

**Vocational School / Computer Programming**  
**2024 - 2025 Academic Year**  
**FUNDAMENTALS of BLOCKCHAIN TECHNOLOGY**  
**Syllabus**

<b>Course Description</b>					
<b>Name</b>	<b>Code</b>	<b>Semester</b>	<b>T+A Hour</b>	<b>Credit</b>	<b>ECTS</b>
FUNDAMENTALS of BLOCKCHAIN TECHNOLOGY	BPR2213185	Spring Semester	3+0	3	5
<b>Prerequisites Courses</b>					
<b>Recommended Elective Courses</b>					
<b>Language of Instruction</b>	Turkish				
<b>Course Level</b>	Short Cycle (Associate's Degree)				
<b>Course Type</b>	Elective				
<b>Course Coordinator</b>	Lect. Beyza KOYULMUŞ				
<b>Name of Lecturer(s)</b>	Lect. Beyza KOYULMUŞ				
<b>Assistant(s)</b>					
<b>Aim</b>	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.				
<b>Course Content</b>	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.				
<b>Course Learning Outcomes</b>			<b>Teaching Methods</b>	<b>Assessment Methods</b>	
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	
<b>Teaching Methods</b>	10: Discussion Method, 16: Question - Answer Technique, 9: Lecture Method				
<b>Assessment Methods</b>	A: Traditional Written Exam, D: Oral Exam, E: Homework, F: Project Task, G: Quiz, H: Performance Task				
<b>Lecture Schedule</b>					
<b>Sequenc e</b>	<b>Topics</b>	<b>Preliminary Preparation</b>			
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				
<b>Evaluation Methods</b>		<b>Weight(%)</b>			
Midterm Exam		40			
General Exam		60			
<b>Resources</b>					
Lesson NotesAntonopoulos, A. M. (2017). Mastering Bitcoin: Programming the open blockchain. " O'Reilly Media, Inc."					