

MM 410 Mechanical Engineering Laboratory II				DEPARTMENT of MECHANICAL ENGINEERING					
Semester	Methods of Education							Credits	
	Lecture	Recit.	Lab.	Project / Field Study	Homework	Other	Total	Credit	ECTS Credit
8	-	-	28	-	-	47	75	1	3.0
Language	Turkish								
Compulsory / Elective	Compulsory								
Prerequisites	-								
Course Contents	Enabling students to make experiments on “thermodynamics” and “energy” areas of mechanical engineering. Given the basic mechanical engineering subjects, student groups will design of the experiment setup, installation and calibration and make experiments for specified system parameters. Detailed reports will be prepared and presented for each experimental study.								
Course Objectives	To provide the students make experiments for system parameters by desgining the experiment setup, installing and calibrating.								
Learning Outcomes and Competences	Students enrolling this course will be able to design, install, calibrate and make an experiment with system parameters by himself.								
Textbook and /or Reference	1. J. P. Holman, Experimental Methods for Engineers, Seventh Edition, Mc-Graw Hill, 2001. 2. Cobb, G.W., Introduction to design and analysis of experiments, Springer, 1998. 3. Montgomery, D.C., Design and analysis of experiment, 4th ed., John Wiley and Sons, 1997. 4. Beckwith T.G. et al., Mechanical measurements, Addison-Wesley, 1995.								
Assessment Criteria						If any, mark as (x)		Percentage (%)	
	Midterm Exams								
	Quizzes					X		40	
	Homeworks								
	Projects								
	Term Paper								
	Laboratory Work					X		60	
	Other								
Final Exam									
Instructors	Assist.Prof. Huseyin TOPAL, Instr.Dr. Abuzer OZSUNAR								
Week	Subject								
1	Introduction and basics of the course								
2	EXPERIMENT 1: Engine performance								
3	EXPERIMENT 1: Engine performance								
4	EXPERIMENT 2: Analysis of forces acting on the objects in a wind tunnel								
5	EXPERIMENT 2: Analysis of forces acting on the objects in a wind tunnel								
6	EXPERIMENT 3: Natural convection heat transfer								
7	EXPERIMENT 3: Natural convection heat transfer								
8	EXPERIMENT 4: Forced Vortex								
9	EXPERIMENT 4: Forced Vortex								
10	EXPERIMENT 5: Calculation of heat conduction coefficient								
11	EXPERIMENT 5: Calculation of heat conduction coefficient								
12	EXPERIMENT 6: Heat transfer analysis on a model fluidized bed								
13	EXPERIMENT 6: Heat transfer analysis on a model fluidized bed								
14	Discussion								