

# **FIN385 Blockchain Technology and Smart Contract for Finance**

**Level:** 3

**Credit Units:** 5 Credit Units

**Language:** ENGLISH

**Presentation Pattern:** EVERY JAN

## **Synopsis:**

This course gives an overview of the origins of blockchain technology and its evolution. Students will learn how blockchain and smart contracts may enable efficiencies in multiple markets including FinTech, RegTech and LegalTech, and how it can also be a disruptive force in those industries. Topics covered will include the history of digital money, the creation of bitcoin, technical aspects of Ethereum blockchain, private blockchains, consensus mechanisms, smart contracts, and the applications that can be created with blockchain and smart contracts.

## **Topics:**

- History of digital currencies
- Bitcoin's emergence and the original blockchain
- The evolution of blockchains and their applications
- Consensus mechanisms
- Scalability challenges and potential solutions
- Private blockchains
- Smart Contracts
- DAPPS, DAO'S and Applications
- Zero Knowledge Proofs
- Regulatory Challenges
- Open source programming on blockchain platforms
- Building a blockchain project

## **Textbooks:**

Andreas M. Antonopoulos, Gavin Wood: Mastering Ethereum 2018 O'Reilly Media  
ISBN-13: 9781491971949

**Learning Outcome:**

- Show an understanding of the development of cryptocurrencies and blockchain
- Compare different types of consensus mechanisms and their role in blockchains
- Discuss the alternative applications of blockchain technology and smart contracts
- Analyse the various risks and security issues involved with the blockchain technology
- Examine the role of regulation and the development of various blockchains
- Appraise the economic incentive structure of the networks
- Distinguish how blockchain could be implemented in various industries
- Demonstrate the essential knowledge and interpersonal skills to exchange ideas about blockchains and smart contracts effectively in a team
- Demonstrate proficiency in writing on issues in blockchains and smart contracts coherently
- Create a DAO/DAPP for a specific application

**Assessment Strategies (Daytime Class):**

<b>Components</b>	<b>Description</b>	<b>Weightage Allocation (%)</b>
Overall Continuous Assessment	PRE-COURSE QUIZ 1	2
	PRE-COURSE QUIZ 2	2
	PRE-COURSE QUIZ 3	2
	TUTOR-MARKED ASSIGNMENT 1	18
	GROUP BASED ASSIGNMENT 1	20
	PARTICIPATION 1	6
Overall Examinable Components	ECA-REPORT	32.50
	ECA-VIDEO	12.50
	ECA-POWERPOINT	5
<b>Total</b>		<b>100</b>