

Subject Code: 01ME0405
Subject Name: Human Centric Design Approach
B.Tech. Year - II

Objective: This course focuses to build the empathy for the people for designing to solve the societal problem as Human-centred design. It is a creative repeatable approach for problem solving by understanding the real need of the users.

Credits Earned: 1 Credits

Course Outcomes: After completion of this course, student will be able to

1. Understand the Human Centric approach for design.
2. Understand significance of the empathy and solution based on empathy
3. Importance of design thinking when addressing social change
4. Generate the innovative ideas and will convert in new solutions.
5. Build a possible prototype solutions

Pre-requisite of course: No

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term work (TW)	
0	0	2	0	0	0	10	20	20	50

Contents:

Unit	Topics	Contact Hours
Phase :1 Introduction to Human Centred Design	Introduction to Human-Centered Design, Design Principles, the Diamond Model, The Human-Centered Design Process, Systems Thinking, Psychology behind Design, History of Design/History of Innovation. Activity: Mini Design Challenge	4
Phase:2 Inspiration Phase	Defining and Visualizing Challenges, Team formation, Key Assumptions. Activity: Choose Your Design Problem, Plan Your Research build Interview Guide	4



	+ Activity: Conduct activity with canvas for this phase	
Phase:3 Ideation Phase	A business case developed, High-level requirements are elicited; and, A Project Overview Statement (POS), Share Stories and Learning from User Research, Ideation Methods to Select Ideas Activity: Conduct activity with canvas for this phase	4
Phase:4 Prototype Phase	What is Prototype, Types of Prototyping- Low-Fidelity Prototyping, High-Fidelity Prototyping, Guidelines for Prototyping. Discussion: Determine What to Prototype Activity: Brainstorm, Selecting Best Ideas, checking viability, Creating a Storyboard, Start Prototyping, Test Prototype and Get Feedback.	8
Module-5- Implementation Phase	Activity: Create an Action Plan Activity: Create a Pitch Activity: Share Your Solution Reflection Discussion: Moving Forward	8
	Total Hours	28

Note: Faculty are advised to take suitable project/activity to explore the above topics and make students understand the various concepts.

References:

1. Gray, Dave, Sunni Brown and James Macanufu (2010). Game Storming: A Playbook for Innovators, Rulebreakers, and Changemakers, O'Reilly Media, Inc.
2. Maul, June (2011). Developing A Business Case: Expert Solutions to Everyday Challenges, Harvard Business Review Press. Project Management Institute, (2013).
3. A Norman, D.A. (1988). The Design of Everyday Things. New York: Basic Books.
4. Stickdorn, M & Schneider, J (2011). This is Service Design Thinking. John Wiley & Sons: New Jersey



5. Stickdorn, Marc and Jakob Schneider. (2012). This is Service Design Thinking: Basics, Tools and Cases. Wiley Publishing.
6. Dubberly, Hugh and Shelley Evenson. (2010). Designing for Service: Creating an Experience Advantage. Wiley Online Library

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory.
- d. Students will use resources like online videos, NPTEL course videos, e-courses, Virtual Laboratory

Supplementary Resources:

1. IDEO Workshop: Part 1 Observations (video)
<https://www.youtube.com/watch?v=>
2. Dubberly, Hugh and Shelley Evenson. (2009). Designing for Service: Creating an Experience Advantage Design at Stanford University
3. Greenberg, S., Carpendale, S., Marquardt, N., & Buxton, W. (2012). Sketching User Experiences: The Workbook. Amsterdam: Elsevier/Morgan Kaufmann.
4. Moggridge, B. (2007). Designing Interactions. Cambridge, MA: The M.I.T. Press.
5. Stickdorn, Marc and Jakob Schneider. (2012). This is Service Design Thinking
6. Creativity. http://www.ted.com/themes/the_creative_spark.html
7. http://www.usaid.gov/sites/default/files/documents/1868/USAID_eBook.pdf
8. Kelley, David (2013). "How to Build Your Creative Confidence." Ted Talk. Retrieved from
9. http://www.ted.com/talks/david_kelley_how_to_build_your_creative_confidence?language=en



10. Osborn, Alex F. (1979). Applied Imagination: Principles and Procedures of Creative Problem Solving
11. <https://www.interaction-design.org/literature/article/stage-3-in-the-design-thinking-process-ideate>
12. <https://www.qaiglobalinstitute.com/product/design-thinking-ideation-phase/>
13. <http://www.designkit.org/human-centered-design>
14. <https://www.usertesting.com/blog/2015/07/09/how-ideo-uses-customer-insights-to-design-innovative-products-users-love/>