



Gyanmanjari
Innovative University

Syllabus
Gyanmanjari Institute of Design
Semester-1(Diploma Interior Design)

Subject: Workshop - I - DET2ID11201
Type of Course: Skilling-Based Course
Prerequisite: No prior technical knowledge of design software is required. Students are expected to possess a curiosity for self-discovery, hands-on experimentation, and an eagerness to explore tactile learning through various physical mediums.

Rationale: Design is a continuous reflection of human civilization, adapting to dynamic socio-cultural, technological, and environmental constraints. As a Skilling-Based Course, this workshop focuses on developing advanced tactile dexterity, vocational competency, and structural prototyping skills. By manipulating diverse material categories such as moldable, pliable, tensile, and rigid mediums students transition from theoretical spatial awareness to applied physical craftsmanship. The curriculum bridges hands-on structural logic with future-ready fabrication methodologies, empowering students to execute and construct interdisciplinary physical solutions encompassing both spatial environments and wearable artifacts.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks		Total Marks
CI	T	P	C	SEE	CCE	
0	3	4	5	100	50	150

Legends: CI - Classroom Instructions; T - Tutorial; P - Practical; C - Credit; SEE - Semester End Evaluation; CCE - Continuous and Comprehensive Evaluation



Course Content:

Sr.No.	Course Content	Hrs.	% Weightage								
1	1. Introduction to Tactile Observation & Visual Translation <u>Theory Topics:</u> Introduction to the Material Studio and the relationship between hand, mind, and material. The role of sketching as a tool for observation and visual translation. Basics of form, proportion, scale, and texture. Translating 2D observations into 3D conceptual thinking. Understanding the physical constraints of raw materials. Introduction to basic tactile documentation and visual analysis. <u>Practical:</u> 1. Conduct blind contour sketching exercises to develop hand-eye coordination without looking at the paper. 2. Create a visual journal documenting varied textures from the campus environment using frottage techniques. 3. Execute rapid visualization sketches of everyday objects, analyzing their geometric breakdown. 4. Develop analytical drawings translating a 2D sketch of an organic natural form into a simple wireframe structure. 5. Perform a group mapping exercise to document basic forms such as cubes, spheres, and cylinders found in the immediate surroundings. 6. Study and sketch the ergonomic relationship between the human hand and basic hand-held tools. 7. Create a collage using found natural materials to explore 2D composition and texture. 8. Produce a short reflective documentation showing the development of observation and visual translation skills. <u>Evaluation Method:</u> <table border="1"> <thead> <tr> <th>Sr. No.</th><th>Evaluation Methods</th><th>SEE</th><th>CCE</th></tr> </thead> <tbody> <tr> <td>1</td><td>Visual Translation Analysis Students shall demonstrate their understanding of visual translation by observing, analysing, and transforming</td><td>20</td><td></td></tr> </tbody> </table>	Sr. No.	Evaluation Methods	SEE	CCE	1	Visual Translation Analysis Students shall demonstrate their understanding of visual translation by observing, analysing, and transforming	20		18	20%
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		physical objects and natural forms into analytical sketches. The assessment shall evaluate observational accuracy, proportion, scale, geometric breakdown, texture representation, and line quality.				
	2	Observational Journaling Students shall continuously document visual and tactile observations from their surroundings through a structured observational journal. The assessment shall focus on consistency, quality of observation, experimentation, and presentation.			10	
	Total		20		10	
<u>Examination Style:</u>						
Visual Translation Analysis – 20 Marks Students will be presented with a physical object or natural element and will produce a series of analytical sketches within a stipulated time. The assessment will evaluate observational accuracy, proportion, geometric analysis, texture representation, and line quality.						
Observational Journaling – 10 Marks Students will submit their ongoing visual journal showcasing visual and tactile observations. The journal will be evaluated on consistency, observation depth, experimentation, and presentation.						
2	Volume & Plasticity: Exploring Moldable Mediums <u>Theory Topics:</u> Understanding plasticity, volume, mass, and positive and negative space. Ergonomics of organic forms and their relationship to human touch and bodily proportions. Additive and subtractive sculpting methodologies. Basic structural limitations, drying behaviour, and material response of wet earth-based materials. <u>Practical:</u> 9. Explore clay preparation, wedging, and basic hand-building techniques including pinch, coil, and slab methods. 10. Conceptualize and sculpt an abstract 3D form designed				18	20%



	specifically to fit the grip of a human hand, focusing on ergonomics. 11. Design and construct a continuous, self-supporting spatial structure using mud or terracotta to understand weight distribution and structural stability. 12. Experiment with surface relief and carving on wet clay slabs to create tactile textural patterns. 13. Document the drying and shrinking process of earth materials through process photographs, sketches, and observations. 14. Participate in a peer-review session to analyse the functional, structural, and aesthetic balance of the sculpted forms. <u>Evaluation Method:</u> <table> <tr> <th>Sr. No.</th><th>Evaluation Methods</th><th>SEE</th><th>CCE</th></tr> <tr> <td>1</td><td> Form & Plasticity Evaluation Students shall demonstrate their understanding of mass, volume, plasticity, positive and negative space by creating a self-supporting 3D form using a moldable medium. The assessment will evaluate ergonomic response, structural stability, volume manipulation, and application of additive and subtractive techniques. </td><td>20</td><td></td></tr> <tr> <td>2</td><td> Tactile Prototype Students will develop and refine a tactile, ergonomic prototype using clay or mud. The continuous assessment will evaluate craftsmanship, iterative problem-solving, material understanding, and documentation of material behaviour. </td><td></td><td>10</td></tr> <tr> <td colspan="2">Total</td><td>20</td><td>10</td></tr> </table> <u>Examination Style:</u> Form & Plasticity Evaluation – 20 Marks An in-studio practical examination in which students will receive a design prompt and develop a 3D form using clay or another specified	Sr. No.	Evaluation Methods	SEE	CCE	1	Form & Plasticity Evaluation Students shall demonstrate their understanding of mass, volume, plasticity, positive and negative space by creating a self-supporting 3D form using a moldable medium. The assessment will evaluate ergonomic response, structural stability, volume manipulation, and application of additive and subtractive techniques.	20		2	Tactile Prototype Students will develop and refine a tactile, ergonomic prototype using clay or mud. The continuous assessment will evaluate craftsmanship, iterative problem-solving, material understanding, and documentation of material behaviour.		10	Total		20	10		
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	moldable medium. Students must demonstrate material handling, structural logic, ergonomic consideration, and finishing quality. Tactile Prototype – 10 Marks Continuous assessment based on the major clay/mud assignment, evaluated on development, structural stability, material handling, refinement, and documentation.										
3	Pliability & Surface: Fabric, Thread, and Paper <u>Theory Topics:</u> Transformation of 2D planes into dynamic 3D forms. Structural properties of woven and non-woven materials. Concepts of tension, draping, suspension, folding, and surface manipulation. Basic principles of origami and modular tessellation. Sustainable and upcycled approaches to flexible materials. <u>Practical:</u> - Execute paper folding exercises to create self-supporting 3D structures from a single 2D sheet without cutting. - Explore fabric manipulation techniques such as pleating, gathering, and basic knotting using unbleached fabric or found materials. - Conduct a draping exercise to manipulate flexible materials over a solid base or rigid armature. - Create a flexible skin that can expand and contract using combined paper, thread, and tension techniques. - Develop a modular tessellation pattern using recycled paper or fabric scraps to cover a predefined surface area. - Test and document the tensile behaviour of various threads and yarns through experimental suspension models. - Compile a physical material sample board showcasing the explored surface manipulation techniques. <u>Evaluation Method:</u> <table border="1"> <thead> <tr> <th>Sr. No.</th><th>Evaluation Methods</th><th>SEE</th><th>CCE</th></tr> </thead> <tbody> <tr> <td>1</td><td> Surface to Structure Analysis: Students shall transform a flat 2D plane into a stable 3D structural form using appropriate folding, tension, draping, suspension, or modular techniques. The </td><td>20</td><td></td></tr> </tbody> </table>	Sr. No.	Evaluation Methods	SEE	CCE	1	Surface to Structure Analysis: Students shall transform a flat 2D plane into a stable 3D structural form using appropriate folding, tension, draping, suspension, or modular techniques. The	20		18	20%
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		assessment will evaluate transformation logic, structural stability, material behaviour, precision, and innovation.				
	2	Pliability Exploration Students will compile a physical sample board documenting their material experiments with fabric, thread, and paper. The assessment will focus on experimentation, understanding of tensile behaviour, material limitations, sustainability, neatness, and presentation.		10		
	Total		20	10		
	<u>Examination Style:</u> Surface to Structure Analysis – 20 Marks Students will receive a flat piece of paper or fabric and will create a stable 3D self-supporting form within a specified time using appropriate folding, tension, draping, or suspension techniques. Pliability Exploration – 10 Marks Students will submit a comprehensive physical sample board documenting the experiments conducted throughout the module. The board will be evaluated on quality of experimentation, material understanding, precision, and innovation.					
4	Structure & Assembly: Mixed Media & Joinery <u>Theory Topics:</u> Introduction to linear materials such as wire, sticks, and rods, and planar materials such as cardboard and mount board. Concepts of load, balance, symmetry, tension, compression, and structural integrity. Principles of non-adhesive joinery including slotting, tying, and interlocking. Basic structural behaviour of mixed materials and upcycled components. <u>Practical:</u> 22. Construct a freestanding tower using wooden dowels or sticks and thread, focusing on tension, compression, and balance. 23. Create a modular interlocking structure using upcycled cardboard with zero-adhesive constraints.				18	20%



	24. Manipulate wire to create a continuous contour line model representing a defined volume or human-scale object. 25. Combine a rigid material such as wood or wire with a flexible material such as fabric or paper to develop a hybrid structure. 26. Conduct controlled load and stability experiments on constructed models. 27. Analyse, record, and present the failure points of the models to understand material limitations and structural behaviour. <u>Examination Style:</u>		
Sr. No.	Evaluation Methods	SEE	CCE
1	Structural Integrity Evaluation Students shall demonstrate their understanding of structural integrity, load distribution, balance, and non-adhesive joinery by developing a mixed-media structure. The assessment shall evaluate joinery logic, structural stability, load handling, material integration, precision, and overall balance.	20	
2	Modular Assembly Project Students will iteratively design and construct an adhesive-free modular structure using upcycled materials. The assessment will evaluate precision of joints, stability, material ingenuity, problem-solving, and analysis of structural failures.		10
Total		20	10



	Structural Integrity Evaluation – 20 Marks Students will complete a practical structural problem-solving task using limited materials. The structure will be required to bridge a specified gap or support a predefined load for a specified duration. Assessment will focus on joinery logic, load distribution, balance, structural stability, and material efficiency. Modular Assembly Project – 10 Marks Students will submit and present their adhesive-free modular structure. The project will be evaluated on precision, stability, structural logic, creative use of upcycled materials, and quality of execution.		
5	Synthesizing Form & Function: Final Prototyping <u>Theory Topics:</u> Synthesizing material knowledge to select suitable media for a specific purpose. Translating conceptual models into scaled prototypes. Understanding material constraints in human-centric applications. Principles of iterative refinement, process documentation, and design presentation. Basics of communicating design intent and material justification. <u>Practical:</u> 28. Conceptualize and sketch a multi-material prototype that solves a basic human-centric need such as a spatial organizer or functional enclosure. 29. Develop low-fidelity mockups using scrap materials to test proportions, scale, structure, and functionality before final execution. 30. Conduct material tests to determine the suitability of selected materials for the final prototype. 31. Construct the final physical scale model using at least two different material categories explored during the semester. 32. Document the complete making process from initial concept to final execution, including material tests, iterations, and failed attempts. 33. Conduct structured peer reviews and refine the prototype based on feedback. 34. Present the final prototype to a jury and verbally justify material choices, functional logic, structural decisions, and	18	20%



aesthetic outcomes.			
<u>Evaluation Method:</u>			
Sr. No.	Evaluation Methods	SEE	CCE
1	Final Prototype Presentation Students shall consolidate their semester-long material explorations to conceptualize, construct, and present a comprehensive multi-material prototype addressing a specific human-centric spatial or functional need. The assessment shall evaluate functional resolution, structural and technical execution, material justification, craftsmanship, aesthetic quality, and the ability to articulate design intent.	20	
2	Process & Iteration Folio Students will compile a complete record of their design journey, including initial sketches, material experiments, low-fidelity mockups, failed attempts, revisions, peer feedback, and final development. The assessment shall focus on documentation quality, iterative thinking, problem-solving, reflection, and refinement.		10
	Total	20	10
<u>Examination Style:</u>			
Final Prototype Presentation – 20 Marks			
A jury-style practical evaluation in which students will display and present their final multi-material prototype. The assessment shall evaluate the functional resolution of the prototype, structural and technical execution, appropriate selection and justification of materials, aesthetic quality and craftsmanship, and the student's ability to clearly present and defend the design intent, structural logic, material choices, development process, and functional outcome. Greater emphasis shall be placed on the successful physical execution, stability, material integration, and refinement of the final prototype, along with the student's ability to articulate the design			



decisions and learning outcomes.		
Process & Iteration Folio – 10 Marks		
Submission of the complete process document containing sketches, material experiments, mock-ups, failed attempts, revisions, peer feedback, and final documentation. The folio will be evaluated on continuity of development, experimentation, documentation quality, reflection, and refinement.		

Suggested Specification table with Marks (Theory): 100

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage %	05%	10%	30%	15%	15%	25%

Course Outcome:

After learning the course, the students should be able to:	
CO1	Comprehend the tactile, structural, and visual properties of diverse raw materials through hands-on observation and foundational sketching.
CO2	Execute subtractive and additive sculpting techniques on moldable materials to demonstrate physical competency in volume manipulation and human-centric ergonomics.
CO3	Analyze the structural logic of flexible and rigid materials, utilizing non-adhesive joinery and folding techniques to transform 2D planes into 3D forms.
CO4	Construct physical, interdisciplinary prototypes by engineering mixed-media joinery, demonstrating technical proficiency in solving functional spatial and wearable problems.
CO5	Evaluate the personal design journey through iterative process documentation, developing a unique aesthetic identity rooted in purpose and material logic.

Instructional Method:

The course delivery method will depend upon the requirement of content and the needs of students.

A minimum of 20–30% of the course content shall be suggested to deliver through Flipped Learning, where students study digital learning resources before the classroom session. Classroom time shall be utilized for discussion, problem-solving, practical applications, and higher-order learning activities.



Students shall be encouraged to use AI-powered learning platforms, simulation software, virtual laboratories, digital libraries, research databases, online certification courses, NPTEL, SWAYAM, MOOCs, and other technology-enabled learning resources to strengthen conceptual understanding and practical competence.

Continuous assessment shall be conducted through Active Learning Assignments (ALAs), quizzes, skill demonstrations, presentations, practical exercises, projects, case studies, innovation activities, peer assessment, reflective learning, and industry-oriented tasks instead of relying primarily on conventional written assignments.

Reference Books:

- [1] D. A. Lauer and S. Pentak, **Design Basics**, 9th ed. Boston, MA, USA: Cengage Learning, 2015.
- [2] M. Goldstein, **How to Be a Design Student (and How to Teach Them)**. 1st ed. New York, NY, USA: Princeton Architectural Press, 2023.
- [3] A. Kleon. **Steal Like an Artist: 10 Things Nobody Told You About Being Creative**, 1st ed. New York, NY, USA: Workman Publishing, 2012.
- [4] J. Itten, **The Elements of Color**, 1st ed. New York, NY, USA: John Wiley & Sons, 1970.
- [5] P. Jackson, **Folding Techniques for Designers: From Sheet to Form**, 1st ed. London, UK: Laurence King Publishing, 2011.



Suggested Assessment Guidelines:**Module-1: Introduction to Tactile Observation & Visual Translation Visual Translation Analysis**

Introduction to Tactile Observation & Visual Translation Visual Translation Analysis (20 Marks)		
Criteria	Description	Marks
Observational Accuracy	Evaluates the student's ability to accurately capture real-world proportions, scale, and spatial relationships of objects within their sketch folio.	5
Line Quality & Technique	Assesses the fluidity, confidence, and appropriate use of sketching techniques (e.g., blind contour, rapid visualization) to communicate form rather than just illustrating it.	5
Geometry Breakdown	Measures the capability to deconstruct complex organic and everyday forms into foundational geometric shapes (cubes, spheres, cylinders) for structural understanding.	5
Texture Representation	Judges the effectiveness of translating physical, tactile surfaces (using frottage and shading) into 2D analytical drawings.	5
Total		20

Module-2: Volume & Plasticity: Exploring Moldable Mediums

Earth & Plasticity: Exploring Clay and Mud Form & Plasticity Evaluation (20 Marks)		
Criteria	Description	Marks
Volume and Mass Comprehension	Evaluates the student's hands-on understanding of positive and negative space, and how they distribute visual and physical weight in earth-based materials.	5
Ergonomic Logic	Assesses how well the sculpted clay/mud form logically responds to human touch, bodily scale, and functional grip requirements.	5
Structural Stability	Measures the physical integrity of the mud/clay prototype, specifically its ability to be self-supporting without collapsing during the drying process.	5
Surface & Tactile Finishing	Judges the craftsmanship, application of subtractive/additive relief techniques, and the overall tactile quality of the final physical form.	5
Total		20

Module-3: Pliability & Surface: Fabric, Thread, and Paper

Pliability & Surface: Fabric, Thread, and Paper Surface to Structure Analysis (20 Marks)		
Criteria	Description	Marks
Transformation	Evaluates the conceptual and physical process of successfully	5



Logic	converting a flat 2D plane (paper/fabric) into a dynamic, 3D structural enclosure or form.	
Tension and Draping Application	Assesses the effective use of material flexibility, suspension, and draping to define spatial forms without relying on rigid internal armatures.	5
Modular Innovation	Measures the creativity and precision in utilizing folding, origami, or modular tessellation techniques to create expanding/contracting surfaces.	5
Material Handling & Respect	Judges the neatness, lack of reliance on adhesives, and overall respect for the inherent structural properties of the pliable medium.	5
Total		20

Module-4: Structure & Assembly: Mixed Media & Joinery Structural Integrity Evaluation

Structure & Assembly: Mixed Media & Joinery Structural Integrity Evaluation (20 Marks)		
Criteria	Description	Marks
Joinery & Connection Logic	Evaluates the successful application of non-adhesive joinery techniques (slotting, tying, interlocking) to create strong structural bonds between raw materials.	5
Load Distribution & Balance	Assesses the structure's ability to effectively balance physical weight, manage tension/compression, and maintain overall symmetry and stability.	5
Material Integration	Measures the logical and aesthetic success of combining distinct material categories (e.g., rigid wood/wire with flexible fabric/paper) into a cohesive hybrid structure.	5
Upcycling Ingenuity	Judges the creative and structural repurposing of everyday scrap or found materials to construct the adhesive-free modular assembly.	5
Total		20

Module-5: Synthesizing Form & Function: Final Prototyping

Final Prototype Presentation (20 Marks)		
Criteria	Description	Marks
Purpose and Functional Resolution	Evaluates how effectively the final multi-material prototype addresses and solves the chosen abstract, human-centric spatial or functional problem.	5
Aesthetic & Visual Language	Assesses the overall visual impact, craftsmanship, and cohesive design identity of the final scale model.	5
Material Justification	Measures the logical reasoning behind the selection of specific mediums, ensuring they structurally and conceptually support the	5



	prototype's intended use.	
Process Articulation & Defense	Judges the student's ability to verbally present their design journey, confidently defend their material choices, and articulate insights gained from failed iterations.	5
Total		20

