

BHARATHIAR UNIVERSITY: COIMBATORE – 641 046

DIPLOMA IN DESIGN THINKING

**(For the candidates admitted from the academic year 2020-2021 onwards)
Skill Based Course**

Design Thinking is a leading innovation method used to generate strategic insight for product and businesses innovation. The Design Thinking Course is a 6 months' experiential, hands on course aimed at providing a nuanced understanding of Design Thinking and the ability to apply it. Design Thinking is based on the use of simple yet powerful tools, novel techniques and a robust methodology of application. The course is designed for the participant to gain at a personal level by acquiring new thinking skills and gain at the career level the ability to drive transformative change in their respective organizations.

Programme Objectives

1. Create a tacit understanding of Design Thinking as a concept.
2. Apply of tools and techniques associated with Design Thinking through practice.
3. Build skill sets and sensibilities associated with Design Thinking such as insight finding, creative confidence, integrative thinking, empathy and experimentalism.

Programme Outcomes

1. Understanding of the underlying precepts behind Design Thinking.
2. Evaluate and navigate through the five modes of the Design Thinking methodology, namely, Discover, Define, Ideate, Prototype, Test, applying respective tools and techniques for each mode.
3. Plan, execute and manage Design Thinking in their respective contexts and situations be it product innovation, service design, or business strategy.

Eligibility for Admission

The Candidates those who have passed in 10+2 Examination.

Duration of the course

The course shall extend over a period of six months comprising of one semester.

Medium of instruction and examinations

The medium of instruction and examinations shall be in English.

SCHEME OF EXAMINATION

S.No	Title	Instruction Hours / Week	Exam Duration	Total Marks
Theory 1	Design Thinking - Tools, Techniques, Methods.	4	3 Hours	100
Project 1	Design Thinking – The Problem Space	4	3 Hours	100
Project 2	Design Thinking – The Solution Space	4	3 Hours	100
Project 3	Design Thinking for Service Design	4	Viva Voce	100
			Total Marks	400

QUESTION PAPER PATTERN

Distribution of Semester Marks - Theory				
Total Marks	External		Internal (Max Marks)	Overall Passing minimum (Internal + External)
	Maximum	Passing Minimum for external alone		
100	75	30	25	40
Distribution of Semester Marks –Project				
100	60*	24	40	40

*Viva 60 marks break up – 25 marks by external examiner, 25 marks by internal examiner, 10 marks for report by internal examiner

Maximum 100 Marks		
Section A	Answer all the questions (10 questions of one-word answer Q.Nos.1 to 10)	10X1=10
Section B	Answer all the questions - 5 questions either or type	5X6=30
Section C	Answer all the questions - Open Choice 5 questions out of 8	5X12=60

Passing Minimum

1. A candidate shall be declared to have passed in a paper if he or she obtains not less than 40% of marks in that paper.
2. A candidate failing to secure the minimum marks prescribed shall be required to reappear for the examination in that paper and obtain not less than the minimum marks required for passing the paper.

Classification of Successful Candidates

- a) Successful candidates passing the examinations by securing not less than 60% of total marks in all subjects shall be declared to have passed in First class.
- b) Successful candidates passing the examinations by securing not less than 50% of total marks in all subjects shall be declared to have passed in second class.
- c) All other successful candidates shall be declared to have passed the examinations in Third class.

Theory I - DESIGN THINKING: TOOLS, TECHNIQUES, METHODS

Course Objectives:

1. Outline of Design Thinking and its core precepts.
2. An overview of the Five Modes of Design Thinking including its tools, techniques, methods.

Learning Outcomes:

1. The student should be able to articulate 'What is Design Thinking?'
2. Categorize the use of practical design thinking methods in every stage of problem, with the help of method templates.
3. The student should be able to list and explain the various tools and techniques, and the Design Thinking Process.

UNIT I

Introduction to Innovation & Creativity, Role of creativity and Innovation in organizations, Concept of Innovation, Invention and Creativity; Current trends in Product and Business Innovation; The Innovation Life Cycle; Innovation Metrics and Frameworks.

UNIT II

History of Design; Design as an enterprise function; Fundamental concepts of design; Design Maturity Models; The Role of Design; The Design Value; Motivations for Design; Disciplines in Design; Design and Business inter-relationships; Design Interventions in Information Technology space; Design Engagement Models;

UNIT III

Genesis of Design Thinking; 'What is' Design Thinking; The Design Thinking framework; Five modes of Design Thinking - Empathize, Define, Ideate, Prototype, Test; Design Thinking Perquisites, skills sets; Rules of Design Thinking; Case Studies; Tacit and Experiential Learning as applied to Design Thinking; Differences between Design Thinking and Conventional Thinking

UNIT IV

Evolution and Adaptation of Design Thinking Tools and Techniques; User-centric Design vs. Task-centric Design; The Double Diamond Model; The IDEO Model; The Google Sprint Model; Deep Design Thinking Model; Design For America Model; Design Thinking Tools and Techniques – User Research Techniques, Problem Framing Techniques, Ideation Techniques, Prototype and Test Techniques.

Books Recommended:

1. Delft Design Guide: Design Strategies and Methods, Authors: Annemiek van Boeijen, Jaap Daalhuizen, Roos van der Schoor, Jelle Zijlstra, Publisher: BIS Publishers, 2014.
2. 101 Design Methods: A Structured Approach for Driving Innovation in Your Organization, Author: Vijay Kumar, Publisher: John Wiley & Sons, 2012.
3. Universal Methods of Design: 100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions, Author: Bruce Hanington, Bella Martin, Publisher: Rockport Publishers, 2012.
4. Design Thinking: Integrating Innovation, Customer Experience, and Brand Value, Author: Thomas Lockwood, Publisher: Allworth Press, 2009.

Project I - DESIGN THINKING: THE PROBLEM SPACE

Course Objective

1. Application of problem finding methods
2. Application of problem reframing methods

Learning Outcomes

1. The student should be able to select and use tools and techniques for research and discovery of the problem/opportunity area
2. The student should be able to consolidate findings and distill insights and opportunities for intervention

Module 1

Overview of Discovery techniques; Fly-on-the-wall Observation, Contextual Inquiry, Photo and Video Documentation, Surveys and Questionnaires, Why-How Laddering, Role Playing, Experience Prototyping, Co-creation & participatory Design.

Module 2

Field research; Knowledge Pooling; Story Sharing; Concept Maps; Documentation and Segmentation; Mind Mapping, Affinity Mapping; Empathy Maps; Insight finding; Findings Report presentation;

Module 3

Problem Reframing, Opportunity Mapping; Define techniques – Personas, Scenarios, User Stories, Feature Maps, Writing the Design Statement.

Books Recommended:

1. Exposing the Magic of Design: A Practitioner's Guide to the Methods and Theory of Synthesis (Human Technology Interaction Series), Author: John Kolko, Publisher: OUP USA, 2015.
2. Design Thinking: Understanding How Designers Think and Work, Author: Nigel Cross, Publisher: Bloomsbury Visual Arts, 2019.
3. Personas - User Focused Design, Author: Lenne Nielsen, Publisher: Springer, 2013 Edition, 2014.
4. Well-Designed: How to Use Empathy to Create Products People, Author: John Kolko, Publisher: Harvard Business, 2014.
5. Data Visualization for Design Thinking: Applied Mapping, Author: Winfred. E. Newman, Publisher: Routledge, 2017.

Project II - DESIGN THINKING: THE SOLUTION SPACE

Course Objective

1. Application of Ideation and Idea Selection techniques.
2. Application of Idea Prototyping and Idea Testing methods.

Learning Outcomes

1. The student should be able to creatively generate innovative solutions.
2. The student should be able to refine his solution by testing with stakeholders.

Module 1

Overview of the Solution Space; The Double Diamond Model; Divergent Thinking and Convergent Thinking; Iterative Development.

Module 2

Ideation techniques – Brainstorming, Heuristic Ideation, Semantic and Temporal Zooms; Idea Selection techniques – Quadrant Analysis, Perceptual Positioning, Parametric Analysis, Ansoff Matrix.

Module 3

Types of prototyping – Scenes-props-spaces, Quick-and-dirty Mock-ups, Virtual Prototypes; Prototyping practice; Testing protocols – setting test goals, test preparation, conducting tests, Summing up test results; Testing types – Think Aloud protocol, Cognitive Walkthrough; Qualitative vs. quantitative feedback; iterative improvement to solution;

Books Recommended:

1. Creative Confidence: Unleashing the Creative Potential Within Us All, Authors: Tom Kelley, David Kelley, Publisher: Currency, 2013.
2. Thinkertoys: A Handbook of Creative-Thinking Techniques, Author: Michael Michalko, Publisher: The Speed press, 2006.
3. Six Thinking Hats, Author: Edward De Bono, Publisher: Penguin Uk, 2016.
4. The Art of Innovation, Author: Tom Kelly, 2016

Project III- DESIGN THINKING: FOR SERVICE DESIGN

Course Objective

1. Design Thinking facilitation.
2. Designing Services.
3. Applying Design Thinking for Service Design.

Learning Outcomes

1. The student should be able to customize the Design process to the context of project,
2. The student should be able to plan, outline, and estimate project stages,
3. The student should be able to evaluate success of outcomes from the design Project

Planning and facilitating a Design Thinking project; Institutionalizing Design Thinking in an organization.

The project scope includes - Introduction to Service Design; Principles of Service Design; Service Design Heuristics; Elements of a brand experience; Design for multi-channel Experience; Emotional Design.

Service Design tools and techniques – Customer Journey Mapping, Service Blueprint; Business Model Canvas; Strategy Canvas; Design Sprint technique and methodology;

Text and Reference Books

1. The Design of Business, Author: Roger L. Martin, Publisher: Harvard Business Review Press, 2009.
2. Change by Design, Author: Tim Brown, Publisher: Harper Business, 2012.
3. This Is Service Design Doing: Applying Service Thinking in the Real World - A Practitioner's Handbook, Authors: Marc Stickdorn, Markus Hormess, Adam Lawrence, Jakob Schneider, Publisher: Shroff/O'Reilly, 2018.
4. This is Service Design Thinking: Basics, Tools, Cases, Authors: Marc Stickdorn, Jakob Schneider, Publisher: John Wiley & Sons, 2012.
5. Sprint: How to Solve Big Problems and Test New Ideas in Just Five Days, Authors: Jake Knapp, John Zeratsky, Publisher: Simon & Schuster, 2016.