equip the learner with concept and principles of natural and mechanical ventilation and airconditioning.

Unit – I

Introduction to HVAC.

Unit- II

Principles of thermal comfort parameters for humans, Principles of natural ventilation.

Unit - III

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

Unit -IV

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

Unit - V

Mechanical ventilation and its application, Introduction to Acoustics and its application to interiors.

References

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

Lab / Practical / Studio**(6.VP.01) Interior Design – I (Residential) -Lab****Unit- I**

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

Unit- II

Analysis of design process.

Unit - III

Concept formation for design.

(6.VP.02) Auto CAD –I-Lab**Unit – I**

Extension of presentation drawings like:-Site plan , Floor plans, Sections, Elevations

Unit- II

Preparation of basic 3-D drawings

Unit - III

Different rendering techniques

Unit IV

Architectural drawing

Unit –V

Complete a set of working drawing through Auto CAD

Level 6 (Semester II)

(6.GV.04) Interior Design- II 9 (Commercial)

Objective

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

All specified areas are Carpet Areas.

Unit – I

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

Unit -II

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

Unit -III

Furniture design – Group of furniture elements along with surroundings.

Unit -IV

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

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

References:-

1. Ahmed Kasu, Interior Design, TWAINE Pub. Bombay
2. Sudhir Diwan, Sanskruti a manual of Interior Design Vol-1, Interior Affairs, Mumbai
3. Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.
4. Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
5. Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.
6. Julius Panero & Martin Zelnick, Human Dimension & Interior Space : A source book of Design Reference standards, Watson – Guptill, 1979. Karlen
7. Barner, R.M., (1980), Motion and Time Study, Design and Measurement of work, John Wiley, New York.

(6.GV.05) Interior Construction Technology – I

Objective

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

Unit –I

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

Unit- II

Walling Systems: Brick walls for interior division of spaces and other uses (half brick and

one brick thickness). Light weight concrete blocks, hollow blocks, aerated concrete blocks.

Unit -III

Joinery: Introduction to joinery and joints, limitations and applications.

Unit- III

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

Unit -IV

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

References:-

1. Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.
2. Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd. Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
3. Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.

(6.GV.06) Quantity & Estimation

Objective

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

Unit – I– Introduction

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

Unit – II–Modes of Measurement as per SP: 27

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

Unit – III–Rate Analysis

- 3.1 Introduction

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

Unit – IV– Specification

- 4.1 Definition, purpose & importance of specifications.
- 4.2 Types of specifications.
- 4.3 Design and drafting of specifications.
- 4.4 Specification writing for some useful items

Unit – V– Estimating

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

Reference:-

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

(6.GV.07) Interior services -IV

Objective

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

Unit- I

Illumination standards and artificial lighting design and lighting power density.

Unit –II

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

Unit - III

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

Unit –IV

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

REFERENCES:

1. John.F. Pile, Interior Design, 2nd edition, illustrated, H.N.Abrams, 1995.
2. Wanda jankowski, Lighting : In Architecture and Interior Design, pbc intl, 1995.
3. Moore Fuller, Concepts and practice of Architectural Day lighting, Van Nostrand Reinhold co.,New York, 1985.
4. David Egan. M. Concepts in Architecturallighting Mcgraw Hill Book company, New York, 1983.

Lab / Practical / Studio**(6.VP.03) Interior Design II (Commercial) –Lab****Unit - I**

Presentation drawings, Enlarge detail drawings, Service layout drawings, views etc. to understand clearly concept of design. Area of Interior project should be @ 300.00 sq.mt. Minimum

Unit -II

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

Unit -III

Furniture design – Group of furniture elements along with surroundings.

Unit -IV

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

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

(6.VP.04) Working Drawing –I- Lab**Unit –I**

Working drawing & details of Interior Design project.

Unit -II

All furniture, flooring, ceiling, electrical, water supply, drainage layouts with details.

Unit-III

In details of furniture, doors, windows etc. of all types with specifications.

Unit - IV

The drawings shall be sufficient to understand the design & fulfill the details required for estimation, tender form.

Level 7 (Semester I)

(7.GV.01) Interior Design –III (Institutional)

Objective

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

Unit - I

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

Unit -II

Furniture design – Single items (Institutional)

Unit –III

Furniture design – group of furniture elements along with surroundings.

Unit –IV

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

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

REFERENCES:

1. Ahmed Kasu, Interior Design, TWAINE Pub. Bombay
2. Sudhir Diwan, Sanskruti a manual of Interior Design Vol-1, Interior Affairs, Mumbai
3. Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 1992.
4. Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.
5. Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2nd edition, Wiley publishers, 2004.

(7.GV.02) Interior Construction Technology –II

Objective

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

Unit – I

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

Unit -II

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

Unit - III

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

References:-

1. Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.
2. Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd. Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
3. Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 200
4. Chowdary, K.P. Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi, 1990.
5. Rangwala, S.C. Building Construction: Materials and types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963.

(7.GV.03) Specification Writing**Objective**

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

Unit – I Introduction to Town Planning and Planning Concepts

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

Unit – II Ancient System of Town Planning in India

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

Unit – III Modern Planning Concepts

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

Unit – IV Urban Roads

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

Unit – V Zoning and Development Control

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

Unit – VI Introduction to Human Settlements

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

Unit – VI Tendering

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

References:-

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

(7.GV.04) Advance Building / Interior Materials**Objective**

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

Unit – I

Natural stones, Bricks, light weight concrete blocks

Unit –II

Cement, concrete, Ceramics

Unit –III

Commercial forms of wood, Timber

Unit -IV

Glass, Bamboo

References:-

1. Bindra, S.P. and Arora, S.P. Building Construction: Planning Techniques and Methods of Construction, 19th ed. Dhanpat Rai Pub., New Delhi, 2000.
2. Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.
3. Rangwala, S.C. Building Construction 22nd ed. Charota Pub. House Anand, 2004.
4. Sushil Kumar. T.B. of Building Construction 19th ed. Standard Pub. Delhi, 2003.
5. Chowdary, K.P. Engineering Materials used in India, 7th ed. Oxford and IBH, New Delhi, 1990.
6. Rangwala, S.C. Building Construction: Materials and types of Construction, 3rd ed. John Wiley and Sons, Inc., New York, 1963.

(7.VP.01) Computer Presentation Techniques-Lab

Unit – I

CAD and its advanced application:- Creating & organizing 2D drawings, All 2D commands, All 2d edit commands

Unit - II

Working in layers, Presentation drawings.

Unit - III

Output of drawings through printers & plotters, 3D CAD drawings & views.

Unit- IV

2D presentation drawings with other than CAD software, CAD & 3 dimensional drawings views

Unit – V

Advance software like Google sketch up, 3D max etc. for 3D drawings presentation.

Unit -VI

Use of Photoshop, corel draw or related software's for presentation.

(7.VP.02) Working Drawing –II Lab

Unit –I

Design and develop plan for given buildings specification and its finalization for working drawings

Unit -II

Prepare site layout with necessary details for given buildings specification

Unit -III

Prepare all Basic Drawings for given building specification

Unit -IV

Prepare all Detail Drawings for given buildings specification

Unit -V

Drawing all basic working drawings on computer for given buildings specification

Level 7 (Semester II)

(7.GV.05) Sustainable Interior in Design

Objective

The intention of sustainable design is to "eliminate negative environmental impact completely through skilful, sensitive design".[1] Manifestations of sustainable design require renewable resources, impact the environment minimally, and connect people with the natural environment.

Unit 1:

Concept of Sustainable Interiors, Principles of Sustainable Interior Design

Unit 2:

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

Unit 3:

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

Unit 4:

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

References:-

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

(7.GV.06) Universal Interior Trends in Design

Objective

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

Unit -I

Artisanal Fixtures, Velvet Furnishing

Unit -II

Natural Elements, Floral Patterns, Copper Accents

Unit -III

Brass Decor, Black & White Decor

Unit –III

Millennial Pink, Tonal Reds

Unit- IV

Geometric Patterns, Concrete Accents, Vintage Lighting, Buckets Sink

Unit –V

Burnt Yellow, 70” S Chic, Agate Wall Paper, Matte Finishes, Canopy Beds

Unit - VI

Sticking with one Shade, Being Timid, Minimalism

(7.GV.07) Entrepreneurship in Field of Interior Design**Objective:**

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

Unit - I

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

Unit- II

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

Unit- III

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

Unit- IV

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

References:-

1. Clifton, Davis S. and Fylie, David E. , Project Feasibility Analysis, John Wiley, New York, 1977

2. Desai A. N., Entrepreneur and Environment, Ashish, New Delhi, 1990
3. Drucker, Peter, Innovation and Entrepreneurship, Heinemann, London, 1985
4. Jain Rajiv, Planning a Small Scale Industry: A guide to Entrepreneurs, S. S. Books, Delhi, 1984
5. Kumar S. A. , Entrepreneurship in Small Industry, Discovery, New Delhi, 1990
6. McClelland, D. C. and Winter, W. G. , Motivating Economic Achievement, Free Press, New York, 19

(5.VP.03) Project

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