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

COURSE INFORMATION FORM

SEMESTER	AUTUMN

COURSE CODE	151815357-151835357	COURSE NAME	Machine Elements-I

SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
5	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	Importance of Machine elements, calculations, shapings, basis of applications, in constructional activities;welded joints, shaft-hub joints, pins and pivot pins, bolt joints, screw mechanisms, springs.
COURSE OBJECTIVES	Description of machine elements; To give capablity for strenght of materials by using basic engineering data, standards and design criterias..
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	The aim is to provide necessary data and capability for calculation of strenght of materials by basic engineering data, standards and design criterias on design of machine elements.
COURSE OUTCOMES	1. Can recognize the machine elements and application basics. 2. Can comment on strenght of material calculations by basic engineering data for machine elements 3. Can apply the constructional data for machine elements shaping. 4. Can calculate the steady strenght of machine elements. 5. Can design shaft-hub joints, pin and pivot pins joints, bolt joints, screw mechanism and springs. 6. Can evaluate the production of designed machine elements and observe the improvements and updating the data.
TEXTBOOK	BABALIK, F. C., Makine Elemanları ve Konstrüksiyon Örnekleri 4.Basım, Dora Basım Yayın Dağıtım, Bursa, 2011
OTHER REFERENCES	1. AKKURT, M., Makine Elemanları Cilt I, Birsen Yayınevi, İstanbul, 1990. 2. AKKURT, M., Makine Elemanları Cilt II, Birsen Yayınevi, İstanbul, 1990. 3. SHIGLEY, J.E., Mechanical Engineering Design (Metric Edition), McGraw-Hill Book Company, 1986
TOOLS AND EQUIPMENTS REQUIRED	Data projector

COURSE SYLLABUS	
WEEK	**TOPICS**
1	Methods of calculation of strenght of machine elements
2	Steady strenght,The calculaton of machine elemants under dynamic and static load, sample applications.
3	Welded joints, Types of welded joints, rules of weld constructional basis.
4	Calculation of strenght of welding seams, sample applications.
5	Shaft-hub joints, profiled shaft and hub joints, pins, pivot pins, sample applcations.
6	Shaft-hub joints, sample applications
7	Forced shaft-hub joints, sample applications
8	Mid-Term Examination
9	Mid-Term Examination
10	Forced shaft-hub joints, sample applications
11	Bolt joints, Calculation methods for bolt strenght.
12	Pre-loaded bolt joints;Actuator bolts; sample applications.
13	Springs, sample applications.
14	Springs, sample applications.
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: **Date:**

Signature(s):