

Branch Name:	Cyber Security
Program Code:	ET203
Course Title:	Block chain Application, Security and Investigation Practical
Course Code:	2ET2070306P
Pre-requisite Course:	Basic knowledge of blockchain technology.

Course Objectives: This course provides an in-depth understanding of block chain technology, focusing on security aspects and investigative techniques. Students will learn about the fundamental principles of block chain, common security vulnerabilities, best practices for securing blockchain applications, and methods for investigating block chain-related incidents.

Teaching and Examination Scheme:

Teaching and Examination Scheme:														
Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)									
					Theory (Marks)				Practical (Marks)				Total (Marks)	
	L	T	P	Total	SEE		CCA		SEE		CCA			
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
1	-	-	2	2	-	-	-	-	10	25	10	25	50	

Course Contents:

Unit No	Topics	Total Hours
1	Simple Dapps development using javascript and Web3	02
2	Develop a smart contract search engine.	02
3	Application on smart contract hacks and vulnerabilities.	02
4	Deploying blockchain – based DDoS Protection.	02
5	IoT Application development using blockchain	02
6	E-Voting application development using blockchain	02
7	Insurance Application Development using blockchain	02
8	Health sector application development using blockchain	02
9	Transcript verification application development using block chain	02
10	Peer-reviewing application development using blockchain	02

Reference Books :

1. Blockchain: A Practical Guide to Developing Business, Law, and Technology Solutions by Joseph J. Bambara and Paul R. Allen, McGraw-Hill Education. 2018
2. Hands-On Blockchain with Hyperledger, Nitin Gaur et al., Packt Publishing. 2018
3. Mark Gates, “Block chain: Ultimate guide to understanding block chain, bit coin, crypto currencies, smart contracts and the future of money”, Wise Fox Publishing and Mark Gates 2017.

List of Open-Source Software/learning website:

- NPTEL & MOOC courses titled blockchain technology
- blockgeeks.com/guide/what-is-block-chain-technology <https://nptel.ac.in/courses/106105184/>

Branch Name:	Computer Engineering (Software Engineering)
Program Code:	ET203
Course Title:	BlockChain Application, Security and Investigation
Course Code:	2ET2070306P
Pre-requisite Course:	Basic knowledge of blockchain technology.

Course Learning Outcomes (CLO):

Course Outcomes	Description	Bloom's Taxonomy Level
COL1	Understand the concepts of blockchain technology.	Understanding (2)
COL2	Apply the blockchain for technology, legal and governance applications.	Applying (3)
COL3	Analyze the various private blockchain platform that are accessible.	Analyze(4)
COL4	Evaluate various blockchain challenges for real world applications.	Evaluate(5)
COL5	Apply blockchain technologies other than financial applications.	Applying (3)

Mapping of CLO with PO and PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes(PSOs)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CLO1	H	H	H	H									H			
CLO2	M				M								H			
CLO3		L				H							M			
CLO4	L	H	H						H					L		
CLO5		H	H						M					H		

H: High, M: Medium, L: Low