COMPUTER TOOLS FOR ELECTRICAL-ELECTRONIC ENGINEERS

1	Course Title:	COMPUTER TOOLS FOR ELECTRICAL-ELECTRONIC ENGINEERS
2	Course Code:	EEM1102
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	1
11	Prerequisites:	
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Prof. Dr. FAHRİ VATANSEVER
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	Adres: Elektrik-Elektronik Mühendisliği bölümü, No:311 Tel: (224) 294 09 05 Web: http://home.uludag.edu.tr/~fahriv E-posta:fahriv@uludag.edu.tr
17	Website:	http://home.uludag.edu.tr/~fahriv
18	Objective of the Course:	To gain ability to analyze, design and model with computer tools which use in electric and electronic engineering
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	
	1	To gain ability to develop professional software
	2	To gain ability to develop select and use modern techniques and equipment necessary for engineering applications
	3	To gain ability to use information technology in efficient way
	4	To gain ability to simulate with developing advanced software for investigating engineering problems
	5	To gain ability to collect data, analysis result and interpret results with developing advanced software for investigating engineering problems
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21	Course Content:	

Course Content:

Week	Theoretical	Practice
1	Basics of MATLAB	Laboratory study
2	Developing software with MATLAB	Laboratory study

3	Developing software with MATLAB	Laboratory study
4	Developing software with MATLAB	Laboratory study
5	MATLAB GUI	Laboratory study
6	Design programs with MATLAB GUI	Laboratory study
7	Design programs with MATLAB GUI	Laboratory study
8	Midterm Exam + General review	Laboratory study
9	MATLAB Simulink	Laboratory study
10	Designing and analyzing with MATLAB Simulink	Laboratory study
11	Electric-electronics engineering applications with MATLAB	Laboratory study
12	Basics of Arduino and/or Raspberry Pi	Laboratory study
13	Arduino and/or Raspberry Pi applications	Laboratory study
14	Electric-electronics engineering applications with Arduino and/or Raspberry Pi	Laboratory study

22	Textbooks, References and/or Other Materials:	1. Fahri Vatansever, "Algoritma Geliştirme ve Programlamaya Giriş", 14. baskı, Seçkin Yayıncılık, Ankara, 2020. 2. Vatansever, F., Fundamental Programming with MATLAB, Lecturer notes, 2011. 3. MATLAB Function Reference, The Mathworks, 2001. 4. Simulink, The Matworks, 1999. 5. Arduino (https://www.arduino.cc/) 6. Raspberry Pi (https://www.raspberrypi.org/)

Activites		Number	Duration (hour)	Total Work Load (hour)
Theoretical		14	3.00	42.00
Midterm Exam	1	30.00		
Practicals/Labs		14	2.00	28.00
Self study and preperation		14	3.00	42.00
Home work-project	8	10.00		
Homeworks		8	2.00	16.00
Projects		0	0.00	0.00
Total	10	100.00		
Field Studies		0	0.00	0.00
Midterm exams		1	20.00	20.00
Others		0	0.00	0.00
Final Exams		1	32.00	32.00
Total		100.00		
Total Work Load				180.00
Total work load/ 30 hr				6.00
ECTS Credit of the Course				6.00

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	5	0	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0

ÖK5	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0

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