

Product Design and Innovation		Course Type – LT Credit - 3
Course Objectives:		
<ul style="list-style-type: none"> • To provide a basic knowledge to the students about design and innovation. • To understand the design process. • To understand the importance of sustainability in design. 		
Course Outcomes (CO):		
Students will be able to		
<ul style="list-style-type: none"> • Learn and apply the concept of engineering design and design thinking. • Understand the detailed design approaches knowledge in real-time and societal context • Understand the concept of sustainability and its implications. 		
Module	Topics to be discussed	Hrs.
1	Design and Process Design, Types of design, Dieter Rams Principles of Good Design; Overview of Engineering Design Process: Human Centered Design (HCD); Design Thinking as Mindset, Process and Toolbox., Empathy, Mind Mapping, SCAMPER (for products)	15
2	Product Design Phases and Usability Testing Embodiment designs and Detailed designs - Identification and Specifications, Design Features - Design for Aesthetics, Usability - User requirement; User experience; Usability testing; Customer Co-creation	10
3	Sustainability in Design Concepts of sustainable development, Sustainable design principles - Design for Environment; Life Cycle Assessment; Models of sustainable design- Biomimicry, Eco Design, Recycling; Social Innovation.	5

Activity Proposed

- Individual/group activity
- Innovation of product through waste material.