GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Bachelor of Engineering
Level: UG
Subject Code : 3164805
Subject Name : Agile Development and UI/UX design

w. e. f. Academic Year:	A.Y. 2024-25
Semester:	6
Category of the Course:	Open Elective

Type of course:	MOPEC
Prerequisite:	None
Rationale:	Agile software development methodology helps software development teams to have a high degree of collaboration with the clients, providing more opportunities for the team to truly understand the client's vision hence significantly improving the quality of their software at each release. The developers can adapt to changes quickly. UX is important in fulfilling the user's needs.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
1	Understand the practices and philosophies of agile methods.	R
2	Examine the User experiences and User designs with empirical and analytic evaluations	U
3	Demonstrate the connection between UX design with Agile software Development	An
4	Use an agile UX design and Agile software development method as per the need of the project.	Ap

**Revised Bloom's Taxonomy (RBT)*

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
				Theory		Tutorial / Practical		
L	T	PR	C	ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
3	0	0	3	70	30	00	00	100

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Course Content:

Unit No.	Content	No. of Hours
1.	**AGILE DEVELOPMENT:** Agile Practices, Overview of Extreme Programming, Planning, Testing, Refactoring	07
2.	**AGILE DESIGN:** What Is Agile Design? SRP: The Single-Responsibility Principle, OCP: The Open-Closed Principle, LSP: The Liskov Substitution Principle, DIP: The Dependency-Inversion Principle, ISP: The Interface-Segregation Principle.	11
3	**UX and UX Design, The Wheel:** UX Processes, Lifecycle, Methods and Techniques, Scope, rigor, complexity and Project perspective, Agile lifecycle Processes and the Funnel model of Agile UX.	07
4	**The nature of UX design**: Bottom up versus Top-down Design Generative Design :ideation, sketching, critiquing ,Prototype candidate design	07
5.	**UX evaluation methods and techniques:** Empirical UX evaluation: UX goals, metrics and Targets Analytic UX evaluation: Data collection methods and Techniques	07
6.	Connecting Agile UX with Agile Software Engineering	03

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
10	**30**	**20**	**10**	**–**	**–**

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:

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