MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WB

Syllabus for B.Sc. Interior Design Programme

(Effective from Admission Session 2018-2019)

COURSE STRUCTURE

1ST YEAR

SL No	CODE	Paper	Contact Periods per week			Total Contact Hours	Credits
			L	T	P		
SEMESTER I							
Theory							
1	BID101	Historical, Contextual & Cultural Studies - I	2	1		30	**3**
2	BID102	Sustainable & Ethical Studies -I Issues, Affects & Causes	1	1		20	**2**
3	BID103	Construction Materials, Techniques &Technology - I	1	1		20	**2**
Practical							
1	BID191	Design & Drawing Fundamentals - I			4	40	**4**
2	BID192	Technical Drafting - I			3	30	**3**
Sessional							
1	BID181	Surface & Soft Furnishings Design Development Techniques - I			2	20	**2**
2	BID182	Design Studio – I Elements, Principles, Client & Concepts			4	40	**4**
Total Credits							**20**
SEMESTER II							
Theory							
1	BID 201	Historical, Contextual & Cultural Studies - II	2	1		30	**3**
2	BID 202	Construction Materials, Techniques & Technology - II	1	1		20	**2**
3	BID 203	Colour, Light & Space for Interiors	1	1		20	**2**
Practical							
1	BID 291	Technical Drafting - II			3	30	**3**
Sessional							
1	BID 281	Model Making - I			4	40	**4**
2	BID 282	Design Studio – II Residential Interior Design			6	60	**6**
Total Credits							**20**

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2ND YEAR

SL No	CODE	Paper	Contact Periods per week			Total Contact Hours	Credits
			L	T	P		
SEMESTER III							
Theory							
1	BID301	Sustainable & Ethical Studies - II Materials, Technologies & Innovations	1	1		20	**2**
2	BID302	Ergonomics in Design Contexts	1	1		20	**2**
Practical							
1	BID391	Computer Aided Design Studies - I Introduction to AUTOCAD (2D)			4	40	**4**
2	BID392	Furniture Technologies & Design			2	20	**2**
Sessional							
1	BID381	Model Making - II			4	40	**4**
2	BID382	Design Studio – III Innovative Green Building			6	60	**6**
Total Credits							**20**
SEMESTER IV							
Theory							
1	BID401	Professional Practice - I Estimation and Costing	1	1		20	**2**
2	BID402	Introduction to Vastu & Feng Shui	1	1		20	**2**
Practical							
1	BID491	Architectural Landscape Design			3	30	**3**
2	BID492	Computer Aided Design Studies - II Introduction to AUTOCAD (3D)			4	40	**4**
Sessional							
1	BID481	Surface & Soft Furnishings Design Development Techniques – II			3	30	**3**
2	BID482	Design Studio - IV Commercial Interior Design			6	60	**6**
Total Credits							**20**

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3RD YEAR

SL No	CODE	Paper	Contact Periods per week			Total Contact Hours	Credits
			L	T	P		
SEMESTER V							
Theory							
1	BID501	Sustainable & Ethical Studies - III Green and Energy Efficient Buildings	1	1		20	**2**
2	BID502	Entrepreneurship Management	1	1		20	**2**
Practical							
1	BID591	Professional Internship (8-10 weeks duration)			6	60	**6**
2	BID592	Computer Aided Design Studies - II (3DMAX)			4	40	**4**
Sessional							
1	BID581	Design Studio - V Professional Mentored Project			6	60	**6**
TOTAL Credits							**20**
SEMESTER VI							
Theory							
1	BID601	Restoration and Renovation of Building Interiors	2	1		30	**3**
1	BID602	Sustainable & Ethical Studies - IIII Dissertation (3,000 words)	2	1		30	**3**
1	BID603	Professional Practice – II	1	1		20	**2**
Sessional							
1	BID681	Design Studio – VI Final Major Project (Specialist Individual Interior Design Project)			8	80	**8**
2	BID682	Professional Portfolio Development			4	40	**4**
TOTAL Credits							**20**

SEMESTER I

BSc. Interior Design

BID101 **Full Marks: 100**

Historical, Contextual & Cultural Studies - I

Objectives

- To equip the students with the necessary knowledge & understanding of the chronological and cultural history associated to the Art, Craft and Design movements and developments through historical periods.
- To give an understanding of key developments in societies, technologies and techniques.
- To develop students research and analytical skills.
- To develop students written, recording and referencing skills with relevance to associated Art, Craft and design developments.

Units	Course Content
1	History of the world's influential civilisations and associated art, craft & design movements in chronological order.
2	Key developments in art, craft and design in relation to inventions, technicques and materials developments.
3	Developments in architectural and construction techniques through periods and civilisations.
4	Research and analysis of key artists, crafts people and designers throughout the history of art, craft and design.
5	Research and analysis of key/major art, craft and design movements and styles throughout the varied civilisations and societies in world history.
6	Research and identify key Art, Craft and Design developments and styles within India and South East Asia.

References

Books

- The Story of Art: E.H. Gombrich: 9780714832470
- Gardner's Art Through the Ages 10th Reiss Edition by Richard Tansev (Author), Fred S. Kleiner (Author), Horst De LA Croix (Author) ISBN-13: 978-0155011410, ISBN-10: 0155011413
- Art history's history - Originally published: 1994 Author: Vernon Hyde Minor ISBN-13: 978-0130851338

Websites

- https://www.historytoday.com/alex-potts/what-history-art
- http://www.visual-arts-cork.com/history-of-art.htm
- http://www.all-art.org/

Full Marks: 100

BID191

Design & Drawing Fundamentals - I (Practical)

Objectives

To enable the students to:

- Understand the formal elements and principles used to create art, craft and design.
- Develop their basic practical drawing and rendering skills.
- Develop acurate observational drwaing skills for sketches and detailed drawings.
- Develop an understanding of the application of art principles in design composition of traditional and contemporary art, architecture and textiles in interior design.
- Develop skill in creating designs and making art objects.
- Develop skills in dimensioning & writing style for technical drawings and plans.

Units	Course Content
1	**Introduction to the Formal Elements of Art, Craft and Design** • Design definition and types (structural & decorative) • Elements of art & design: point, line, shape, form (O-D, l-D, 2-D, 3-D), structure, texture & colour • Light: characteristics & classification • Study of colours: classification, dimensions, colour schemes and effect.
2	**Drawing and shading techniques** • Observational drawing techniques (by hand/eye) - Proportion and Scale • Shading techniques – hatching, cross hatching, tonal drawing techniques, stippling (pointilism), stumbling etc. • Geometric shapes – squares, recantangles, pyramids, hexagons/octagons • Circles, cylinders and elipses.
3	**Colour Theory** • A body of practical guidance to **colour** mixing and the visual effects of a specific **colour** combination. • Definitions (or categories) of **colours** based on the **colour wheel**: **Primary, secondary and tertiary colours** • **The Colour Wheel** • **How colour is formed.** • **Colour systems** • **Design sheets of colour schemes & effects.** • Achromatic, hue, value, intensity with suitable medium • Adictive and subtractive
4	**Perspective Darawing & Theory** PERSPECTIVE DRAWING as a technique used to represent three-dimensional images on a two-dimensional picture plane. • LINEAR PERSPECTIVE which deals with the organization of shapes in space • AERIAL PERSPECTIVE (also called ATMOSPHERIC PERSPECTIVE) which deals with the atmospheric effects on tones and colours. *See our separate painting lesson on Aerial Perspective.* • 1 Point, 2 Point, 3 Point, Multi Point Perspective. • Low Level Perspective, Human Eye perspective, Aerial Perspective. • Perspective of a circle and cylinder. • Perspective of a cylinder
5	**Principles of Design Composition** • Contrast & Harmony • Figure: ground relationship, grouping of figures, elements by spatial tension in Achromatic. • Unity in diversity or variety • Balance

	• Movement • Proportion or scale • Rhythm • Dominance or subordination
6	**Free Hand Drawing** • Free hand drawing of geometrical figures • Free hand drawing of certain pieces of furniture • Free hand drawing of designs to be incorporated as elements in interior design e.g. Designs of cornice, ornamented pillars, carved chair etc • Free hand sketches of front elevation of rooms • Free hand sketches of different views of room ie. one point & Two point • Free hand reduction & enlargement of drawings
7	**Measured Drawing** • Measuring a bed room with attached bath & furniture layout: drafting it to scale, judgement & analysis of plan, concept of revised plan • Measuring a complete apartment: drawing it to scale, judgement& analysis of plan, concept of revised plan

References

Books

1. Bhat Pranav &GoenkaShanita, *The Foundation of Art & Design*, Lakani Book Depot, Bombay, 1990.
2. Goldstein, H & Goldstein V, *Art in Everyday Life*, Oxford & IBH Publishing Company, New Delhi, 1967
3. Rutt Anna Hong, *Home Furnishing*, Wiley Eastern Pvt. Ltd., 1961
4. Bhat Pranav &GoenkaShanita, *The Foundation of Art & Design*, Lakhani Book Depot., Bombay, 1990
5. Goldstein H & Goldstein V, *Art in Everyday Life*, Oxford and IBH Publishing Company, New Delhi, 1967.
6. Rutt Anna Hong, *Home Furnishing*, Wiley Eastern Pvt. Ltd., 1961
7. Scott R G, *Design Fundamentals*
8. *Visual Notes for Architects and Designers* **(Norman Crowe and Paul Laseau)**
9. *Geometry of Design: Studies in Proportion and Composition* **(Kimberly Elam)**

Websites

- https://www.creativebloq.com/colour/colour-theory-11121290
- http://www.artyfactory.com/perspective_drawing/perspective_index.html
- http://rapidfireart.com/2016/07/19/how-to-shade-the-ultimate-tutorial/
- https://vanseodesign.com/web-design/visual-tension/

Videos

- https://www.youtube.com/watch?v=KHxYwPSOKl0
- https://www.youtube.com/watch?v=24rnfO8s0hU

BID102 **Full Marks: 50**

Sustainable & Ethical Studies - I *Issues Effects & Causes* (Theory)

Objectives

To develop students awareness, understanding and knowledge in:

- Global & National Environmental, Sustainable & Ethical issues and agendas facing the world today.
- The causes of environmental impact, local, national and global.
- Issues of ethics within industries and business.
- The role of consumerism and capitalism in national and global environmental and ethical issues.
- The roles and impact designers have on the natural resources and the environment.
- Sustainable, ethical and environmental organisations, agenicies and regulatory bodies.

Units	Course Content
1	**Environmental & Sustainability Issues *(Local, National & Global):*** • Climate Change & Global Warming • Polution • Resource depletion • Capitalism • Consumerism and the throw away society • Genetically Modified Species
2	**Ethics and Fair Trade Issues *(Local, National & Global):*** • Ethical issues – wokers rights, exploitation, sustainable wages, conditions & health & safety.
3	**Sustainable & Ethical focused Organisations, bodies and Agencies** • Greenpeace • Earthday Network • Ethical Fashion Forum • United Nations • Fair Trade • World Wildlife Fund (WWF) • Others
4	**Environmental Impact: *(Giant Industry Impacts)*** • Oil • Mining • Timber • Fishing • Fashion and Textiles
5	**Innovations in sustainable thinking for the future** • UN Sustainable Development Goals • The Paris Climate Agreement • Ocean Clean-Up • Others
6	**Resource consumption and depletion:** • Deforestation • Fossil Fuels • Sand • Minerals • Precious Stones & Metals

	• Water
7	**Renewable Energy Vs. Non-Renewable Energy:** • Imapct of non-renewable i.e. traditional fossil fuel based energies. • Renewable energy systems and technology innovations • Sustainable energy schemes and initiatives in India.

References

Introduction to Sustainability Paperback – 2016 by Robert Brinkmann (Author)

Sustainability in Interior Design Book by Sian Moxon

Websites

https://www.theoceancleanup.com/

Videos

https://www.youtube.com/watch?v=AqhpFVFdEM0 - Sustainable Building Materials Segment 2
https://www.youtube.com/watch?v=RocreN7_sqs - Sustainable Building Materials Segment 1
https://www.youtube.com/watch?v=g1yUFUL-_AI - Sustainable materials: with both eyes open
https://www.youtube.com/watch?v=WPRgRBxfbss - Green Building Concepts-3.0
https://www.youtube.com/watch?v=JEUShQ7r_tE - Green buildings are more than brick and mortar | Bryn Davidson | TEDxRenfrewCollingwood

BID192 **Full Marks: 100**

Technical Drafting – I (Practical)

Objectives

To enable the students to:

- Develop their technical drawing and drafting skills to present professional drawings fit for purpose.
- Develop skills and understanding in drafting, use of scale and measurement, symbols and lines.
- Develop design skills when designing in 2-Dimensional & 3-Dimensional views of furniture & spaces.
- Understand how to use visual drawing and drafting techniques to create space and depth with drawings and representations of rooms and furniture.

Units	Course Content
1	**Scale & Lettering** • What is engineering drawing? • Scale: full size, true scale, enlarging scale, reducing scale • Border lines, name plate. • Lettering: single stroke, double stroke, vertical/ inclined, capital letters, and inclined letters. • Dimensioning.
2	**Geometrical Construction** • Point, line and concept of distance • Divide a straight line into a given number of equal parts. • Construction of angles, planes and solid • Orthographic projection of solids: cube, cylinder, pyramids on a base of a square, rectangle, circle, triangle, pentagon, hexagon, etc.; blocks intersecting at different angles; blocks recessed at different angles; development of surfaces (economical); conversion of pictorial to orthographic views
3	**Isometric projections of solids** • Cube, cylinder, pyramids, on a base of a square, rectangle, circle, triangle, pentagon, hexagon, septagon.

References

- French Thomas E, ***EngineeringDrawing& Graphic Technology***, McGraw Hill, New York.
- Millar Max, ***KnowHow to Draw***, B T Batsford Ltd., London
- Shah, Kale &Patki, ***Building Drawing***, Tata McGraw Publishing Co., New Delhi

Websites

- **https://www.designingbuildings.co.uk/wiki/Types_of_drawings_for_building_design**

BID103 **Full Marks: 50**

Construction Materials, Techniques & Technology - I (Theory)

Objectives

To enable the students:

- To become aware of the existing and new trends and availability of construction materials.
- To gain knowledge of traditional and contemporary building materials, techniques & technologies.
- Understand varied structural techniques and the associated terminolgy.
- Gain knowledge & understanding of decision making regards the selection of suitable building materials for various applications and environments.
- To learn to compare the cost of different building materials and make worthy selection

Units	Course Content
1	**Materials for Construction:** • Cemetious materials: types, qualities, properties desired, place of availability merits demerits, uses, prevention & care of stone, bricks, cement, lime, sand, mortar, concrete and plaster • Wood, metal & other materials: wood (natural & artificial): metals (aluminium based, copper based, lead based, nickel based, iron based, steel based), plastics, rubber, glass, tiles, asbestos.
2	**Construction & Building Elements** Unit No. 1: Foundation: • Purpose, Shallow & deep foundation, Sketches for spread footing & isolated column footing. Unit No. 2: Plinth: • Plinth filling material and their representation & Introduction to load & R.C.C. frame structure including beams, column, slab, chaijja, lintel etc. with their general size and placements. Unit No. 3: Carpentry Joints: • Meaning of term, Technical terms, Classification etc. Unit No. 4: Floor: • Purpose, Mezzanine floor, Stilt floor, Basement floor (introduction only) Unit No. 5: Lintels: • Purpose, Types, General size, Terminology Unit No. 6: Arches: • Purpose, Types & applications. Unit No. 7: Brick masonry: • English bond, Flemish bond • Precautions to be taken in bonding, king closer, queen closer, bat and application. Unit No. 8: Stone Masonry: • Rubble masonry, Ashlar masonry, Introduction to artificial stone and uses, stone finishes. Unit No. 9: Door and Windows: • Types of door & windows with their applications Unit No. 10: Structures in Brick Work: • Footing, Piers, etc, Rubble masonry, Ashlar masonry & Introduction to artificial stone and uses, stone finishes.
3	**Paints & Varnishes**

4	**Fire Resistance Properties of Materials**
5	**Structural Systems**
6	**Load, Support, Span**
7	**Structural Behaviour**
8	**Compression, Tension**
9	**Influencing Factors- Seismic, Wind, Time**

References

Books

1. Arora S P &Bindra S P, ***Building Construction***, DhanpatRai& Sons, New Delhi, 1990.
2. Deshpande R S, ***Build Your Own Home***, Poona Book Corporation, Pune.1985
3. Deshpande R S, ***Engineering Materials for Diploma Students,*** Poona Book Corporation, Poona, 1985
4. Deshpande R. S, ***Modern Ideal Homes for India***, Poona Book Corporation, Poona, 1976
5. Mehra. P, ***Interior Decoration***, Hind Pocket Books Ltd., Delhi, 1981

BID181 Full Marks: 100

SURFACE & SOFT FURNISHINGS DESIGN DEVELOPMENT TECHNIQUES - I (Practical) SESSIONAL

Objectives

- Develop creative thinking and design ideas development for the conceptual interior design of spaces, demonstrating understanding how colour, texture, pattern and material effects visual environment atmoshpere.
- Develop practical design skills and understanding of materials and techniques for surface design developments.
- Develop surface designs fit for specified purposes through the inveatigation of mateials, techniques and design processes, and showing understanding of composition and design elements.
- To develop students contextual research skills and ability to analyse and integrate ideas and styles as appropriate to project specifications.
- To develop visual presentation and associated media skills.

Units	Course Content
1	**Thematic Research and Investigation:** Research visual references as per specified project theme/topic to aid design development.
2	**Research soft furnishings and textiles/fabrics used in the design of:** • Table Linens • Rugs & Carpets • Window dressings (Curtains & Blinds) • Towels • Bedding & Bedspreads • Cushions & Throws • Lampshades • Wallpaper • Tiles • Flooring
3	**Research of relevant designers & their work** Research a range of the design work of relevant industry professionals to inform and aid own design development.
4	**Visual Iedeas Development:** Development of surface design ideas for specified interiors and furnishings, sketches to visualise initial designs and colour schemes.
5	**Design Development and Processes:** Detail Documentation, Drawing, Observation and Notes, Quantification, Reporting, Presentation
6	**Exploration of materials, techniques and technologies for the development of surface design and soft furnishings:** • Print – Screen, Block, Mono etc. • Stenciling • Fabric Dye (Natural and Azo free) • Fabric paints

	• Fabric and textiles • Embelishment
7	**Final surface designs and presentation:** Develop surface designs for a range of applications and surfaces for interior spaces.
8	**Evaluation and Action Planning:** • Project Evaluation against intensions and outcomes • Written Critic – refelcting on own and others constuctive criticism • Action Plan of project and outcomes.
9	**Group Design Critic & Presentation:** • Written evaluation of project outcome • Action points for improvements

References

- The Complete Technology Book on Dyes & Dye Intermediates Paperback – 1 Jan 2003 by NIIR Board of Consultants & Engineers (Author)
- Biodegradation of Azo Dyes by Hatice Atacag Erkurt (Editor) – Publisher: Springer (9 August 2010), ISBN-10: 3642118917
- ***Second Skin: Choosing and Caring for Textiles and Clothing*** **by** India Flint Murdoch Books, 2011 ISBN 978-1-74196-720
- ***Indigo:The Color that Changed the World*** **by Catherine Legrand** Thames & Hudson, 2013 ISBN 978-0500516607
- ***Warp and Weft:***
  Woven Textiles in Fashion, Art and Interiors **by Jessica Hemmings**Bloomsbury, 2012 – ISBN 978-1-4081-3444-3
- ***Quilt National 2013:The Best of Contemporary Quilts*** **by The Dairy Barn Cultural Arts Center**
- DragonThreads Extraordinary Textile Arts Books, 2013 - ISBN 978-0-9818860-4-6
- Surface Design for Fabric: Studio Access Card Printed Access Code – February 15, 2015 by Kimberly Irwin **Publisher:** Fairchild Books (February 15, 2015) **ISBN-10:** 1501395033

Websites

- https://www.houseology.com/masterclass/design-school/chapter-eight-soft-furnishings
- https://www.twosistersecotextiles.com/pages/azo-dyes

BID182 **Full Marks: 100**

Design Studio - I - *Elements, Principles, and Concepts* (Practical)

SESSIONAL

Overview

This module introduces the students to the fundamental elements of creative investigation of form, space, proportion and structure. The project will require the student to explore and investigate creative and innovative design thinking through initial ideas, sketches and expplorations of drawing elements including perspective, 3 dimensional thinking and drawing, scale and model making.

Objectives

At the end of this module the student should be able to:

1. Conceptualise a creative 3-Dimensional structure which explores and pushes the boundaries of function and normal constraints of function and design.
2. Appraise the design of form to help create an aesthetically pleasing & creative design.
3. Understand the value of coherently incorporating; drawing, sketching, model making and technical drawing, into an acceptable professional standard of communication, using materials and techniques to coordinate the design process.
4. Follow the design process to create a creative and stimulating form/space, using the basic strategic knowledge and tactics of; structure, line, form, space, lighting and shape.
5. Document and contextualise research to help inform the design decision making process for the benefit of the end users.
6. Further demonstrate and apply basic knowledge of building construction and materials for informing a sustainable design project resolution.

Units	Course Content
1	**Design Ideas Generation** Generation and development of visual design ideas & sketches showing varied viewpoints for the creation of a 3-Demsional Arhitectural form.
2	**Contextual Research & Analysis** Source, collect and present a range of images and information of the work of relevant designers and their work which explore structural form and abstract space.
3	**Design Development** Through design process develop the visual design idea through the exploration of form, line, structure, space and negative forms, including sketches, perspective drawings, illustrations and diagrams.
4	**Exploaration and investigation** of materials, techniques and technologies for creation of architectural and strucural abstract forms, including models, paint, drawing.
5	**Application of media and drawing techniques** to illustrate different viewpoints of a given abstract form/structure, including; perspective drawings, orthographic drawigs of views and sections.

6	**Model Making Materials, Techniques & Technologies** Production of scale model(s) of proposed design
7	**Design Project Presentation Techniques** Drawing sheets, sketchbooks, models, anr research

References

Books

- Kevin Lynch. The Image of the city. The MIT Press, 1960.
- Christopher Alexander. A Pattern language: towns, buildings, construction. Oxford University Press, 1978.
- Kenneth Frampton. Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture. The MIT Press, 1995.

Websites

- https://www.designingbuildings.co.uk/wiki/Types_of_drawings_for_building_design
- https://www.dkorinteriors.com/lighting-modern-interior-design/
- https://www.hgtv.com/remodel/mechanical-systems/lighting-tips-for-every-room
- https://study.com/academy/lesson/what-is-residential-interior-design.html

Videos

https://www.youtube.com/watch?v=wjTcUzMDqzY

SEMESTER II

BID201 **FullMarks:100**

Historical, Contextual & Cultural Studies - II

Objectives

- To develop students research and analytical skills.
- To develop students written, recording and referencing skills with reference to associated Art, Craftand design developments.
- To equip the students with the necessary knowledge & understanding of the chronological and cultural history associated to the developments in construction and Archectecture through historical periods.
- To give students knowledge and understanding of modern innovations and key developments in technologies in construction and Archectecture.
- To provide students with the understanding of aritectural terms and terminolgy.

Units	Course Content
1	**Brief History of Architecture:** • Classical Architectural Styles and Developments – Ancient Greece & Rome. • Early Christianity (Byzantinian) and the age of Church Building (Gothic & Romanesque). • Idea of Re-birth and Renaissance in Europe and developments in construction and architectural techniques and technologies. • Neo Classical Architecture and Interiors. • 17th to 19th Century styles and developments in Interior Design and Architecture. • Modern Architecture.
2	**History of Technical Developments and Innovations:** • Concrete • The arch • The Dome • Columns • Vaulted Ceilings • Plinths • Pillors and Girders • Rose windows - Etc.
3	**Basic Terminologies related to:** • Architecture / Construction / Interior Design

References

1. Sir Banister Fletcher, A History of Architecture, CBS Publications (Indian Edition), 1999
2. Spiro Kostof – A History of Architecture – Setting and Rituals, Oxford University Press, London, 1985
3. Leland M Roth; Understanding Architecture: Its elements, history and meaning; Craftsman House, 1984
4. Allen Edward, ***How Buildings Work!*** Oxford University Press
5. De Chiara Joseph &Callender John, ***Time Saver Standards for Building Types for Architectural Types, Interior Design***, McGrawHili Book Co.
6. Leniham J &Fletchar W W, ***The Build Environment***,Environment & Man, Vol. 8
7. Blackie Mckay W B, ***Building Construction***, Vol 1-4, Orient Longman
8. Shah, Kale &Patki, ***Building Drawing***, Tata McGraw Hill Pub. Co., New Delhi.
9. Technical Teachers Training Institute***, Civil EngineeringMaterials,*** Tata McGraw Hill

Websites

https://architecturaltrust.org/outreach/education/glossary-of-architectural-terms/

BID281 **Full Marks: 100**

Model Making - I (Practical) SESSIONAL

Overview

This module introduces students to model making for architecture and interiors, specifically 'Block models', and the exploration of built structures and forms. 'Block models' show only the external form of the building, to visualize architectural forms three-dimensionally, showing the contours only and model buildings are mainly blocks with limited detail.

Objectives

To enable the students to:

Develop practical skills in designing in 3 Dimensions, exploring relationships between form and space.

- Develop making skills and understanding of various model making materials, suitable applications and representations for visual interpretations of buildings, interiors and products.
- Develop an understanding of the function of space through 3 dimensional interpretations of structure and form.
- Develop critical design thinking and evaluative processes in relation to desired objectives and design realisation.
- Develop action planning skills for future learning.

Units	Course Content
1	**Creative visual design ideas development for block model of architectural form.**
2	**Materials for model making**
3	**Exploration of Model Making Techniques**
4	**Investigation & Exploration of Structure & Form**
5	**Realisation of Design from 2 Dimensional Drawings to 3 Dimensional Form(s)**
6	**Integration of contextual references through visual design.**
7	**Evaluation of outcomes against defined design objectives and desired visual design outcomes.**
8	**Generation of action plan(s) for future learning.**

References

Websites

https://www.arch2o.com/architectural-model-complete-guide/

http://www.modelmakers-uk.co.uk/students-advice

http://www.instructables.com/id/How-to-make-an-Architectural-Model-by-hands/

Books

Architectural Model Building: Tools, Techniques, and Materials 1st Edition by Roark T. Congdon (Author) - ISBN-13: 978-1563677731

Model Making (Architecture Briefs) 1st Edition by Megan Werner (Author) - ISBN-13: 978-1568988702

BID202 **Full Marks: 50**

Construction Materials, Techniques & Technology - II (Theory)

Objectives

To enable the students to:

- Gain understanding of the varied materials, systems and services within the construction and design of buildings and spaces.
- Understand various factors to be kept in mind to ensure sustainability, safety and longevity while designing a building and/or any super structure.

Units	Course Content
1	Structural Systems
2	Load, Support, Span
3	Structural Behaviour
4	Compression, Tension
5	Influencing Factors- Seismic, Wind, Time
6	Lifts and Escalators / Travelators
7	Service Systems
8	PHE
9	Electrical /Illumination
10	HVAC
11	IT/ Networking
12	Landscape
13	Fire
14	CCTV, Building / Home / Office Management System
15	Renewable energy systems

References

Books

1. **Agnew, J.C. '**A House of Fiction: Domestic Interiors and the Commodity Aesthetic', in Bronner, S. (ed.) Consuming Visions: Accumulation and Display of Goods in America 1880- 1920. New York: Norton, 1989.
2. **Ayres, James**. Domestic Interiors: The British Tradition, 1500-1850. New Haven and London: Yale University Press, 2003.
3. **Baker, Malcolm.** 'Public Images for Private Spaces? The Place of Sculpture in the Georgian Domestic Interior', Journal of Design History, 20:4 (2007), 309-23.
4. **Beard, Geoffrey**. Craftsmen and Interior Decoration in England, 1660-1820. London: Bloomsbury Books, 1986.
5. **Bryant, Julius**. 'Curating the Georgian Interior: From Period Rooms to Marketplace?' Journal of Design History, 20:4 (2007), 345-50.

Videos

https://www.youtube.com/watch?v=RocreN7_sqs –

BID291 **Full Marks: 100**

Technical Drafting – II (Practical)

Objectives

To enable the students to:

- Develop professional standardised industry technical drafting skills.
- Understand the concept of designing 2D & 3D views of the furniture & interior spaces.
- Apply correct technical processes and terms to drawings, plans and layouts.

Units	Course Content
1	1: Rendering Material and Medium – Colour Pencils, Water Colour etc. 2: Rendering Techniques 3: Plan and Elevation Rendering
2	1: Lines: Types standard and application 2: Lettering: Single Stroke Vertical Letters, architectural lettering, Block Letters 3: Orthographic projection 4: Scales: British: types of scale, application in drawing 5: Isometric View 6: Oblique View 7: One point Perspective View
3	1: Material Symbols 2: Carpentry Joints 3: Doors 4: Windows 5: Staircases 6: Partition 7: False Ceiling 8: Paneling 9: Typical Detail of a Kitchen Counter
4	10: Furniture layout 11: Elevation – Living Room (4 walls) 12: Elevation – Master's Bed Room (4 walls) 13: Elevation – Kids Bed Room (4 walls) 14: Elevation – Kitchen (4 walls) 15: Elevation – Bathroom (2 walls) 16: Flooring layout 17: Reflected False ceiling layout 18: Electrical layout 19: Perspective – Varied Spaces

References

Books

- French Thomas E, ***EngineeringDrawing& Graphic Technology***, McGraw Hill, New York.
- Millar Max, ***KnowHow to Draw***, B T Batsford Ltd., London
- Shah, Kale &Patki, ***Building Drawing***, Tata McGraw Publishing Co., New Delhi

Websites

- https://www.designingbuildings.co.uk/wiki/Types_of_drawings_for_building_design

BID203 **Full Marks: 50**

Colour, Light & Space for Interiors (Theory)

Objectives

To enable the students to:

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

Units	Course Content
1	**Introduction to:** • **Colour theory** • **The colour wheel**
2	**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
3	**The Munsell Colour System** • The colour sphere • Munsell colour notation • Complementary hues in Munsell colour system • Hue, value, chroma • Colours and emotions • Effect of colour on each other
4	**Principles of Design Applied to Colour** • **Harmony in colour: s**tandard colour schemes (related & contrasting harmonies), how to use colour harmonies, background colours, keyed colours through neutralizing, mixing etc • **Balance in colours: b**alancing dull and bright colours, light & dark colours, warm & cool colours, crossing or repetition. • **Proportion in colour:** law of colour areas
5	**Applications of Colour in Various Elements of Interiors** • Summing up of interiors in various colour schemes and its relation to work output
6	**Effect of Colour on Texture**
7	**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

8	**Quantity 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 illuminization for various activities (ISI & IES recommendations) **Quality of Illumination** • Colour rendition • Spatial distribution of light: direct, indirect, diffused • Glare: illuminance contrast, illuminance uniformity
9	**Types of Lighting** • Local & general lighting • Applied lighting • Architectural lighting • Recessed lighting • Luminous walls & ceilings
10	**Luminance & Lighting** • Controls type, selection, care, maintenance and economic use, lamp holders, lighting switches, motion sensors.
11	**Lighting for Outdoor Living & Gardens**
12	**Effects of colour on Human Behavior**

References

1. Davidson J, ***The Complete Home Lighting Book***, Casell, UK, 1997
2. De Chiara Joseph & Callender John, ***Time Saver Standards for Architectural Types & Interior Design & Space Planning,*** Mc Graw Hill Book Co.
3. Wieltide, Elizabeth, ***Lighting***, Ryland, Peters & Small, London
4. Whitehead R, ***Home Lighting Ideas Bedrooms & Baths***, Rockport Publishers, Masachusetts
5. Beazley Mitchell, ***Colour Book***, Reed Consumer Books Pvt. Ltd.
6. Chijiwa Hideaki, ***Colour Harmony***; Rockport Publishers
7. Halse A. O, ***The Use of Colour in Interiors***; McGraw Hill Book Company
8. Stochton Tomes, ***Designer's Guide to Colour,*** Chronicle Books

BID282 **Full Marks: 100**

Design Studio II – Residential Interior Design (Practical) SESSIONAL

Outline

This module introduces you to the observing and recording techniques and skills, necessary to understand and communicate the interior space design of residential spaces.

You will consider the environmental and human interactions within the space, and use this to help inform you during the design process.

The module fosters creative, divergent and critical thinking from the view point of the designing of interior residential spaces, allowing students to fully engage and explore the experience, function and atmosphere of spaces. Students learn to express their ideas, primarily through freehand drawing and model making and communicate their deisgn ideas.

Objectives

To enable the students to:

- Acquire knowledge of principles of Interior Design for residential spaces.
- 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.
- Gain understanding of furniture design through anthropometric measurements
- Make designs and working drawings for various residential interior schemes and understanding their execution
- Learn techniques of presentation of designed interiors (manual)
- To develop technical layout, drafting and practical drawing and design skills
- To familiarize students with various symbols and signs used on plans and drawings for interior and architectural drawings.
- To develop awareness and understanding of the relationship of spaces within a given design context.
- To develop design skills within the constraints of a given interior design project brief.
- Understand basic requirements and infrastructural requirements, utilization of design studio and to gain hands on experience about design studio.
- Understand the benefits of using sustainable materials on adhering to Green Buiolding legistlation, the financila implications and benefits to ther environment (both local and wider).

Units	Course Content
1	**Design sketches and visual ideas for residential interior design.** • Front view, Plan, Sections • Perspective of Drawings (One Point & Two Point)
2	**Practical Design Layouts & Technical Drafting –** • Complete Floor Layouts & Furniture Layouts using correct measuring, scale, drafting skills and symbols.
3	**Detail Documentation, Drawing, Observation and Notes, Quantification, Reporting, Presentation.**
4	**Study of Factors Influencing Decisions Related to Furnishing of Residential Interior Spaces** • Principles of design, needs and preferences, climate, availability and budget
5	**Factors to be Considered While Designing Interiors** • Regulation and Bylaws of the plan sanctioning authority

	• Establishment of areas for different units - function, furniture requirement & number of persons • Orientation • Grouping of user's area • Circulation between and within user's area • Light and Ventilation • Flexibility • Privacy • Roominess (spaciousness) • Services • Aesthetics • Requirement for air conditioning & central heating • Cost
6	**Assessing & Allocating Space for Various Activities in Different Rooms** • Living Room • Dining Room • Bedrooms • Kitchen • Pantry • Foyer, Lobby, Corridors • Store • Balcony / open areas
7	**Anthropometry & Biomechanics** • Definition & scope • Physical dimensions of human body as a working machine • Human body as a system of levers • Identification & analysis of posture • Effect of wrong posture on cardiovascular & musculoskeletal system (example: back trouble, inter vertebral disc pressure, lower back and inter abdominal pressure) • Design application of anthropometry • Design of furniture and interiors according to consumer ergonomics. • Study of basic furniture dimensions based on anthropometries measurements
8	**Furniture requirements in the afore mentioned rooms**
9	**Study & Analysis of Basic Floor Layouts (Standards) in Relation to Principles of Interior Designing**. • Planning simple furniture layouts of the different interior spaces such as: living room, dining room, bedroom, bathroom, kitchen, pantry, utility, foyer, corridor, passage, balcony etc
10	**Judging & Analyzing the Afore-Mentioned Plans & Calculation of Planning Efficiency**
11	**Sectional Elevations of the Simple Furniture Layouts of the Different Interior Spaces**
12	**Application of Colour, Texture &. Pattern through Techniques of Rendering &. Presentation**
13	**Study & Analysis of Basic Floor Layouts (Standards) in Relation to Principles of Interior Designing**. • Planning simple furniture layouts of the different interior spaces such as: living room, dining room, bedroom, bathroom, kitchen, pantry, utility, foyer, corridor, passage, balcony etc
14	**Design Critic (group) – Visual and oral presentation of complete project -** • Written evaluation and action plan for improvement. • Visual presentation and organisation of complete project. • Powerpoint to explain project intentions, evaluations, decisions and rectifications.

References	
Books • Sigfried Giedion. Space, Time and Architecture: The Growth of a New Tradition. Harvard University Press, 1967 • William S. Saunders. Nature, Landscape, and Building for Sustainability: a Harvard Design Magazine Reader. Minneapolis, University of Minnesota Press, 2008. • Al Gore. The Future: Six Drivers of Global Change. Random House, 2013 • AganTessi, ***The House - Its Plan and Use***, JB Lippincott & Co.,1976 • Alexander NJ ***Designing Interior Environment***, Harcourt Brace, Johanovich, New York • Allen Edward, ***How Buildings Work,*** Oxford University Press • Conran T, ***New House Book***, Guild Publishing, London • De Chiara Joseph &Callender John, ***Time Saver Standards for Building Types forArchitectural Types, Interior Design***, McGrawHili Book Co. • Deshpande, R S, ***Modern Ideal Homes for India***, United Book Corporation, 1974 • Faulkner S. ***Planning a House***, Holt, Richard &Winson • Grandjean E, ***Fitting the Task to the Man***; Taylor & Francis, London, 1988 • Leniham J &Fletchar W, ***The Build Environment,*** Environment & Man, Vol. 8, Blackie • ReviAromar, ***Shelter in India***, Vikas Publishing House, New Delhi **Websites** • https://www.dkorinteriors.com/lighting-modern-interior-design/ • https://www.hgtv.com/remodel/mechanical-systems/lighting-tips-for-every-room • https://study.com/academy/lesson/what-is-residential-interior-design.html **Videos** • https://www.youtube.com/watch?v=wjTcUzMDqzY	

SEMESTER III

BID391 **Full Marks: 100**

Computer Aided Design Studies I - AUTOCAD (Practical)

Objectives

To enable the students to:

- Develop skills in the industry standard AutoCAD software programme for the production of plans and technical drawings in 2 Dimensions.
- Develop design and digital based skills in producing plans which demonstrate design intentions.
- Understand how digital design software is used in the industry for the production of accurate and detailed plans and layouts for interior and architectural drawings.

Units	Course Content
1	Introduction about Computer Aided Designing (Essentiality of CAD), Usage of Autocad, Product Show Reel, User Interface of Autocad
2	Understanding Coordinate System, Classification of Autocad Coordinate System, Drafting Basic Shape with Dimension
3	Working with Architectural Unit System, Drawing & Modifying Simple Architectural Block.
4	Drafting Plan of Residential / Commercial Building
5	Drafting Front & Side Elevation of Residential / Commercial Building.
6	Making Layout of Different Sectional Views
7	Making a Complete Interior Layout with All Accessories.
8	Concept of Autocad Plotting. Plotting a Complete Layout
9	Designing & Modifying Complex Architectural Block (Doors, Windows Chajja, Sofa, Wardrobe & Wall Unit).
10	Hatching Different Cross Sections & Applying Various Patterns.
11	Customizing Different Dimension Styles
12	Layout Slide Show

References

1. Book on Latest Version of Auto CAD
2. Parker, Charles. Understanding Computers Today & Tomorrow. Fort Worth, TX: Dryden Press, 1998.
3. Sabot, Gary. High Performance Computing Problem Solving with Parallel and Vector Architectures. Reading, MA: Addison-Wesley Publishing Company, 1995.
4. Taylor, Dean. *Computer-Aided Design.* Reading, MA: Addison-Wesley Publishing Company, 1992.

BID301 **Full Marks: 50**

Sustainable & Ethical Studies - II *Materials, Technologies & Innovations* (Theory)

Objectives

To enable students to:

- Understand the effects the construction & interior design industry has on resources and the environment.
- Become aware of sustainable materials and technologies – traditional & new innovations for the construction of buildings and spaces.
- Become aware of sustainable materials and technologies – traditional & new innovations for the construction of furniture, furnishings and products.
- Develop research and analytical skills with reference to sustainable designers and their work.
- Be aware of organisations, agencies and certification bodies.
- Be aware of regulations pertaining to the construction and interior design industries.

Units	Course Content
1	**Environmental Impact and Sustainability associated to the construction & Interior space design industries:** Issues on environmental impact and sustainability within the construction and interior design industries.
2	**Resource consumption and depletion associated to the construction & Interior space design industries:** Resource consumption within the construction and interior design industries. • Deforestation • Non – Renewable Energies • Non – Renewable Materials
3	**Traditional Sustainable materials & technologies in the construction and interior space design industries:** • Adobe • Bamboo • Managed Forests • Recycled/Up-cycled materials
4	**Innovations in sustainable materials and technologies associated to the construction & Interior space design industries:** • Bamboo construction materials • Prefabricated construction • Recycled and up-cycled materials • Renovation and restoration
5	**Upcycling and recycling within the construction, furniture and interior design industries.**
6	**Ethical issues within the construction, furniture and interior design industries.associated to:** • Labour • Conditions • Health & Safety • Remuneration • Waste management
7	**Renewable Energy Vs. Non-Renewable Energy:** • Imapct of non-renewable i.e. traditional fossil fuel based energies. • Renewable energy systems and technology innovations • Sustainable energy schemes and initiatives in India.

References

Videos

https://www.youtube.com/watch?v=AqhpFVFdEM0 - Sustainable Building Materials Segment 2
https://www.youtube.com/watch?v=RocreN7_sqs - Sustainable Building Materials Segment 1
https://www.youtube.com/watch?v=g1yUFUL-_AI - Sustainable materials: with both eyes open
https://www.youtube.com/watch?v=WPRgRBxfbss - Green Building Concepts-3.0
https://www.youtube.com/watch?v=JEUShQ7r_tE - Green buildings are more than brick and mortar | Bryn Davidson | TEDxRenfrewCollingwood

BID381 **Full Marks: 100**

Model Making - II (Practical) SESSIONAL

Module Outline:

This module explores advanced model making materials and techniques specifically Semi-detailed or detailed working models. 'Semi detailed' and 'Detailed' completed models represent the plans in 3 dimensional form to builders and show precisely what the project or building will look like after completion and it is important that the finest detail is depicted. Interior models show the internal set-up, complete with scale-model furniture and the interior decorating of the building. The model maker is expected to make the furniture to scale.

Objectives

To enable the students to:

- Develop practical skills in designing in 3 Dimensions, exploring relationships between form and space.
- Develop making skills and understanding of various model making materials, suitable applications and representations for visual interpretations of buildings, interiors and products.
- Develop an understanding of the function of space through 3 dimensional interpretations of structure and form.
- Develop critical design thinking and evaluative processes in relation to desired objectives and design realisation.
- Develop action planning skills for future learning.

Units	Course Content
1	**Exploration of 3 dimensional interior design creative visual design ideas:** • Sketches of overall and details of design • Floor plan • Site plan • Elevation • Cross section • Isometric and axonometric projections. • Detail drawings • Presentation drawings • Design development process •
2	**Exploration of materials and techniques** • Model Making Techniques • Selection of materials • Colour • Textures • Styles
6	**Integration of contextual references through visual design.** • Annotations and notes to explain connections to designers • Diagrams and notes to explain visual intentions
7	**Evaluation of outcomes against defined design objectives and desired visual design outcomes.**
8	**Generation of action plan(s) for future learning.**

References

Websites

https://www.arch2o.com/architectural-model-complete-guide/

http://www.modelmakers-uk.co.uk/students-advice

http://www.instructables.com/id/How-to-make-an-Architectural-Model-by-hands/

Books

Architectural Model Building: Tools, Techniques, and Materials 1st Edition by Roark T. Congdon (Author) - ISBN-13: 978-1563677731

Model Making (Architecture Briefs) 1st Edition by Megan Werner (Author) - ISBN-13: 978-1568988702

BID302 **Full Marks: 50**

Ergonomics in Design Contexts (Theory)

Outline:

The practice of ergonomics has two primary objectives to enhancing workplace health, safety, and work design issues. These are to: 1) Enhance performance and productivity and 2) Prevent fatigue and injury.

These principles are integral to current thinking in modern lifestyles and the designing of spaces and furniture.

Objectives

To enable the students to:

- Understand the science and theory behind ergonomics.
- Understand the effects of design on humans.
- Understand how to incorporate ergonomics in furniture, product and interior space design.
- To be able to design an enabling environment that positively affects human physically.
- To develop research, written and analytical skills.
- To develop links between own work and the work of others.

Units	Course Content
1	**What is Ergonomics** [ˌər-gə-ˈnä-miks], n? • The study of how a workplace and the equipment used there can best be designed for comfort, efficiency, safety, and productivity.
2	**Perception of Space, Environment & Ecology in relation to living and commercial space design and function**
3	**Research Ergonomic Design and (Work of others):** • Furniture • Inteior Spaces • Products
4	**Impact of bad design on:** • People • Productivity
5	**Anthropometry & Biomechanics** • Physical dimensions of human body as a working machine • Human body as a system of levers • Identification & analysis of posture • Design application of anthropometry • Design of interiors and furniture according to consumer ergonomics. • Study of basic furniture dimensions based on anthropometries measurements
6	**Innovations ergonomics in:** • Furniture Design • Product Design

References

- ***Art and Visual Perception: A Psychology of the Creative Eye*** **(Rudolf Arnheim)** - Published in 1974
- Beisner, Beatrix and Kim Cuddington, editors. 2005. Ecological Paradigms Lost: Routes of Theory Change. Academic Press.
- Blackstone, William T. 1973. Ethics and Ecology. Southern Journal of Philosophy 11: 55–71.
- Buege, Douglas J. 1996. An Ecologically-Informed Ontology for Environmental Ethics. Biology & Philosophy 12(1): 1–20.
- Colyvan, Mark. 2005. Probability and Ecological Complexity. Biology & Philosophy 20(4): 869–879.
- Colyvan, Mark. Forthcoming. Population Ecology. In Sahotra Sarkar and Anya Plutynski, editors, A Companion

to the Philosophy of Biology. Blackwell.
- Colyvan, Mark and L. R. Ginzburg. 2003b. Laws of nature and laws of ecology. *Oikos* 101(3):649.

Websites

https://ergo-plus.com/workplace-ergonomics-benefits/

Videos

https://www.youtube.com/watch?v=LAKlmdMHpdE

BID392 **Full Marks: 100**

Furniture Technologies & Design (Practical)

Objectives

To enable the students to:

- acquire knowledge about the various materials used in furniture.
- know the multiple use of furniture keeping the constraints of available space.
- learn to care & maintain the furniture with various finishes.
- appreciate the contribution of furnishings in satisfying family living.
- recognize the importance of wise decision making in selection, use and care of home furnishings.
- learn principles that will help one to judge the design of furnishing relative to their function and beauty.

Units	Course Content
1	**Brief History of Furniture Styles & Techniques – Contemporary & Traditional to Modern Furniture - Innovations**
2	**Ergonomic Furniture Design Creation – Visual design ideas and sketches**
3	**Design development through drawings, sketches, models showing visual exploration**
3	**Orthographic Projections of Simple Furniture Pieces** such as chair, table, bed, cupboard, wardrobe, cabinets etc
4	**Isometric Projections of Furniture**
5	**Wooden Joinery & Carpentry** The different types of joineries used in making furniture
6	**Furniture Detailing** Detailed drawing of different types of furniture with their joineries
7	**Preparing furniture models**
8	**Market Survey of Furniture Materials, Furniture Finishes & Furnishings**
9	**Basic Materials used for Furniture** Types of wood, processed wood (block boards, laminates, veneers, particle board), metals, cane & other wicker materials, plastics, fibre glass.
10	**Finishes Used on Furniture** Varnish, polish, lacquer, melamine, paints, staining
11	**Study of Basic Furniture Dimensions Based on Ergonomic/Anthropometric Measurements**
12	**Types of Furnishings** Curtains, draperies, upholstery, bedspreads, cushion covers, loose covers, blinds, carpets and rugs, leather, rexine & fibreglass and new innovations in furnishing materials.
13	**Selection of Material for Furnishing** Colour, pattern, texture, style, cost, durability, maintenance etc

References

1. Charlotte & Peter Fiell, ***Modern Furniture ClassicsSince 1945,*** Thames & Hudson
2. Darby Tom, ***Making Fine Furniture***; Guild of Master Craftsman Publications
3. De Chiara Joseph &Callender John, ***Time Saver Standards for Architectural Types & Interior Design & Space Planning***; McGraw Hill Book Co.
4. Gilliatt Mary, ***The Decorating Book***; Michael Joseph
5. Grandjean E, ***Fitting the Task to the Man***; Taylor & Francis, London, 1988
6. Kasu Ahmed, ***An Introduction to Art, Craft, Science, Technique & Professionof InteriorDesign***, Ashish Book Centre, Delhi, 2005

Videos

https://www.youtube.com/watch?v=s7pI0cHJQtY - Making Tension Based Furniture - Robby Cuthbert

BID382 **Full Marks: 100**

Design Studio - III – *Innovative Green Building* (Practical) SESSIONAL

Overview

This module explores sustainble and modern interior space design, students will investigate and explore how to integrate sustainable design and systems into their design work to allow them to create spaces that have limited impact on the environment.

Interior designers need to develop a broad range of skills and abilities to support them in their creative design and problem solving processes. Being aware of, and understanding how the built environment is used, occupied and constructed, is invaluable in helping initiate this. Selecting appropriate knowledge of key practical skill sets and techniques, and using professional standards and conventions to porotoray their tchnically and visually, is crucial to ensuring that these processes are developed and facilitaed efficiently and effectively.

Objectives

A student passing this module should be able to:

1. Understand, analyse and evaluate a basic Design Brief, by acknowledging the importance of constraints and conditions imposed by client and site, and produce a small range of 3D spatial design ideas and concepts accordingly.
2. Understand the basic elements and principles of the sustainable design process, for generating ideas from Briefing to Concept proposals, including how to carry out a measured survey & drawings
3. Develop professional interior design skills & techniques including drawings, plans, illustrations and models.
4. Develop students understanding and skills in materials & techniques & technologies within interior design contexts and constraints.
5. Understand the construction process, and identify the difference between sustainable and unsustainable materials.
6. Produce a basic Environmental Strategy proposal to include e.g. energy, water and waste reduction.
7. Adopt either traditional or new methods of sustainable building construction and technology in their design proposals, to conform to the statutory requirements of the Building/Fire Regulations and Disabled Access.
8. Evidence the ability to think three dimensionally in responseto contextual and environmental factors, and using appropriate sketch design and development techniques, reflect on the quality and appropriateness of their experiments to inform their progress
9. Develop technical layout, drafting and practical drawing and design skills.
10. Develop visual design skills for the generation of ideas and concepts.
11. To develop design skills within the constraints of a given interior design project brief.

Units	Course Content
1	**Design Ideas Generation** **Creative Conceptual Interior Space Design ideas, sketches and drawings.** Process development of visual design ideas & sketches showing varied viewpoints for a proosed given interior.
2	**Design Development** of visual design idea through the exploration of layouts, concepts and interior plans.
3	**Exploaration and investigation** of materials, techniques and technologies for interior spaces and surface designs.
4	**Technical Drafting and drawing of layouts and plans** including correct symbols and scale, within the constraints for given interior design project brief.
5	**Application of media and drawing techniques** to illustrate different viewpoints of a given interior including perspective drawings, orthographic drawigs of views and sections.
6	**Model Making Materials, Techniques & Technologies**

	Production of scale model(s) of proposed design
7	**Understanding Architectural Symbols and scales** for arcitectural and interior design.
8	**Quantification, Reporting, Presentation.**
9	**Detail Documentation, Drawing, Observation and Notes**
10	**Visit to various sites (field visits) and to submit study report**
11	**Understanding constraints and needs of the given 'Design Brief' from a client's perspective and according to their requirements.**
12	**Quantification , Estimations and costing), Reporting, Presentation**
13	**Professional Presentation Skills** **Sketches, plans, layouts, illustrations and models presented professionally**
14	**Group Design Presentation & Critic**

References

Books

1. Berger, C. Jaye. Interior Design Law and Business Practices. New York: John Wiley & Sons, Inc., 1994.
2. Burden, Ernest. Design Communication: Developing Promotional Material for Design Professionals. New York: McGraw-Hill, 1987.
3. Ching, Frank. Illustrated Guide to Interior Architecture. New York: Van Nostrand Reinhold, 1987.
4. Cvoxe, Weld, Maister, David, and The Coxe Group. Success Strategies for Design Professionals. New York: McGraw-Hill, 1987.
5. Dell'Isola, Alphonse, and Kirk, Stephen J. Life Cycle Costing for Design Professionals. New York: McGraw-Hill, 1981.
6. Epstein, Lee. Legal Forms for the Designer. New York: Design Publications, 1977.

Websites

https://www.dkorinteriors.com/lighting-modern-interior-design/
https://www.hgtv.com/remodel/mechanical-systems/lighting-tips-for-every-room
https://study.com/academy/lesson/what-is-residential-interior-design.html

Videos

https://www.youtube.com/watch?v=wjTcUzMDqzY

SEMESTER IV

BID491 **Full Marks:100**

Architectural Landscape Design (Practical)

Objectives

- To develop an understanding about the importance of functionality and aesthetics of landscaping.
- To enhance knowledge about it's planning, various plant types & care & maintenance.
- To become aware of the various materials related to landscaping.
- To communicate effectively in graphic, written, and verbal formats.
- To understand the relationship of the history and theory of landscape architecture.
- To acquire knowledge of the basic fundamentals of environmental design, particularly the implications of social and natural factors.
- To apply design principles in a range of sites and scales.

Units	Course Content
1	**Introduction to architectural Landscaping & Research** • Historical & Contextual References. • Architectural Ladsacape designers & their work. • Exemplar visual works of Architectural Ladsacape design. • Research of: Materials, plants and furniture.
2	**Fundamentals of Landscape design** • Contextualize the outdoor space. • Scale, part 1: The landscape to the existing house • Scale, part 2: Humans to the landscape • Lines, shapes, Forms, Textures, colours and Rythem
3	**Topographic Form & Design Technique** • The interpretation of the shape and features of the surface of the Earth to enable visualisation of designsand design ideas.
4	**Landscape Drawing** • Creation of sketches, visual ideas and initial diagrams/plans • Development of designs through process • Materials and art & design techniques
5	**Factors Affecting Planning of Landscaping** • Location & orientation, climatic conditions, land profile, soil type, water sources, drainage, elements & principles of design
6	**Planning of Landscaping (Residential & Commercial)** • Planning codes & procedures
7	**Dimensions of Landscape Space** • Foreground area (boundary, pathways, parking, arches, porch etc.) • Private living area (recreational area, play area, outdoor seating etc.) • The service area (cleaning area, drying area, garbage area, disposal, water supply, kitchen, garden)
8	**Plant Forms and Types** • Trees, plants, hedges, flowers, lawns, vines, creepers, Indoor plants, bonsai)
9	**Outdoor Furniture**
	Final Drawings &Technical Drafting of Plans • Final Drawings and plans • Drawings showing a variety of viewpoints and perspectives
10	**Critic & Presentation** • Presentation of project & research • Written evaluation against intentions • Action plan for future improvements

References

1. Bose T K, ***Tropical Garden Plants***, Kolkata, Horticulture & Allied Publishers, 1991
2. Cedric Crocker, ***All About Landscaping***, Ortho Books.
3. Faulkner R & Faulkner S, ***Inside Today's Home,*** New York, Holt Rinehart & Winston Inc., 1960
4. Hooguett Fickle, ***The Garden***, The Netherlands, Rebo Production, Lisse 1977
5. Learner J M, ***The Complete Home Landscape Designer***.
6. Trivedi, P &Chawdhury B, H***ome Gardening***, New Delhi, India, Council of Agricultural Research, 1983
7. The Fundamentals of Landscape Architecture 2nd Edition by Tim Waterman (Author)

Websites

https://www.curbed.com/2016/5/23/11700166/landscape-garden-design-101

BID401 **Full Marks: 50**

Professional Practice - I - *Estimation & Costing* (Theory)

Objectives

To enable the students to:

- To be aware of the cost of various materials used in interiors.
- To enable students to estimate the cost of a product / interior by learning calculation methods.

Units	Course Content
1	**Importance of Estimation & Costing In Interiors** • Individual item • A room • A full apartment • A house
2	**Main areas of Cost Estimation** • Walls (plastering, white washing, painting, textured finish, panelling etc.) • Flooring: material, laying • Ceiling: false ceiling, painting etc. • Wood work (material, polishing, varnishing & other applied finishes) • Furniture & furnishing • Plumbing • Drainage • Electrical fittings & layout • Other special features
3	**Rules & Methods of Measurement**
4	**Procedure of Estimating** • Metric system and primary units • International system of units • Degree of accuracy • Calculations
5	**Analysis of Rates** • Overhead costs • Task or out turn work • Rates of material and labour (quantity take off schedule of item, schedule of rates, schedule of quantities) • Preparing analysis of rates
6	**Specifications** • General specifications • Detailed specification of cement, concrete, R.C.C, brickwork, plastering, painting, white washing, colour washing snowcem, decorative cement colour washing, wood work, varnishingetc.

References

1. Arora B D, ***Electrical Wiring, Estimation & Costing***, New Heights, Karol Bagh, New Delhi.
2. Basu, ***Economical Building designs***, Basu Publications, Kolkata.
3. Hungtington& Whitney Clark, ***Building Construction*** John Wiley & Sons Pvt. Ltd.

BID492 **Full Marks: 100**

Computer Aided Design Studies II - AUTOCAD (Practical)

Objectives

To enable the students to:

- Digital drawing production through the use of AutoCAD,
- Digital visualisation skills through the use of Adobe Photoshop and the Adobe Creative Suite
- To design and develop a plan with all the detailing through the use of this software
- To help in formulating and customizing designs with proper presentations

Units	Course Content
1	Re-Cap of principles of AUTOCAD software
2	Introduction to 3 Dimension digital drwaing & 3Dimension Model Space
3	Working with 3D Primitives, Understanding Camera Trucking, Panning & Dolly.
4	3D Object Transformation, Designing Simple 3D Architectural Blocks.
5	Modifying 3D Block with Boolean Operations.
6	Designing Complex 3D Architectural Accessories with Dimensions.
7	Shading & Texturing With Interior Materials.
8	Placing Virtual Light (Exterior & Interior) within a Final Scene.
9	Rendering Various Perspective Views.
10	Managing Project File, File Import Export, Interoperability Between Autocad & 3D Max.
11	Conversion of Freehand sketch designs for plan and elevation into Computer Aided Designs
12	Points, Lines, Types of Lines, Angles, Triangles, Circles and other types of pictorial projections

References

1. Book on Latest Version of Auto CAD
2. Parker, Charles. Understanding Computers Today & Tomorrow. Fort Worth, TX: Dryden Press, 1998.
3. Sabot, Gary. High Performance Computing Problem Solving with Parallel and Vector Architectures. Reading, MA: Addison-Wesley Publishing Company, 1995.
4. Taylor, Dean. *Computer-Aided Design.* Reading, MA: Addison-Wesley Publishing Company, 1992.

BID402 **Full Marks: 50**

Introduction to VAASTU and FENG SHUI (Theory)

Objectives

To introduce students to various ancient concepts & principles on Vaastu and Feng Shui and their present relevance in Interior and Architectural Design.

To develop research and analytical skills

To develop skills in applying learnt knowledge.

Units	Course Content
1	**What is Feng Shui?** • History & Traditions • Principles • Meanings • Percieved Benefits
2	**What is Vaastu?** • History & Traditions • Principles • Meanings • Percieved Benefits
3	**Various Principles of Indian Vaastu Shastra**
4	**Various Principles of Chinese Feng Shui and their application in modern building construction and interior design**

References

1. "GOLDEN PRINCIPLES OF VASTU SHASTRA Vastukarta". Www.vastukarta.com. Retrieved 2016-05-08.
2. Acharya P.K. (1946), An Encyclopedia of Hindu Architecture, Oxford University Press
3. Vibhuti Sachdev, Giles Tillotson (2004). Building Jaipur: The Making of an Indian City. p. 147. ISBN 978-1861891372.
4. Vasudev (2001), Vastu, Motilal Banarsidas, ISBN 81-208-1605-6, pp 74-92
5. Sherri Silverman (2007), Vastu: Transcendental Home Design in Harmony with Nature, Gibbs Smith, Utah, ISBN 978-1423601326
6. Gautum, Jagdish (2006). Latest Vastu Shastra (Some Secrets). Abhinav Publications. p. 17. ISBN 978-81-7017-449-3.
7. BB Dutt (1925), Town planning in Ancient India at Google Books, ISBN 978-81-8205-487-5; See critical review by LD Barnett, Bulletin of the School of Oriental and African Studies, Vol 4, Issue 2, June 1926, pp 391
8. Vibhuti Chakrabarti (2013). Indian Architectural Theory and Practice: Contemporary Uses of Vastu Vidya. Routledge. pp. 1–2. ISBN 978-1-136-77882-7
9. *Dunning, Brian. "Feng Shui Today". Skeptoid.com. Retrieved 30 October 2016.*
10. Cheng Jian Jun and Adriana Fernandes-Gonçalves. *Chinese Feng Shui Compass: Step by Step Guide.* 1998: 21

Websites

https://www.teresahwang.com/services/feng-shui-objectives

https://galaxydraperies.com/psychology-interior-design-decor-affect-emotions/

http://www.mahavidya.ca/2015/06/26/the-vastu-tradition-in-hinduism/

http://www.vastu-design.com/introduction/

BID481 **Full Marks: 100**

Surface & Soft Furnishings Design Development Techniques - II (Practical) SESSIONAL

Objectives:

- Develop creative thinking and design ideas development for the conceptual interior design of spaces, demonstrating understanding how colour, texture, pattern and material effects visual environment atmoshpere.
- Develop practical design skills and understanding of materials and techniques for surface design developments.
- Develop surface designs fit for specified purposes through the inveatigation of mateials, techniques and design processes, and showing understanding of composition and design elements.
- To develop students contextual research skills and ability to analyse and integrate ideas and styles as appropriate to project specifications.
- To develop visual presentation and associated media skills.

Units	Course Content
1	**Thematic Research and Investigation:** • Research visual references as per specified project theme/topic to aid design development.
2	**Research of relevant designers & their work** • Research a range of the design work of relevant industry professionals to inform and aid own design development.
3	**Visual Ideas Development:** • Development of surface design ideas for specified interiors and furnishings. • Sketches, diagrams and drawings.
4	**Design Development and Processes:** • Detail Documentation, Drawing, Observation and Notes, Quantification, Reporting, Presentation
5	**Exploration of materials, techniques and technologies for surface design development.** • Print – Mono/Block/Screen etc, • Stenciling, • Fabric Painting techniques • Dye Techniques (Natural & Azo Free)
6	**Final surface designs and product.** • Finished designs for selected purpose i.e. fabric, wall paper, textiles, tiles etc. • Finished Product(s) i.e. Cushion, Fabric, Curtain, and Bedding etc.
7	**Professional Presentation:** • Design Sheets & Sketchbook • Finished Designs • Finished Product(s)
8	**Project Evaluation and written critic of project and outcomes.**
9	**Group Design Critic & Presentation:** • Written evaluation of project outcome • Reflections & Action Plan for improvements

References

Books

- The Complete Technology Book on Dyes & Dye Intermediates Paperback – 1 Jan 2003 by NIIR Board of Consultants & Engineers (Author)
- Biodegradation of Azo Dyes by Hatice Atacag Erkurt (Editor) – Publisher: Springer (9 August 2010), ISBN-10: 3642118917
- *Second Skin: Choosing and Caring for Textiles and Clothing* by India Flint Murdoch Books, 2011 ISBN 978-1-74196-720
- *Indigo:The Color that Changed the World* by Catherine Legrand Thames & Hudson, 2013 ISBN 978-0500516607
- *Warp and Weft: Woven Textiles in Fashion, Art and Interiors* by Jessica HemmingsBloomsbury, 2012 – ISBN 978-1-4081-3444-3
- *Quilt National 2013:The Best of Contemporary Quilts* by The Dairy Barn Cultural Arts Center
- DragonThreads Extraordinary Textile Arts Books, 2013 - ISBN 978-0-9818860-4-6
- Surface Design for Fabric: Studio Access Card Printed Access Code – February 15, 2015 by Kimberly Irwin **Publisher:** Fairchild Books (February 15, 2015) **ISBN-10:** 1501395033

Websites

https://www.houseology.com/masterclass/design-school/chapter-eight-soft-furnishings
https://www.twosistersecotextiles.com/pages/azo-dyes

BID482 **Full Marks: 100**

DESIGN STUDIO - IV - *Commercial Interior Design* (Practical) SESSIONAL

Overview

This module focuses on the design of commercial interior spaces. Students will research existing creative commercial spaces and explore the core elements of the design process for a given interior space. The project will touch on all aspects of interior design such as interior architecture and space design.
Interior designers need to develop a broad range of skills and abilities to support them in their creative design and problem solving processes. Being aware of, and understanding how the built environment is used, occupied and constructed, is invaluable in helping initiate this. Selecting appropriate knowledge of key practical skill sets and techniques, and using professional standards and conventions to porotoray their tchnically and visually, is crucial to ensuring that these processes are developed and facilitaed efficiently and effectively.

Objectives

- To develop the skill in visualizing and designing spaces of commercial interiors considering the principles of designs, anthropometric data and ergonomic criteria.
- To understand the criteria for selection of appropriate material for different surfaces taking into consideration of ergonomic factors, aesthetics and cost.
- To develop creative and paractical design skills for creating interior spaces.
- To develop research and written analytical skills for specific topics and processes.

Units	Course Content
1	**Research & Study of Commercial Interior Design with the Perception of Purpose, Function & Aesthetics:** • Basic needs: ergonomic consideration, psychological, aesthetic, occupational and professional development •Analysis of clients' specific requirements • Location • Space requirement • Availability of materials • Design principles • Budget
2	**Research Current Trends in Commercial Interior Design** • Design Innovations • Regional and genre trends
3	**Interior Design of Commercial Spaces with Their:** • Types • Planning considerations: functions, orientation, circulation, grouping, light, ventilation, privacy, climatic and ergonomic factors, aesthetics & cost. • Standards • Service (electrical, lighting, water supply, drainage, air conditioning) • Materials & finishes (wood, glass, plastic, metals, acoustical boards, floor covering, panelling materials, false ceiling material) • Furniture details

4	**Research & analyse the work of a range of professional Interior Designers with a focus on Commercial Space design:** • Restaurants & Cafeterias • Educational Facilities • Retail Outlets & Stores
5	**Working Design Drawings & Sketches** A range of initial designs, sketches, drawings and illustrations to show your conceptual design ideas.
6	**Service Drawings and symbols**
7	**Developing simple models** Explore form and space through model making
8	**Typical Commercial Interior Project Formulation** Implementation plan for project and management of.
9	**Design Development** Development of visual design idea through the exploration of layouts, concepts and interior plans.
10	**Exploration and investigation of materials** Exploration and investigation of materials, techniques and technologies for interior spaces and surface designs.
11	**Technical Drafting and drawing** Technical Drafting and drawing of layouts and plans including correct symbols and scale, within the constraints for given interior design project brief.
12	**Application of media and drawing techniques** to illustrate different viewpoints of a given interior including perspective drawings, orthographic drawigs of views and sections.
13	**Quantification, Reporting, Presentation.** Budget Provision and Project Schedule
14	**Final Technical Drafting** • Plans & Layouts • Viewpoints
15	**Organisation and Presentation** Organisation of the working drawings for the same including service drawing with professional guidance.
16	**Group Design Critic, Evaluation and Action Planning** Written evaluation against brief objectives and intended outcomes. Action palnvbased on critic feeback from others and own informed evaluations.

References

1. Alexander, N J, Mercoust Brace, ***Designing Interior Environment***, Havanovich Inc.
2. Cerver F A, ***Commercial Space, Office Design & Layout***, Rotovision SA
3. Cerver F A. ***Commercial Space, Bars, Hotels & Restaurants***, Rotovision SA, Switzerland
4. Cerver F A., ***Shops, Malls & Boutiques***, Rotovision SA
5. De Chiara Joseph &Callender John, ***Time Saver Standards for Architectural Types & Interior Design & Space Planning,*** McGraw Hill Book Co.
6. Gustafsan K & Yes Robert, ***Corporate Design***, Thames & Hudson, London
7. ***National Building Code of India***, Bureau of Indian Standards, New Delhi, 1999
8. Reznikoff S C, ***Specifications for Commercial Interiors***, Whitney Library of Design.

Websites

http://www.vegas.com.sg/retail-interior-design/
https://www.hatchdesign.ca/commercial-interior-design-for-project-types/
https://www.architonic.com/en/projects/interior-architecture/0/5910002/1
https://www.forbes.com/sites/yjeanmundelsalle/2017/12/14/the-worlds-best-interior-designers-hot-list/#74bedfe93312
http://www.martynlawrencebullard.com/
http://mydesignagenda.com/interior-design-and-architecture-projects-need-inspired/

SEMESTER V

BID591 **Full Marks: 100**

Professional Industry Internship (Practical)

Objectives

- To enable the students to get first hand practical industry training experience.
- To gain practical industry training from skill industry professionals.
- To allow students to be able to integrate the theoretical knowledge into practical situation.
- To develop students ability in industry working practices and conditions.
- To develop students documentation and written skllls in terms of report writing.
- To develop written presentation skills in the form of a case study document.
- To develop students practical design skills in the contexts of industry based projects.
- To develop skills and experience in working within industry constraints.
- To develop professional industry practice design skills.

Course Content

Duration: Approx 8-10 weeks

A professional industry practical Internship at an Interior Design or Architectural Firm or Real Estate/ Promoters / Construction Firm or Furniture Design Unit.

Students to work on a given practical design project or project sections within professional constraints and contexts as set by the firm. Students will follow a design process to industry standards and produce a full interior design project (or part of varied design projects) with supporting research, photos and written information and diary/planner recording the full internship and project development.

BID501 **Full Marks: 50**

Sustainable & Ethical Studies - III
(Green and Energy Efficient Buildings) (Theory)

Objectives

Upon completion of this module students should be able to:

- Understand sustainability associated with the construction, architectural and interior design industries, which includes an outline set of green specifications, construction methods and technologies..
- Differentiate clearly between sustainable and unsustainable, construction methods and materials, when analysing and making design decisions.
- Communicate the application of their research findings and design development abilities, using industry standard methods.
- Recognise and address some of the main environmental challenges facing the design and building construction industry.
- Understand the importance of, identify with, and reflect on the wider benefits of sustainably and biodiversity to local communities.

Units	CourseContent
1	**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
2	**Fundamentals of Environment** • Environmental definitions • Life and the environment • Changes in the environment: anthropogenic and non-anthropogenic • Environmental hazards and risks • Natural resources: conservation & sustainable development
3	**System Concept in Ecology** • Ecosystem, and its functional attributes • Energy flow in the ecosystem • Material cycling • Development and evolution of ecosystems
4	**Population & Environment** • Carrying capacity: limits to population growth • Population growth and natural resources • Impact of population growth on economic development and environment
5	**Land & Water Resources of the Earth** • Land resources of the earth • Land use pattern • Water resources of the earth
6	**Pollution & Environment with Reference to Air, Water, Soil & Noise** • Concept of pollution • Sources of pollution • Remedies to control pollution
7	**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
8	**Fuel & Energy Management** • Fossil fuels & solid, liquid and gaseous fuels • Hydel power: potential, limitations and adverse environmental impacts • Solar energy: principle (water heating, refrigeration, cooking, desalination) • Energy from biomass: biogas and gasohol • Energy audits & management • Different measures of energy saving
9	**Sources of Energy** Classification (nonrenewable and renewable, alternative, conventional & non-conventional).
10	**Solar Energy** • Principle of liquid collectors • Concentrating collectors and air heaters • Storage devices
11	**Solar Energy** Application of solar energy in water heating, refrigeration, cooking, desalination, power generation, photovoltaic conversions and solar salt ponds.
12	**Energy Conservation** • Utilization of Biogas energy • Waste heat recovery and utilization • Maintenance of domestic heaters, cooking, lighting
13	**Green Buildings** • Nature of Green buildings • Principles of Green Buildings • Difference between the conventional and the Green Buildings • Benefits of Green Buildings • Green building Rating System
14	**Eco friendly Construction Materials** Use of eco-friendly construction materials in flooring, walls, ceiling& roof
15	**Energy Efficiency** • Air conditioning • Lighting System: efficient light sources, dimmer controls, use of natural light and solar light • Wind tower and power generation
16	**Water Efficiency** • Recycling of waste water • Rainwater Harvesting • Water Efficient Fittings
17	• The social implications and economic value of sustainability, to local and global communities • The application of sustainable theories and strategies, and green building construction principles to a design proposal • The Green and BIM Overlays to the RIBA's Plan of Work • How to conform to the Building Research Establishments Environmental Assessment Method (BREEAM) principles

	• Reusing fittings, recycling materials, and reducing waste, conservation of energy and Biodiversity • Basic sustainable construction methods for walls, floors and ceilings • Spatial psychology of 'New Ways of Working'.

References

References

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
6. Anink, D, ***Handbook of Sustainable Buildings***, James & James, 1997
7. Baggs, Sand J, ***The Healthy House***, Thames & Hudson, London, 1996
8. Woolly &Kimmins, ***Green Building Handbook,*** E & FN Spon, 1997

BID502 **Full Marks: 50**

Entrepreneurship Management (Theory)

Objectives

- To develop entrepreneurship skills in students.
- To motivate students towards seeking an entrepreneurial career.
- To help the students understand the process & procedure of setting up small enterprises.
- To develop analytical skills of students regarding the environment related to small-scale industries & businesses.
- Demonstrate an understanding of the potential variety of roles of a professional Landscape Architect or Interior Designer, and the range of projects they may undertake.
- Demonstrate an appreciation of the professions potential future role and contribution to environmental development and 'place-making'.

Units	Course Content
1	**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.
2	**The Entrepreneur** • Definition behavior, characteristics, entrepreneurial competency, concepts & development. • Self-awareness, interpersonal skills, creativity, assertiveness. • Factors influencing entrepreneur's role.
3	**Setting & Managing an Enterprise** • Need, scope & approaches for project formation, market assessment, S.W.G.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
4	**Critical Path Method, Project Evaluation, Review Techniques for Establishing Small-Scale Industries.**
5	**Creativity & Problem Solving Personnel Management.** • Salaries, wages & incentives, performance appraisal, quality control etc.
6	**Marketing & Sales Management** • Marketing management & sales techniques, packaging, label intervention, pricing & after sales service.
7	**Legislation** • Licensing, registration, principal laws, business ethics, income tax, labour law application, consumer complaint redressal.

References

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

BID592 **Full Marks: 100**

Computer Aided Design – II - *3D MAX* (Practical)

Objectives

- To develop students practical design skills 3D Max & its application.
- To develop students technical knowledge of AutoCAD with reference to technical drawing and drafting in 3 Dimensional format.

Units	Course Content
1	Essentiality of 3Ds Max in Architectural Design Visualization, Product Show Reel & Other Demo Reel, User Interface of 3D Max
2	Negotiating with Objects Transformation (Move, Rotate, Scale), Understanding Various 3D Model Types (Spline, Mesh, Poly, Patch, Nurbs)
3	Changing System Unit & Working with Architectural Unit System, Drafting & Modifying Simple 2D Architectural Block with Spline Shape
4	Usage of Spline Modifiers (Extrude, Lathe, Bevel Profile, Sweep) to Generate 3D Surface Model.
5	Creating a Simple Building Plan with Dimension.
6	Importing Plan from Autocad to 3D Max & Modeling a Complete 3Dd Building (by Using Wall Tool & other AEC Extended Objects).
7	Mesh & Poly Modeling of Different Interior Accessories.
8	Concept of Patch &Nurbs Model & Understanding their Characteristics. Usage of Them in Architectural Modeling.
9	Definition Of Material And Textures And Relation Of Them With Virtual Scene Light.
10	Working with Different Architectural Materials, Placing Proper Lights in a Small Interior Scene.
11	Handling Target & Free Camera, Placing Camera in a Scene to Get Perspective View from a Specific Angle.
12	Examples of Advanced Material (Mental Ray Arch & Design) & Photometric Light (Area, Linear, Isotropic, Spot) with Indirect Illumination (Final Gathering)
13	Casting Mental Ray Sun & Sky Light for Exterior Scene, Generating Atmospheric Effects such as Fog, Mist, Fire, Cloud
14	Rendering into Photo Realistic Raster Images of Various Formats & Sizes.
15	Definition of Animation. Classification of Animation. Examples of 3D Max Key Frame Animation
16	Creating Camera Fly through in Both Int& Ext Scene
17	Managing Project File, File Import Export, Xref Objects & Communicating with Other 3D Packages

References

1. Arnaud, Remi & Barnes, Mark C. "COLLADA: sailing the gulf of 3D digital content creation". Wellesley, Mass. A K Peters, 2006.
2. Blundell, Barry G. & Schwarz, Adam J. "Creative 3-D display and interaction interfaces: a transdisciplinary approach". Hoboken. Wiley-Interscience, 2006.
4. Blundell, Barry. "Introduction to computer graphics and creative 3-D environments". London. Springer, 2008.
5. Boardman, Ted & Hubbell, Jeremy. "Inside 3D studio max 3: modeling, materials and rendering". New Delhi. Techmedia, 1999.
6. Brown, Tim H.[et al.]. Art of Maya: an introduction to 3D computer graphics, 4th ed. California. Autodesk Maya Press, 2007.
7. Buss, Samuel R. "3D computer graphics: a mathematical introduction with OpenGL". Cambridge. Cambridge University Press, 2003
8. Chen, Jim X. & Chen, Chunyang. "Foundations of 3D graphics programming: using JOGL and Java3D, 2nd ed." London. Springer, 2008.
9. Derakhshani, Dariush, Munn, Randi L. & McFarland, Jon. "Introducing 3ds Max 9: 3D for beginners". Indiana. Wiley Publishing, 2007.
10. Discreet. "3ds max 7 fundamentals and beyond courseware". Delhi. Focal Press, 2005.
11. Ferguson, R. Stuart. "Practical algorithms for 3D computer graphics". Natick. A K Peters, 2001.
12. Giambruno, Mark, "3D graphics and animation, 2nd ed." Delhi. Pearson Education Asia, 2002.

BID581 **Full Marks: 100**

Design Studio - V - *Professional Mentored Project* (Practical) SESSIONAL

Overview

This module focuses on the design of a substancial interior space, working with a professional mentor. Students will research existing creative interior spaces and explore the core elements of the design process for a given interior space. The project will touch on all aspects of interior design such as interior architecture and space design, with an emphasis on creating a uniques cutting edge design.

You will use the broaod range of skills which you have gained to support your creative design and problem solving processes. Byou will understand and be aware of, and understanding how the built environment is used, occupied and constructed, is invaluable in helping initiate this. Selecting appropriate knowledge of key practical skill sets and techniques, and using professional standards and conventions to porotoray their tchnically and visually, is crucial to ensuring that these processes are developed and facilitaed efficiently and effectively.

Objectives

A student passing this module should be able to:

Further examine and digest a written design brief, site contexts and user requirements to logically and competently produce an innovative solution to a design problem.

2. Appraise the ergonomic impact of classic design furniture and products, to help create an aesthetically pleasing as well as a functional atmosphere within an interior.
3. Understand the value of coherently incorporating sketching, model making, technical drawing and CAD, into an acceptable professional standard of communication, using materials and techniques to coordinate the presentation.
4. Follow the design process to create acreative unique sustainable and healthy environment, using the basic strategic knowledge and tactics of e.g. planar form, movement, light, colour and surface finishes.
5. Document and contextualise research to help inform the design decision making process for the benefit of the end users.
6. Produce correct and profesionally presented draings, design ideas, proposals and models.
7. Further demonstrate and apply basic knowledge of building construction and materials for informing a sustainable design project resolution.

Units	Course Content
1	**Professioal Project Planning** 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.
2	**Ideas Generation** Generation and development of visual design ideas & sketches showing varied viewpoints for a given interior.
3	**Design Development** Development of visual design idea through the exploration of layouts, concepts and interior plans.
4	**Exploration and investigation of materials** Exploration and investigation of materials, techniques and technologies for interior spaces and surface designs.
5	**Technical Drafting and drawing** Technical Drafting and drawing of layouts and plans including correct symbols and scale, within the constraints for given interior design project brief.
6	**Model Making** 3 Dimensional Scale model of space design using correct techniques
7	**Symbols, Scale and Technical Drawing** Application of symbols on technical architectural plans and drawings. Using correct and acurate scale and drafting methodology.

8	**Application of media and drawing techniques** to illustrate different viewpoints of a given interior including perspective drawings, orthographic drawigs of views and sections.
9	**Quantification, Reporting, Presentation.** Budget Provision and Project Schedule
10	**Organisation and Presentation** Organisation of the working drawings for the same including service drawing with professional guidance.
11	**Group Design Critic, Evaluation and Action Planning** Written evaluation against brief objectives and intended outcomes. Action palnvbased on critic feeback from others and own informed evaluations.

References

Books

- Habitat: The Field Guide to Decorating: Lauren Liess: 9781419717857
- https://www.amazon.com/Habitat-Field-Decorating-Lauren-Liess/dp/141971785

- Patterns in design, art and architecture: Petra Schmidt - Annete Tiebenberg - Ralf Wolheim: Birkhauser.
- In Details - Interior Surfaces and Materials: Christian Schittick - Editions Detail.
- Material Skills - Evolution of materials - Els Zijlstra - Materia Rotterdam.
- Kevin Lynch. The Image of the city. The MIT Press, 1960.
- Christopher Alexander. A Pattern language: towns, buildings, construction. Oxford University Press, 1978.
- Kenneth Frampton. Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture. The MIT Press, 1995.

Websites

- https://www.designingbuildings.co.uk/wiki/Types_of_drawings_for_building_design
- https://www.dkorinteriors.com/lighting-modern-interior-design/
- https://www.hgtv.com/remodel/mechanical-systems/lighting-tips-for-every-room
- https://study.com/academy/lesson/what-is-residential-interior-design.html
- http://mydesignagenda.com/interior-design-and-architecture-projects-need-inspired/

Videos

- https://www.youtube.com/watch?v=wjTcUzMDqzY

SEMESTER VI

BID601 **Full Marks: 100**

Restoration & Renovation of Building Interiors (Theory)

Objectives

- To develop students understanding and knowledge in buildings restoration and renovation.
- To develop students understanding of the role of conservation of historical and locally nationally important buildings.
- To develop critical thinking skills in relation to the repair and renovation of buildings and interior spaces.
- To become aware of the needs for repairing and associated restoration problems.
- To develop research and written skills in recording and analysing issues and topics associated with conservation, resoration and renovation of buildings and inerior spaces.

Units	Course Content
1	**Renovation** • Importance of renovation • Need for renovation • Areas of concern: walls, floor, ceiling/roof, wood work, electrical, plumbing, sanitary, furniture & furnishing
2	**Research – Renovation Projects** • Source and gather research of exemplar local renovation projects, including site visit.
2	**Importance of Restoration** • Historical heritage • Economical significance • Sustainability - Up-cycling and recycling • Design trends
3	**Considerations of Additions & Alterations** • Evaluation of existing conditions, structural stability. • Study of prevalent rules and regulations of local authorities • Integration of 'new' and 'old' structures and interiors
4	**Preparing repair proposal** • Preparing repair proposal: the blending of repair work with old work giving consideration to purpose, stability and asthetics. • Sketches and drawings for a given proposal, showing different viewpoints and where appropriate elevations, including written annotations.

References

1. ***Basic Woodworking***, Sunset Books
2. Chudley, R, ***Building Technology,*** Vol. 1 –5,
3. Davidson James, ***Complete Home Lighting Book***, Casell Publishers, U.K.
4. Faulkner & Faulkner ***Inside Today's Home***
5. Hiraskar G K, ***The Great Age of World Architecture***, Dhanpat Rai Publications
6. Housing, ***A Factual Analysis***; Macmillan, New York.
7. John Pile, ***History of Interior Design***
8. JouhnBu'lock Bjorn Kristianseir***, Basic Biotechnology***, Academic Press, London,1987

BID602 **Full Marks:100**

Sustainable & Ethical Studies IV - Dissertation (Theory)

Objectives

- Develop a body of research of sustainable innovations and solutions within the fields of Architecture, Construction and Interior Space Design industries.
- Written analysis and interpretations of data, facts and other information in the form of a dissertation.
- Present an original dissertation on a chosen area of sustainablity and ethics within the construction and design industries, which includes facts, specific examples, technical information, discussions and conclusions within given contexts.
- Communicate and present articulately, objective rationales and discussions on the environmental impact and health and well being of their topic.

Units	Course Content
1	**Research and sourcing:** • Sustainable/Ethical Topic related to industry. • Related articles, facts, figures, diagrams and images. • Organisations, bodies and agencicies • Technological developments innovations and discoveris within given context and subjest.
2	**Written analysis & responding to research:** • Notes • Written observations
3	**Drafting and refinment of ideas, arguments, discussions and facts:** • First written draft with notations for refinment, corrections and additions • Second written draft with corrections
4	**Final Written Draft** • Proof-read & complete with all corrections
5	**Bibliography & referencing:** • Written bibliography • Correct referencing
6	**Presentation & Evaluation** • Professionally Presented Bound dissertation • Written evaluation against desired outcomes

References

Books

- Case Study Handbook: How to Read, Discuss and Write Persuasively About Cases Paperback – 15 Mar2007 **by** Ellet (Author)

Websites

http://equip.sbts.edu/article/20-tips-to-help-you-finish-your-dissertation/
https://www.edugeeksclub.com/blog/How_to_Write_Your_Best_Dissertation/
https://www.oxbridgeessays.com/blog/top-10-masters-dissertation-writing-tips/
https://neilpatel.com/blog/creating-a-great-case-study/

BID603 **Full Marks: 100**

Professional Practice - II (Theory)

Objectives

On successful completion of this module, a student will be expected to be able to:

1. Demonstrate an appreciation of the professions potential future role and contribution to environmental development and 'place-making'.
2. Identify professional methods of communication and presentation.
3. Sustain a degree of involvement in one major piece of work from initiation to completion, accepting accountability for determining its outcome.
4. Work independently, and exercise informed judgements about the demands of the subject at high level.
5. Manage their time, meet deadlines and produce a piece of work demonstrating high standards of presentation and creativity.
6. To be oriented about professional aspects of management.
7. To learn to execute Interior work for residential & commercial areas.

Units	Course Content
1	**Introduction to Professional Management** Concept, Organisation, Presentation, responsibilities & Significance/consequences.
2	**Professional Components of Managing Interior Work** • Office managing, code/conduct, • Scale of professional fee & charges, • Duties of employer under labour welfare provisions, • Structure of interior designers office, Conditions of engagement
3	**Estimating Interior Work** Definition & importance of estimating, types, units & mode of measurement, rate, analysis, bills of quantities etc.
4	**Tenders & Contracts** • Definition & meaning of tender & contract, tender notice, tender document, types of tender, legal aspects etc. Types of contract, articles of agreement, execution, scope of contract, duties and liabilities of contractor, legal aspects of contract.
5	**Professional Communication Skills:** Visual, Demonstration, Verbal, Presentations.

References

1. Drucker, Peter, ***Innovation & Entrepreneurship Practices & Principles,*** William Hernmann Ltd., London, 1969
2. Drucker, Peter.F, ***The Effective Executive***, William Hernmann Ltd., London, 1969
3. Laboeuf, Michael, ***The General Management Principles in the World.*** Barkley Books, New York
4. Roshan, Nanavati, ***Professional Practices Estimating & Valuation***, Lakhani Book Depot, Bombay, 1994

Websites

BID681 **Full Marks:100**

DESIGN STUDIO - VI - *Final Major Project* (Practical) SESSIONAL

Overview

Through architectural and design interventions, we engage with collaborative and creative ventures to enhance human interaction with their environment. This can be applied at an architectural scale whilst appreciating the detail and fabrication of objects, surfaces and materials within spaces.

The core elements of this major project are taught by practising designers and architects, touching on all aspects of interior design and interior architecture for commercial spaces.

The module advocates the synthesis of this ideology as a creative, rigorous and intellectual process. Students need to explore creative ideas, invention and practical resolution in the creation of new, and often unconventional interior identities, whilst creating experiential, experimental and functional spaces. Students are asked to shape environments, generate identities, question programmes, detail objects, design or specify materials and furniture.

Ultimately, students should place human involvement with space at the centre of all their design work.

Objectives

1. Develop professional interior design skills & techniques including drawings, plans, illustrations and models.
2. Develop students understanding and skills in materials & techniques & technologies within interior design contexts and constraints.
3. Understand the construction process, and identify the difference between sustainable and unsustainable materials.
4. Identify, promote and support inspiring, innovative and creative applications of design and building technology for an interior design proposal.
5. Understand how to produce a Production Information Package (PIP) including e.g. Details, Set of Specifications, Lighting Schedule, Working Drawing package, which have all been developed from a previously 'Signed off' interior design Sketch Scheme proposal.
6. Select either traditional or new innovative methods of building construction and technology in their design proposals, to conform to the statutory requirements of the Building/Fire Regulations and Disabled Access.
7. Evidence the ability to think three dimensionally in response to contextual and environmental factors, and using appropriate sketch design and development techniques, reflect on the quality and appropriateness of their experiments to inform their progress
8. Demonstrate elemental visual, verbal communication and presentation skills, using a selection of graphic and technical methods
9. Demonstrate an evolving understanding of how to utilise case and precedents studies from research information gathered, as sources of inspiration and transferable ideas for generating and refining concepts
10. Develop technical layout, drafting and practical drawing and design skills.
11. To develop awareness and understanding of the relationship of spaces within a given design context and to deadlines.
12. To develop design skills within the constraints of a given interior design project brief.

Units	Course Content
1	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.
2	Generation and development of visual design ideas & sketches showing varied viewpoints for a given interior.
3	Development of visual design idea through the exploration of layouts, concepts and interior plans.
4	Exploaration and investigation of materials, techniques and technologies for interior spaces and surface designs.
5	Technical Drafting and drawing of layouts and plans including correct symbols and scale,

	within the constraints for given interior design project brief.
6	Application of symbols on technical architectural plans and drawings
7	Application of media and drawing techniques to illustrate different viewpoints of a given interior including perspective drawings, orthographic drawigs of views and sections.
8	Understanding Architectural Symbols and scales for arcitectural aand interior design.
9	Quantification, Reporting, Presentation.
10	Organisation of the working drawings for the same including service drawing (with assistance from the Consultants) with Budget Provision and Project Schedule and probable management strategy.

References

Books

1. Alexander, N J, Mercoust Brace, ***Designing Interior Environment***, Havanovich Inc.
2. Domino: The Book of Decorating: A room-by-room guide to creating a home that makes you happy (DOMINO Books), 14 October 2008 by Deborah Needleman and Sara Ruffin Costello
3. Cerver F A, ***Commercial Space, Office Design & Layout***, Rotovision SA
4. Cerver F A. ***Commercial Space, Bars, Hotels & Restaurants***, Rotovision SA, Switzerland
5. Cerver F A., ***Shops, Malls & Boutiques***, Rotovision SA
6. De Chiara Joseph &Callender John, ***Time Saver Standards for Architectural Types & Interior Design & Space Planning,*** McGraw Hill Book Co.
7. Gustafsan K & Yes Robert, ***Corporate Design***, Thames & Hudson, London
8. ***National Building Code of India***, Bureau of Indian Standards, New Delhi, 1999
9. Reznikoff S C, ***Specifications for Commercial Interiors***, Whitney Library of Design.
10. Natural History : Herzog & De Meuron : Philippe Ursprung : Lars Muller Publischers.
11. Skin + bones : Parallel practices in Fashion and Architecture by Brooke - Hodge : Thames and Hudson.

Websites

https://www.architonic.com/en/projects/interior-architecture/0/5910002/1
https://www.forbes.com/sites/yjeanmundelsalle/2017/12/14/the-worlds-best-interior-designers-hot-list/#74bedfe93312
http://www.martynlawrencebullard.com/
http://mydesignagenda.com/interior-design-and-architecture-projects-need-inspired/

BID682 **Full Marks: 100**

Professional Portfolio Development (Practical)
SESSIONAL

Aims/Outline:
This module builds on the core 2D and CAD skills developed in the course, embodying areas of research, creativity, development, reflection, analytical and professionalism as a designer to inform the development of a final major design portfolio. Students will present a full body of their own design work which communicates the bredth of their individual creative art and design skills, demonstating process and informing their own personal creative practice.
The final outcome will be professionally presented in an international industry standard portfolio.

Objectives
1. To develop students professional portfolio presentation skills when developing a professional portfolio of design work.
2. To develop student's ability to propose, conceptualise and execute a final professional Portfolio in digital and tangible formats.
3. To develop professional concept and visual communication skills to enable the production of a stimulating visual collection of a students Art & Design work, including major project outcomes displayed in tangible and digital formats.
4. To develop students digital design presentation and communication skills.
5. To develop student's ability in making correct asthetic choices in relation to how best present (and communicate) their design projects and supporting work.

Course Content

On successful completion of this module, a student will be expected to be able to:

1. Undertake and present in-depth research of exemplar tangilbe and digital portfolio concepts and designs.
2. Refine, edit and present to a professional standard a body of presented design work in both tangible and digital formats.
3. Confidently demonstrate and evidence the professional design presentation process.
4. Communicate and collaborate effectively with internal and external photographers, media and reprographics specialists in the process of design portfolio development.
5. Effectively communicate to an audience about their own processes, intentions and outcomes in design process contexts, identifying areas of strength and areas for improvement and development.
6. Produce a professional international industry standard design portfolio (digital & tangable).

References

Websites

https://www.fastcompany.com/3035190/designers-at-facebook-dropbox-and-pinterest-on-how-to-build-a-world-class-portfolio
https://www.creativebloq.com/create-perfect-design-portfolio-111153
https://www.studentartguide.com/articles/how-to-make-an-art-portfolio-for-college-or-university