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

COURSE INFORMATION FORM

SEMESTER	Fall

COURSE CODE	151817412 B	COURSE NAME	Machine Laboratory I

SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
7	0	4		2		COMPULSORY (X) ELECTIVE ( )	Turkish

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

ASSESSMENT CRITERIA			
	Evaluation Type	Quantity	%
MID-TERM	Mid-Term	1	30
	Quiz		
	Homework		
	Project		
	Report	2	20
	Others (……)		
FINAL EXAM		1	50

PREREQUIEITE(S)	
COURSE DESCRIPTION	Introduction to static and dynamic experiments of machine tools. Determination of dimension of work part and use of basic measurement devices.
COURSE OBJECTIVES	Students learn the practical geometrical control of the machining, machine tools and measurement devices.
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	Students made practical studies and experiments about machining and measurement subjects.
COURSE OUTCOMES	Students can choose, and evaluate the machining processes and geometrical characteristic of machine tools. Students can determine the tolerance range of machine tools. Students can select and decide the machine tools according to their static and dynamic conditions. Students able to determinate of dimension of work part and use of basic measurement devices.
TEXTBOOK	Machine tools laboratory lecture notes (Turkish)
OTHER REFERENCES	M.Cemal Çakır, Modern talaşlı imalatın yöntemleri, 2000. (Turkish)
TOOLS AND EQUIPMENTS REQUIRED	Lecture Notes, Book, Projector

COURSE SYLLABUS	
WEEK	**TOPICS**
1	Introduction to lathe and main components.
2	Definition of machining defects and machine tools experiments.
3	Practical use of the comparator and the calliper.
4	The spindle's radial and axial run-out test.
5	The spindle's parallelism to the ways test
6	The Lathe bed's parallelism to the tailstock internal cone's test
7	The Lathe bed's parallelism to the tailstock ways test
8	Mid-Term Examination
9	Mid-Term Examination
10	The Lathe bed's parallelism to the tailstock quill test
11	Spindle axis parallelism to the lathe bed's test
12	Introduction to dynamic sensitivity tests and statistical calculations
13	Part machining, diameter measurement of machined parts, determination of the tolerance field of lathe
14	Determination of dimension of work part and use of basic measurement devices
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: Assoc.Prof.Dr. Mustafa Ulutan **Date: 13/11/2017**

Signature(s):