



KINGDOM OF SAUDI ARABIA  
 IMAM MOHAMMAD IBN SAUD ISLAMIC UNIVERSITY  
 COLLEGE OF COMPUTER AND INFORMATION SCIENCES  
 INFORMATION SYSTEMS DEPARTMENT  
 BACHELOR IN INFORMATION SYSTEMS

المملكة العربية السعودية  
 جامعة الإمام محمد بن سعود الإسلامية  
 كلية علوم الحاسب والمعلومات  
 قسم نظم المعلومات  
 بكالوريوس نظم المعلومات

## SYLLABUS

### IS1384: Mastering blockchain

<b>CREDIT HOURS</b>	<b>3 credit hours (Lectures: 3)</b>
---------------------	---

<b>PREREQUISITE</b>	<b>IS1250 and IS1382 – Fundamental of blockchain</b>
---------------------	--

<b>Instructor:</b>
<b>Contact information and office hours</b>
<b>Office No:</b> To be announced (TBA)
<b>Office Hours:</b> TBA
<b>E-mail:</b> _____@imamu.edu.sa

COURSE DESCRIPTION
<p>Master the theoretical and technical foundations of blockchain technology.</p> <p>Understand the concept of decentralization, its impact, and its relationship with blockchain technology.</p> <p>Master how cryptography is used to secure data.</p>

COURSE LEARNING OUTCOMES (CLOs)		Aligned SOs
1	<b>Knowledge and Understanding</b>	
1.1	Understand how blockchain architecture components work.	1(P)
1.2	Understand cryptography and the mechanics behind blockchain	1(P)
1.3	Understand the processes of blockchain	1(P)
1.4		
1.5		
2	<b>Skills :</b>	
2.1	Interpret the requirements of a blockchain system	2(P)
2.2	Develop a blockchain system	2(A)
2.3	Apply the subject area's tools and techniques	2(A)



2.4		
2.5		
<b>3</b>	<b>Values:</b>	
3.1	Work effectively in groups and exercise leadership when appropriate	5(P)
3.2	Communicate effectively in oral and written form	3(P)
3.3		
3.4		
3.5		

TEACHING Strategies
Lectures Self-Learning

No	List of Topics	Contact Hours	Self-Learning
1	Decentralization	3	
2	Symmetric Cryptography	3	
3	Public Key Cryptography	3	
4	Introducing Bitcoin	3	3
5	Bitcoin Network and Payments	3	
6	Bitcoin Clients and APIs	3	
7	Alternative Coin	3	
8	Smart Contracts	3	
9	Ethereum Development Environment	3	3
10	Development Tools and Frameworks	6	
11	Project Discussions	3	
12			
<b>Total</b>		<b>36</b>	<b>6</b>

TEXT BOOK
Mastering Blockchain, Second Edition: Distributed ledger technology, decentralization, and smart contracts explained, 2nd Edition Paperback – 2018 by Imran Bashir (Author)

REFERENCES
Mastering Blockchain: A technical reference guide to what's under the hood of blockchain, from cryptography to DeFi and NFTs, 4th Edition Kindle Edition



by Imran Bashir (Author)

<b>Course Assessment Methods</b>			
<b>No</b>	<b>Assessment Method</b>	<b>Due Week</b>	<b>% of Total Assessment</b>
1	<b>Quiz</b>	4	10
2	<b>Assignment</b>	9	10
3	<b>Midterm</b>	7	20
4	<b>Project / Lab Exam</b>	11	20
5	<b>Final Exam</b>	13	40