

Vocational School / Computer Programming
2023 - 2024 Academic Year
FUNDAMENTALS of BLOCKCHAIN TECHNOLOGY
Syllabus

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
FUNDAMENTALS of BLOCKCHAIN TECHNOLOGY	BPR2113185	Fall Semester	3+0	3	5
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	Turkish				
Course Level	Short Cycle (Associate's Degree)				
Course Type	Elective				
Course Coordinator	Lect. Beyza KOYULMUŞ				
Name of Lecturer(s)	Lect. Beyza KOYULMUŞ				
Assistant(s)					
Aim	The aim of this course is to provide information about the basic structure of the technology and the development of applications that will create the economy and trust mechanism of the future by examining existing applications together with blockchain technology and infrastructure.				
Course Content	This course contains; Introduction to Blockchain Technology,Developments leading to the emergence of blockchain,Blockchain-focused applications,Blockchain working logic,Blockchain structures, working principles and mining,Digital Coins and other applications,Bitcoin minig and game theory,Blockchain mechanism Cryptology and Hashing,Smart Contract Systems and Applications,Developing a trust and barter system,NFT history,Current NFTs and application areas,Oracles and Metaverse concepts,Web 3.0 and Play-win.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
Understands the working logic of blockchain			10, 16, 9	A, E	
Have an idea about blockchain applications			10, 16, 9	A, D, G	
Explains the concepts of metaverse and NFT			10, 16, 9	A, E, F, G	
Defines Bitcoin minig and game theory			10, 16	A, E, G, H	
Explains the concepts of Cryptology and Hashing			10, 16, 9	A, E	
Teaching Methods	10: Discussion Method, 16: Question - Answer Technique, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, D: Oral Exam, E: Homework, F: Project Task, G: Quiz, H: Performance Task				
Lecture Schedule					
Sequenc e	Topics	Preliminary Preparation			
1	Introduction to Blockchain Technology				
2	Developments leading to the emergence of blockchain				
3	Blockchain-focused applications				
4	Blockchain working logic				
5	Blockchain structures, working principles and mining				
6	Digital Coins and other applications				
7	Bitcoin minig and game theory				
8	Blockchain mechanism Cryptology and Hashing				
9	Smart Contract Systems and Applications				
10	Developing a trust and barter system				
11	NFT history				
12	Current NFTs and application areas				
13	Oracles and Metaverse concepts				
14	Web 3.0 and Play-win				
Evaluation Methods		Weight(%)			
Midterm Exam		40			
General Exam		60			

Resources
Lesson NotesAntonopoulos, A. M. (2017). Mastering Bitcoin: Programming the open blockchain. " O'Reilly Media, Inc."