First Year 1st Semester Curriculum Structure for B.Tech. Course

Design Thinking & Innovation- Basic (IVC4)	
Department: **Program:** **Course Code:** **Title of Course:** **Year of Study:** **Semester:**	Basic Science and Humanities B. Tech. IVC4 Design Thinking & Innovation- Basic First Year First
Contact Hours: **Credits:** **Type of course:** **Total Lecture Hours:**	L-T-P-S: 0-0-0-1 0 Theory 12
Pre-requisites Courses:	• Basic Knowledge of Science in Class- XI and XII level
Course Outcome (CO):	**CO1: Understand the concepts of design thinking approaches.** **CO2: Create design thinking teams and conduct design thinking sessions.** **CO3: Apply both critical thinking and design thinking in parallel to solve problems** **CO4: Understand how to conduct research and how to write a research paper.**

Detailed Syllabus

- **Module 1: Introduction to Design Thinking (4 L)**

Empathy: Empathy Building, Empathy Map & Evoking the 'right problem', Introduction to Human-Centered design, Customer Journey Mapping, Divergent Thinking and Convergent Thinking

- **Module 2: Ideation, Prototyping and Testing (4 L)**

Creative process and creative principles, Steps to Enhance Design thinking, Biomimicking-Design by Nature, Types of Prototyping.

- **Module 3: Introduction to Research and Research Ethics (4 L)**

Meaning, Objectives and Motivation in research, Types of research, Research approaches, Significance of research, Research methods versus methodology, Review paper writing, Literature Survey, Indexing of Journal, Citation and Journal Impact Factor.

- **Book list:**

1. Title: Creative Confidence, Authors: Tom Kelley, David Kelley
2. Title: Change by design, Author: Tim Brown