Engineering Project

Course Code:

ME 492

Course Period:

Spring

Course Type:

Core

Credits:

3

Theoric:

1

Practice:

0

Laboratory Hour:

4

ECTS:

8

Course Language:

English

Course Objectives:

Goal is that the students gain ability to analyze or design a mechanical engineering system

Course Content:

Detailed analysis, design and realization of an Engineering / Science problem, presentation of the results in the form of project report, seminar and demonstration.

Prerequisite(s): Senior standing or consent of advisor and instructor

Course Methodology:

4: Project, 7: Teamwork

Course Evaluation Methods:

D: Report, E: Presentation

Learning Outcomes	Program Outcomes	Teaching Methods	Assessment Methods
1) Ability to use theoretical and applied information in these areas to model and solve engineering problems.	2	4,7	D,E
2) Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.	3	4,7	D,E
3) Ability to devise, select, and use modern techniques and tools needed for engineering practice; ability to employ information technologies effectively	5	4,7	D,E
4) Ability to work efficiently in intra-disciplinary and multi-disciplinary teams.	7	4,7	D,E
5) Ability to work individually.	8	4,7	D,E
6) Ability to communicate effectively both orally and in writing; knowledge of a minimum of one foreign language.	9	4,7	D,E
Ability to work professionally in both thermal and mechanical systems areas, including design and realization.	14	4,7	D,E

COURSE CONTENT

Week	Topics	Study Materials
1	Announcement of the short descriptions and requirements for the offered projects; Students fill in the application forms for the projects they are interested in; Each student is assigned to a project at a faculty meeting	
2	First meeting of the students with their project advisors; Preperation of the detailed work and time plan	
3	Project work and weekly meetings with the advisor	
4	Project work and weekly meetings with the advisor	

5	Project work and weekly meetings with the advisor	
6	Project work and weekly meetings with the advisor	
7	Project work and weekly meetings with the advisor	
8	Project work and weekly meetings with the advisor	
9	Project work and weekly meetings with the advisor	
10	Project work and weekly meetings with the advisor	
11	Students hand out the draft of their project report to their advisors	
12	Improvements and final corrections	
13	Deadline for the project reports	
14	Presentations	

ASSESSMENT		
IN-TERM STUDIES	**NUMBER**	**PERCENTAGE**
Weekly meetings with the advisor	13	30
Total		**100**
CONTRIBUTION OF GDS EXAMINATION TO OVERALL GRADE		10
CONTRIBUTION OF PROJECT PRESENTATION TO OVERALL GRADE		60
CONTRIBUTION OF IN-TERM STUDIES TO OVERALL GRADE		30
Total		**100**

COURSE'S CONTRIBUTION TO PROGRAM								
No	Program Learning Outcomes		Contribution					
		NA	1	2	3	4	5	
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied knowledge in these areas in complex engineering problems.	**X**						

2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.	**X**						
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.	**X**						
4	Ability to devise, select, and use modern techniques and tools needed for analyzing and solving complex problems encountered in engineering practice; ability to employ information technologies effectively.	**X**						
5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex engineering problems or discipline specific research questions.	**X**						
6	Ability to work efficiently in intra-disciplinary and multi-disciplinary teams; ability to work individually.	**X**						
7	Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language; ability to write effective reports and comprehend written reports, prepare design and production reports, make effective presentations, and give and receive clear and intelligible instructions.	**X**						
8	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.	**X**						
9	Consciousness to behave according to ethical principles and professional and ethical responsibility; knowledge on standards used in engineering practice.	**X**						
10	Knowledge about business life practices such as project management, risk management, and change management; awareness in entrepreneurship, innovation; knowledge about sustainable development.	**X**						
11	Knowledge about the global and social effects of engineering practices on health, environment, and safety, and contemporary issues of the century reflected into the field of engineering; awareness of the legal consequences of engineering solutions.	**X**						
12	Ability to work professionally in both thermal and mechanical systems areas, including design and realization.	**X**						

13	Ability to verify and validate numerical solutions to engineering problems.	**X**						

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION			
Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (Excluding exam weeks: 13x Total course hours)	13	1	13
Hours for off-the-classroom study (Pre-study, practice)	13	4	56
Project	1	90	90
Report	1	30	30
Presentation	1	10	10
Total Work Load			199
Total Work Load / 25 (h)			8.0
ECTS Credit of the Course			8