

COURSE TITLE	CAPSTONE PROJECT-I
COURSE CODE	05FN0406
COURSE CREDITS	4

Objective:

- 1 Integrate knowledge from various IT and FinTech domains to solve real-world problems
- 2 Develop a full-fledged FinTech application or system with practical implementations
- 3 Strengthen project management, teamwork, and problem-solving abilities
- 4 Enhance technical, analytical, and critical thinking skills through research and development
- 5 Demonstrate the ability to document, present, and defend project findings professionally

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

- 1 Design and develop a FinTech-based project addressing a real-world challenge.
- 2 Apply software development lifecycle (SDLC) methodologies in the project.
- 3 Utilize financial technology tools such as blockchain, AI/ML, and data analytics.
- 4 Conduct proper documentation, including project reports and research papers.
- 5 Present and defend the project effectively with industry-level communication skills

Pre-requisite of course:IT and FinTech

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
3	0	2	0	30	20	50	50

Contents : Unit	Topics	Contact Hours
1	Project Proposal Submission Define the problem statement and objectives, Identify technologies and financial models used, Create a feasibility study and risk assessment	10
2	Requirement Analysis & Design Define system requirements and user scenarios, Develop use-case diagrams, data flow diagrams (DFD), and entity-relationship diagrams (ERD)	10
3	Development & Implementation Follow Agile methodology for iterative development., Implement software using programming tools such as Python, Java, Solidity, React, etc., Integrate APIs, databases, and cloud services.	10

Contents : Unit	Topics	Contact Hours
4	Testing & Validation Perform unit testing, integration testing, and user acceptance testing (UAT)., Address security vulnerabilities and compliance regulations.	10
5	Final Report & Presentation Prepare detailed documentation covering problem statement, methodology, results, and future scope., Demonstrate the project prototype via a live demo., Participate in a viva-voce session with industry experts and faculty evaluators.	5
Total Hours		45

Suggested List of Experiments:

Contents : Unit	Topics	Contact Hours
1	Unit-1 Topic Selection & Proposal Submission, Requirement Analysis & System Design, Development & Prototype Building	15
2	Unit-2 Testing & Debugging, Final Report & Presentation	15
Total Hours		30

Textbook :

- 1 Financial Technology: Case Studies in Fintech Innovation, Bernardo Nicoletti, Springer, 2020
- 2 Handbook of Digital Finance and Financial Inclusion, David Lee, Elsevier, 2017

References:

- 1 Blockchain Basics: A Non-Technical Introduction, Blockchain Basics: A Non-Technical Introduction, Daniel Drescher, Apress, 2017
- 2 Machine Learning for Asset Management, Machine Learning for Asset Management, Emmanuel Jurczenko, Wiley, 2020

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
20.00	30.00	25.00	15.00	10.00	0.00

Instructional Method:

- 1 PPT,BOARD WORK

Supplementary Resources:

- 1 <https://www.fintechweekly.com/>
- 2 <https://ethereum.org/en/developers/>
- 3 <https://ocw.mit.edu/courses/15-s08-fintech-shaping-the-financial-world-spring-2020/>
- 4 <https://react.dev/learn>
- 5 https://www.pewresearch.org/data-labs/2020/06/04/video-what-is-machine-learning-and-how-does-it-work/?gad_source=1&gad_campaignid=22378837192&gbraid=0AAAAA-ddO9FneamKoix62fgu-l0GMGT__&gclid=Cj0KCQjwv-LOBhCdARIsAM5hdKfuajRgBJ57kq6WAPPza1tPfMcHTxX8HZyDDOG_8maw3HfPGI WnppcaAjM9EALw_wcB