



GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor/Master of Engineering Syllabus

Subject Code: 3154901

Subject Name: Design Principles, Process and Perspective (UI-UX)

WEF Academic Year:	
Semester:	5
Category of the Course:	Professional Core

Prerequisite :	Basic ideas of web designing
Rationale :	UI - UX design is very important concept for any product development. The same is applicable to software design as well. While creating any software, design consideration should consider different user age groups, cultures etc. This course mainly focuses on UX design processes, technologies and models. The student will learn various UI UX related tools for performing various practical during the semester.

Course Scheme:

Teaching Scheme			Total Credits	Assessment Pattern and Marks				Total Marks
L	T	PR		C	Theory		Practical	
			ESE (E)		PA(M)	ESE (V)	PA (I)	
4	0	2	5	70	30	30	20	150

Course Content:

Sr. No.	Course Content	No. of Hours	% of Weightage
1	UI and UX Design Introduction: UI, UX, HCI, Importance of UX design, Components of UX design	6	10
2	The Wheel: UX Processes, Lifecycle, Methods and Techniques	6	10
3	Agile lifecycle Processes and the Funnel model of Agile UX.	4	10
4	Rigor and Scope: Project Parameters to Determine Process Choices, UX methods Scope and rigor, Need of Rigor and level of Rigor	8	15
5	Funnel Model of UX design, Usage research data elicitation, analysis and modeling	10	15
6	The nature of UX design, Bottom up versus Top-down Design Generative Design: ideation, sketching, critiquing Prototype candidate design Mental Model and conceptual design	10	15
7	UX evaluation methods and techniques Empirical UX evaluation: UX goals, metrics and Targets Analytic UX evaluation: Data collection methods and Techniques	8	15



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8	UI UX Design tools Study of various tools for UI UX design like FIGMA, ADOBE XD, Proto.io etc.	4	10
Total		56	100

Reference Book :

1. Agile Software Development, Principles, Patterns, and Practices: International Edition by Robert C. Martin, Pearson Publication
2. The UX Book Agile UX Design for a Quality User Experience By Rex Hartson, Pardha S. Pyla, Morgan Kaufman publication
3. Designing Interfaces Patterns for Effective Interaction Design By Jenifer Tidwell, Charles Brewer, Aynne Valencia-Brooks · 2020 O'reilly

Course Outcome :

After Completion of the Course, Student will able to :

No	Course Outcomes	RBT Level*
01	Examine the User experiences and User designs with empirical and analytic evaluations.	UN
02	Demonstrate the connection between UX design with Agile software Development.	UN
03	Use an agile UX design and Agile software development method as per the need of the project.	AP, AN
04	Use various UX design tools like Figma, Proto.io etc. to demonstrate design concepts	AN, CR

*RM: Remember, UN: Understand, AP: Apply, AN: Analyze, EL: Evaluate, CR: Create

Suggested Course Practical List:

- Practical based on theoretical concepts like UX data collection, prototyping, sketching, UX evaluation metrics etc. Faculty should design at-least 10 experiments based on concepts listed above.
- Each student should be given mini project either in group or individual to study any existing system. Identify need to UI/UX design and apply concepts of UX design using various tools learned during theory classes.

List of Laboratory/Learning Resources Required:

- ADOBE XD
- FIGMA
- Proto.io
