1.	Title of the course	Design Thinking
2.	Course number	ID504L
3.	Status of the course	Elective
4.	Structure of credits	2-0-2-3
5.	Offered to	PG
6.	New course/modification to	New
7.	To be offered by	Department of Mechanical Engineering
8.	To take effect from	January 2023
9.	Prerequisite	CoT
10.	Whether approved by the Department	Yes
11.	**Course Objective(s):** To introduce systematic approach to creative problem solving, product development and professional versatility. To illustrate user centric approach to problem solving and tackling complex problems by understanding user needs, re-framing the problems, and refining the decision making to come up with robust solutions.	
12.	**Course Content:** Design thinking Process, comprehensive approach to product design, double diamond approach to design thinking; Product development cycle through design thinking and systems mapping - practical exercises; Case studies on ideation, empathy, problem definition, design-develop-prototype-test–product (solution) development; Startup framework - entrepreneurship, team building, project and program management, introduction to business model canvas, financial planning, resource management, identifying client needs, communication skills and story telling; Technology strategy and innovation management; Creative problem solving, quality circle, brainstorming and decision making process; Experiments, practical exercises and case studies on solving real world problems through principles of design thinking; Project work to introduce user research and methodologies, market research, iterative solution building; Industry and startup related project work.	
13.	**Textbook(s):** 1. Brown T, *Change by Design*, 1st Edition, Harper Business (2019). 2. Micha L, Link P and Leifer L, *The Design Thinking Playbook: Mindful Digital Transformation of Teams, Products, Services, Businesses and Ecosystems (Design Thinking Series)*, 1st Edition, Wiley (2018).	
14.	**Reference(s):** 1. Cross N, *Design Thinking: Understanding How Designers Think and Work*, 1st Edition, Bloomsbury Visual Arts (2019). 2. Kumar V, *101 Design Methods: A Structured Approach for Driving Innovation in Your Organization*, 1st Edition, Wiley (2012). 3. Ries E, *The Lean Startup*, 1st Edition, Random House Audio (2011).	