

CCY4103 Blockchain and Applications**COURSE INFORMATION**

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laboratory	
CCY3002	4	7/8	2	--	2	3

COURSE AIM

To get the students to:

- Get a deep understanding of how Blockchain as a technology work
- Build a solid foundation on Blockchain to chart out further technology or consulting plans
- Understand when and how to use Blockchain
- Know the impact of Blockchain across different industries
- Understand how Blockchain has transformed how businesses and industries function
- Exposes students to a decentralized monetary system's consensus-based societal and legal implications

- 1 Course Aim, Course outline, the origin of Blockchain technologies
- 2 Public, private key fundamentals and the UTXO model.
- 3 Hashes and Block hashes
- 4 Different types of consensus
- 5 Second generation applications of a Blockchain technology (smart contract, tokens,...)
- 6 The Bitcoin forks
- 7 7th-week Assessment
- 8 The evolution to Ethereum.
- 9 Deployment and executing a smart contract in Ethereum.
- 10 Tokens on the Ethereum Platform.
- 11 Fundamentals Cryptocurrency analysis.
- 12 Decentralized finance and the web
- 13 12th-week Assessment
- 14 How to build decentralized applications and understand the different cryptographic techniques
- 15 A case study in Ethereum and hyperledger

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	←		30	MARKS		→	30
8 to 12	←		20	MARKS		→	20
1 to 15	←		10	MARKS		→	10
16 or 17	Final Exam						40

REFERENCES

Textbook Lorne Lantz, Daniel Cawrey, Mastering Blockchain: Unlocking the Power of Cryptocurrencies, Smart Contracts, and Decentralized Applications, O'Reilly Media