Gyanmanjari
Innovative University

Course Syllabus
Gyanmanjari Institute of Technology
Semester-2

Subject: Sketching, Rendering and Perspective Projection- DETID12204

Type of course: Minor Stream

Prerequisite: Paraline Projection

Rationale: - This syllabus introduces diploma students to essential sketching, rendering, and perspective projection skills, fostering creativity and precision. It emphasizes practical applications in interior design while integrating basic software tools. The course aims to build a strong foundation in visualization and technical drawing, preparing students for industry challenges and further studies.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
CI	T	P	C	Theory Marks		Practical Marks		CA	
				ESE	MSE	V	P	ALA	
03	00	04	05	60	30	10	20	30	150

Legends: CI, Class Room Instructions; T – Tutorial; P, Practical; C – Credit; ESE, End Semester Examination; MSE, Mid Semester Examination; V – Viva; CA, Continuous Assessment; ALA, Active Learning Activities.

Course Content:

Sr. No	Course Content	Hrs.	% Weightage
1	**Introduction to Sketching:** Basics of freehand sketching. Types of lines: straight, curved, broken, and implied. Basic shapes and their proportions. Composition and framing techniques.	9	20
2	**Rendering Techniques:** Shading methods: hatching, cross-hatching, stippling, and blending. Light and shadow fundamentals. Adding depth and texture.	9	20

3	**Perspective Projection Basics:** Introduction to perspective principles. One-point and two-point perspective drawing. Horizon line, vanishing points, and grids. **Advanced Perspective Projection:** Three-point perspective for complex objects. Dynamic views and advanced grid techniques. Applying perspective to interior and exterior spaces.	12	30
4	**Advanced Sketching and Rendering:** Techniques for rendering wood, glass, metal, and fabric. Combining shading and texturing. Manual vs. digital rendering approaches. **Introduction to Digital Tools:** Introduction to Sketch-Up: interface and tools. Basic 2D and 3D modeling. Exporting views and integrating into portfolios.	9	20
5	**Portfolio Development:** Conceptualizing and planning a design project. Integrating manual sketches and digital models. Creating a professional portfolio.	6	10

Continuous Assessment:

Sr. No	Active Learning Activities	Marks
01	**Sketching Relay (Creativity and Collaboration)** **Objective:** Develop creativity, teamwork, and sketching skills. **Activity:** Groups of 3–4 students start with a basic line drawing and pass it to the next member every 5 minutes to add shading, texture, or perspective details., At the end, discuss each group's approach and how the drawing evolved.	10
02	**Real-World Problem Solving (Application of Concepts)** **Objective:** Bridge theory and practice with real-world scenarios. **Activity:** Assign a small design problem, e.g., creating a one-point perspective views for a living room., Students work in pairs to sketch and present their solutions., Discuss the challenges and insights from each design.	10
03	**Portfolio Showcase (Reflection and Presentation)** **Objective:** Reflect on progress and improve presentation skills. **Activity:** Students compile their best sketches and renders into a portfolio., Host a class exhibition where students present their portfolios to peers and instructors.	10
Total		**30**

Suggested Specification table with Marks (Theory):60

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	20 %	40%	-	-	-	40%

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcome:

After learning the course, the students should be able to:	
CO1	Build strong foundational skills in freehand sketching and rendering techniques.
CO2	Understand and apply the principles of perspective projection in interior design.
CO3	Develop proficiency in material rendering and texturing.
CO4	Fumier to digital tools for creating and enhancing designs.
CO5	Prepare real-world design challenges and create professional portfolio presentation.

List of Practical

Sr. No	Descriptions	Unit No	Hrs.
01	Introduction to tools, materials, and basic sketching techniques.	01	4
02	Line and shape sketching exercises: straight, curved, and geometric.	01	4
03	Shading techniques: hatching and cross-hatching.	01	4
04	Shading techniques: stippling and blending.	01	4
05	Texture rendering: wood and fabric.	02	4
06	Texture rendering: glass and metal.	02	4
07	One-point perspective drawing exercises.	03	4
08	Two-point perspective drawing exercises.	03	4
09	Advanced perspective: dynamic views and three-point perspectives.	03	4
10	Perspective application: interior and exterior space sketches.	03	4

11	Introduction to Sketch-Up interface and basic tools.	04	4
12	Creating basic 2D and 3D models in Sketch-Up.	04	4
13	Applying textures and exporting views in Sketch-Up.	04	4
14	Conceptualizing and sketching the final project.	04	4
15	Final project review and portfolio preparation.	05	4
	Total		**60**

Instructional Method:

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brain storming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Reference Books:

[1] "Interior Design Illustrated" by Francis D.K. Ching, Wiley Publishers. ISBN-10:9781119377207, ISBN-13:978-1119377207.
[2] "Time-Saver Standards for Interior Design" by Joseph DeChiara et al., McGraw-Hill Publishers.ISBN-10:0071346163, ISBN-13:978-0071346160.
[3] "Color, Space, and Style" by Chris Grimley et al., Rockport Publishers.ISBN-10: 1592532276, ISBN-13:978-1592532278.
[4] "Sketching for Interior Design" by Stephanie Travis, Laurence King Publishers.ISBN-10:178067564X, ISBN-13:978-1780675640.
[5] "Architectural Graphics" by Francis D.K. Ching, Wiley Publisher.ISBN-10:1394206240, ISBN-13:978-1394206247.
[6] "Rendering in Pen and Ink" by Arthur L. Guptill, Watson-Guptill Publishers. ISBN-10:0823045293, ISBN-13:978-0823045297.
[7] "The Fundamentals of Interior Design" by Simon Dodsworth, Bloomsbury Publishing.ISBN-10: 1350106569, ISBN-13:978-1350106567.
[8] "Human Dimension & Interior Space" by Julius Panero, Martin Zelnik., Watson-Guptill Publishers.ISBN-10:0823072711, ISBN-13:978-0823072712.
[9] "Drawing on the Right Side of the Brain" by Betty Edwards, Tarcher Publishers.ISBN-10: 1585429201, ISBN-13:978-1585429202.

[10] "The Interior Design Reference & Specification" by Chris Grimley., Rockport Publishers.ISBN-10:9781631593802, ISBN-13:978-1631593802.

[11] "The Architecture Reference & Specification Book updated & revised: Everything Architects Need to Know Every Day" by Julia M. c. Morrough., Rockport Publishers.ISBN-10:163159379X, ISBN-13:978-1631593796.

IS Codes:

[1] IS 962:1989 – "Code of Practice for Architectural and Building Drawings"

[2] IS 10711:2001 – "Technical Products Documentation – General Principles of Presentation"

[3] IS 10714:2001 – "Technical Product Documentation – Lines on Mechanical Engineering Drawings"

[4] IS 1444:2014 – "Building Elements – Guide for Finishing Materials"

[5] IS 2386 (Part I-VIII):1963 – "Methods of Test for Aggregates for Concrete"

[6] IS 4021:1995 – "Code of Practice for Timber Structures"

[7] IS 875 (Part 1-5):1987 – "Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures"

[8] IS 3370:2009 – "Code of Practice for Concrete Structures for Storage of Liquids"

[9] IS 101:1987 – "Methods of Testing Paints and Surface Coatings"

Software List:

[1] "SketchUp" for Perfect for learning basic shapes, rendering, and perspective.

[2] "AutoCAD" for Precise 2D drafting and basic 3D modelling.

[3] "Photoshop" for Post-processing and rendering enhancements.

[4] "Illustrator" for Vector-based graphic creation for designs.

[5] "Lumion" for Real-time 3D rendering and walkthroughs.

[6] "Blender" for Advanced 3D modelling and rendering.

[7] "Revit" for BIM (Building Information Modelling) for accuracy.

[8] "V-Ray" for High-quality rendering and lighting simulation.

[9] "CorelDRAW" for Graphic design for project presentations.

[10] "Canva" for Simplified design for quick project portfolios.