

DGS11001	Design Thinking	L	T	P	C
Version 1.0	Contact Hours - 30	2	0	0	2
Pre-requisites/Exposure	Knowledge of analyzing society problems and product usage problems and a zeal to improve the current situation, in addition to knowing to using laptop/computers, internet, social media interaction, file sharing and uploading, email and communication etiquettes.				
Co-requisites	-				

Course Objectives:

- To enable students to acquire knowledge, imagination and be more assertive on opinions on problems in society.
- To enable students to learn basics of research, data collection, analysis, brainstorming to find solutions to issues.
- To make them understand Design Thinking methodologies to problems in field of study and other areas as well.
- To help students to understand future Engineering positions with scope of understanding dynamics of working between inter departments of a typical OEM.

Course Outcomes:

On completion of this course, the students will be able to CO1. Examine design thinking concepts and principles

CO2. Practice the methods, processes, and tools of design thinking

CO3. Apply the Design Thinking approach and model to real world scenarios

CO4. Analyze the role of primary and secondary research in the discovery stage of design thinking

Course Description:

Design thinking course is a completely online course offered to the first year UG programs across all streams. This course is designed to help understand the steps followed in the process of designing a solution to a problem.

Course Content:

Units	Lecture Hours
Unit-I: WHAT IS DESIGN THINKING: Designers seek to transform problems into opportunities. Through collaboration, teamwork, and creativity, they investigate user needs and desires on the way to developing human-centered products and/or services. This approach is at the very heart of design thinking.	2

Units	Lecture Hours
Unit-II: THE DESIGN THINKING MODEL: A tool that helps guide you along a design thinking path. The model does this by providing a series of activities that will help you effectively design a product, service or solution to a user's need. The model presents the approach as a process, allowing us to look at each step – or phase – along the journey to the development of a final design.	4
Unit-III: PHASE 1: DISCOVER: Begin the design thinking process with the Discover phase, where you will identify the specific problem your design is intended to solve, as well as important usability aspects from those who will use your design. Discovery can be performed through a variety of different research methods which you will learn in this module.	4
Unit-IV: PHASE 2: DEFINE: In the Define phase, you come to understand the problem. We often refer to this as framing the problem. You can do this by using a variety of tools, including storytelling, storyboarding, customer journey maps, personas, scenarios, and more.	4
Unit-V: PHASE 3: DEVELOP: Turn your attention to solving the problem. In this phase you brainstorm custom creative solutions to the problems previously identified and framed. To do this, you conceptualize in any way that helps, putting ideas on paper, on a computer, or anywhere whereby they can be considered and discussed.	4
Unit-VI: PHASE 4: DELIVER: This phase is all about testing and building concepts. Here you take all of the ideas that have been discussed to this point and bring them a little closer to reality by building a concept; something that makes it easier for a user to experience a design. This concept is referred to as a prototype.	4
Unit-VII: PHASE 5: ITERATE: You will test the prototype of your design solution, collecting and acting on feedback received. These actions may mean minor or major revisions to your design, and are repeated as often as necessary until a solution is reached. Tools such as focus groups and questionnaires are used to help you collect feedback that can help with your final design.	4
Unit-VIII: BEYOND DESIGN THINKING: The Design Thinking Model is a tool that helps guide you along a design thinking path. The model does this by providing a series of activities that will help you effectively design a product, service or solution to a user's need. The model presents the approach as a process, allowing us to look at each step – or phase – along the journey to the development of a final design.	4

Reference Books:

- Brown, Tim. “What We Can Learn from Barn Raisers.” Design Thinking: Thoughts by Tim Brown. Design Thinking, 16 January 2015. Web. 9 July 2015.
- Knapp, Jake. “The 8 Steps to Creating a Great Storyboard.” Co.Design. Fast Company & Inc., 21 Dec. 2013. Web. 9 July 2015.
- van der Lelie, Corrie. “The Value of Storyboards in the Product Design Process.” Journal of Personal and Ubiquitous Computing 10.203 (2006): 159–162. Web. 9 July 2015. [PDF].
- Millenson, Alisson. “Design Research 101: Prototyping Your Service with a Storyboard.” Peer Insight. Peer Insight, 31 May 2013. Web. 9 July 2015.

Relationship between Course Outcomes (COs) and Program Outcomes (POs):

Course Code	Course Name	COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
DGS11001	Design Thinking	CO11001.1	3	3	2	2	1	2	2	-	2	-	3	3	3	1	3
DGS11001	Design Thinking	CO11001.2	3	3	1	3	3	3	1	-	1	-	-	2	2	2	3
DGS11001	Design Thinking	CO11001.3	3	2	1	2	2	1	1	-	2	-	-	1	2	3	2
DGS11001	Design Thinking	CO11001.4	3	2	2	1	3	1	1	-	1	-	-	1	2	3	3
DGS11001	Design Thinking	CO11001	3.0	2.5	1.5	2.0	2.25	1.75	1.25	-	1.5	-	3.0	1.75	2.25	2.25	2.75