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|---|---|
| **COURSE TITLE** | **HUMAN CENTERED DESIGN** |
| **COURSE CODE** | **01CT0617** |
| **COURSE CREDITS** | **1** |

**Objective:**

1 he main objective of this course is to enable students to build solutions for problems in the society, understanding the needs of the people, finding gaps in needs and existing technological solutions, innovating ideas, developing prototypes and implementing solutions for the real world problems.

2 The main objective of this course is to enable students to build solutions for problems in society, understanding needs of the people, finding gaps in needs and existing technological solutions, innovating ideas, developing prototypes and implementing solutions for real world problems.

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

1 Demonstrate knowledge of the role of specific techniques in human-centered design

2 Conduct user interviews and synthesize learning to uncover insights and identify opportunities for innovation

3 Bring ideas to life using prototypes to test with real users and identify promising solutions to implement

4 Practice team management, leadership and project management

**Pre-requisite of course:**NA

**Teaching and Examination Scheme**

| Theory Hours | Tutorial Hours | Practical Hours | ESE | IA | CSE | Viva | Term Work |
|---|---|---|---|---|---|---|---|
| 0 | 0 | 2 | 0 | 0 | 0 | 50 | 50 |

| Contents : Unit | Topics | Contact Hours |
|---|---|---|
| 1 | **Introduction**<br>Introduction to Human Centered Design, Human Centered Design Process, Group Discussion, Design Innovations in Practice,, Preparing Mindsets: Creative Confidence,Empathy, Learn from Failures, make it approach, Team formation, Case Study, Activity: Mini Design Challenge | 6 |
| 2 | **Inspiration**<br>Choose Your Design Challenge,, Create a Project Plan, Secondary research, , Builds Interview Guide, Group and Expert Interviews, Card slot exercise, Immersion, Draw solutions, Prepare resource flow , presentation and peer review | 6 |

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| Contents : Unit | Topics | Contact Hours |
|---|---|---|
| 3 | **Ideation**<br>Share stories and learn from user research, find themes and cluster them, create insight Statements, Create How Might We? Questions, Create Frameworks , create insight Statements, Create How Might We? Questions, Create Frameworks | 4 |
| 4 | **Prototyping**<br>Brainstorm, Brainstorm Rules, Bundle Ideas, create a concept, Determine what to prototype, Storyboard, Role playing, Rapid Prototyping, Business Model Canvas, Get Feedback, integrate feedback and iterate | 6 |
| 5 | **Implementation**<br>Prepare Roadmap, Resource Assessment, Ways to grow framework, , define success, Create Action Plan, create a Pitch, Discussion on ways to go forward , prototype demo 1, prototype demo 2, prototype final version, IPR exposure | 6 |
| **Total Hours** | | **28** |

**Textbook :**

1 Designing for Growth, J. Liedtka, T. Ogilvie, Columbia University Press , 2011

2 Handbook of Research on ICTs for Human-Centered Healthcare and Social Care Services, M. Cruz-Cunha, I. Miranda, P. Goncalves, SCOPUS , 2013

3 This is Service Design Thinking: Basics, Toolsand Cases, Stickdorn, Marc and Jakob Schneider, Wiley Publishing., 2012

**References:**

1 Strategies for Creative Problem Solving, Strategies for Creative Problem Solving, H. S. Fogler and S. E. LeBlanc, Pearson, 2008

2 101 Design Methods, 101 Design Methods, V. Kumar, wiley, 2018

**Suggested Theory Distribution:**

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

| Distribution of Theory for course delivery | | | | | |
|---|---|---|---|---|---|
| **Remember / Knowledge** | **Understand** | **Apply** | **Analyze** | **Evaluate** | **Higher order Thinking / Creative** |
| 5.00 | 5.00 | 15.00 | 20.00 | 20.00 | 40.00 |

**Instructional Method:**

1 The internal evaluation will be done on the basis of continuous evaluation of students in the laboratory and class-room.

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**Instructional Method:**

2 Practical examination will be conducted at the end of the semester for evaluation of performance of students in laboratory.

3 Students may use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory, etc.

4 The course delivery method will depend upon the requirement of content and need of the students. The teacher in addition to conventional teaching method (Chalk and Talk) may use any of the tools such as demonstration, role play, Quiz, brainstorming, Flipped class, Project based learning, Collaborative learning, MOOCs etc. for effective teaching.

**Supplementary Resources:**

1 https://acumenacademy.org/course/design-kit-human-centered-design

2 https://www.coursera.org/learn/human-computer-interaction

3 https://www.ideo.com/

4 https://www.designkit.org/human-centered-design

5 https://www.coursera.org/learn/innovation-through-design

6 https://dschool.stanford.edu/resources/the-bootcamp-bootleg

7 https://www.coursera.org/learn/uva-darden-design-thinking-innovation

8 https://www.coursera.org/learn/design-thinking-innovation

9 http://www.cs.odu.edu/~cs381/cs381content/problem_solving/problem_solving.html10.https://ryanstutorials.net/problem-solving-skills/

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