**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 264** | **Title of the Course** | **Product & Furniture Design – I** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 3rd | 1 | 1 | 4 | 6 |
| **Pre-Requisite** | None | **Co-requisite** | Product & Furniture Design – II | | | | |
| **Course Objectives** | To understand the process of design and be able to find solutions to simple problems by modifying forms and functions. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Learn about the design processes and methods followed in development of products. |
| **CO2** | Learn the basics of design thinking to identify the design problem, create best solution for it. |
| **CO3** | Learn about conducting successful user research |
| **CO4** | Learn how to convert a conceptual idea into a functioning product |
| **CO5** | Learn the form development & prototyping techniques and skill. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Overview of design process and its ecosystem | Design Relevance: Exposure and analysis, Case studies | 06 | 1 |
| 2 | Ideation | Brainstorming; Differential Discussion; group methods to generate ideas; solitary methods to generate ideas; Lateral Thinking | 12 | 2 |
| 3 | Case Studies & Research | Conducting User surveys, and case studies | 12 | 3 |
| 4 | Concept Detailing | User Journey maps, User stories, activity mapping | 06 | 4 |
| 5 | Design Project | Design and Development of Product as per the brief | 12 | 3, 4 |

**Reference Books:**


D.Norman;The Design of Everyday things, London, The MIT Press, 1998

A.Forty; Objects of Desire, Thames & Hudson, 1995

J. de Noblet ed., Industrial Design- Reflections of a century, Thames & Hudson, 1993

Potter, Norman; What is a Designer: Things, Places, Messages, Princeton Architectural Press, 2002


**e-Learning Source:**

https://www.archdaily.com/tag/furniture-design

https://designwanted.com/tag/furniture-design/

https://www.architonic.com/en/products/furniture/0/3210002/1

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 2 | 2 | 3 | 1 | 2 | - | 2 | 3 | | | | | 3 | 2 | 2 | 3 | 3 | |
| **CO2** | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 3 | | | | | 2 | 3 | 2 | 2 | 2 | |
| **CO3** | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 3 | | | | | 3 | 3 | 3 | 3 | 2 | |
| **CO4** | 3 | 2 | 3 | 3 | 2 | 1 | 1 | 3 | | | | | 1 | 2 | 3 | 2 | 2 | |
| **CO5** | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 3 | | | | | 2 | 1 | 3 | 2 | 3 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 265** | **Title of the Course** | **History of Design– III** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 3rd | 2 | 1 | - | 3 |
| **Pre-Requisite** | History of Design-II | **Co-requisite** | History of Design – IV | | | | |
| **Course Objectives** | The course emphasizes on developments of interior elements in response to social, religious, aesthetic and environmental factors. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Study Industrial revolution and its influence on art, architecture and design of that period |
| **CO2** | Study Indian Colonial Architecture-Portuguese, French and British |
| **CO3** | Study modernism and its subsequent art movements. |
| **CO4** | Study modernism and its subsequent art movements. |
| **CO5** | Study and understand the works of notable architects and designers. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Industrial Revolution | Reviewing Industrialization :- Industrial revolution and its influence on social, economic conditions of that period, Scientific and technological progress, invention of new materials. –Joseph Paxton – Gustav Eiffel etc. An overview of Art and Crafts movement in Europe and America. | 06 | 1 |
| 2 | Ancient History | Indian Colonial Architecture-Portuguese, French and British : The styles and trends of architecture and design brought to India and their evolution – Their impact on architecture and design in India – The characteristics of Colonial Architecture with examples from Goa-Bom Jesus Cathedral Complex-Old Goa- Fountainahs , Puducherry, Mahe and Edwin Lutyen etc., | 12 | 2 |
| 3 | Modernism - I | Impressionism –Expressionism – Cubism – Neoclassicism – Neo plasticism Suprematicism – Art Noveau Constructivism – Futurism | 12 | 3 |
| 4 | Modernism - II | – Post modernism- Post- Post Modernism– Deconstructivism Antonio Gaudi, Victor Horta, Charles Renee Mackintosh, Le Corbusier | 06 | 4 |
| 5 | Work of Architects | Works of Indian Architects – Laurie Baker, Charles Correa, B.V. Doshi, A.P. Kanvinde, Raj Rewal | 12 | 3, 4 |

**Reference Books:**

John F. Pile, A history of interior design, 2nd edition, Laurence King Publishing, 2005. Jeannie Ireland, History of Interior Design, air child publications, illustrated ed., 2009.

Elaine, Michael Dywer, Christopher Mackinnon, Norman A. J. Berisford Denby , A History of Interior Design, Rhodec International, 2000.

**e-Learning Source:**

https://www.britannica.com/event/Industrial-Revolution

https://www.clearias.com/colonial-architecture/

https://www.utoledo.edu/library/canaday/guidepages/Modernism2.html

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 1 | 1 | 2 | 2 | - | 3 | 1 | | | | | 3 | 2 | 3 | 2 | 3 | |
| **CO2** | 1 | 1 | 1 | 2 | 2 | - | 3 | 1 | | | | | 2 | 3 | 2 | 1 | 3 | |
| **CO3** | 1 | 1 | 1 | 2 | 2 | - | 3 | 1 | | | | | 3 | 3 | 2 | 2 | 2 | |
| **CO4** | 1 | 1 | 1 | 2 | 2 | - | 3 | 1 | | | | | 3 | 2 | 2 | 2 | 2 | |
| **CO5** | 1 | 1 | 1 | 2 | 2 | - | 3 | 1 | | | | | 3 | 3 | 2 | 2 | 3 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 266** | **Title of the Course** | **Construction Techniques & Representation-II** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 3rd | - | - | 4 | 4 |
| **Pre-Requisite** | Construction Techniques & Representation-I | **Co-requisite** | None | | | | |
| **Course Objectives** | The course provides information on the properties, management, specifications, use, application and rates of the materials used in the interiors. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Study specifications, application and rates of the materials used in the interiors. |
| **CO2** | Understand the manufacturing processes of the materials. |
| **CO3** | Study Physical and behavioral properties of materials. |
| **CO4** | Study Visual quality of materials in terms of finishes through color, texture, modulations and pattern evolution. |
| **CO5** | Learn about various types of adhesive available in the market and their applications |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Terracotta and Tiles | Roofing tiles : terracotta, sheets and fibre boards – properties and application. Flooring tiles : Various natural as well as artificial flooring materials like, ceramic tiles, full body vitrified tiles, terracotta tiles, glass mosaic tiles, stone tiles, Mosaic, Rubber, Linoleum, PVC and PVA flooring, their Properties, other uses and applications in the interiors | 8 | 1 |
| 2 | Glass and glass products | Glass and glass products – Composition and fabrication of glass, classification, all types of glass annealed, float, mirrored, tinted, etc. – including wired glass, fiber glass, laminated glass, glass blocks, etc - their properties and uses in buildings. Commercial forms available – their physical and behavioral properties. Application of glass : tools and technology of its application in built forms – glass doors, partitions, etc. Material and workmanship, specifications. | 12 | 2 |
| 3 | Fabrics and other furnishing materials | Fabrics and other furnishing materials – fibers – natural – silk, cotton, linen, damask, furs, etc: artificial - polyester, nylon, rayon, etc , textiles, fabric treatments, carpets, durries, tapestries, Drapery, upholstery, wall coverings, etc. – properties, uses and application in the interiors. | 12 | 3 |
| 4 | Soft Furnishing | Details of soft furnishings : types of Draperies, curtains, blinds, types of stitches, valences, linings, tiebacks, hanging details, etc. | 8 | 4 |
| 5 | Adhesive | Adhesives – Natural and Synthetic, their varieties, thermoplastic and thermosetting adhesives, epoxy resin. Method of application, bond strength etc | 4 | 5 |

**Reference Books:**


Shah, M G & others, Building Drawing: An Integrated approach to build Environment, 5th edition, Tata McGraw Hill Publications Company Ltd, New Delhi, 2017

Kilmer, Working Drawings & Details for Interiors, John Wiley & Sons..


**e-Learning Source:**

https://www.ripublication.com/ijaer18/ijaerv13n10_161.pdf

https://www.britannica.com/technology/glass

https://constrofacilitator.com/what-are-the-different-types-of-adhesives-used-in-construction/

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | - | 2 | 3 | - | 1 | 2 | 2 | - | | | | | 2 | 3 | 2 | 3 | 3 | |
| **CO2** | - | 2 | 3 | - | 1 | 2 | 2 | - | | | | | 2 | 2 | 2 | 3 | 2 | |
| **CO3** | - | 2 | 3 | - | 1 | 2 | 2 | - | | | | | 1 | 2 | 2 | 2 | 2 | |
| **CO4** | - | 2 | 3 | - | 1 | 2 | 2 | - | | | | | 3 | 2 | 2 | 2 | 2 | |
| **CO5** | - | 2 | 3 | - | 1 | 2 | 2 | - | | | | | 2 | 1 | 3 | 3 | 2 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 267** | **Title of the Course** | **Development of Product Form & Process** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 3rd | 1 | - | 2 | 3 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | The main objective of the course is to visualize and develop the form step by step. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Understand the difference between shape and form. |
| **CO2** | Know the development of form by visualizing it in different coordinates. |
| **CO3** | Brainstorming through subtraction & addition of a form |
| **CO4** | Understand the value of adding color, texture,etc |
| **CO5** | Apply different materials on the surface to bring the transformation & aesthetics. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Introduction to Form | Definition of form, evolution of a flat shape into a volume, Classification of form 2D & 3D, Solids (Platonic, Archimedean) | 3 | 1 |
| 2 | Volume Relationship | Dominant, subdominant & subordinate | 12 | 2 |
| 3 | Transformation | Radii manipulation, Form transition (addition & subtraction) | 12 | 3 |
| 4 | Form, emotions & Identity | Abstraction & expression of form, Identity experimentations with form, texture & colour, Family of forms | 12 | 4 |
| 5 | Form exploration | Through different materials (Like- Paper Mache, thread, Plaster of Paris, Clay etc.) | 6 | 5 |

**Reference Books:**


Gyorgy Kepes, Language of Vision, Dover Publications, 1995

Kimberly Elam, Geometry of Design: Studies in Proportion and Composition, Princeton Architectural Press, 2001

Gaston Bachelard and Maria Jolas (Translator),The Poetics of Space, Beacon Press


**e-Learning Source:**

https://www.hmhco.com/blog/teaching-flat-plane-shapes-solid-shapes

https://www.dsource.in/course/form/form-and-abstraction

https://www.researchgate.net/figure/Reporting-accuracy-of-color-and-identity-in-different-surprise-tests-in-Experiment-1-The_fig2_331416060

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 2 | 3 | 2 | 2 | 3 | 3 | 3 | 2 | | | | | 1 | 2 | 3 | 2 | 2 | |
| **CO2** | 2 | 2 | 3 | 3 | 3 | 2 | 3 | 3 | | | | | 2 | 2 | 2 | 3 | 2 | |
| **CO3** | 3 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | | | | | 3 | 2 | 3 | 3 | 3 | |
| **CO4** | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | | | | | 1 | 2 | 2 | 2 | 2 | |
| **CO5** | 2 | 3 | 1 | 2 | 2 | 3 | 2 | 2 | | | | | 2 | 1 | 3 | 3 | 2 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 268** | **Title of the Course** | **Computer Design & Digital Fabrication-II** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 3rd | 1 | 1 | 2 | 4 |
| **Pre-Requisite** | Computer Design & Digital Fabrication-I | **Co-requisite** | Computer Design & Digital Fabrication-III | | | | |
| **Course Objectives** | Ability to create Engineering CAD ready Surface and Solid Models, Ability to conduct design iterations in CAD software. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Understand the role of Computer in designing Geometric Modeling Software. |
| **CO2** | Develop modeling of curves and surfaces through software. |
| **CO3** | Understand the representation of solid modelling |
| **CO4** | Execute the Animation and can develop the motion. |
| **CO5** | Know the Computer Aided Manufacturing |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Computer as an aid to the designer | Role of Computer in Designing; Computer Graphics, Systems and Hardware; Graphics Standards; Different types of Geometric Modeling Software | 6 | 1 |
| 2 | Modeling and generation of curves and surfaces | Geometric figures and their representation; Types of curves and surfaces; Scanning and tracing Sketches; Modeling of curves and surfaces using software; Freeform surface modelling; Generating 2D designs using computers (engraving and routing) | 16 | 2 |
| 3 | Solid modeling | Representation of solids: wireframe, B-rep and CSG; Modeling of simple solids using software; Modeling of complex solids using software; Generation of 2D drawings from 3D model | 12 | 3 |
| 4 | 3d modeling of assemblies | Modeling of Machine elements; Modeling of assemblies; Modeling of moving systems; Animation | 12 | 4 |
| 5 | Computer aided manufacturing and project work | Introduction to Computer Aided Manufacturing; Project Work in Modeling of a Product | 16 | 5 |

**Reference Books:**


William Howard and Joseph Musto. Introduction to Solid Modeling Using solid works. McGraw Hills

Ibrahim Zeid (2009), Mastering CAD/CAM, 2nd Edition, Tata McGraw Hill International Edition

P N Rao (2010), CAD/CAM Principles and Applications, 3rd Edition, Tata McGraw-Hill Education


**e-Learning Source:**

https://blogs.oregonstate.edu/learnfromscratch/2021/11/16/geometric-modeling-methods/#:~:text=There%20are%20three%20main%20types,surface%20models%2C%20and%20solid%20models.

https://www.solidprofessor.com/blog/quickly-create-2d-drawings-3d-models-manufacturing/

| **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 3 | 2 | 2 | 2 | 3 | 2 | 3 | 1 | | | | | 3 | 2 | 3 | 3 | 3 | |
| **CO2** | 3 | 3 | 3 | 2 | 3 | 3 | 2 | 2 | | | | | 2 | 2 | 2 | 3 | 2 | |
| **CO3** | 2 | 2 | 2 | 3 | 3 | 3 | 2 | 2 | | | | | 3 | 2 | 3 | 3 | 3 | |
| **CO4** | 3 | 1 | 3 | 2 | 1 | 2 | 2 | 1 | | | | | 1 | 2 | 2 | 2 | 2 | |
| **CO5** | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | | | | | 1 | 2 | 3 | 2 | 2 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS269** | **Title of the Course** | **Interior Design Studio I** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 3rd | 1 | 1 | 4 | 6 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | This course is intended to provide skills for designing single use interior spaces or products etc. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Students will be able to understand designing of interior spaces or products like furniture. |
| **CO2** | Students will be able to develop creative conceptual visualization, hand skill building, and the process of design; |
| **CO3** | Students will understand the Use of anthropometry, ergonomics, and handling of space after this course. |
| **CO4** | Students will gain application of knowledge gained from other subjects, in design. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Unit 1 | · Anthropometry<br>· Design methodology<br>· Conceptual exploration and representation.<br>· Creativity<br>· Scale/proportion | 12 | 1,2,3 |
| 2 | Unit 2 | · Documenting space<br>· Graphic design (page layout and composition)<br>· Concepts sketching | 12 | 1,2,3 |
| 3 | Unit 3 | · Application of design principles and elements<br>· Portfolio development | 15 | 1,2,3 |
| 4 | Unit 4 | The list of suggested topics to be covered as design problems shall be a single space like: Single room residence, Doctor's clinic, kindergarten class room, Crèche, Architect's studio, Lawyer's office, small cafeteria, bank extension counter, florist shops, medical outlets, clothing store, shoe store, accessory store, book shop, waiting lounges for – hospitals, corporates, hotels, etc. | 18 | 4 |
| 5 | Unit 5 | At least three major exercises and four minor design/time problems should be given. Internal marking shall be done in stages project wise:<br>· Schematic layouts<br>· Final layout<br>· Sectional elevations<br>· Typical details<br>· Complete project with all details<br>· 3D drawings with color rendering | 23 | 4 |

**Reference Books:**


Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching & Corky Bingelli, Interior Design Illustrared, 2nd edition, Wiley publishers, 2004.

Maureen Mitton, Interior Design Visual Presentation: A Guide to Graphics, Models, and Presentation Techniques. John Wiley and Sons, 2003

Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals ,2002


**e-Learning Source:**

https://www.researchgate.net/publication/348321185_Learning_Anthropometry_from_Rendered_Humans

https://www.sciencedirect.com/science/article/pii/S2215098616304578

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PO6 |
| CO1 | 3 | 3 | 2 | 3 | - | 1 | 2 | 3 | | | | | 2 | 3 | 2 | 3 | 1 | |
| CO2 | 3 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | | | | | 2 | 3 | 2 | 3 | 1 | |
| CO3 | 3 | 2 | 3 | 1 | - | 2 | 2 | 3 | | | | | 2 | 3 | 2 | 3 | 1 | |
| CO4 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | | | | | 2 | 3 | 2 | 3 | 1 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 270** | **Title of the Course** | **Elective-I: Visual & Performing Arts** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 3rd | 1 | 1 | 0 | 2 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | The course provides information on the properties, management, specifications, use, application and rates of the materials used in the interiors. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Understand the historical background of visual arts. |
| **CO2** | Aware of the types of music, popular music and its salient features. |
| **CO3** | Perform the different poses of dance style its background. |
| **CO4** | Understand the mythological, philosophical, and literary content of the dance compositions. |
| **CO5** | Detail knowledge of theatre, its types, spaces in theatre and performing characteristics of the art form. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Visual Art | History of art and aesthetics theoretically, nature of time, space, colour, form, tone and texture; masters and contemporary artists | 8 | 1 |
| 2 | Introduction to Performing Arts (Theatre) Infrastructure | History, evolution & types of theatre since ancient time | 8 | 2 |
| 3 | Drawing Technique | Plan, section and elevation along with standards study of the theatre | 8 | 3 |
| 4 | Acoustic | Types of material used on floor, wall & roof for acoustical treatment. | 4 | 4&5 |

**Reference Books:**


Media Literacy. Sage Publications Potter, James W (2016).

Media-Making: Mass Media in a Popular Culture. Sage Publications Grossberg, Lawrence et al (2005).

Media Analysis Techniques. Sage Publications Berger, Asa Authur (2017).


**e-Learning Source:**

https://www.britannica.com/topic/aesthetics

https://www.britannica.com/art/theater-building

https://illuminated-integration.com/blog/7-types-of-acoustic-treatments/

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 1 | 2 | 3 | 3 | 1 | 2 | 1 | | | | | 1 | 2 | 3 | 2 | 3 | |
| **CO2** | 1 | 3 | 2 | 2 | 3 | 2 | 1 | 3 | | | | | 2 | 1 | 2 | 3 | 3 | |
| **CO3** | 1 | 2 | 2 | 1 | 3 | 2 | 2 | 3 | | | | | 2 | 2 | 3 | 2 | 3 | |
| **CO4** | 1 | 3 | 1 | 2 | 3 | 2 | 2 | 1 | | | | | 3 | 2 | 3 | 3 | 2 | |
| **CO5** | 1 | 3 | 1 | 2 | 3 | 1 | 1 | 1 | | | | | 2 | 2 | 3 | 2 | 2 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 271** | **Title of the Course** | **Elective-I: Interior Photography** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 3rd | 1 | 1 | 0 | 2 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To understand the principles and technology of Photography. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Understand the historical background of visual arts. |
| **CO2** | Aware of the types of music, popular music and its salient features. |
| **CO3** | Perform the different poses of dance style its background. |
| **CO4** | Understand the mythological, philosophical, and literary content of the dance compositions. |
| **CO5** | Detail knowledge of theatre, its types, spaces in theatre and performing characteristics of the art form. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Principles of Composition | Rule of third, perspective- worm eye view, normal eye view, bird eye view, one-point perspective, two- point perspective, three- point perspective, exercises in composition | 6 | 1 |
| 2 | Principles of Photography | Technical definition, understanding a camera, anatomy of a SLR camera, different types of lenses | 6 | 2 |
| 3 | Principles of Interior Lighting | Technical definition, lighting sources, types of lighting fixtures, types of lamps, calculating lighting levels, flash photography, types of flashes, calculating lighting levels with flash photography, exercise in interior lighting photography with artificial light and black and white photos | 8 | 3 |
| 4 | Principles of Colour | Color rendering in photographic medium, color rendering in photographs under different lighting condition, lighting colors, color filter in a camera, Exercise on color photography of interiors | 4 | 4 |
| 5 | Integration | Project work/ Exercise in integrating all prior units | 8 | 5 |

**Reference Books:**


Point view- The Art of architectural Photography, E. Manny & A. Ballan, VNR.

Professional Photography- photographing buildings, David Wilson, Rotovision


**e-Learning Source:**

https://www.photographymad.com/pages/view/rule-of-thirds

https://www.designingbuildings.co.uk/wiki/Perspective#:~:text=Perspective%20is%20a%20technique%20for,they%20are%20from%20the%20observer.

**Course Articulation Matrix: (Mapping of COs with POs and PSOs)**

| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO1** | 2 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | | | | | 2 | 3 | 2 | 3 | 3 | |
| **CO2** | 2 | 3 | 3 | 2 | 3 | 1 | 3 | 3 | | | | | 3 | 3 | 2 | 2 | 3 | |
| **CO3** | 1 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | | | | | 2 | 2 | 2 | 3 | 3 | |
| **CO4** | 2 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | | | | | 3 | 3 | 2 | 2 | 3 | |
| **CO5** | 1 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | | | | | 2 | 3 | 2 | 3 | 2 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 273** | **Title of the Course** | **Product & Furniture Design – II** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 4th | 1 | 1 | 4 | 6 |
| **Pre-Requisite** | Product & Furniture Design – I | **Co-requisite** | None | | | | |
| **Course Objectives** | To familiarize the students about the knowledge of furniture design and various aspects involved in the design of furniture for various spaces. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Understand the functionality, typology and ergonomics of a kitchen and learn about modular kitchen systems, hardware. |
| **CO2** | Gain knowledge about various modular storage systems, their functionality and respective hardware. |
| **CO3** | Identify various hardware, materials and their application in modular systems |
| **CO4** | Knowledge about various industrial processes and materials used in furniture design |
| **CO5** | Identify famous designers and their notable works |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Storage system - kitchen | Storage systems: Functional analysis of storage systems and thereby deriving types of cabinets needed for interior spaces – kitchen cabinets, wardrobes closets & respective hardware for modular kitchen. Assignment: Exercise to design kitchen cabinets for a given kitchen in details. | 06 | 1 |
| 2 | Storage systems – book cases & showcase | Storage systems: Functional analysis book cases, show cases, display systems, compactors, mechanical storage, etc. and respective hardware for these. Survey of several modular systems available for different functions in the market. | 12 | 2 |
| 3 | Modular approach to furniture design | Various materials, combination of materials, their hardware and applications. Cost criteria of furniture design. Assignments : Survey of several modular systems available for different functions in the market.. | 12 | 3 |
| 4 | Design approaches in furniture design | An introduction of various manufacturing processes most frequently adopted in furniture design such as Injection Molding, investment casting, sheet metal work, die casting, vacuum - forming etc. Assignments : Survey of different types of moulded or casted furniture available for different functions in the market | 06 | 4 |
| 5 | Famous designers | Charles & Ray Eames, Eero Saarinen,Jean Prouve,Paul Mccobb,Ettore Sottass,Knoll,Jens Risom etc. | 12 | 3, 4 |

**Reference Books:**


D.Norman;The Design of Everyday things, London, The MIT Press, 1998

A.Forty; Objects of Desire, Thames & Hudson, 1995

J. de Noblet ed., Industrial Design- Reflections of a century, Thames & Hudson, 1993

Potter, Norman; What is a Designer: Things, Places, Messages, Princeton Architectural Press, 2002


**e-Learning Source:**

https://www.archdaily.com/tag/furniture-design

https://designwanted.com/tag/furniture-design/

https://www.mhi.org/fundamentals/storage

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 2 | 2 | 3 | 1 | 2 | - | 2 | 3 | | | | | 3 | 2 | 2 | 3 | 3 | |
| **CO2** | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 3 | | | | | 2 | 3 | 2 | 2 | 2 | |
| **CO3** | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 3 | | | | | 3 | 3 | 3 | 3 | 2 | |
| **CO4** | 3 | 2 | 3 | 3 | 2 | 1 | 1 | 3 | | | | | 1 | 2 | 3 | 2 | 2 | |
| **CO5** | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 3 | | | | | 2 | 1 | 3 | 2 | 3 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 274** | **Title of the Course** | **History of Design– IV** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 4th | 2 | 1 | - | 3 |
| **Pre-Requisite** | History of Design-III | **Co-requisite** | None | | | | |
| **Course Objectives** | To help the student understand the designs from prehistoric period to the middle ages and modern movements in interior design from the beginnings of 20th century. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Gain knowledge about modern movement and its various expressions along with works of notable designers. |
| **CO2** | Learn about international style in architecture. |
| **CO3** | Know the philosophy of post modernism in design and architecture. |
| **CO4** | Learn about hi-tech architecture and structural expressionism. |
| **CO5** | Gain knowledge about deconstructivism and the works of notable architects. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Modern movement | Return to the fundamentals and origins in nature and geometry; new inventions of iron and glass; horizontal and vertical expansions; responses to the vernacular. Social intentions and the search for the 'ideal' world; simplicity, abstraction, non-objective, nonrepresentative and neglect of content and ornament; new notions of technology; importance and precedence of function; De Stijl, etc. – an overview of the works of Louis Sullivan, C. R. Mackintosh, Edwin Lutyens, Antoni Gaudi, Walter Gropius, Frank Llyod Wright, Le Corbusier, Mies van der Rohe. | 06 | 1 |
| 2 | The international style | Simplification of the Modern architecture into steel and glass cubes – an overview of the works of Philip Johnson. | 12 | 2 |
| 3 | Post modernism of reaction | Architecture entrenched in place and history; sarcastic approval of expression, ornament, symbolism and context – an overview of the works of James Stirling, Michael Graves, Charles Moore. Post modernism of Resistance: Disregard for historical imagery; revival of the ideals of the Modern Architecture of the 20's; exaggerated and sophisticated revival of the grid and Corbusier's geometry – an overview of the works of Richard Rogers, Norman Foster, Richard Meier. | 12 | 3 |
| 4 | Hi-tech and historicism | Synthesis of the Hi-Tech and Historicism – an overview of the works of Cesar Pelli, Aldo Rossi | 06 | 4 |
| 5 | Deconstructivism | Deconstruction as a reaction to the Post Modern; non-perfection as important as perfection, narrative and representational; traditional purity of form, geometry and structure in question – an overview of the works of Frank O. Gehry, Peter Eisenman, Bernard Tschumi, Rem Koolhas, Zaha Hadid. | 12 | 3, 4 |

**Reference Books:**

John F. Pile, A history of interior design, 2nd edition, Laurence King Publishing, 2005. Jeannie Ireland, History of Interior Design, air child publications, illustrated ed., 2009.

Elaine, Michael Dywer, Christopher Mackinnon, Norman A. J. Berisford Denby , A History of Interior Design, Rhodec International, 2000.

**e-Learning Source:**

https://www.architecturaldigest.com/gallery/philip-johnson-architecture-buildings

https://www.scmp.com/magazines/style/tech-design/article/2096492/13-best-works-zaha-hadid-who-won-architectures-biggest

https://www.casatigallery.com/designers/aldo-rossi/

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 1 | 1 | 2 | 2 | - | 3 | 1 | | | | | 3 | 2 | 3 | 2 | 3 | |
| **CO2** | 1 | 1 | 1 | 2 | 2 | - | 3 | 1 | | | | | 2 | 3 | 2 | 1 | 3 | |
| **CO3** | 1 | 1 | 1 | 2 | 2 | - | 3 | 1 | | | | | 3 | 3 | 2 | 2 | 2 | |
| **CO4** | 1 | 1 | 1 | 2 | 2 | - | 3 | 1 | | | | | 3 | 2 | 2 | 2 | 2 | |
| **CO5** | 1 | 1 | 1 | 2 | 2 | - | 3 | 1 | | | | | 3 | 3 | 2 | 2 | 3 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 275** | **Title of the Course** | **Interior Services -I** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 4th | 2 | 1 | - | 3 |
| **Pre-Requisite** | None | **Co-requisite** | Interior Services -II | | | | |
| **Course Objectives** | Gaining overall knowledge of general services in a building. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Learn about General idea of sources of water supply. Standards for quality of water. |
| **CO2** | Gain knowledge about various types of fittings like taps, ball valves, hot water supply systems |
| **CO3** | Learn about Basic principles of sanitations and disposal of waste materials from building |
| **CO4** | Aware about Waste management and rain water harvesting practices. |
| **CO5** | Prepare electrical layout scheme for interior using standard electrical symbols |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Water supply | General idea of sources of water supply. Standards for quality of water. Domestic water systems, suction and storage tanks and their capacity. Pipes and their sizes and jointing. Consumption of water. Down take supply to various fittings. | 06 | 1 |
| 2 | Sanitary fittings | Types of fittings like taps, ball valves, hot water supply systems, bathtubs, showers, jets, cocks, valves etc. Faucets for kitchens, bathrooms and toilets. Check valves, foot valves, sump pump check valves etc. | 12 | 2 |
| 3 | Sanitation | Basic principles of sanitations and disposal of waste materials from buildings. Connection to outdoor drainage system, size requirements, types of pipes available in the market. Water carriage systems, standard sanitary fittings, traps, pipes and their jointing. Flushing systems. Bathroom interior layouts, extensive market survey of products available, economies of products available, fixing of the products with other finishing materials. | 12 | 3 |
| 4 | Solid waste | Waste management : Refuse, different forms of refuse garbage, house refuse , refuse chutes , rain water harvesting etc | 06 | 4 |
| 5 | Electricity | Electrical Installations : Building wiring system. Service wires, metering distribution boards, circuits, MCB cutouts. Conductors, wiring methods, switch boards, electrical devices in the buildings, light and power circuits. Indian electricity rules, relevant provisions of NBC. Preparation of electrical layout scheme for a interior using standard electrical symbols | 12 | 3, 4 |

**Reference Books:**


Rangwala, S.C. water supply and Sanitary Engineering : Environmental Engineering, 19th ed, Charotar pub house, Anand, 2004

Derek Clements-Croome, Derek J. Croome, Intelligent buildings: Design, Management and Operation, Thomas Telford Books, London, 2004.


**e-Learning Source:**

https://abhashacharya.com.np/wp-content/uploads/2017/01/Sources-of-Water.pdf

https://www.earthreminder.com/waste-management-principles-methods-benefits/

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 1 | 3 | 1 | 3 | 1 | 2 | 1 | | | | | 3 | 2 | 3 | 2 | 3 | |
| **CO2** | 1 | 1 | 3 | 1 | 3 | 1 | 3 | 1 | | | | | 2 | 3 | 2 | 1 | 3 | |
| **CO3** | 1 | 2 | 3 | 2 | 3 | 2 | 3 | 1 | | | | | 3 | 3 | 2 | 2 | 2 | |
| **CO4** | 1 | 2 | 3 | 1 | 3 | 2 | 3 | 1 | | | | | 3 | 2 | 2 | 2 | 2 | |
| **CO5** | 1 | 1 | 3 | 2 | 3 | 1 | 3 | 1 | | | | | 3 | 3 | 2 | 2 | 3 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS276** | **Title of the Course** | **Rapid Prototyping** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 4th | 2 | | 3 | 4 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | The course shall be able to introduce student latest prototyping technologies used in the industry like 3d printing, laser, etc for making prototypes close to the actual products. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Students will learn, what rapid prototyping is and classification in rapid manufacturing. |
| **CO2** | Students will gain knowledge about CAD modelling and model preparation for additive prototyping |
| **CO3** | Students will gain the knowledge about various RP processes, materials and technological advancements in the domain of rapid prototyping. |
| **CO4** | Students will learn how to control error in prototyping process and part building. |
| **CO5** | Students will get hands on experience in 3d printing |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Rapid Prototyping (or 3D Printing) | Introduction to Rapid Prototyping (or 3D Printing), Rapid Prototyping Data Formats, Rapid Tooling | 16 | 1 |
| 2 | Rapid Prototyping Systems I | RP Processes: Process Physics, Tooling, Process Analysis, Material and technological aspects, Applications, limitations and comparison of various rapid manufacturing processes. Photopolymerization (Stereolithography (SL), Micro stereolithography), | 16 | 2 |
| 3 | Rapid Prototyping Systems II | Powder Bed Fusion (Selective laser Sintering (SLS), Electron Beam melting (EBM)), Extrusion-Based RP Systems (Fused Deposition Modelling (FDM)), 3D Printing, Sheet Lamination (Laminated Object Manufacturing (LOM), Ultrasonic Consolidation (UC)), Beam Deposition (Laser Engineered Net Shaping (LENS), Direct Metal Deposition (DMD)). | 16 | 3 |
| 4 | Computer Aided Manufacturing | Details of different types of Computer Aided Manufacturing Systems, Role of CAM in today's world, Recent Advances in CAM | 16 | 4 |
| 5 | Product Design and Manufacturing | (using Reverse Engineering and Rapid Prototyping) Project Work | 16 | 4, 5 |

**Reference Books:**

New Product Shots by Alex Larg & Jane Wood.

Lighting for Food & Drink by Steve Bavister.

Practical Photography by Michael Freeman.

Magazines vide WEB. Magazines on Advertising.

**e-Learning Source:**

*https://www.researchgate.net/publication/226038981_Rapid_prototyping_technology_Applications_and_benefits_for_rapid_product_development*

*https://www.researchgate.net/publication/339659534_RAPID_PROTOTYPING_TECHNOLOGY_APPLICATIONS_ADVANTAGES_AND_LIMITS_-A_REVIEW*

*https://www.iare.ac.in/sites/default/files/IARE_RPT_PPT.pdf*

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 2 | 2 | 3 | 1 | |
| **CO2** | 2 | 1 | 3 | 1 | 1 | 2 | 2 | 2 | | | | | 1 | 2 | 2 | 3 | 1 | |
| **CO3** | 2 | 1 | 3 | 1 | 1 | 2 | 2 | 2 | | | | | 1 | 2 | 1 | 3 | 2 | |
| CO4 | 3 | 1 | 3 | 1 | 1 | 3 | 3 | 1 | | | | | 1 | 3 | 1 | 3 | 1 | |
| CO5 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 2 | 2 | 3 | 1 | |

1- **Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS277** | **Title of the Course** | **Layout Drawing & Display Techniques** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 4th | 1 | | 2 | 2 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To familiarize the students with some of the concepts of 3D modeling and the presentation techniques. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To make student understand about water colors and rendering techniques. |
| **CO2** | To make student understand and learn techniques of perspective drawing. |
| **CO3** | To understand and learn pen and ink rendering, materials, media and tools. |
| **CO4** | Understand about the Rendering interior perspectives with color pencils and sketch pens |
| **CO5** | Learn about creating various textures using watercolors and poster colors |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Coloring study | Introduction of colors, Usage of water colors, poster colors, pen & ink, rendering techniques, etc. | 8 | 1,3,5 |
| 2 | Drawing and sketching interior environments | Drawing and sketching interior environments, one point interior perspective, two-point interior perspective, refined linear perspective methods, two point plan projection method, and perspective traced from photographs | 10 | 2,4 |
| 3 | Rendering with pen and ink | Introduction to pen and ink rendering, materials, media and tools, rendering orthographic projection drawings, rendering perspective drawings. | 10 | 2,3 |
| 4 | Rendering with colour pencils and sketch pens | Rendering of interior perspectives with colour pencils and sketch pens – stroke effects, smudge effects – use of schoeller and kent sheets – leather cartridge etc. | 10 | 4 |
| 5 | Rendering with poster/water colours | Use of kent / cartridge sheets for poster colours and waterman/cartridge sheets for water colours – transparency effects in water colours – block effects in poster colours. | 10 | 5 |

**Reference Books:**


Interior Design Visual Presentation 2nd and 3rd Edition-Maureen Mittom

Architectural Rendering Techniques-A Color Reference-Mike.W.Lin

Color Drawing-Design drawing skills & techniques for architects-Michael.E.Doyle.

Architects Sketching and Rendering techniques for designers and architects.-Stephen.A.Klimet

Color Vision-Leo Marvullo 6. Water Color-Hon graham Scholes


**e-Learning Source:**

https://www.skillshare.com/en/browse/architectural-rendering

https://archive.org/details/FrancisD.K.ChingArchitecturalGraphics6thEd2015

https://www.re-thinkingthefuture.com/architectural-community/a2419-10-online-courses-for-architectural-rendering/

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO 10 | PO 11 | PO12 | PSO1 | PSO2 | PSO3 | PSO 4 | PS O5 | PS O6 |
| **CO1** | 2 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | | | | | 2 | 1 | 2 | 2 | 1 | |
| **CO2** | 2 | 2 | 3 | 2 | 1 | 1 | 2 | 1 | | | | | 3 | 2 | 3 | 3 | 2 | |
| **CO3** | 2 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | | | | | 2 | 1 | 2 | 2 | 2 | |
| **CO4** | 2 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | | | | | 3 | 2 | 3 | 3 | 2 | |
| **CO5** | 2 | - | 3 | 1 | 1 | 1 | 2 | 1 | | | | | 2 | 1 | 2 | 2 | 2 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

**Integral University, Lucknow**

| **Effective from Session:** 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS278** | **Title of the Course** | **Interior Design Studio-II** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 4th | 1 | | 8 | 5 |
| **Pre-Requisite** | Interior Design Studio-I | **Co-requisite** | None | | | | |
| **Course Objectives** | To develop creative conceptual visualization, hand skill building, and the process of design and emphasis shall be on graphic layout and elevations as a design process. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Students will be able to understand designing of interior spaces or products like furniture. |
| **CO2** | Students will be able to develop creative conceptual visualization, hand skill building, and the process of design; |
| **CO3** | Students will understand the Use of anthropometry, ergonomics, and handling of space after this course. |
| **CO4** | Students will gain application of knowledge gained from other subjects, in design. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Unit 1 | Documenting space (sketch and photo documentation);<br>Space planning process (block diagram, concept statement);<br>Concept sketching. | 12 | 1,2,3 |
| 2 | Unit 2 | Application of design principles and Elements;<br>Creativity / originality;<br>Design;<br>Process/methodology;<br>Structural integration. | 12 | 1,2,3 |
| 3 | Unit 3 | Style;<br>Color Rendering;<br>Anthropometry and ergonomics;<br>Furniture Design;<br>Material selection;<br>Graphic design (page layout and composition). | 12 | 1,2,3 |
| 4 | Unit 4 | Portfolio development:<br>Design portfolio to include designs in response to today's situation of urban society, i.e., contemporary spaces required in modern society – needs, realities, value system etc. The spaces to be considered shall be: home, office, bank, school, college, public level spaces - restaurant, lounge (hotel), etc. | 12 | 4 |
| 5 | Unit 5 | The list of suggested topics to be covered as design problems:<br>Thematic space making with Art and craft forms of our own culture in India – East, West, North, Central and so on;<br>Design of built units of various geographical locations and culture by involving historical periods, styles and use of craft in its inherent quality and form - integrating craft and living environment.<br>*Note: At least two major exercises and three minor time problems should be given. Internal marking shall be done in stages and project wise:*<br>Schematic layouts;<br>Final layout;<br>Sectional elevations;<br>Designs & details. | 96 | 4 |

**Reference Books:**


Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2nd edition, Mc-Graw Hill professional, 2001.

Francis.D. Ching & Corky Bingelli, Interior Design Illustrared, 2nd edition, Wiley publishers, 2004.

Maureen Mitton, Interior Design Visual Presentation: A Guide to Graphics, Models, and Presentation Techniques. John Wiley and Sons, 2003

Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals ,2002

Neufert Ernest, Architect's Data, Granada pub. Ltd. London, 2000.

John F. Pile, A history of interior design, Laurence King Publishing, 2005.

Robin D. Jones, Interiors of Empire: Objects, Space and Identity within the Indian Subcontinent, Manchester University Press; illustrated edition, 2008


**e-Learning Source:**

https://www.researchgate.net/publication/348321185_Learning_Anthropometry_from_Rendered_Humans

https://www.sciencedirect.com/science/article/pii/S2215098616304578

| | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 3 | 3 | 2 | 3 | - | 1 | 2 | 3 | | | | | 1 | 3 | 2 | 1 | 3 | |
| **CO2** | 3 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | | | | | 1 | 3 | 2 | 1 | 3 | |
| **CO3** | 3 | 2 | 3 | 1 | - | 2 | 2 | 3 | | | | | 1 | 3 | 2 | 1 | 3 | |
| **CO4** | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | | | | | 1 | 3 | 2 | 1 | 3 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| Effective from Session: 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS279** | **Title of the Course** | **Elective-II: Product Photography** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 4th | 2 | - | - | 2 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | The major objective of this course is known about the types of equipment required and expertise knowledge for product photography | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Learning about the basics of photography and product photography. |
| **CO2** | Learning about the use of camera and its settings. |
| **CO3** | Understanding the use of different rules of photography. |
| **CO4** | Understanding the products and lighting scheme. |
| **CO5** | To enable the students to understand the applications of photography in interior. |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO |
|---|---|---|---|---|
| 1 | Overview Of Product Photography | Product Photography significance - role in promotion of products - categorization of products - The lighting Equipment - Types of lighting units - Accessories - Digital Lights - Study of Concepts - Accessories - Props - Backgrounds - Models - Locations - hiring of studios - equipment. | 8 | 1,3,4 |
| 2 | Electronics Products | Shooting Script - Lighting Schemes - Exercises. | 10 | 2,3,4 |
| 3 | Household Products | Shooting Script - Lighting Schemes - Exercises Liquid Products - Shooting Script - Lighting Schemes - Exercises. | 12 | 2,3,4, |
| 4 | Executive Products | Shooting Script - Lighting Schemes - Exercises. - Concept Photography - Shooting Script - Lighting Schemes Exercises | 12 | 2,3,4 |
| 5 | Industrial Photographer | Lighting in Natural & Artificial | 6 | 1,2,3,4,5 |

| **Reference Books:** |
|---|
| New Product Shots by Alex Larg & Jane Wood. |
| Lighting for Food & Drink by Steve Bavister. |
| Practical Photography by Michael Freeman |
| Professional photography -photographing buildings, David Wilson, Rotovision |
| **e-Learning Source:** |
| https://www.udemy.com/course/photography-masterclass-complete-guide-to-photography/ |
| https://www.udemy.com/course/mobile-photography-masterclass-for-instagram/ |
| https://www.udemy.com/course/mobile-photography-for-beginners-master-your-smartphone/ |
| https://www.udemy.com/course/diy-product-photography/ |

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | | | | | 1 | 1 | 1 | 1 | 1 | |
| **CO2** | 3 | 2 | 2 | 1 | 1 | 1 | 3 | 2 | | | | | 2 | 1 | 2 | 2 | 1 | |
| **CO3** | 1 | 3 | 3 | 2 | 1 | 1 | 2 | 2 | | | | | 2 | 1 | 3 | 2 | 1 | |
| **CO4** | 1 | 3 | 3 | 3 | 1 | 1 | 2 | 2 | | | | | 2 | 2 | 3 | 3 | 1 | |
| **CO5** | 1 | 3 | 1 | 1 | 1 | 1 | 3 | 3 | | | | | 1 | 3 | 1 | 3 | 1 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| **Ar. Safa Seraj**<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| Effective from Session: 2023-24 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS280** | **Title of the Course** | **Elective-II: Craft & Technology in Interiors** | **L** | **T** | **P** | **C** |
| **Year** | 2nd | **Semester** | 4th | 2 | - | - | 2 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | Understand the importance of Art and Craft. |
| **CO2** | Aware about the Traditional Knowledge Systems and the Indigenous materials |
| **CO3** | Know the Significance and Scope, Building Crafts. |
| **CO4** | Explore the crafts of different states of India. |
| **CO5** | Aware about the Issues and Challenges of Craft Sector Today |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO |
|---|---|---|---|---|
| 1 | Introduction Interior-Architecture: | Definition and Understanding, Craft: Definition and Understanding (Varied Perspectives on Art and Craft), Interior- Architecture and Craft & Technology: Establishing Inter- Relationships and Exploring Applications. Discourse | 8 | 1,3,4 |
| 2 | Interior-Architecture: | Documenting Knowledge and Skills, Traditional Knowledge Systems and the Ingenious skills of the communities, and Documenting Materials; Tools and Techniques, Traditional Knowledge Systems and the Indigenous materials; tools and techniques, Discourse | 10 | 2,3,4 |
| 3 | Creative and Cultural Industries & Building Crafts | Understanding Definition; Significance and Scope, Building Crafts: Definitions; perspectives and frameworks, Craft and Technology and its Role in creating/enhancing Interior- Architecture, Discourse | 12 | 2,3,4, |
| 4 | Building Crafts | Craft Sector, Case Studies From Gujarat, Rajasthan, Uttarakhand, Miscellaneous Case Studies | 12 | 2,3,4 |
| 5 | Overview of the Craft Sector | Craft Sector Today, Issues and Challenges, Policies and Reforms, Gaps, Summary & Discourse | 6 | 1,2,3,4,5 |

**Reference Books:**


Boner, A; Sarma, SR; Baumer, B. "Vāstusūtra Upaniṣad", Motilal Banarsidass Publishe, 1996

Coles, J and House, N. "The Fundamentals of Interior-Architecture", Ava Publishing, 2007

Hudson, J. "Interior-Architecture Now", Laurence King Publishers, 2007

Jaitly Jaya. "Crafts Atlas of India", Niyogi Books, N.Delhi, 2012


**e-Learning Source:**

https://onlinecourses.nptel.ac.in/noc19_ar15/preview

https://youtu.be/EUQpc0KJhx0

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | | | | | 1 | 1 | 1 | 1 | 1 | |
| **CO2** | 3 | 2 | 2 | 1 | 1 | 1 | 3 | 2 | | | | | 2 | 1 | 2 | 2 | 1 | |
| **CO3** | 1 | 3 | 3 | 2 | 1 | 1 | 2 | 2 | | | | | 2 | 1 | 3 | 2 | 1 | |
| **CO4** | 1 | 3 | 3 | 3 | 1 | 1 | 2 | 2 | | | | | 2 | 2 | 3 | 3 | 1 | |
| **CO5** | 1 | 3 | 1 | 1 | 1 | 1 | 3 | 3 | | | | | 1 | 3 | 1 | 3 | 1 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| **Ar. Safa Seraj**<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS 358** | **Title of the Course** | **Interior Landscape** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 5th | 2 | 1 | - | 3 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To familiarize with the basic fundamentals of landscaping of interior spaces and application of basic fundamentals and parameters of landscaping in design. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To understand the role of landscape in built environment and it's types |
| **CO2** | To understand the selection of flowers, trees, shrubs & herbs for visual aesthetics and its characteristics |
| **CO3** | To develop an understanding of designing by including the nature |
| **CO4** | To know landscape its types and usage and its meaningful compositions for visual and functional effects |
| **CO5** | To know the design parameters of built forms- indoor and outdoor linkage to spaces |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Landscape and Built Environment | Introduction and role of landscape design in the built environment. Types of natural elements – stones, rocks, pebbles, water forms, plants and vegetation. Introduction to the study of plants in relation to landscape design and interiors. Types of indoor plants, visual characteristics: i.e., color, texture, foliage. | 15 | 1,3 |
| 2 | Visual Perception | Flowers- its colors, texture and its visual perception in various indoor spaces and science of flower arrangement Indoor plants in Indian context. Plant biology, soil, moisture, light nutrient, atmospheric conditions, growing medium, pests & diseases. Botanical nomenclature, anatomy and physiology of plant growth. Market survey and costs. | 12 | 2 |
| 3 | Design with Plants | Design with plants – Basic principles of designs. The physical attribute of plants and relation to design. Appearance, functional and visual effects of plants in landscape design and built environment. Selection and management of plant material in relation to the built environment. | 10 | 1,2 |
| 4 | Hardscape | Design concepts related to use of sculpture, lightings, garden furniture, architectural feature and grouping them into meaningful compositions for visual and functional effects. | 10 | 3 |
| 5 | Landscape Design Parameters | Landscaping design parameters for various types of built forms- indoor and outdoor linkage to spaces. Landscaping of courtyards- residential and commercial forms. Indoor plants and their visual characteristics- . Science of maintaining and growing greenery. Automatic irrigation costing and installation of micro irrigation systems. | 12 | 4,5 |

**Reference Books:**


Joseph Dechiara, Julius Panero, and Martin Zelnik Time-Saver Standards For Interior Design and Space Planning, 2nd Edition, Mc-Graw Hill Professional,2001.

Craig Berger, Wayfinding: Designing And Implementing Graphic Navigational Systems, Rotovision, 2009

Andreas Uebele, Signage Systems And Information Graphics , Thames And Hudson, 2007


**e-Learning Source:**

http://www.gardenvisit.com/landscape_architecture/landscape_debate/definition_eid

http://agritech.tnau.ac.in/horticulture/horti_Landscaping_types%20of%20garden.html

http://www.localhistories.org/gardening.html

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 3 | 3 | 1 | 2 | 3 | 3 | 2 | 1 | | | | | 2 | 3 | 4 | 3 | 5 | |
| **CO2** | 3 | 2 | 2 | 1 | 3 | 2 | 2 | 2 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO3** | 3 | 2 | 1 | 1 | 3 | 2 | 3 | 1 | | | | | 1 | 3 | 2 | 3 | 3 | |
| **CO4** | 3 | 2 | 1 | 2 | 3 | 3 | 2 | 1 | | | | | 2 | 1 | 1 | 2 | 2 | |
| **CO5** | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | | | | | 1 | 2 | 2 | 2 | 2 | |

**Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS359** | **Title of the Course** | **Interior Services-II** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 5th | 2 | 1 | - | 3 |
| **Pre-Requisite** | **Interior Services-I** | **Co-requisite** | None | | | | |
| **Course Objectives** | To expose the students to the basic principles of air conditioning, acoustics, electrification and mechanical services. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To aware with the HVAC system and its principles, functions and its types. |
| **CO2** | To understand the design consideration for fire safety and mechanism of firefighting devices. |
| **CO3** | To know services for multi storied buildings and its types. |
| **CO4** | To know details of security and safety systems and can apply it in future. |
| **CO5** | To understand the building automation and energy management. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | HVAC | Heating Ventilation & Air Conditioning (HVAC) systems: Air conditioning, Mechanical ventilation – mechanical inlet and extraction systems. Functions of air conditioning, Principles of AC, capacity of AC, Types of AC systems – window AC, split, ductable, central AC and their details. Air distribution systems – ducts, air inlets. | 7 | 1 |
| 2 | Fire Safety | Fire – causes and spread of fire. Design considerations for fire safety, Devices for firefighting – portable, built in wet riser system, sprinkler system, fire hydrant. Class of fire and occupancy, study of fire regulations as per NBC | 5 | 2 |
| 3 | Vertical Transport | Services for multi storied buildings - Vertical transportation systems – Introduction – lifts, escalators vertical & horizontal, definition, location, arrangement, structure, drives, traffic analysis, supervisory control, remote monitoring. | 8 | 3 |
| 4 | Safety & Security | Security and safety systems – introduction, designing a security system – burglar alarm, CCTV, central alarm systems, intrusion sensors and space sensors. Other services – cable TV, PABX, computer labs – access flooring, server rooms. | 4 | 4 |
| 5 | Building Automation and Energy Management | Building automation and energy management – Introduction, History of development of BAS, typical BAS, criteria for choosing the right BAS, open system architecture. Information technology, communications & artificial intelligence in intelligent buildings. Design in computer age, engineering intelligence through nature. | 8 | 5 |

**Reference Books:**


Rangwala, S.C. Water Supply and Sanitary Engineering : Environmental Engineering, 19th Ed, Charotar Pub House, Anand, 2004

Electrical Wiring And Contracting (Vol. 1 To Vol.4), London. The New Era Publishing Company.

Dr Frith Abnwos And Others, Electrical Engineering Hand Book.

William . J. Guinness, Mechanical And Electrical Systems For Buildings, New York : Mc Graw Hill.


**e-Learning Source:**

https://link.springer.com/chapter/10.1007/978-981-16-8456-2_43

https://r.search.yahoo.com/_ylt=AwrPpiVwgJljaI8NwCO7HAx.;_ylu=Y29sbwNzZzMEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1671033073/RO=10/RU=https%3a%2f%2fhvacnewsjournal.com%2f/RK=2/RS=IXwhZqne4SVHEeKIprHduQro.WA-

https://dgfscdhg.gov.in/national-building-code-india-fire-and-life-safety

https://iieta.org/Journals/IJSSE

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO4 | PSO4 | PSO5 | PSO6 |
| **CO1** | 2 | 2 | 2 | 2 | 1 | 1 | 2 | 2 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO2** | 2 | 1 | 3 | 1 | 1 | 3 | 2 | 1 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO3** | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO4** | 3 | 2 | 2 | 1 | 3 | 3 | 3 | 2 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO5** | 2 | 2 | 2 | 1 | 1 | 3 | 2 | 1 | | | | | 3 | 3 | 3 | 3 | 1 | |

1- **Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS360** | **Title of the Course** | **Illumination in Interiors** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 5th | 2 | 1 | - | 3 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To equip the student to understand and successfully apply lighting techniques with colour effects. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To understand the role of illumination, it's importance and background history |
| **CO2** | To inform about the artificial lighting and its source and feature |
| **CO3** | To analyze the psychological impact of light and color on human |
| **CO4** | To decide the types of light to be installed by understanding the functionality and other factors |
| **CO5** | To calculate the luminaires and its quantity required in the project |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Introduction To Illumination | Introduction and role of illumination in interiors, it's importance, an overview of the history of light - Electric Lamps, Incandescent/Halogen/Fluorescent/HID/LED - learn basic wiring and simple lighting effects, principles of lighting, types of lighting in interior design and its effect.. Impact of lighting on creating the ambience | 12 | 1 |
| 2 | Artificial Lighting | The importance of Artificial lighting in Architectural Design, vision and perception, color, and - understanding shade and shadow, Artificial light sources, types of artificial lighting and its feature. | 12 | 2 |
| 3 | Effect of Color In Lighting | The Psychological Impact of Light and Color, Environmental Cognition, Visible spectrum , Usage of color and its selection criteria by understanding the functionality of buildings. | 12 | 3 |
| 4 | Luminares & Fixtures | Controlling light, luminaire optics and distributions - introduction to light fixture materials and construction, and components. Light a Surface: Horizontal, Light a Surface: Vertical, Light a Surface: For a Task | 18 | 4 |
| 5 | Lighting Design & Calculation | Lighting theory, Laws of Light, cosine law, relationship between candela and lumen, point source calculations, transmittance, reflectance and absorption, illuminance and visual performance, lumen method of light calculation, linear luminaires and uplighting. | 12 | 5 |

**Reference Books:**


The Art of Living- Randall Whitehead

Lighting Design, Source Book- Randall Whitehead

Light Right- M.K.Halpeth, T.Senthil Kumar, G.Harikumar

Concepts Of Lighting, Lighting Design In Architecture- Torquil Barker


**e-Learning Source:**

https://www.hampshirelight.net/blog/importance-of-lighting-interior-design

https://www.easyrender.com/a/light-as-an-element-of-interior-design-and-how-they-transform-space

https://foyr.com/learn/psychology-of-colors-in-interior-design/

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | | | | | 2 | 2 | 3 | 3 | 3 | |
| **CO2** | 2 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | | | | | 1 | 2 | 3 | 2 | 3 | |
| **CO3** | 2 | 2 | 3 | 2 | 3 | 3 | 3 | 2 | | | | | 1 | 3 | 2 | 2 | 2 | |
| **CO4** | 3 | 2 | 2 | 1 | 3 | 3 | 2 | 2 | | | | | 2 | 3 | 2 | 2 | 2 | |
| **CO5** | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | | | | | 2 | 3 | 3 | 2 | 2 | |

1- **Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS361** | **Title of the Course** | **Digital Visualization-I** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 5th | 1 | 2 | 2 | 5 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To enable students for using basic industry standard software like SketchUp, Lumion and Photoshop for 3D modelling and rendering. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To aware with the basic of Sketch up and its salient features of using SketchUp and its applicability. |
| **CO2** | To develop the Modelling complex forms through various plugins for enhancing the model. |
| **CO3** | To produce rendered model with brilliant lighting and exclusive materials details. |
| **CO4** | To make enhancing background of the model. |
| **CO5** | To know the basic of photoshop and its feature. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Introduction to Basic Modelling in Sketchup | Introduction to SketchUp interface and tools, introduction to basic operations in SketchUp, principles of 3d modelling in SketchUp, basic 3d modelling exercises of products and interiors. | 16 | 1,2,3 |
| 2 | Modelling Complex Forms in Sketchup | Modelling complex forms using curves, using plugins to assist modelling in SketchUp, Modelling Exercises of multi-part complex objects in SketchUp. | 16 | 1, 2,3, |
| 3 | Lighting and Materials in Lumion | Basic principles of lighting in 3d. Introduction to Lumion interface and tools, importing files to Lumion, setting up basic scene for rendering, setting up basic environment lighting in Lumion, basics of materials and texturing in Lumion, Creating basic Materials in Lumion. | 16 | 1,3,4 |
| 4 | Rendering 3D Scenes in Lumion | Adding environment and vegetation in a 3d scene, rendering basic scene in studio setup using Lumion, rendering a basic scene using environment setup using Lumion. Exporting images from Lumion. | 16 | 1,3, 4, |
| 5 | Photoshop: Elementary | Understanding Photoshop, Corel Draw and GIS. | 16 | 2,4,5 |

**Reference Books:**

User manual & tutorials of Google Sketch Up software

**e-Learning Source:**

https://visualizingarchitecture.com/

https://support.lumion.com/hc/en-us/categories/360000646374-Tutorials

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 3 | 3 | 2 | 1 | 2 | 2 | 3 | | | | | 1 | 2 | 2 | 1 | 2 | |
| **CO2** | 1 | 2 | 2 | 1 | 1 | 3 | 2 | 2 | | | | | 2 | 2 | 2 | 2 | 2 | |
| **CO3** | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 1 | | | | | 1 | 3 | 3 | 1 | 3 | |
| **CO4** | 1 | 3 | 3 | 1 | 2 | 3 | 2 | 2 | | | | | 3 | 3 | 2 | 1 | 3 | |
| **CO5** | 3 | 3 | 2 | 1 | 1 | 3 | 2 | 3 | | | | | 3 | 3 | 2 | 1 | 3 | |

1- **Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-23 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS362** | **Title of the Course** | **Product Design Studio-I (Residential Outdoor Setting)** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 5th | 1 | 1 | 2 | 4 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To introduce the students to the technically complex product design challenges, considerations and deliverables | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To learn about the design processes and methods followed in development of products. |
| **CO2** | To learn the basics of design thinking to identify the design problem, create best solution for it. |
| **CO3** | To learn about conducting successful user research |
| **CO4** | To learn how to convert a conceptual idea into a functioning product. |
| **CO5** | To learn the form development & prototyping techniques and skill. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Overview of Design Process and its Ecosystem | Design Relevance: Exposure and analysis, Case studies | 10 | 1 |
| 2 | Ideation | Brainstorming; Differential Discussion; group methods to generate ideas; solitary methods to generate ideas; Lateral Thinking | 10 | 2,3 |
| 3 | Case Studies & Research | Conducting User surveys, and case studies | 12 | 3 |
| 4 | Concept Detailing | User Journey maps, User stories, activity mapping | 12 | 3,4 |
| 5 | Design Project | Design and Development of Product as per the brief | 20 | 4,5 |

**Reference Books:**


D. NormanL: The Design of Everyday Things, London, The MIT Press, 1998

A. Forty; Objects of Desire, Thames & Hudson, 1995

J. De Noblet Ed., Industrial Design- Reflections of A Century, Thames & Hudson, 1993

Julier, G.;20th Century, Design, Thames & Hudson, 1993

Potter, Norman; What Is A Designer: Things, Places, Messages, Princeton Architectural Press, 2002


**e-Learning Source:**

Product Design and Manufacturing - Course (nptel.ac.in)

Product Design and Innovation - Course (nptel.ac.in)

**Course Articulation Matrix: (Mapping of COs with POs and PSOs)**

| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO1** | 2 | 2 | 3 | 1 | 2 | - | 2 | 3 | | | | | 3 | 2 | 2 | 2 | 2 | |
| **CO2** | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 3 | | | | | 3 | 2 | 2 | 2 | 2 | |
| **CO3** | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 3 | | | | | 2 | 2 | 2 | 1 | 2 | |
| **CO4** | 3 | 2 | 3 | 3 | 2 | 1 | 1 | 3 | | | | | 3 | 1 | 3 | 2 | 1 | |
| **CO5** | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 3 | | | | | 3 | 2 | 2 | 2 | 2 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS363** | **Title of the Course** | **Interior Design Studio-III** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 5th | 1 | - | 6 | 7 |
| **Pre-Requisite** | **Interior Design Studio-II** | **Co-requisite** | **Interior Design Studio-II** | | | | |
| **Course Objectives** | To introduce the basics of designing for retail spaces including showrooms and restaurant interiors and to develop skills required for the same. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To understand the basic requirements of the project and its features |
| **CO2** | To deal with health care interior and understand the hierarchy of spaces |
| **CO3** | To deal with restaurant interior and understand the hierarchy of spaces |
| **CO4** | To develop the technical drawings and material details |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Overview of Design Process and Its Ecosystem | Design Relevance: Exposure and analysis, case studies. | 10 | 1 |
| 2 | Case Studies & Research | Conducting user surveys, case studies, literature study, analysis of materials used and study of standards. | 15 | 1, 2, 3 |
| 3 | Concept Detailing | Form development, user journey maps, user stories, activity mapping. | 15 | 1, 2, 3 |
| 4 | Restaurant Interiors | Interior designing for multi-functional Restaurants and Banquet halls, multi-level planning, design and detailing of various work spaces, interactions zones. Design of hospitality spaces such as theme-based restaurants, corporate banquet venues etc. | 35 | 1, 3, 4 |
| 5 | Health Care Interiors | The design of Health care spaces, such as hospitals, consulting, treatment rooms, Diagnostic facilities – study of special acoustics and functional materials and furniture detailing. | 40 | 1, 2, 4 |

**Reference Books:**


Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver Standards For Interior Design & Space Planning, 2nd Edition, Mc-Graw Hill Professional, 2001

Francis.D. Ching & Corky Bingelli, Interior Design Illustrared, 2nd Edition, Wiley Publishers, 2004

Maureen Mitton, Interior Design Visual Presentation: A Guide To Graphics, Models, And Presentation Techniques. John Wiley And Sons, 2003

Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals, 2002


**e-Learning Source:**

https://byarchlens.com/wp-content/uploads/2020/11/Neufert-4th-edition.pdf

https://archive.org/download/avisualdictionaryofarchitecture/A%20Visual%20Dictionary%20of%20Architecture.pdf

https://www.udemy.com/course/interior-architecture/

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 3 | 3 | 2 | 3 | - | 1 | 2 | 3 | | | | | 3 | 3 | 2 | 3 | 1 | |
| **CO2** | 3 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO3** | 3 | 2 | 3 | 1 | - | 2 | 2 | 3 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO4** | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | | | | | 3 | 3 | 2 | 3 | 1 | |
| **CO5** | 3 | 2 | 3 | 1 | - | 2 | 2 | 3 | | | | | 3 | 3 | 3 | 3 | 1 | |

1- **Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS364** | **Title of the Course** | **Elective-III (Barrier Free Design)** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 5th | 1 | 1 | - | 2 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To understand communication channels, semiotics and its cultural aspects. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To understand the basic of Universal Design and its need in the current world |
| **CO2** | To know the Principles, Goals of Universal Design and various design spectrums |
| **CO3** | To understand the Universal - Inclusive - Accessible Design, Universal Design for Learning (UDL) and Use of Assistive technologies. |
| **CO4** | To know and apply the Physical accessibility standards for Barrier free environment |
| **CO5** | To make a mini project that will help the student to deal with projects in future |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Orientation | What is Universal Design? Its Origin and emergence, Need and its relevance today, Examples of UD. | 6 | 1, 2 |
| 2 | Principles and Goals | Principles of universal design, Goals of Universal Design, Understanding above from various design spectrums- Product, building, information, service | 7 | 2,3 |
| 3 | Deep Dive | Universal - Inclusive - Accessible Design, Universal Design for Learning (UDL), Use of Assistive technologies, Research techniques like- AGNES (Age gain now empathy system simulation suit), Current ecosystem, Government Initiatives & policies. | 5 | C4 |
| 4 | Accessibility Standards and Guidelines | Physical accessibility standards for Barrier free environment, Web accessibility, WAI (Web Accessibility Initiative), World Wide Web Consortium (W3C) | 4 | 4, 5 |
| 5 | Mini Project | As per brief | 10 | 5 |

**Reference Books:**


Edward Steinfeld and Jordana L. Maisel, Universal Design – Creating Inclusive Environments, 2012

William Lidwell, Kritina Holden, Jill Butler; Universal Principles of Design, 2003

Bruce Hanington, Bella Martin; Universal Methods of Design, 2012

James Holmes-Seidle , Barrier-Free Design, 1996 CPWD


**e-Learning Source:**

A Review of Barrier-Free Design In Built Environment by Anjali Sharma and Kuldeep Kumar

Barrier Free Design For Disabled Persons by Pl Falta

Behavioral Factors In Barrier-Free Design by Adaptse EA UFMG

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 3 | 1 | 2 | 2 | 3 | 3 | 1 | 1 | | | | | 3 | 3 | 1 | 2 | 3 | |
| **CO2** | 3 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | | | | | 2 | 2 | 2 | 1 | 2 | |
| **CO3** | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 1 | | | | | 2 | 1 | 2 | 2 | 1 | |
| **CO4** | 2 | 1 | 2 | 2 | 3 | 3 | 2 | 1 | | | | | 3 | 1 | 2 | 2 | 1 | |
| **CO5** | 3 | 1 | 2 | 2 | 3 | 3 | 2 | 2 | | | | | 3 | 1 | 2 | 2 | 1 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS365** | **Title of the Course** | **Elective – III Sustainable Design** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 5th | 1 | 1 | - | 2 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To enable the student to understand the need for adaptive reuse of old heritage buildings and applications of using recycled materials. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To understand the concept of adaptive reuse for heritage buildings and old structures |
| **CO2** | To know the importance of recycling and its value and need |
| **CO3** | To develop understanding for sustainability and issues related to it |
| **CO4** | To know the need for recycling the waste water and methods involved in treatment of waste water |
| **CO5** | To understand the importance of conservation and its intervention measures |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Need for Adaptive Reuse | Cultural inheritance – heritage buildings and old structures – ascertaining the structural stability – estimation of the prolonged life of the building – strategies of adaptive reuse – investigation into material finishes etc. | 8 | 1 |
| 2 | Need for Recycling of Materials | The logic behind recycling – recycling of steel, wood, glass etc - estimation of the quality of recycled timber – criteria for recycling of steel, glass etc. | 6 | 2 |
| 3 | Concept of Sustainability | Earth summit declaration – definition of sustainability – economic, social and environmental issues – green rating of buildings – criteria for LEED rating. | 6 | 3 |
| 4 | Recycling of Waste Water | Sullage and sewage – techniques of water purification for sullage – treatment plant for sewage – techniques of biological and chemical purification. | 6 | 4 |
| 5 | Need for Conservation | Architectural conservation – conservation of heritage and important buildings – levels of intervention – structural, construction related, finishes etc. Revival of old building techniques and finishes | 6 | 5 |

**Reference Books:**


Harimohan Pillai – Heritage Conservation And Cultural Continuity – Saraswatham Publishers, 2002.

Sustainable Building Design Manual – Teri Publication, 2004.

Waste Management And Recycling – Compiled By C.T. Lakshmanan, Srm University.

Sandra F Mendler - The Hok Guide Book For Sustainable Design – John Wiley And Sons, Canada,2002. 5. Conservation Guidelines For Pondichery – Dtcp, Pondichery – Intach 2000.


**e-Learning Source:**

https://sdgs.un.org/goals

https://www.who.int/health-topics/air-pollution

https://www.conserve-energy-future.com/causes-effects-solutions-depletion-naturalresources.php#:~:text=Resource%20depletion%20happens%20when%20the,fishing%2C%20mining%2C%20logging%20etc

https://www.sciencedirect.com/science/article/abs/pii/S0360544220305168

**Course Articulation Matrix: (Mapping of COs with POs and PSOs)**

| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO1** | 2 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | | | | | 2 | 1 | 3 | 2 | 3 | |
| **CO2** | 3 | 2 | 3 | 1 | 3 | 2 | 1 | 1 | | | | | 2 | 2 | 3 | 2 | 2 | |
| **CO3** | 2 | 1 | 3 | 1 | 2 | 1 | 1 | 1 | | | | | 2 | 2 | 3 | 3 | 3 | |
| **CO4** | 3 | 2 | 3 | 1 | 3 | 2 | 1 | 2 | | | | | 3 | 1 | 3 | 3 | 3 | |
| **CO5** | 3 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | | | | | 3 | 1 | 3 | 2 | 2 | |

1- **Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS368** | **Title of the Course** | **Working Drawing and Detailing** | **L** | **T** | **P/S** | **C** |
| **Year** | 3rd | **Semester** | 6th | 1 | - | 2 | 3 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To learn & to draw working drawings used for interiors, building construction & Products | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To prepare the technical drawing of door and windows details |
| **CO2** | To develop details of building surfaces - wall mural, ceiling and flooring |
| **CO3** | To develop the detail of drawing of furniture along with joinery details and materials details |
| **CO4** | To draw the working drawing for toilets with plumbing diagram |
| **CO5** | To understand and draw the working drawings of storage areas |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Building Components | Working drawing of different types of doors and windows. | 8 | 1 |
| 2 | Building Surfaces | Working drawing of wall murals, reflected ceiling plans and flooring patterns. | 6 | 1,2 |
| 3 | Furniture | Working drawing of work station, living room furniture, bedroom furniture and dining tables. | 15 | 3 |
| 4 | Detailing of Special Areas | Working drawing for toilets with plumbing diagram – working drawing of kitchen with detailing of shelves and cupboards | 10 | 4,5 |
| 5 | Detailing of Storage Areas | Working drawing o wardrobes, TV cabinet and showcase, crockery shelves, cadenza, chest of drawers, dressing table, etc. | 10 | 5 |

**Reference Books:**


De Chiara and Callender – Time Saver Standards for interior design, 1982

De Chiara et al – Time Saver standards for interior design and space planning, Mcgraw Hill, 1982


**e-Learning Source:**

https://www.designingbuildings.co.uk/wiki/Working_drawing

https://www.slideshare.net/sanjibsengupta18/architectural-working-drawing-248307290

https://www.pearsonhighered.com/assets/samplechapter/0/1/3/2/0132740648.pdf

**Course Articulation Matrix: (Mapping of COs with POs and PSOs)**

| PO-PSO CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO1** | 3 | 2 | 2 | 2 | 3 | 3 | 1 | 1 | | | | | 2 | 3 | 2 | 1 | 2 | |
| **CO2** | 3 | 2 | 1 | 2 | 3 | 2 | 1 | 1 | | | | | 3 | 2 | 3 | 2 | 3 | |
| **CO3** | 2 | 2 | 2 | 1 | 3 | 2 | 2 | 1 | | | | | 3 | 3 | 3 | 1 | 3 | |
| **CO4** | 2 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | | | | | 2 | 3 | 3 | 2 | 2 | |
| **CO5** | 3 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | | | | | 2 | 2 | 3 | 1 | 1 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

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# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS369** | **Title of the Course** | **Estimation, Costing & Specification** | **L** | **T** | **P/S** | **C** |
| **Year** | 3rd | **Semester** | 6th | 2 | 1 | - | 3 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To enables the students to calculate the estimated construction cost of a building and to know the present material and labour cost and to differentiate between them. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To develop specification and analysis of all types of interior decoration materials |
| **CO2** | To know about detailed knowledge of estimation and preparation |
| **CO3** | To know the necessity of rate analysis and factors affecting rate analysis |
| **CO4** | To develop the essential of tender documents and preparation of schedules |
| **CO5** | To develop the BOQ measurement books |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Specification | Specification and analysis of all types of interior decoration material such as panelling, partitioning, false ceilings, flooring and floor covering, furniture, making specification for modern materials | 8 | 1 |
| 2 | Estimating | Define term Estimating and Costing, Objectives of Estimating, Types of Estimate: - Approximate Estimate, Detailed Estimate. Methods of preparing approximate Estimate: - Service Unit Method, Plinth Area Method, Cubical Content Method, Typical bay Method, Data required to Prepare detailed Estimate, Methods of preparing detailed Estimate: - Long wall-Short wall method and Center line Method | 6 | 1,2 |
| 3 | Rate Analysis | Introduction Interior Design, Necessity of rate analysis, Data required for rate analysis, Factors affecting rate analysis, Task work: Factors affecting task work, Task work of various skilled and unskilled labour, Schedule of Rate and Market Survey and Rate analysis of various construction items | 14 | 3 |
| 4 | Tendering | Essential of tender documents, Preparation of schedules and progress charts, Study of writing schedules for civil work, furniture items finishing items, services, etc, Study of units, mode of measurements, system of calculating quantities of different items like furniture, wall finishes, floor finishes, civil and plumbing works related to interiors. | 10 | 4,5 |
| 5 | Preparation of Measurement Book for BOQ | Measurement book: data required for Measurement book, Units for measurement, Preparation of BOQ by considering examples and Units for measurement. | 10 | 5 |

**Reference Books:**


Dutta, B. N., Estimating And Costing In Civil Engineering

Birdie, G. S., Text Book Of Estimating And Costing.

Chakraborty, M., Estimating, Costing, Specification & Valuation

CPWD Specifications And Schedule Of Rate Analysis

Kohli, D.D And Kohli, R.C., A Text Book Of Estimating And Costing, S.Chand & Company Ltd.

Brook, Martin., Estimating And Tendering For Construction Work, 3rd Edition, Elsevier.

Ashworth, A., Cost Studies Of Buildings, Pearson Higher Education

Cross, D.M.G., Builders' Estimating Data, Heinemann-Newnes

Sher, W., Computer-Aided Estimating: A Guide To Good Practice.

Standard Handbook For Civil Engineers

Standard Schedule Of Rates For Delhi, CPWD & UPPWD.

Standard Specifications, Cpwd & Uppwd

I. S. 1200 Parts I To Xxv – Method Of Measurement Of Building And Civil Engineering Works, Bureau Of Indian Standards

National Building Code Of India (Latest Edition), Bureau Of Indian Standards

C.O.A., Handbook of Professional Documents

I.I.A., Handbook on Professional Practice

Namavati, R.H., Professional Practice

| |
|---|
| Namavati, R.H., Theory and Practice of Valuation |
| Symes, Martin, Architects and their Practices |
| Building Specification Vol – I: https://cpwd.gov.in/Publication/Specs2009V1.pdf |
| Building Specification Vol – II; https://cpwd.gov.in/Publication/Specs2009V2.pdf |
| Schedule of Rates Vol – I: https://cpwd.gov.in/Publication/DSR_Vol_1_Hindi_2018.pdf |
| Schedule of Rates Vol – II: https://cpwd.gov.in/Publication/DSR_Vol_2_Hindi_2018.pdf |
| http://www.designingbuildings.co.uk/wiki/Tender_documentation_for_construction_projects |
| https://acquisition.gov/far/current/html/FARTOCP16.html |
| http://admis.hp.nic.in/himpol/Citizen/LawLib/c88.htm |
| http://en.wikipedia.org/wiki/Arbitration www.coa.gov.in/acts/conduct1989.htm |

| | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 1 | | | | | 3 | 3 | 1 | 3 | 3 | |
| **CO2** | 1 | 2 | 3 | 2 | 3 | 2 | 1 | 2 | | | | | 2 | 3 | 1 | 3 | 2 | |
| **CO3** | 1 | 2 | 3 | 1 | 3 | 2 | 2 | 1 | | | | | 2 | 3 | 3 | 1 | 2 | |
| **CO4** | 1 | 3 | 3 | 2 | 3 | 3 | 2 | 1 | | | | | 3 | 3 | 3 | 1 | 3 | |
| **CO5** | 1 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | | | | | 2 | 3 | 3 | 2 | 2 | |

**1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

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# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS370** | **Title of the Course** | **Digital Visualization - II** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 6th | 1 | 2 | 2 | 5 |
| **Pre-Requisite** | **Digital Visualization-I** | **Co-requisite** | None | | | | |
| **Course Objectives** | To enable students for using basic industry standard software like SketchUp, Lumion and Photoshop for 3D modeling and rendering | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To know basic of photo-shop and its salient features of using photo-shop and its applicability |
| **CO2** | To develop skill of rendering and selection of material |
| **CO3** | To produce rendered models with brilliant lighting and exclusive materials details |
| **CO4** | To make enhancing the background of the model |
| **CO5** | To know the basics of photo-shop and its features |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Introduction to Adobe Photoshop | Raster vs. Vector, creating new images, saving files for print, saving files for web/screen, working with Adobe Bridge | 6 | 1 |
| 2 | Work Area | Using the tools, using the options bar and other panels, undoing actions in photoshop, customizing the workspace, tools panel overview | 5 | 2 |
| 3 | Basic Photo Corrections | Strategy for retouching resolution and image size, adjusting the color in camera raw straightening and cropping the image in photo-shop, replacing colors in an image, adjusting saturation with the sponge tool repairing areas with the clone stamp tool, using the spot healing brush tool, using content-aware fill, applying the un-sharp mask filter | 8 | 3 |
| 4 | Working with Selections | About selecting and selection tools, using the quick selection tool, moving a selected area, manipulating selections, using the magic wand tool, selecting with the lasso tools rotating a selection selecting with the magnetic lasso tool cropping an image and erasing within a selection refining the edge of a selection | 9 | 4 |
| 5 | Typographic Design | About type creating a clipping mask from type creating type on a path warping point type designing paragraphs of type | 5 | 5 |

Reference Books:


Adobe Photoshop Classroom in a Book: Conrad Chavez, 2021

Photoshop Cc For Dummies: Peter Bauer, 2006

How Do I Do That `n Photoshop? The Quickest Ways To Do The Things You Want To Do, Right Now: Scott Kelby, 2016

Mastering Lumion 3D: Master The Art Of Creating Real-Time 3D Architectural Visualizations Using Lumion 3D: Ciro Cardoso, 2014

Rendering In Sketchup: From Modeling To Presentation For Architecture, Landscape: Daniel Tal, 2013


**e-Learning Source:**

https://support.lumion.com/hc/en-us/categories/360000646374-Tutorials

https://visualizingarchitecture.com/

https://helpx.adobe.com/in/photoshop/tutorials.html

https://www.photoshopessentials.com/

https://help.sketchup.com/en/sketchup/getting-started-self-paced-tutorials

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 3 | 3 | 2 | 1 | 2 | 2 | 3 | | | | | 3 | 1 | 2 | 2 | 1 | |
| **CO2** | 1 | 2 | 2 | 1 | 1 | 3 | 2 | 2 | | | | | 3 | 1 | 2 | 2 | 1 | |
| **CO3** | 2 | 2 | 2 | 2 | 1 | 3 | 2 | 1 | | | | | 3 | 1 | 3 | 2 | 1 | |
| **CO4** | 1 | 3 | 3 | 1 | 2 | 3 | 2 | 2 | | | | | 3 | 1 | 3 | 2 | 1 | |
| **CO5** | 3 | 3 | 2 | 1 | 1 | 3 | 2 | 3 | | | | | 3 | 1 | 3 | 2 | 1 | |

**1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS371** | **Title of the Course** | **Product Design Studio-II (Retail & Commercial Setting)** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 6th | 1 | 1 | 2 | 4 |
| **Pre-Requisite** | **Product Design Studio-I** | **Co-requisite** | None | | | | |
| **Course Objectives** | To introduce the students to the system thinking challenges, considerations and deliverables. To understand the relationship of the variants processes, people, products and parts that contribute towards the functioning of a system. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To understand the need and requirement of retail and commercial interior products. |
| **CO2** | To conceptualize the product design by inclusive planning and considering all the factors such as – trend, material, techniques, function, etc. |
| **CO3** | To explore transformation in interior product with respect to time and trend. |
| **CO4** | To aware with the selection of color scheme on lights, furniture, fixtures and other furnishing |
| **CO5** | To develop product prototyping of 3D model, rendered drawing and technical drawing. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Overview of Design Process and Its Ecosystem | Introduction to the design intervention in the human realm which add value and quality to the life. Identifying system comprehensible, tangible and accessible environments. Research of the system, components and stakeholders, Understanding the interrelationship and interdependency of various components of identified system. | 12 | 1,2 |
| 2 | Ideation | Introducing students to critical creative thinking tools, Design Relevance: Exposure and analysis, Case studies, Brainstorming; Differential Discussion; group methods to generate ideas; solitary methods to generate ideas; Lateral Thinking, concept generation and explorations with quick explanatory models | 8 | 2,3 |
| 3 | Case Studeies & Research | Conducting User surveys, and case studies, Analysing and mapping the strengths and weakness of the system, Synthesizing and prioritizing the research observations leading to design brief | 12 | 3 |
| 4 | Concept Detailing | User Journey maps, User stories, activity mapping, Prototyping of 3D models, Evaluation of new concepts, Finalization of the concept with design development and detailing | 12 | 3,4 |
| 5 | Design Project | Design and Development of Product as per the brief, Hand and computer Renderings and finished model of the final design solution | 20 | 4,5 |

**Reference Books:**


M. Chakraborti, .Estimation, Costing, Specification And Valuation In Civil Engineering.

Dutta, Estimating And Costing, S. Dutta And Co., Lucknow 1983

S. C. Rangwala, Elements of Estimating and Costing, Charoter Publishing House, Anand, India, 1984

The Interior Designers Guide: To Pricing, Estimating Budgeting. By Theo Susan


**e-Learning Source:**

Product Design and Manufacturing - Course (nptel.ac.in)

Product Design and Innovation - Course (nptel.ac.in)

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 2 | 2 | 3 | 1 | 2 | - | 2 | 3 | | | | | 2 | 3 | 3 | 3 | 2 | |
| **CO2** | 2 | 2 | 3 | 3 | 2 | 2 | 1 | 3 | | | | | 3 | 3 | 3 | 3 | 3 | |
| **CO3** | 2 | 2 | 3 | 3 | 2 | 1 | 1 | 3 | | | | | 1 | 3 | 2 | 3 | 1 | |
| **CO4** | 3 | 2 | 3 | 3 | 2 | 1 | 1 | 3 | | | | | 3 | 3 | 3 | 3 | 3 | |
| **CO5** | 3 | 2 | 3 | 2 | 2 | 1 | 1 | 3 | | | | | 1 | 3 | 2 | 3 | 1 | |

**Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS372** | **Title of the Course** | **Interior Design Studio-IV** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 6th | 1 | - | 6 | 7 |
| **Pre-Requisite** | **Interior Design Studio-III** | **Co-requisite** | **Interior Design Studio-II** | | | | |
| **Course Objectives** | To study and develop innovative schemes for hotel and auditorium interiors, knowledge of working drawings | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To understand the building typology or its function and the nature of space |
| **CO2** | To frame the requirements by understanding and considering the human behavioral needs |
| **CO3** | To decide the color scheme, materials to be used, furnishing as per the project and its local context |
| **CO4** | To include the new technology by satisfying the need and the demand to achieve the maximum utilization |
| **CO5** | To develop various technical drawings including the material estimation and detailing along with sketches, views and videos |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | **Overview of Design Process and its Ecosystem** | Documenting space (sketch and photo documentation), Space planning process (block diagram, concept statement), | 7 | 1,2 |
| 2 | **Methodology & Ideation** | Application of design principles and Elements, Creativity /originality Design, Process/methodology, Structural integration | 7 | 1,2 |
| 3 | **Concept Designing** | Concept sketching , Style, Color Rendering , Anthropometry and ergonomics, Furniture Design , Material selection, Graphic design (page layout and composition), Portfolio development | 7 | 1,2 |
| 4 | **Design Project-1** | AUDITORIUM<br>Spatial and environmental standards for various auditorium – performing arts, cinema, convention Centre. Detail schematics of wall paneling, false ceiling and carpeting to satisfy acoustic requirements. Lighting study to develop ideas for foyer, auditorium and stage requirements.<br>*Note: At least two major exercises and three minor time problems should be given. Internal marking shall be done in stages and project wise: Schematic layouts, Final layout , Sectional elevations, Designs & details* | 42 | 3,4 |
| 5 | **Design Project-2** | FIVE STAR HOTELS<br>Spatial and service standards for five star hotels – integration of interior design schemes for rooms, restaurants, bars, health clubs, shopping arcade and other guest areas with the general theme of the hotel. Special ideas for suites and banquet halls – contemporary interior schemes to integrate new concepts in lighting and materials.<br>*Note: At least two major exercises and three minor time problems should be given. Internal marking shall be done in stages and project wise: Schematic layouts, Final layout , Sectional elevations, Designs & details* | 49 | 3,4 |

**Reference Books:**


Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver Standards for Interior Design & Space Planning, 2nd Edition, Mc-Graw Hill Professional, 2001

Francis.D. Ching & Corky Bingelli, Interior Design Illustrared, 2nd Edition, Wiley Publishers, 2004

Maureen Mitton, Interior Design Visual Presentation: A Guide To Graphics, Models, And Presentation Techniques. John Wiley and Sons, 2003

Robert Rengel, Shaping Interior Space, Fairchild Books & Visuals, 2002

Neufert Ernest, Architect's Data, Granada Pub. Ltd. London, 2000


**e-Learning Source:**

https://www.researchgate.net/publication/348321185_Learning_Anthropometry_from_Rendered_Humans

https://www.sciencedirect.com/science/article/pii/S2215098616304578

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 3 | 3 | 2 | 3 | - | 1 | 2 | 3 | | | | | 2 | 3 | 2 | 3 | 3 | |
| **CO2** | 3 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | | | | | 2 | 3 | 2 | 3 | 3 | |
| **CO3** | 3 | 2 | 3 | 1 | - | 2 | 2 | 3 | | | | | 2 | 3 | 2 | 3 | 3 | |
| **CO4** | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | | | | | 2 | 3 | 2 | 3 | 3 | |

1- **Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2022-2023 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS373** | **Title of the Course** | **Portfolio Development** | **L** | **T** | **P** | **C** |
| **Year** | 3rd | **Semester** | 6th | 1 | - | - | 1 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To develop methods and techniques for impressive and professional portfolios | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To know the purpose of developing a professional portfolio and its arrangement. |
| **CO2** | To develop authenticity and originality in work done by them. |
| **CO3** | To arrange the portfolio heads and creative tolls in the sequential manner to enhance the overall portfolio |
| **CO4** | To upload portfolio on reputed website for more exposure of jobs and opportunities. |
| **CO5** | To develop the methodology for achieving a portfolio that resembles the interior designer profession. |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Career Perspective | Discussions about career and transfer possibilities, with possible in-class visits | 3 | 1,3 |
| 2 | Portfolio Review | Initial group peer review of work, Individual portfolio review, discussion of design work, intent and skills and discussion on career possibilities with each student during Portfolio Review. | 3 | 2 |
| 3 | Portfolio Process | Presentation techniques and Graphic design perspectives to compose design work for interior design portfolios, Basic graphic design, digital concepts and techniques are demonstrated from a design and production perspective with In-Design, Acrobat, Photoshop and various software, Design principles for successful page layout and integrating text with images for a cohesive visual story are addressed for portfolios and design presentation and investigation of the process of creating a visual biography of design work through digital and hard copy output. | 3 | 1,2 |
| 4 | Portfolio Creation Items For Investigation | Portfolio Cover and Portfolio Content, CD Cover and CD Label, Website from template | 3 | 3 |
| 5 | Portfolio Production | Digital and Printed Portfolio Presentation – Final Project<br>*Students are expected to prepare a professional portfolio for themselves which will include their CV and works which they have been done during the course period. The portfolio should have a proper layout and design and should maintain professional standards and norms.* | 4 | 4,5 |

**Reference Books:**

Maureen Mitton, Portfolios For Interior Designers: A Guide To Portfolios, Creative Resumes, And The Job Search, 2010

Dianne Bender, Design Portfolios: Moving From Traditional To Digital, 2008

**e-Learning Source:**

Jana Rosenblatt, Future Interior Designer's Handbook, 2022

Steal Like an Artist: 10 Things Nobody Told You About Being Creative (Austin Kleon), 2014

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 2 | 3 | 3 | 3 | - | 1 | 2 | 3 | | | | | 2 | 1 | 1 | 1 | 2 | |
| **CO2** | 1 | 3 | 3 | 2 | 1 | 2 | 1 | 3 | | | | | 3 | 3 | 2 | 2 | 3 | |
| **CO3** | 1 | 3 | 3 | 1 | - | 2 | 2 | 3 | | | | | 3 | 3 | 3 | 3 | 3 | |
| **CO4** | 3 | 3 | 3 | 2 | 1 | 2 | 2 | 3 | | | | | 2 | 1 | 1 | 2 | 2 | |
| **CO5** | 2 | 3 | 3 | 1 | 1 | 1 | 1 | 3 | | | | | 1 | 2 | 2 | 2 | 1 | |

**Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2023-2024 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS463** | **Title of the Course** | **Practical Training** | **L** | **T** | **P** | **C** |
| **Year** | 4th | **Semester** | 7th | - | - | - | 12 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To enable the students to gain the kind and range of practical experience, this will prepare them for their likely responsibilities, immediately after qualifying B. Des. Course. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To enable the student to gain the kind and range of practical experience which will prepare them for their likely responsibilities, immediately after qualifying Bachelor of Design (Product & Interior Design) course |
| **CO2** | To acquaint with various work, procedures etc. of the designer profession |
| **CO3** | To maximize exposure of new material, technologies, building practices, etc. |
| **CO4** | To sensitize to be more observant to their surroundings by visiting the site |
| **CO5** | To enhance the professional development skill to deal with the client, labor, vendor, etc. |

| S. No. | Title | Content |
|---|---|---|
| 1 | Training Rules: Practical Training | The Head of Department of Architecture will approve the office of the 'Practical-Training' for the student. The marks for 'Practical Training' will be awarded to each student in accordance with the Regulations and Guidelines issued separately by the University. |
| 2 | Aims of Practical Training | The aim of the 'Practical Training' is to enable the students to gain the kind and range of practical experience which will prepare them for their likely responsibilities, immediately after qualifying B. Des Course.<br>The 'Practical Training' should be regarded as an important academic activity. Howsoever good the arrangement of training may be, the trainee student, still, has the responsibility to use his own initiative in making the best use of the opportunities which he/she gets during training period and prepare himself/herself for the profession.<br>The student should try to seek a variety of experiences in his/her 'Training office' to acquaint himself/herself with various works, procedures etc. |
| 3 | Guidelines For a Student Trainee: Honorarium/Stipend | Offices usually pay some amount as honorarium/stipend to meet out of pocket expenditure to the trainee. The University shall have no objection if the trainees accept/receive such honorarium/stipend.<br>The mode and amount of the honorarium shall depend upon the office and be based upon a mutual agreement between the employing Firm and the trainee. However, it shall neither be a claim of the trainee nor binding on the firm but for proper professionalism and to maintain the dignity of profession, the training office pay a respectable amount as stipend/honorarium.<br>The University/Training and Placement cell of the Institute shall not in any way be responsible for the payment against any sorts of damages, whatsoever. |
| 4 | Code of Conduct for The Trainee | He/she shall abide by the rules, regulations and general instructions of the office/firm.<br>He/she shall remain punctual and regular in attendance.<br>He/she shall make all efforts to learn the work involved in the profession, and if so required for work, shall attend the office beyond the scheduled time in the office.<br>He/she shall respect and obey the senior members of the office/firm.<br>He/she shall take up the job with full responsibility and show utmost interest in the work allotted.<br>He/she shall inform the institute/training and placement cell about joining in the training office, its address and contact numbers. He/she shall also inform the address of the accommodation acquired during the training period.<br>He/she shall remain in regular touch with the University/ 'Training and Placement Cell' and shall keep the Training and Placement Cell fully informed about his/her progress in the training office.<br>In case of any complaint or misconduct, the University/Training and Placement Cell may take suitable and strict action against the student. |
| 5 | Joining and Leaving the Training Office | The trainee is expected to join the training office on the scheduled date, and submit his 'Joining Report' on the letterhead of the office duly signed by Head of the Training to the Institute in the Performa prescribed for the purpose and contained in the Log Book.<br>The trainee must obtain a 'No Dues Certificate' duly and get relived from the office at the end of the training period or before changing the 'Training Office'. The trainee must submit this 'No Dues Certificate' along with the Log Book. |
| 6 | Change of Training Office | In case of any emergency, a trainee may be permitted to change the training office/place of training once only during the entire period of training. He/she shall inform the Principal/Director/Head of Department/Officer in-charge of the 'Training and Placement Cell', and seek prior permission for such a change.<br>The total duration of the practical training shall be the sum of the period of stay in different offices. It shall be in conformity with the 'Duration of Training' as prescribed in the 'Ordinances, Scheme of Examination & Syllabus' of the University. |

| | | |
|---|---|---|
| | | from the architect.<br>'Daily Diary' with details of the day to day work record, which will be returned to the student after assessment and viva voce examination. The suggested 'Proforma' of the page of the daily diary is available in the prescribed 'Log-Book'.<br>'Training report' supplemented with the prints and documents of work done during practical training. The prints and documents shall be obtained with the permission of the office and shall be duly signed by the 'Supervisor'.<br>Training report shall be submitted in three copies. First copy shall be returned to the student after assessment of Continuous Assessment marks and viva voce examination. The second copy shall be retained by the Training and Placement Cell/library. These shall be presented in A-4 size with ring binding. |
| 8 | Failures | In case the student/trainee remains unsuccessful or fails in completing his/her practical training or viva-voce examination, the matter shall be dealt with in accordance with the relevant 'Rules and Regulations' of the University. |

**Reference Books:**


Tomris Tangaz, Interior Design Course, 2006

Tomris Tangaz, The Interior Design Course: Principles, Practices and Techniques for the Aspiring Designer, 2006


**Course Articulation Matrix: (Mapping of COs with POs and PSOs)**

| PO-PSO / CO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO1** | 2 | 3 | 3 | 2 | 1 | 1 | 2 | 3 | | | | | 3 | 2 | 3 | 3 | 3 | |
| **CO2** | 2 | 3 | 3 | 1 | 1 | 2 | 3 | 3 | | | | | 3 | 2 | 3 | 3 | 2 | |
| **CO3** | 3 | 3 | 3 | 2 | 1 | 2 | 2 | 3 | | | | | 3 | 2 | 3 | 3 | 3 | |
| **CO4** | 2 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | | | | | 3 | 2 | 3 | 3 | 2 | |
| **CO5** | 2 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | | | | | 3 | 2 | 3 | 3 | 2 | |
| **CO6** | 2 | 3 | 3 | 2 | 1 | 1 | 2 | 3 | | | | | 3 | 2 | 3 | 3 | 3 | |

1- **Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

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|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2023-2024 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS465** | **Title of the Course** | **Professional Practice** | **L** | **T** | **P** | **C** |
| **Year** | 4th | **Semester** | 8th | 2 | 1 | - | 3 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To expose students to professional practice in design; Looking at Design from a business perspective | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To acknowledge the social responsibilities and duties of an interior designer |
| **CO2** | To comply with regulations, guidelines and should avoid any Conflict, if any conflict occurs then flexibility to resolve it |
| **CO3** | To recognize the various strategies to adopt for running a business and their start-up as well |
| **CO4** | To appraise the morals and ethics in Interior Designer profession, familiarity with the conditions of engagements |
| **CO5** | To aware with legal provisions for practice and develop the ability to set-up practice and office management |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | **Entrepreneurship** | Social Entrepreneurship, Business Entrepreneurship, Trading Entrepreneurship, Corporate Entrepreneurship, and Agricultural Entrepreneurship | 8 | 1,2 |
| 2 | **Business Foundation** | Timmons Model of Entrepreneurship, Investment Models, Startup Business Models, Business Plans, Pitch presentations, Small Business models | 10 | 2 |
| 3 | **Legal Aspects of Business** | Contracts and Agreements, Conflict Resolution, Arbitration | 8 | 2,3 |
| 4 | **Running a Design Business** | Set up of an independent design business, Hiring processes, Project Scheduling and work delegation, Cost Estimation; Billing, salaries and taxation | 12 | 3,4 |
| 5 | **Professional Ethics** | Ethics in Profession, Code of conduct | 10 | 5 |

**Reference Books:**


Riadh Habash, Green Engineering: Innovation, Entrepreneurship And Design, 2017

Ted Crawford, AIGA Professional Practices In Graphic Design, Allworth Press, 2008

Douglas Davis, Creative Strategy And The Business Of Design, 2016 Shan Preddy, How To Run A Successful Design Business

The New Professional Practice, Gower Publishing, Ltd., 2011

Min Basadur, Michael Goldsby, Design-Centered Entrepreneurship, 2016


**e-Learning Source:**

https://www.jstor.org/stable/1511851?seq=4#metadata_info_tab_contents

https://onlinecourses.nptel.ac.in/noc19_hs35/preview

https://nptel.ac.in/courses/110105097

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | | | | | 2 | 3 | 2 | 3 | 2 | |
| **CO2** | 2 | 3 | 1 | 1 | 3 | 2 | 3 | 3 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO3** | 3 | 3 | 2 | 2 | 3 | 2 | 2 | 3 | | | | | 2 | 3 | 3 | 3 | 2 | |
| **CO4** | 2 | 3 | 1 | 1 | 3 | 1 | 2 | 3 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO5** | 2 | 3 | 1 | 1 | 3 | 1 | 2 | 3 | | | | | 1 | 3 | 2 | 3 | 3 | |

**1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2023-2024 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS466** | **Title of the Course** | **Graduation Project** | **L** | **T** | **P** | **C** |
| **Year** | 4th | **Semester** | 8th | - | - | 10 | 10 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To expose students to professional practice in design; Looking at Design from a business perspective | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To know the important heads required for Graduation Projects and its format in a sequential order |
| **CO2** | To understand various creative design thinking tools to execute the study and its evaluation for preparation of jury |
| **CO3** | To develop the ideas and concept for their own project and also knowing the execution in reality. |
| **CO4** | To produce the design by considering the context and future demand with schematic design solution and layout presentation |
| **CO5** | To develop the personality and confidence to take up any project and accomplish it in prescribed time |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Preparation | Course description, Introduction and Getting to know the content required for Graduation Project-Preparation of list of design requirements and brief, Identification of the constraints and the design problem environment. | 20 | 1,2 |
| 2 | Concept Generation | Starting concept generation stage, Introduction to creative design thinking tools, Evaluating the work constantly, Continuation of concept generation and Preparation for the first jury evaluation | 40 | 2,3 |
| 3 | Design Development | Amending the design concepts, Developing the design ideas , Starting engineering drawings to scale to develop on real situations, Continue development, Preliminary evaluation of the developed designs, Discussions and Studying presentation layouts and Preparing for the second jury evaluation | 40 | 2,3 |
| 4 | Detailed Design | Taking the jury notes on board, production of final details, Producing detailed engineering drawings, Producing meaningful 3D shots and Studying the presentation scheme and layout | 20 | 3,4 |
| 5 | Submission | Preparing for the Final Presentation, Presentation preparations and Final Evaluation Submission | 40 | 3,4,5 |

**Reference Books:**

Ahmed Mohammed Hassanien, Architecture Graduation Project Book, 2021

Omarnation, Graduation Project Book, 2017

**e-Learning Source:**

https://onlinecourses.nptel.ac.in/noc19_hs35/preview

https://nptel.ac.in/courses/110105097

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 2 | 3 | 3 | 2 | 1 | 1 | 2 | 3 | | | | | 2 | 3 | 2 | 3 | 5 | |
| **CO2** | 2 | 3 | 3 | 1 | 1 | 2 | 3 | 3 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO3** | 3 | 3 | 3 | 2 | 1 | 2 | 2 | 3 | | | | | 1 | 3 | 2 | 3 | 3 | |
| **CO4** | 2 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO5** | 2 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | | | | | 1 | 3 | 2 | 3 | 3 | |

**1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2023-2024 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS467** | **Title of the Course** | **Elective IV : Entrepreneurship Development** | **L** | **T** | **P** | **C** |
| **Year** | 4th | **Semester** | 8th | 1 | 2 | - | 3 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To develop competencies in the students to setup small scale manufacturing unit related to interiors and interior accessories like furniture and interior product lineage and to encourage the concept of self-employment and to be an employer (job creator) accessories. | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To understand the philosophy of Entrepreneurship and its importance in our country |
| **CO2** | To develop the mind set of the student through market survey and opportunity related to Interior Designer |
| **CO3** | To know the various management process and designations related to their expertise |
| **CO4** | To enhance the various ways of presentation and techniques to develop the presentation more accurate and legible. Also it helps to know the tips to make a presentation more attractive and trending through software |
| **CO5** | To understand the procedure for small industry start up through Policies for financial resources |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Entrepreneur | Concept and nature, scope and philosophy of entrepreneurship, Distinction between self-employment and entrepreneurship, Importance of entrepreneurship and self-employment in our country, Entrepreneurial traits and Different forms of business organizations (sole proprietorship, partnership, co-operative societies, public and private undertakings | 8 | 1 |
| 2 | Entrepreneurial Support System | Introduction, Sources of information and Market survey and opportunity identification | 10 | 2 |
| 3 | Elements of Management | Principles of management and managerial functions like planning, organizing, staffing, directing and controlling, industrial management and Value of human relations in management | 8 | 3 |
| 4 | Project Management : Elementary | Introduction to project management, Time of progress chart, bar chart, Gantt chart, CPM & PERT, Planning of activities, Allocation of time to various activities, Personal management and industrial relations- recruitments, selection, training, wage and salary administration related to small industries. | 12 | 3,4 |
| 5 | Project Management | Costing- methods and techniques of minimizing cost, Marketing- concept and functions, marketing mix, product planning, salesmanship and its principles, Sources of finance and Setting up of small scale industry with proper knowledge of Government Policies for financial resources (like banks and other financial bodies). | 10 | 4,5 |

**Reference Books:**


Ahmed Mohammed Hassanien, Architecture Graduation Project Book, 2021

Omarnation, Graduation Project Book, 2017

Entrepreneurship Development and Management by R. K. Singhal

Strategic Entrepreneurship by P. K. Gupta

Construction Management and Accounts by V. N. Vazirani & S. P. Chandola

Principles of Management by Y. K. Bhushan


**e-Learning Source:**

https://onlinecourses.nptel.ac.in/noc19_hs35/preview

https://nptel.ac.in/courses/110105097

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 3 | 3 | 2 | 1 | 1 | 2 | 3 | | | | | 2 | 3 | 2 | 3 | 5 | |
| **CO2** | 1 | 3 | 2 | 1 | 1 | 2 | 3 | 3 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO3** | 1 | 3 | 2 | 2 | 1 | 2 | 2 | 3 | | | | | 1 | 3 | 2 | 3 | 3 | |
| **CO4** | 1 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | | | | | 3 | 3 | 3 | 3 | 1 | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO5** | 1 | 3 | 3 | 1 | 1 | 1 | 2 | 3 | | | | | 1 | 3 | 2 | 3 | 3 | |

**1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| Effective from Session: 2023-2024 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS468** | **Title of the Course** | **Elective IV : Interior Accessories & Product Design** | **L** | **T** | **P** | **C** |
| **Year** | 4th | **Semester** | 8th | 1 | 2 | - | 3 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To study of different approaches, material, and design development for creating unique product and accessories | | | | | | |

| Course Outcomes | |
|---|---|
| **CO1** | To understand the role of accessories, its integration and design in interior design by knowing its utilization depending upon the typology of space |
| **CO2** | To remembering the history and the transformation in interior accessories and product. Developing the new accessories by understanding the context |
| **CO3** | To explore various construction principles along with broad orientation context to socio-cultural and historical context. |
| **CO4** | To conceptualize and develop new accessorize through new technologies and materials focusing the trend and lifestyle of people |
| **CO5** | To grasp in depth knowledge related to luminaire design, glassware, lighting fixtures, textiles, mirrors, clocks, wall & floor coverings |

| Unit No. | Title of the Unit | Content of Unit | Contact Hrs. | Mapped CO |
|---|---|---|---|---|
| 1 | Need of Study | Insight of various products and lifestyle accessories in the interiors. Role of accessories in interiors. Integration of accessories in interior design. Design approaches in product and lifestyle accessories design with a focus on functionality, ergonomics, aesthetics, multiple usages etc. | 8 | 1 |
| 2 | Stylistic Development | Stylistic development of decorative accessories from the past to present with insight into technological advances and the influences of social, economic and political factors on their design. Brief study of period room settings with the context of decorative accessories complementing the architecture and interior design. | 10 | 2 |
| 3 | Material Study | Study of materials and processes adopted in accessories design. Basic understanding of construction principles, anthropometrics, principles of sizes and proportions, modeling, rapid prototyping, color, texture etc. with broad orientation to socio-cultural and historical context of the sector. Orientation to Indian as well as global context of interiors, trends and market | 8 | 3 |
| 4 | Design Approach | Design approach with limited constraints inherent in accessory products. Evolving the strategy of design with integration of technical complexities and lifestyle influences. Development of the design of products and accessories to specific interiors and prevailing trends. Broad based approach towards innovative design and application to multi-products and multi-materials in manufacturing interior products and lifestyle accessories. | 12 | 3,4 |
| 5 | Details | A detailed study involving all the design aspects of any of the following lifestyle accessories: luminaire design, glassware, lighting fixtures, textiles, mirrors, clocks, wall & floor coverings etc. | 10 | 4,5 |

**Reference Books:**


Henry Wilson India: Decoration, Interiors, Design 2001

Seetharaman P. Interior Design And Decoration (Pb 2019)

Chris Grimley The Interior Design Reference & Specification Book Updated & Revised: Everything Interior Designers Need To Know Every Day , 2018


**e-Learning Source:**

https://link.springer.com/chapter/10.1007/978-981-16-8456-2_43

https://r.search.yahoo.com/_ylt=AwrPpiVwgJljaI8NwCO7HAx.;_ylu=Y29sbwNzZzMEcG9zAzEEdnRpZAMEc2VjA3Ny/RV=2/RE=1671033073/RO=10/RU=https%3a%2f%2fhvacnewsjournal.com%2f/RK=2/RS=IXwhZqne4SVHEeKIprHduQro.WA-

https://dgfscdhg.gov.in/national-building-code-india-fire-and-life-safety

https://iieta.org/Journals/IJSSE

| | Course Articulation Matrix: (Mapping of COs with POs and PSOs) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO1** | 3 | 2 | 2 | 2 | 3 | 1 | 2 | 3 | | | | | 1 | 3 | 2 | 3 | 5 | |
| **CO2** | 3 | 1 | 2 | 1 | 3 | 2 | 3 | 3 | | | | | 3 | 1 | 3 | 2 | 1 | |
| **CO3** | 3 | 2 | 1 | 2 | 3 | 2 | 2 | 3 | | | | | 1 | 1 | 3 | 2 | 3 | |
| **CO4** | 3 | 2 | 2 | 1 | 3 | 1 | 2 | 3 | | | | | 3 | 3 | 3 | 3 | 1 | |
| **CO5** | 3 | 2 | 2 | 1 | 3 | 1 | 2 | 3 | | | | | 1 | 3 | 2 | 3 | 3 | |

**1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |

# Integral University, Lucknow

| **Effective from Session:** 2023-2024 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Course Code** | **DS469** | **Title of the Course** | **Elective IV: Green Interiors** | **L** | **T** | **P** | **C** |
| **Year** | 4th | **Semester** | 8th | 1 | 2 | - | 3 |
| **Pre-Requisite** | None | **Co-requisite** | None | | | | |
| **Course Objectives** | To develop awareness and familiarity with green design and its integration with Interior Design, assess the influence of green interior and distinguish green materials | | | | | | |

| **Course Outcomes** | |
|---|---|
| **CO1** | To develop an understanding for concept of Green Interiors. Able to know the Principles and aim of green interiors |
| **CO2** | To understand the basic elements of Indoor Environmental Quality and the process involve in maintaining indoor environmental quality |
| **CO3** | To know the selection of material by understanding its demand, cost and environmental impact |
| **CO4** | To built a confidence in profession and decision making for green interiors projects |
| **CO5** | To know concept behind rating and how to achieve the rating in their own projects |

| **Unit No.** | **Title of the Unit** | **Content of Unit** | **Contact Hrs.** | **Mapped CO** |
|---|---|---|---|---|
| 1 | Introduction to Green Interiors | Introduction to Green interiors. Definition and concept of Green interiors, aims and objectives. Importance and necessity of Green interiors. Brief history and development of green interiors. Principles of green interiors. | 8 | 1 |
| 2 | Indoor Environmental Quality | Efficient use of space, energy and water in green interiors. Elements associated with Indoor Environmental Quality like indoor air quality, acoustic comfort, thermal comfort and visual comfort. Constructional guide lines for maintaining indoor environmental quality. Green indoor landscape – plants, ground covers, green pavers. | 10 | 2 |
| 3 | Green Interior Materials and their Adaptation | Sustainable Environment in Interior Design: Design by Choosing Sustainable Materials- The Demand for Sustainable Solutions Sustainable materials, Source of Materials, Sustainable Interior Design and Sustainable design elements. | 8 | 3 |
| 4 | Interior Designer's Role | Selection of materials, climate consideration, available light, furnishing and Enhance Energy Efficiency. Design Principles that promote Sustainable Interior Planning. Considering the Environmental Impacts while Planning. | 12 | 3,4 |
| 5 | Rating System | Concept of rating in India, Indian rating systems for 'green' buildings : LEED/ IGBC (Indian Green Building Council) Green Ratings, GRIHA (Green Rating for Integrated Habitat Assessment) by TERI (The Energy and Resources Institute), IEP (Integrated Energy Policy), BEE Star Rating, etc. | 10 | 4,5 |

**Reference Books:**


Riadh Habash, Green Engineering: Innovation, Entrepreneurship And Design, 2017

L. Dennis, C. Porter Green Interior Design: The Guide To Sustainable High Style, 2021

William Richards , Bamboo Contemporary: Green Houses Around The Globe

Ida Magntorn , The Sustainable Home: Easy Ways To Live With Nature In Mind

Thad Orr And Mike Lucas , Architectural Gardens: Inside The Landscapes Of Lucas & Lucas


**e-Learning Source:**

http://www.gardenvisit.com/landscape_architecture/landscape_debate/definition_eid

http://agritech.tnau.ac.in/horticulture/horti_Landscaping_types%20of%20garden.html

https://dgfscdhg.gov.in/national-building-code-india-fire-and-life-safety

https://iieta.org/Journals/IJSSE

| | **Course Articulation Matrix: (Mapping of COs with POs and PSOs)** | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PO-PSO CO** | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 | PSO4 | PSO5 | PSO6 |
| **CO1** | 1 | 2 | 2 | 3 | 3 | 1 | 3 | 1 | | | | | 2 | 3 | 2 | 3 | 5 | |
| **CO2** | 1 | 3 | 1 | 3 | 1 | 1 | 2 | 2 | | | | | 3 | 1 | 3 | 2 | 1 | |
| **CO3** | 2 | 3 | 3 | 1 | 2 | 3 | 1 | 3 | | | | | 1 | 3 | 2 | 3 | 3 | |
| **CO4** | 3 | 3 | 2 | 2 | 1 | 2 | 2 | 3 | | | | | 2 | 3 | 2 | 2 | 1 | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CO5** | 3 | 3 | 2 | 1 | 2 | 1 | 2 | 2 | | | | | 3 | 1 | 3 | 2 | 3 | |

**1-Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation**

| | |
|---|---|
| Ar. Safa Seraj<br>**Name & Sign of Program Coordinator** | **Sign & Seal of HoD** |