

Design Thinking

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
Design Thinking	2	0	0	2	Class XII	NIL

Learning Objectives

To provide basic understanding of problem search, design process, design thinking and ability to convert an innovative product idea to a prototype.

Learning Outcomes

After studying the course, the student will be able to:

- Understand innovation process
- Do product designing
- Empathy research.
- Do designing brief and proof of concept.
- Do prototyping. product testing and validation

SYLLABUS:

Unit I: Design thinking and innovation in product or process designing. Identifying user needs. Human Centered Design. **(8 hours)**

Unit II: Innovation Opportunities. Problem space exploration. Ideation. Empathy Research **(13 hours)**

Unit III: Novel product or process Opportunities. Solution space exploration. Design brief. Concept generation. User validation **(13 hours)**

Unit IV: Converting ideas to product. Developing Prototypes. Iterative improvement. Proof of concept - Product testing and validation **(18 hours)**

Unit V: Disruptive design innovations – case studies **(8 hours)**

Teaching Plan

Week 1: Design thinking and innovation in product or process designing

Week 2: Identifying user needs. Human Centered Design

Week 3: Innovation Opportunities.
Week 4: Problem space exploration. Ideation.
Week 5: Empathy Research
Week 6: Novel product or process Opportunities. **Week 7:** Solution space exploration. Design brief. **Week 8:** Concept generation. User validation
Week 9: Converting ideas to product.
Week 10: Developing Prototypes.
Week 11: Iterative improvement.
Week 12: Proof of concept - Product testing and validation
Week 13, 14 & 15: Disruptive design innovations – case studies

Essential Readings:

1. *Creative Confidence: Unleashing the creative potential within us all* by Tom Kelley & David Kelley, Crown Business (New York, 2013)
2. *The Design of everyday things* by Don Norman, Basic Books (2013)
3. *Design Thinking: Understanding how designers think and work* by Nigel Cross, Bloomsbury Visual Arts (2019)

Examination scheme and mode:

Evaluation scheme and mode will be as per the guidelines notified by the University of Delhi