



Course Specification

(Bachelor)

Course Title: **Fintech: Foundations and Applications**

Course Code: **IS1350**

Program: **Bachelor of Information Systems**

Department: **Information systems**

College: **College of Computer and Information Sciences**

Institution: **Imam Mohammad Ibn Saud Islamic University**

Version: **2**

Last Revision Date: **July 12th, 2025**



Approved: 24/08/2025



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A. General information about the course:

1. Course Identification

1. Credit hours: 3 credit hours (lectures: 3, lab: 0)

Level 5 / 2nd year

2. Course type

A. ☐ University ☐ College ☒ Department ☐ Track ☐ Others
B. ☒ Required ☐ Elective

3. Level/year at which this course is offered: 2nd Year

4. Course general Description:

The first part will introduce the essential building blocks of financial technologies and real-world applications through the use of case studies drawn from the relevant industry. The students will gain an understanding of the fundamental elements that make up technology-driven financial strategies, including topics such as cryptocurrency, complex laws, and portfolio optimization. The students will investigate the disruptive force of changing payment methods, analyze the changing regulatory landscape, and gain a deeper understanding of robo-advising, crowdfunding, peer-to-peer lending, and blockchain technology. They will also learn how modern investment strategies deploy technology to produce optimal results.

In the second part, we'll look at where DeFi came from, tracing its history from the early barter economies like the first peer-to-peer barter exchanges all the way up to the modern day. Next, we dive deep into the backend, discussing crucial technologies like blockchain, smart contracts, oracles, stablecoins, and decentralized applications. Some of the topics covered include cryptographic hashing and the workings of the Ethereum and Bitcoin blockchains. Next, we get into the particular issues that DeFi intends to address, including inefficiency (now expensive, slow, and insecure), restricted access, opacity, centralized control, and a lack of compatibility.

5. Pre-requirements for this course (if any):

ACC- 1250 Principles of Accounting & Financial Reporting
IS1235 – System Analysis and Design

6. Co-requisites for this course (if any):

No Co-requisites

7. Course Main Objective(s):

The main goal is to introduce the essential building blocks of financial technologies and real-world applications through the use of case studies drawn from the relevant industry.

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3 hours/week (classroom)	100%





No	Mode of Instruction	Contact Hours	Percentage
2	E-learning		
3	Hybrid - Traditional classroom - E-learning		
4	Distance learning		

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	Lectures	45
2.	Laboratory/Studio	
3.	Field	
4.	Tutorial	
5.	Others (specify)	
Total		45

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	Explain crypto-currency and blockchain in transforming financial services.	K1(I)	Class Lectures	Exams, assignment
1.2	Identify regulatory, legal, and ethical considerations associated with emerging financial technologies.	K2(I)	Class Lectures	Exams, assignment
1.3	Comprehend the technological infrastructure and core applications of	K3(I)	Class Lectures	Exams, assignment





Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
	decentralized finance (DeFi).			
2.0	Skills			
2.1	Interpret how various FinTech components integrate to create innovative financial solutions.	S1(I)	Class Lectures with practical session	Project
2.2	Design and evaluate decentralized finance solutions to address real-world financial challenges using appropriate FinTech approaches	S2(I)	Class Lectures with practical session	Project
2.3	Apply key DeFi tools and concepts to simulate or evaluate decentralized financial systems	S4(I)	Class Lectures with practical session	Project
3.0	Values, autonomy, and responsibility			
3.1	Collaborate effectively within a team to research, develop, and present FinTech solutions.	V1(I)	Class Discussion, Lecture	Project
3.2	Demonstrate professionalism and clarity in communicating FinTech topics to diverse audiences.	V3(I)	Class Discussion, Lecture	Project

C. Course Content

No	List of Topics	Contact Hours
1.	The financial environment	6
2.	Money and the money systems	3
3	FinTech: Foundations, Payments, and Regulations	6





4	Cryptocurrency and Blockchain: An Introduction to Digital Currencies	6
5	Lending, Crowdfunding, and Modern Investing	3
6	Decentralized Finance Infrastructure	6
7	Decentralized Finance Primitives	6
8	Decentralized Finance Deep Dive	6
9	Decentralized Finance Opportunities and Risks	3
Total		45

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quiz	3, 11	10%
2.	Midterm Exam	8	20%
3.	Assignment	10	10%
4	Group Project	13	20%
5	Final Exam	16	40%

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	<i>Introduction to Finance: Markets, Investments, and Financial Management</i> by Ronald W. Melicher and Edgar A. Norton Oct 8, 2019
Supportive References	<i>FinTech Innovation: From Robo-Advisors to Goal Based Investing and Gamification</i> by Paolo Sironi Jul 19, 2016 <i>DeFi and the Future of Finance 1st Edition</i> by Campbell R. Harvey (Author), Ashwin Ramachandran (Author), Joey Santoro (Author), Vitalik Buterin (Preface), Fred Ehrsam (Foreword) <i>FinTech For Dummies 1st Edition</i> by Steven O'Hanlon (Author), Susanne Chishti (Author), Brendan Bradley (Author), James Jockle (Author), Dawn Patrick (Author)
Electronic Materials	N/A
Other Learning Materials	N/A

2. Required Facilities and equipment





Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	<i>Lecture room with a projector connected to a PC preferably with Internet connection</i>
Technology equipment (projector, smart board, software)	<i>Sliding board</i>
Other equipment (depending on the nature of the specialty)	N/A

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect using course evaluation survey
Effectiveness of Students assessment	Faculty members	Direct method using TOS file
Quality of learning resources	Students and Faculty	Indirect using course evaluation survey and faculty survey
The extent to which CLOs have been achieved	Faculty members	Direct method using TOS file
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	IS CURRICULUM APPROVAL & DEVELOPMENT COMMITTEE IS QAC / / IS COUNCIL
REFERENCE NO.	
DATE	

