

**ECTS COURSE INFORMATION FORM**

Faculty	Faculty of Engineering		
Program	B.Sc. in Civil Engineering	Required	

Course Code	CE 490			
Course Title in English	CE Senior Design Project Research			
Course Title in Turkish	İnşaat Mühendisliği Tasarım Projesi Araştırması			
Language of Instruction	English			
Type of Course	Project			
Level of Course	Undergraduate			
Course Category (by % of Content)	Basic Science	Basic Engineering	Engineering Design	General Education
	-	100	-	-
Semester Offered	Fall and Spring			
Contact Hours per Week	Lecture: 1 hour	Recitation:	Lab:	Other:
Estimated Student Workload	34 hours per semester			
Number of Credits	1 ECTS			
Grading Mode	Standard Letter Grade			
Pre-requisites	Consent of the department, senior standing			
Expected Prior Knowledge	Basic knowledge about theory, methodology and application in civil engineering design			
Co-requisites	None			
Registration Restrictions	Only Undergraduate Students – Senior year level			
Overall Educational Objective	To learn how to perform a research about a specific realistic civil engineering problem and to propose a design process time-line that models that problem, which includes engineering standards, realistic constraints and conditions, by using the knowledge and skills acquired through previous courses.			
Course Description	This course constitutes the first stage of CE senior design project. Students will first perform a research that includes a literature survey on a problem that they selected as a team. Then, based on the problem selected, students will propose a design process time-line that models that problem under the supervision of their advisors.			
Course Description in Turkish	Bu ders İnşaat Mühendisliği bitirme tasarım projesinin ilk ayağını oluşturmaktadır. Öğrenciler takım olarak seçtikleri bir problem üzerine öncelikle literatür taraması içeren bir araştırma yapacaklardır. Daha sonra seçilen problemi baz alan bir inşaat mühendisliği sistemi veya prosesi için bir tasarım akışı önereceklerdir. Tüm süreç danışmanın idaresinde sürdürülecektir.			
Course Learning Outcomes and Competencies	Upon successful completion of the course, the learner is expected to: 1. identify a practical civil engineering design problem by applying appropriate techniques, skills, and modern engineering tools necessary for practice; 2. deliver a design process time line for a design project under consideration in formal written format; 3. demonstrate effective presentation skills; 4. function effectively as a member of a team; 5. recognize the importance of acquiring and applying new knowledge as needed and demonstrate skills of self-directed learning.			

Relationship of the Course with the Student Outcomes	Level	Learning Outcome(s)	Assessed by
Student Outcomes	N=None S=Supportive H=High		Exam, Project, HW, Experiment, Presentation, etc.
(1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	S	1	Project Time Line
(2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors			
(3) an ability to communicate effectively with a range of audiences	H	2, 3	Project Time Line, Presentation
(4) an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts			
(5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	S	4	PEER Evaluation
(6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions			
(7) an ability to acquire and apply new knowledge as needed, using appropriate learning strategies	H	5	Project Time Line
Prepared by and Date	Asst. Prof. Gökçe Tönük / August 2020		
Semester	Fall 2020-2021		
Name of Instructor	Asst. Prof. Gökçe Tönük (Coordinator)		
Course Contents	Week	Topic	
	1.	How to make a research? What is plagiarism? – Seminar by MEF Library	
	2.	Technical report writing – Seminar by Dr. Şigaher	
	3.	Basics of civil engineering design – Seminar by Dr. Ünen	
	4.	Basics of civil engineering materials and structural analysis – Seminar by Dr. Yıkıcı	
	5.	Design of reinforced concrete structures – Seminar by Dr. Yıkıcı	
	6.	Introduction to Turkish Earthquake Code – Seminar by Dr. Şadan	
	7.	Basics of seismic structural analysis and design – Seminar by Dr. Şadan	
	8.	Basics of project management - Seminar by Dr. Dikmen	
	9.	Teams setting, project topic selection	
	10.	Self- directed research	
	11.	Self- directed research	
	12.	Self- directed research	
	13.	Self- directed research	
	14.	Evaluation of the progress of the project time line through the submitted draft time line	
	15.	Final Exam/Project/Presentation Period	
	16.	Final Exam/Project/Presentation Period	
Required/Recommended Readings	<ul style="list-style-type: none"> Project Specifications Books, articles, codes and other references related to the project topic 		
Teaching Methods	In class seminars and meetings		
Homework and Projects	Senior Design Project Time-Line		

Laboratory Work	-										
Computer Use	-										
Other Activities	-										
Assessment Methods	<table border="1"> <thead> <tr> <th>Types of assessment</th> <th>Ratio (%)</th> </tr> </thead> <tbody> <tr> <td>Team Work</td> <td>15</td> </tr> <tr> <td>Project Time-line Report</td> <td>70</td> </tr> <tr> <td>Project Time-line Presentation</td> <td>15</td> </tr> <tr> <td>Total</td> <td>100</td> </tr> </tbody> </table>	Types of assessment	Ratio (%)	Team Work	15	Project Time-line Report	70	Project Time-line Presentation	15	Total	100
Types of assessment	Ratio (%)										
Team Work	15										
Project Time-line Report	70										
Project Time-line Presentation	15										
Total	100										
Course Administration	<p>Instructor's office and phone number: 5th Floor, A535 office hours: via email email address: tonukg@mef.edu.tr</p> <p>Meeting with the advisor: You are responsible for all arrangements of meetings with your advisor.</p> <p>Report: No late submission. Students do not submit their reports on time will fail the course.</p> <p>Presentation: Students that miss their presentation time/day will fail the course.</p> <p>A reminder of proper classroom behavior, code of student conduct: YÖK Regulations</p> <p>Statement on plagiarism: YÖK Regulations (http://3fcampus.mef.edu.tr/uploads/cms/webadmin.mef.edu.tr/4833_2.pdf)</p> <p>Disclaimer: The instructor reserves the right, when necessary, to alter the grading policy, change examination dates, and modify the syllabus and course content. Modifications will be announced through BB. Students are responsible for the announced changes.</p>										

ECTS Student Workload Estimation	Activity	No/Weeks	Hours			Calculation	Explanation
		No/Weeks per Semester (A)	Preparing for the Activity (B)	Spent in the Activity Itself (C)	Completing the Activity Requirements (D)		
	Seminars and meeting with advisor	10		1		10	A*(B+C+D)
	Project time-line report	1	20			20	A*(B+C+D)
	Project time-line presentation	1	3	1		4	A*(B+C+D)
	Project Report					0	A*(B+C+D)
	Project Presentation					0	A*(B+C+D)
	Total Workload					34	
	Total Workload/25					1.36	
	ECTS					1	