

MM 495 Introduction To Mechathronics				DEPARTMENT of MECHANICAL ENGINEERING					
Semester	Methods of Education							Credits	
	Lecture	Recit.	Lab.	Project / Field Study	Homework	Other	Total	Credit	ECTS Credit
7	42	0	30	3			75	3	3.0
Language	Turkish								
Compulsory / Elective	Elective								
Prerequisites	MM 326 E								
Course Contents	Introduction to mechatronics, basic electric circuits and components, analog and digital circuits, mechatronic systems and components, sensors, actuators, microcontrollers and interfacing, control structure of mechatronic systems, current topics and applications.								
Course Objectives	To learn mechatronic concepts, mechatronic systems and components, control structures, mechatronic systems applications.								
Learning Outcomes and Competences	The students learn mechatronic concepts, mechatronic systems and components, control structures, mechatronic systems applications.								
Textbook and / or Reference	Text Book: “Introduction to Mechatronics and Measurement Systems” by Alciatore and Hstand, McGraw-Hill, 2nd edition, 2003. References: “Mechatronics” by Necsulescu, Prentice Hall, 2001. “Mechatronics – Electronic Control Systems in Mechanical and Electrical Engineering” by Bolton, Prentice Hall, 3rd edition, 2003.								
Assessment Criteria						If any, mark as (x)		Percentage (%)	
	Midterm Exams					x		40	
	Quizzes								
	Homeworks								
	Projects								
	Term Paper								
	Laboratory Work					x		20	
	Other								
Final Exam					x		40		
Instructors	Assoc.Prof. Omer KELES								
Week	Subject								
1	Mechatronic and Mechatronic Design approaches								
2	Mechatronic and Mechatronic Design approaches								
3	Importance of modelling in the mechatronic system design								
4	Importance of modelling in the mechatronic system design								
5	Sensor and actuator characteristics								
6	Microcontroller programming								
7	Microcontroller programming								
8	Microcontroller programming								
9	Fault analysis in mechatronic systems								
10	Design optimization of mechatronic systems								
11	New trends in mechatronics								
12	New trends in mechatronics								
13	New trends in mechatronics								
14	Team project group presentations								