ROBOTIC CODING IN MATHEMATICS EDUCATION

1	Course Title:	ROBOTIC CODING IN MATHEMATICS EDUCATION	
2	Course Code:	İMÖ0026	
3	Type of Course:	Optional	
4	Level of Course:	First Cycle	
5	Year of Study:	2	
6	Semester:	3	
7	ECTS Credits Allocated:	4.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:		
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. ADEM UZUN	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	auzun@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	The aim of the course is to enable teacher candidates studying in the department of primary school mathematics education to gain basic knowledge and skills related to robotics and coding in their field teaching.	
19	Contribution of the Course to Professional Development:	In today's world, where the importance of 21st century skills is constantly increasing, robotics and coding applications have become widespread to include the discipline of mathematics. For this reason, it is important that teacher candidates have these knowledge and skills before starting the teaching profession.	
20	Learning Outcomes:		
		1	Explains the basic understanding of robotics and coding
		2	Recognize robotics and coding tools used in mathematics education
		3	Can use robotics and coding tools used in mathematics education
		4	Designs learning activities involving robotics and coding for mathematics education
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21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	General introduction of the course and presentation of the syllabus	
2	Definition and history of robotics and coding	

3	21. For mathematics education. Century skills and the importance of computer thinking skills	
4	Introduction to Robotics and Coding and basic concepts	
5	Introduction to Robotics and Coding and basic concepts	
6	Software tools used in the context of robotics and coding	
7	Software tools used in the context of robotics and coding	
8	Hardware tools used in the context of robotics and coding	
9	Hardware tools used in the context of robotics and coding	
10	Hardware tools used in the context of robotics and coding	
11	Robotics and coding activities specific to mathematics education	
12	Robotics and coding activities specific to mathematics education	
13	Robotics and coding activities specific to mathematics education	
14	General review and summary	

22	Textbooks, References and/or Other Materials:	https://robocodeproject.com/ (Avrupa Birliği Projesi) STEM Eğitimi Uygulamaları 1 -, Pusula Yayıncılık

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Theoretical	14	2.00
Practicals/Labs	0	0.00
Self study and preperation	14	3.00
Quiz	0	0.00
Homeworks	4	5.00
Projects	0	0.00
Final Exam	1	60.00
Field Studies	0	0.00
Midterm exams	1	10.00
Contribution of Term (Year) Learning Activities to		40.00
Others	0	0.00
Final Exams	1	20.00
Contribution of Final Exam to Success Grade		60.00

Activites	Number	Duration (hour)	Total Work Load (hour)
Total Work Load			120.00
Total work load/ 30 hr			4.00
Measurement and Evaluation Techniques Used in the	The test will be applied in the midterm and final exams.		
ECTS Credit of the Course			4.00

24	**ECTS / WORK LOAD TABLE**

25	**CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS**															
	PQ1	**PQ2**	**PQ3**	**PQ4**	**PQ5**	**PQ6**	**PQ7**	**PQ8**	**PQ9**	**PQ10**	**PQ11**	**PQ12**	**PQ13**	**PQ14**	**PQ15**	**PQ16**
ÖK1	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
ÖK3	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0

LO: Learning Objectives PQ: Program Qualifications					
Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**