T.C. ESKİŞEHİR OSMANGAZİ UNIVERSITY
ENGINEERING AND ARCHITECTURE FACULTY
MECHANICAL ENGINEERING DEPARTMENT

COURSE INFORMATION FORM

SEMESTER	Spring

COURSE CODE	151814555	COURSE NAME	Measurement Technique (B)

SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
4	3	0	0	3	5	COMPULSORY (x) ELECTIVE ( )	Turkish

COURSE CATAGORY			
Basic Science	Basic Engineering	Mechanical Engineering [if it contains considerable design, mark with (√)]	Social Science
		x ( )	

ASSESSMENT CRITERIA			
	Evaluation Type	Quantity	%
MID-TERM	Mid-Term	1	50
	Quiz		
	Homework		
	Project		
	Report		
	Others (……)		
FINAL EXAM		1	50

PREREQUIEITE(S)	
COURSE DESCRIPTION	General principles of measurement techniques, SI units, Analysis of results, ISO tolerances, gauges, strain gauges, dimension, hardness, force, torque measurement, surface roughness, gear, vibration, noise, pressure, temperature and flow measurement.
COURSE OBJECTIVES	Students who successfully pass this course gain knowledge, skill and competency about measurement in mechanical engineering.
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	Students learn measurement and applications in mechanical engineering. They can design and solve the new problems about measurement.
COURSE OUTCOMES	By the end of this module students will be able to: 1. Recognize basic measurement devices related to engineering subjects, 2. Analyze measurement results, 3. Has knowledge of measuring instruments to be used in various applications.
TEXTBOOK	Ölçme Tekniği, Tezcan Şekercioğlu, Birsen Yayınevi, 2016
OTHER REFERENCES	Ölçme Tekniği, Osman F. Genceli, Birsen Yayınevi, 2015 Mechanical Measurement, Figliola and Beasley, Wiley, 2011
TOOLS AND EQUIPMENTS REQUIRED	Computer, Lecture Notes, Book, Projector

COURSE SYLLABUS	
WEEK	**TOPICS**
1	General principles of measurement techniques
2	SI units
3	Analysis of measurement results
4	Dimension measurement
5	ISO tolerances
6	Control gauges
7	Strain gauges
8	Mid-Term Examination
9	Mid-Term Examination
10	Hardness measurement
11	Force and torque measurement
12	Surface roughness measurement, and Gear measurement
13	vibration and noise measurement, and Pressure measurement
14	Temperature measurement, and Flow measurement
15,16	Final Exam

NO	PROGRAM OUTCOMES	3	2	1
1	Sufficient knowledge of engineering subjects related with mathematics, science and mechanical engineering; an ability to apply theoretical and practical knowledge on solving and modeling of mechanical engineering problems.		**x**	
2	Ability to determine, define, formulate and solve complex mechanical engineering problems; for that purpose an ability to select and use convenient analytical and experimental methods.		**x**	
3	Ability to design a complex system, a component and/or an engineering process under real life constrains or conditions, defined by environmental, economical and political problems; for that purpose an ability to apply modern design methods.			**x**
4	Ability to develop, select and use modern methods and tools required for mechanical engineering applications; ability to effective use of information technologies.	**x**		
5	In order to investigate mechanical engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results.		**x**	
6	Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence.		**x**	
7	Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language.			**x**
8	Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement.		**x**	
9	Understanding of professional and ethical issues and taking responsibility			**x**
10	Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development.			**x**
11	Knowledge of actual problems and effects of engineering applications on health, environment and security in global and social scale; an awareness of juridical results of engineering solutions.		**x**	
1:None. **2**:Partially contribution. **3**: Completely contribution.				

Prepared by: Assist.Prof.Dr. Ümit ER **Date:** 13.11.2017

Signature(s):