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

COURSE INFORMATION FORM

SEMESTER	Fall

COURSE CODE	151817480 151837480	COURSE NAME	Mechanical Engineering Design I

SEMESTER	WEEKLY COURSE PERIOD			COURSE OF			
	Theory	Practice	Laboratory	Credit	ECTS	TYPE	LANGUAGE
7	1	4	0	3	7	COMPULSORY (X) ELECTIVE ()	Turkish

COURSE CATAGORY

Basic Science	Basic Engineering	Mekhanical Engineering [if it contains considerable design, mark with (√)]	Social Science
		(X)	

ASSESSMENT CRITERIA

	Evaluation Type	Quantity	%
MID-TERM	1st Mid-Term	1	30
	Quiz		
	Homework		
	Project	1	30
	Report		
	Others (……)		
FINAL EXAM		1	40

PREREQUIEITE(S)	
COURSE DESCRIPTION	Each student will have a design project to cover 3 basic science branches of Mechanical Engineering (Energy, Thermodynamics, Fluid Mechanics).
COURSE OBJECTIVES	The students will design projects at different areas of mechanical engineering by combining their knowledge on the theoretical and practical training courses.
ADDITIVE OF COURSE TO APPLY PROFESSIONAL EDUATION	To gain the skill of solving the problems and learning the systems they will encounter in practice by using the topics given in various lessons during the course of mechanical engineering education.
COURSE OUTCOMES	1. Planning, formulating and organizing of the system design, 2. Questioning, optimizing, simulating of the existing systems, and develop and re-design of the system, 3. Interpreting, presenting, suggesting and reporting the system.
TEXTBOOK	
OTHER REFERENCES	Heat Transfer, Fluid Mechanics and Thermodynamics lecture books
TOOLS AND EQUIPMENTS REQUIRED	Computer and other laboratory facilities

COURSE SYLLABUS	
WEEK	**TOPICS**
1	Information about general design elements, design variables, constraints, needs, conceptual design
2	Identification of groups, notification of project topics to students.
3	Giving general information about report writing and literature review.
4	Giving the necessary theoretical information
5	Giving the necessary theoretical information
6	Determination of design parameters, determine of design variables and create conceptual design
7	Project Consultancy
8	Mid-Term Examination 1
9	Interim Report Delivery
10	Project Consultancy
11	Project Consultancy
12	Cost analysis of the project
13	Preparation of project report
14	Project Presentations
15,16	Final Report Delivery

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: Ass. Prof. Özge ALTUN **Date:** 13.11.2017

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Signature(s):