Course Description

Course Title and Code: Design thinking	
Hours per Week	**L-T-P: 3-0-0**
Credits	
Pre-requisite	**None**
Students who can take	B. Tech V Sem
Evaluation	Project submissions

Course Objective: This course introduces students to the principles and practices of design thinking, emphasizing its historical roots, critical perspectives, and modern applications. Through a blend of theory and hands-on activities, students will explore how design thinking can be used to address complex challenges.

Learning Outcomes:
By the end of this course, students will be able to:

Understand and articulate the historical evolution of design thinking, including the influence of movements like Bauhaus on modern design practices.
Apply empathy-driven research methods to identify and analyze user needs, and develop user personas and interview techniques.
Critically evaluate design thinking methodologies, recognizing their limitations, ethical implications, and societal impact.
Create and iterate on design prototypes, utilizing various ideation and prototyping techniques to develop innovative solutions to real-world problems.

Syllabus

Introduction to Design Thinking

Overview of Design Thinking.

Historical evolution of design thinking.

Introduction to Bauhaus and its influence on modern design.

Discussion on the relevance and applications of design thinking in engineering. graph,

Empathy and User Understanding

The role of empathy in design thinking.

Techniques for building empathy with users.

Methods for conducting user research.

Empathy mapping exercise and real-life case studies.

Personas and Interview Methods

Developing user personas based on research insights.

Conducting effective user interviews.

Analyzing and synthesizing user data.

Practical workshop on persona creation and interview role-playing.

Critical Perspectives on Design

The societal role of design and its broader impacts.

Critique of design thinking, exploring its limitations and challenges.

Ethical considerations in design practice.

Debate on the ethical implications of technology and design.

Ideation Techniques

Exploration of various ideation methods including brainstorming and mind mapping.

Encouraging creativity and divergent thinking.

Techniques for evaluating and selecting the best ideas.

Group ideation session to address a given design challenge.

Prototyping and Experimentation

Introduction to prototyping, from low-fidelity to high-fidelity.

The importance of experimentation in the design process.

Iterative design processes and the role of feedback loops.

Hands-on prototyping workshop and peer feedback session.

Evaluation Scheme

Sr. No	Specifications	Marks
1	Attendance	10
2	Assignment 1	30
3	Assignment 2	60

	Total (100)	**100**

References

IDEO: https://designthinking.ideo.com/

Interaction Design Foundation (IxDF): https://www.interaction-design.org/

Design Thinking Academy: https://www.designthinkersacademy.com/

The Design Thinking Toolkit: https://designthinkingtoolkit.co/

Course Articulation Matrix: (Mapping of COs with POs)

CO	Correlation with Program Outcomes															Correlation with Program Specific Outcomes	
	PO 1	PO 2a	PO 2b	PO 2c	PO 3a	PO 3b	PO 3c	PO 4a	PO 4b	PO 4c	PO 5a	PO 5b	PO 6	PO 7a	PO 7b	PSO 1	PSO 2
AS1210.1																	
AS1210.2																	
AS1210.3																	
AS1210.4																	

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