B. Voc. in Interior Design
Third Semester

ADVANCED DIGITAL REPRESENTATION

Aim

The objective of this course is to apply the advanced level digital representation techniques using various software and its application into the design studio projects- residential/commercial/retail. The students will develop their drawing skills, experiment with different medium, and have the opportunity to learn a wide range of illustration and visual communication skills.

Expected Learning Outcomes

At the end of the course, the student is expected to be able to:
1. Use advanced digital design tools, processes and its applications in a creative and effective manner.
2. Develop the potential of preparing advanced renderings using digital techniques.
3. Carry out a sustained exploration of complex 3D modelling software through development of prototypes using technology such as 3D printers, laser cutters, etc.
4. Resolve a creative project through digital design tools and integrate the key concepts into knowledge of 3D theory and digital presentations.

Learning and Teaching Strategy

The course is delivered via face-to-face mode; Classes will consist of lectures, lab work critiques, discussions, presentations, case studies, exercises, project reviews, Individual and team works.

Course Content

Unit I: Study of executed projects, compare and contrast the methods of form generation.
Study of a range of Interior Design projects taking good examples of built projects nationally and internationally. Investigate, compare and contrast the methods of form generation. Study of examples of design competition boards.

Unit II: 3D-Complex forms using advanced digital tools and software.
Explore and experiment with Complex three-dimensional forms using advanced digital tools and software. Development of prototypes in labs using advanced machinery like 3D printers, laser cutters, etc.

Unit III: Advanced 3D renderings.
Producing photo-realistic renderings, exploring alternative rendering techniques using various digital mixed- media. Application and creation of various interior materials, artificial lighting systems, daylighting and other techniques for developing high quality renderings. Development of high quality animations and walkthroughs.

Unit IV: High quality graphical representation
Preparation of high quality graphical representation storyboards and project boards using various digital mixed- media and exhibiting advanced graphical representation skills in the drawings from

concept sketches to the final design scheme.

Suggested Assessment Scheme

Assessment 1: Case Studies/ Literature Studies of existing Projects	10%
Assessment 2: Development of Complex 3d- forms	30%
Assessment 3: Advanced 3D Rendering of Project	30%
Assessment 4: High Quality Graphical Representation of Project	30%

References

Required Texts

Mitton, M. (2012). Interior Design Visual Presentation: A Guide to graphics, models, and presentation techniques, Wiley & Sons, Inc.

Tal, D. (2013). Rendering in SketchUp: From Modeling to Presentation for Architecture, Landscape Architecture, and Interior Design. Wiley, John & Sons, Incorporated.

Cardoso, J. (2016). 3D Photorealistic Rendering: Interiors & Exteriors with V-Ray and 3ds Max: 1

Reference Texts

Lewis, P. (2008). Lewis.tsurumaki.lewis: Opportunistic Architecture. Princeton Architectural Press.

Bradley, B. (2014). Photographic Rendering with VRay for SketchUp Kindle Edition

Weblinks:

www.archdaily.com
https://www.case-3d.com/solutions-visualization/3d-renderings/
http://www.iida.org/content.cfm/competitions

INTERIOR STYLING

Aim

The objective of this course is to understand and apply Interior styling techniques in interior spaces that will be a blend of design and styling techniques used together to achieve the desired outcomes. The students will need to develop their interior styling skills and develop advanced understanding of design concepts, décor, aesthetics and themes in interior spaces that could be permanent or temporary in nature. Students will further research and apply the learning to design and develop a prototype for a styling project.

Expected Learning Outcomes

At the end of the course, the student is expected to be able to:
1. Develop an understanding of design methods and strategies for Interior styling.
2. Develop skills in interior styling by applying advanced understanding of décor in projects.
3. Develop advanced understanding and application of lighting, colours, soft furnishing, and interior accessories used together to accentuate interior spaces.
4. Develop advanced representation skills using hand sketching and digital medium to explain design concepts and themes.
5. Able to research a material/craft/art-form in detail and explore it applicability in a styling project.

Learning and Teaching Strategy

The course is delivered via face-to-face mode; Classes will consist of lectures, lab work critiques, discussions, presentations, case studies, exercises, project reviews, Individual and team works.

Course Content

Unit I: **Study of executed projects and Live Case-Studies**

Study of a range of Interior Styling projects, taking good examples of built projects nationally and internationally. Documentation and Presentation of Projects from the aspect of styling.
Photography exercises of existing spaces to understand lighting, colors, materials, soft furnishing and décor.

UNIT II: **Research topic for Interior Styling**

Prepare a research report to explore material/craft/art-form in detail and explore its applicability in an interior styling project.

Unit III: **Representation techniques**

Preparation of high quality graphical representation storyboards and project boards using various digital mixed- media and exhibiting advanced graphical representation skills in the drawings from concept sketches to the final design scheme. Preparation of Physical scaled models.

Unit IV: **Develop prototype for a Styling project**

Exploring a selected space in the design project- Retail/Commercial and developing a prototype at human scale by using materials, colors, lights, soft furnishing and interior accessories to exhibit the required styling idea for the project.

Suggested Assessment Scheme

Assessment 1: Case Studies/ Literature Studies of existing Projects	20%
Assessment 2: Research Report	30%

| Assessment 3: Advanced Representation | 20% |
| Assessment 4: Prototype of Styling Project | 30% |

References

Required Texts

Mitton, M. (2012). Interior Design Visual Presentation: A Guide to graphics, models, and presentation techniques, Wiley & Sons, Inc.

Tal, D. (2013). Rendering in SketchUp: From Modeling to Presentation for Architecture, Landscape Architecture, and Interior Design. Wiley, John & Sons, Incorporated.

Reference Texts

Lewis, P. (2008). Lewis.tsurumaki.lewis: Opportunistic Architecture. Princeton Architectural Press.

Henderson, E. & Borsics, A. (2015) Styled: Secrets for Arranging Rooms, from Tabletops to Bookshelves. Potter Style.

Innes, M. (2012). Lighting for Interior Design (Portfolio Skills). Laurence King Publishing

Poulter, R. & Coetzee. (1997).The Complete Book of Soft Furnishings. New Holland Publishers Ltd

Weblinks:

www.archdaily.com

https://www.case-3d.com/solutions-visualization/3d-renderings/

http://www.betterinteriors.in/

https://www.elledecor.com/

SURFACE DESIGN & DEVELOPMENT

Aim

The objective of this course is to apply the surface design and development techniques using various digital and conventional methods and its application into the design studio projects-residential/commercial/retail. The students will experiment with different medium, and have the opportunity to learn a wide range of surface design and development techniques.

Expected Learning Outcomes

At the end of the course, the student is expected to be able to:

1. Develop a basic understanding of surface designing and development.
2. Use of surface modelling tools, processes and its applications in a creative and effective manner.
3. Develop advanced understanding of material exploration and manipulation through research and lab tests.
4. Develop the potential of preparing prototypes using digital and conventional techniques.
5. Resolve a creative project through digital design/hand tools and integrate the key concepts of surface design and development.

Learning and Teaching Strategy

The course is delivered via face-to-face mode; Classes will consist of lectures, lab work critiques, discussions, presentations, case studies, exercises, project reviews, Individual and team works.

Course Content

Unit I: Study of executed projects, compare and contrast the methods of surface generation.

Study of a range of Architectural and Interior Design projects by taking good examples of built projects nationally and internationally. Investigate, compare and contrast the methods of surface design and development. Understand the importance of Surface Development. Preparation of report.

Unit II: Computer Modeling

Introduction to Curves and Surface Modeling. Study of Curve manipulations. Study of Nurbs and Solid Modeling. Development of Digital models and scaled prototypes on computer and product laboratories.

Unit III: Material Research and Exploration

Study and exploration of a specific construction material. Research and exploration of manipulation opportunities for the given material. Development of scaled physical models to check the strength and aesthetical qualities of the material. Prepare a report with text, images and photographs to document the process.

Unit IV: Design and Development of Prototype

Development and application of final prototype for a selected surface at human scale. The prototyping material can be printed in labs by using advanced machinery like, laser cutters or by using simple hand cutting tools or alternative traditional techniques.

Suggested Assessment Scheme

Assessment 1: Case Studies/ Literature Studies of existing Projects   20%

Assessment 2: Computer Modeling   20%
Assessment 3: Material research & Exploration   30%
Assessment 4: Design and Development of Prototype   30%

References

Required Texts

Bowers, H.(2005). Interior Materials and Surfaces: The Complete Guide. Firefly Books Ltd.
Cheng, R.K.C.(2014).Inside Rhinoceros 5. Stamford, USA: Cengage Learning
Chong, S.P.(2018).Rhinoceros Surfacing Techniques: Nurbs Modelling Guide.

Reference Texts

Lewis, P. (2008). Lewis.tsurumaki.lewis: Opportunistic Architecture. Princeton Architectural Press.

Weblinks:
www.archdaily.com
www.dezeen.com

DETAILS IN CONSTRUCTION STUDIES

Aim
The objective of this course is to introduce interior construction details & provide them with the knowledge and skills of conventional detailing. Simple sets of construction drawings with carefully coordinated and interrelated groupings of individual graphic components will be created to develop the basic fundamentals for detailing.

Expected Learning Outcomes
At the end of the course, the student is expected to be able to:
1. Demonstrate understanding of principles of structures, basic construction techniques and strengths and limitations of materials.
2. Comprehend and coordinate details related to wet areas like toilets and kitchens.
3. Demonstrate the ability to draw and exhibit understanding of different modes of vertical and horizontal circulation.
4. Describe and demonstrate ability to draw basic detailing for partitioning, paneling, framing, etc. using different material and finishes for walls, floors and ceiling.
5. Draw accurate technical drawings with technical nomenclature using adequate drafting conventions.

Learning and Teaching Strategy
The course is delivered via face-to-face mode; Classes will consist of lectures, studio work critiques, discussions, presentations, field trips, case studies, exercises, project reviews, Individual and team works.

Course Content

Unit I: Interior Wall Detailing with Detailed sections.
Enlarged detailed drawings of Wall Sections, Interior partition walls, paneling, details of Wardrobe, furniture showing integrated lighting fixtures, and other relevant details.

Unit II: Bathroom Details with Fixtures
Development of detailed drawings for wet areas and other bathroom details with technical conventions, material specifications and nomenclature.

Unit III: Kitchen Details- Cabinet Details, Chimney, Under Cabinet Lighting, Hardware and Fixtures
Development of detailed drawings for Kitchen with technical conventions, material specifications and nomenclature.

Unit IV: Understanding of Basic construction techniques- Trusses, Domes, Vaults, Tensile Structures, Collapsible Systems and Alternative Construction Techniques
Study of Complex Structures like Trusses, Domes, Vaults, Tensile structures and Collapsible systems. Study of Alternative Methods of construction using materials like Mud-earth, Bamboo and Recycled materials.

Unit V: MEP-I Plumbing & Electrical
Preparation of Technical Drawings like Plumbing, Electrical and other relevant details with Technical conventions.
1. Water supply systems- Study of sources of water, purification and treatment systems. Water supply and distribution; schematic making of plumbing diagrams of Toilets and Kitchens showing cold water and hot water lines, understanding connections with overhead water tank, underground water tank, pumping system, etc.

2. Drainage systems and sanitary appliances- Types of water closets, washbasins, bath tubs; fixtures- types of faucets, shower panels, etc., Study of types of traps, pipes, and joints. Study of slopes for proper drainage of water.

3. Electrical Systems- Study of Basic Terminologies and Symbols. Basic Principles of electrical circuit, methods of wiring -Open and concealed wiring system, Distribution system and supply in a building, distribution board and meter, switches; Design considerations of electrical installations, Study of Electrical layout/Electrical looping diagram in interior spaces.

Unit VI: Acoustics in Interiors
Terminology in Acoustics- Reflection, absorption, transmission, diffusion, diffraction of sound.
Common acoustical defects: Echo, sound-foci, dead spots, sound shadows, resonance, insufficient loudness, external noise, reverberation and reverberation time.
Study of Acoustic materials used in interiors.
General idea of sound insulation. Noise control in specific types of buildings like – auditoriums, residential buildings, hotels, school, hospitals, offices, libraries, etc.

Suggested Assessment Scheme
Assessment 1: Technical drawings of Wall details, partitions, etc.   20%
Assessment 2: Technical drawings of Bathroom   20%
Assessment 3: Technical drawings of Kitchen   20%
Assessment4: Plumbing and Electrical drawings   30%
Assessment 5: Technical drawings of Insulation and Acoustical treatment   10%

References

Required Texts
Ching, F.D.K. (2011) Building Construction Illustrated. (4th ed.) John Wiley & Sons.
Building Construction by J.K.McKay
Panero, J. & Zelnik, M. (2001) Time-Saver Standards for Interior Design and Space Planning, McGraw-Hill Inc.

Reference Texts
Broudy, C.E. & Barr, V. (1995) Time-saver Details for store planning and design. McGraw-Hill.
Ching, F.D.K. (2011) Architectural Graphics. John Wiley & Sons.
Panero, J. & Zelnik, M. (2001) Time-Saver Standards for Interior Design and Space Planning. McGraw-Hill Inc.
Dickinson, D. (1997) Expressive details. McGraw-Hill.
Panero, J & Zelnick, M. (1979) Human Dimension & Interior Space. Whitney Library of Design.
Pile, J.F. & Friedmann, A. (2007) Interior Design. Pearson Prentice Hall
Ramsey, C.G. & Sleeper, H.R. (2011) Architectural Graphic Standards. (Student ed.) John Wiley & Sons.
Wakita, O.A., Linde, R.M. & Bakhoum, N.R. (2011) The Professional Practice of Architectural Working Drawing. (4th ed.) John Wiley & Sons.

CULTURAL AND CONTEXTUAL STUDIES

Aim

This subject is an introduction to the history of interior design and learning of art and culture of human societies in these different historical eras. Students will study about the relevance of cultural context in interior spaces, architecture, and design in general. Students will study and research on major design practitioners through history, and understand their influence on the evolution of the theory, practice, and profession of interior design.

Expected Learning Outcomes

At the end of the course, the student is expected to be able to:

1. Ability to use appropriate specialized terminology, vocabulary and concepts relevant to the interior and architecture design eras, design elements, products, spaces and other terminologies relevant to interior design field.
2. Conduct research, case studies, compile data and apply a range of basic observations and documentation methods.
3. Ability to connect interior spaces with relevant styles, historical eras and understand how the design has evolved through the ages.
4. Apply the learning from study of history of interior design and culture in the design profession today.

Learning and Teaching Strategy

Students will read, reflect, and debate on references to cultural context in interiors, architecture, and design in general. There will be classroom lectures and discussions based on readings and other source material. Students will prepare written and verbal presentations to demonstrate their understanding, and maintain a journal on design culture.

Course Content

Unit I: History of Interior Design- Past to Present

The unit focusses on study of interior design, its development and change through history to explore the past and to make sense of the spaces in which modern life is lived. Studying of the historical timeline to understand the different eras and how the design evolved through the ages. Interior design vocabulary and terminologies specific to the different eras.

Unit II: Cultural Context and Interior Design

Understanding the relevance of studying cultural context in interior design and spaces. Studying of different cultures-specific examples so as draw inferences on its importance in design.

Unit III: Major Design Practitioners in Interior Design and Architecture

Study of relevant examples of interior design practitioners and architects practicing in different eras and their association and contribution to the specific design style/s.

Unit IV: Design Exercise

Interior Space design exercise in a chosen style for a given project. Conduct thorough research on a particular design style, products and cultural context of the given era it corresponds to and developing innovative applications in modern day space design.

Suggested Assessment Scheme

Assessment 1: Research and documentation on different eras.   20%
Assessment 2: Reflection on different styles in interior design.   20%

| Assessment 3: Research and Reflection of Designers work | 30% |
| Assessment 4: Design Exercise | 30% |

References

Required Texts

Pile, J.F. (2000). A History of Interior Design. John Wiley & Sons.

Ireland, J. (2018). History of Interior Design: Bundle Book + Studio Access Card. Fairchild Books.

Fletcher, B. and Cruickshank, D. (2002). Sir Banister Fletcher's History of Architecture, 20th Edition. CBS

Ching, D.K. (2018). Interior design illustrated. John Wiley & Sons.

Reference Texts

Ballantyne, A. (2002). Architecture: A Very Short Introduction. Oxford University Press.

DESIGN STUDIO- RETAIL/COMMERCIAL SPACE

Aim
The objective of this course is to study the history of retail spaces, spatial design elements and principles for such spaces. The students will map different activities pertaining to a particular retail outlet like gradations of customer/office vs. service/support areas (commercial, storage, deliveries etc.), zoning of such spaces, materials and finishes, lighting and ventilation systems. Study of signage, graphics, and integration of brand identity; interaction and interface design.
Exploring Sustainable strategies for design of Retail/Commercial spaces.

Expected Learning Outcomes
At the end of the course, the student is expected to be able to:
1. Exhibit creativity and design sensitivity to the specialized needs and understanding of socio-cultural context of consumer/user groups in retail/commercial space design.
2. Integrate advanced attributes and principles to the construction and developing advanced application of interior materials, display systems, lighting and technologies in public design context balancing human comfort, aesthetics and environmental sensitivity.
3. Document and apply sustainable design strategies, in vernacular, contemporary, and emerging contexts.
4. Use abstract diagrams, sketches, models, drafted drawings, and digitally manipulated imagery as tools for design exploration and development.

Learning and Teaching Strategy
The course is delivered via face-to-face mode; Classes will consist of lectures, studio work critiques, discussions, presentations, field trips, case studies, exercises, project reviews, Individual and team works.
Producing visual compositions that convey abstract ideas: mood boards, concept boards, inspiration boards, storyboards. Advanced modelling and rendering techniques, conveying photorealism; using specialized tools for image manipulation. Advanced presentation modes and media (video, web, blogs, social media)

Course Content

Unit I: Study of History of Retail Stores/Commercial Spaces and Terminologies
Research on the origin of retail spaces through history and its evolution. Study of changes in technological systems, display systems and the general working of such stores. Studying the trends pertaining to a particular genre of retail products, garments, etc.

Unit II: Contemporary Retail/Commercial Space Design and Brand Development
Studying of contemporary working of retail stores from functional aspect and researching on different types of display systems and their applications. Study of technology, brand identity, color palette, furniture display systems, etc.

Unit III: Programming and Zoning of Spaces
Programming adjacencies, hierarchies; zoning for retail spaces. Study of signage, graphics, and integration of brand identity; interaction and interface design with relevant examples.

Unit IV: Materials, Finishes and Lighting systems
Market study of interior material and finishes. Study of luminaires and lux levels for lighting of display racks, display zones, storefront and miscellaneous areas.

Unit V: Sustainability in Retail/ Commercial Space Design
Studying and exploring sustainable strategies in terms of lighting, ventilation systems, sensors, vertical transportation, materials and finishes.

Suggested Assessment Scheme

Assessment 1: Research and Reflection on Retail Spaces   20%
Assessment 2: Programming and Zoning of Spaces   20%
Assessment 3: Creative Display System & Alternative Technologies   30%
Assessment 4: Materials, Finishes and Lighting   20%
Assessment 5: Sustainable Approach   10%

References

Required Texts
Mesher, L.(2010). Basics Interior Design 01: Retail Design. Ava Publishing.
Ching, D.K. (2018). Interior design illustrated. John Wiley & Sons.
Panero, J. & Zelnik, M. (2001) Time-Saver Standards for Interior Design and Space Planning, McGraw-Hill Inc.
Broudy, C.E. & Barr, V. (1995) Time-saver Details for store planning and design. McGraw-Hill.

Reference Texts
Ebster, C.(2015). Store Design And Visual Merchandising, Second Edition: Creating Store Space That Encourages Buying. Business Expert Press.
Dickinson, D. (1997) Expressive details. McGraw-Hill.
Pile, J.F. & Friedmann, A. (2007) Interior Design. Pearson Prentice Hall