

School of Engineering and Natural Sciences / Computer Engineering (English)

2023 - 2024 Academic Year

BLOCKCHAIN TECHNOLOGY

Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
BLOCKCHAIN TECHNOLOGY	COE4114261	Fall Semester	3+0	3	6
Prerequisites Courses	MÜHENDİSLER İÇİN PROGRAMLAMA				
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Elective				
Course Coordinator	Prof.Dr. Mehmet Kemal ÖZDEMİR				
Name of Lecturer(s)	Lect.Dr. Aytunç YILDIZLI				
Assistant(s)	None.				
Aim	The aim of this course is to understand Blockchain Technology, its working principle, cryptocurrencies and their place in our future, which has started to gain a new place in our lives with the developing technology.				
Course Content	This course contains; Introduction and overview of the course syllabus,What is Blockchain?,Cryptology and Consensus,Blockchain types: Difference between crypto assets and crypto money,The birth and history of cryptocurrencies,PoW ve PoS algorithms ,Mining, Staking, Baking in Blockchain,Decentralization and philosophy of decentralization,De-Fi,Comparison of Dex and Cex,NFT,Metaverse and Web 3.0,DAO,Blockchain software languages and tools.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. Applies Blockchain Technology to different IT systems			10, 13, 2, 9	F	
2. Generates cryptocurrencies with Blockchain Technology.			10, 13, 2, 9	F	
3. Develops decentralized financial systems.			10, 13, 2, 9	F	
4. Develops information systems with NFT, Metaverse and Web 3.0 concepts.			10, 13, 2, 9	F	
5. Develops systems with Blockchain Technology's programming languages.			10, 13, 2, 9	F	
Teaching Methods	10: Discussion Method, 13: Case Study Method, 2: Project Based Learning Model, 9: Lecture Method				
Assessment Methods	F: Project Task				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Introduction and overview of the course syllabus	Lecture notes-1			
2	What is Blockchain?	Lecture notes - 2			
3	Cryptology and Consensus	Lecture notes - 3			
4	Blockchain types: Difference between crypto assets and crypto money	Lecture notes - 4			
5	The birth and history of cryptocurrencies	Lecture notes - 5			
6	PoW ve PoS algorithms	Lecture notes - 6			
7	Mining, Staking, Baking in Blockchain	Lecture notes - 7			
8	Decentralization and philosophy of decentralization	Lecture notes - 8			
9	De-Fi	Lecture notes - 9			
10	Comparison of Dex and Cex	Lecture notes - 10			
11	NFT	Lecture notes - 11			
12	Metaverse and Web 3.0	Lecture notes - 12			
13	DAO	Lecture notes - 13			
14	Blockchain software languages and tools	Lecture notes - 14			
Evaluation Methods		Weight(%)			
Midterm Exam		30			
General Exam		70			
Resources					
Lecture notes.					