

Faculty	Faculty of Engineering	
Program	B.Sc. in Civil Engineering	Required
	B.Sc. in Computer Engineering	Elective
	B.Sc. in Electrical-Electronics Engineering	Elective
	B.Sc. in Industrial Engineering	Elective
	B.Sc. in Mechanical Engineering	Elective

Course Code	CE 401			
Course Title in English	Construction Management			
Course Title in Turkish	Yapı İşletmesi			
Language of Instruction	English			
Type of Course	Flipped Classroom/Lecture/Project			
Level of Course	Undergraduate			
Course Category (by % of Content)	Basic Science	Basic Engineering	Engineering Design	General Education
	-	100	-	-
Semester Offered	Fall			
Contact Hours per Week	Lecture: 3 hours	Recitation:	Lab:	Other:
Estimated Student Workload	130 hours per semester			
Number of Credits	5 ECTS			
Grading Mode	Standard Letter Grade			
Pre-requisites	None			
Expected Prior Knowledge	None			
Co-requisites	None			
Registration Restrictions	Only Undergraduate Students			
Overall Educational Objective	To acquire basic skills and knowledge to organize and manage construction projects for their successful realization.			
Course Description	This course will familiarize the student with the construction industry and the management of construction projects, types and organization of construction firms, project life cycle, documentation, project team and site organization, project procurement methods, bidding process, contracts and contract management, fundamentals of scheduling including CPM method, time-cost relationship, cost management and control, risk management, principles of occupational health and safety at site.			
Course Description in Turkish	Bu ders öğrenciyi inşaat endüstrisi ve inşaat projelerinin yönetimi, inşaat firmalarının çeşitleri ve organizasyonu, proje yaşam döngüsü, dokümantasyon, proje ekibi ve şantiye organizasyonu, proje tedarik yöntemleri, ihale süreci, sözleşmeler ve sözleşme yönetimi, CPM yöntemi de dahil olmak üzere iş programlamasının temellerini, zaman-maliyet ilişkisi, maliyet yönetimi ve kontrolü, risk yönetimi, iş sağlığı ve güvenliği konularında bilgi edindirir.			
Course Learning Outcomes and Competencies	Upon successful completion of this course, the learner is expected to: <ol style="list-style-type: none"> 1. describe principles of project management; 2. describe procurement methods; 3. describe and analyze construction contracts; 4. explain construction project scheduling techniques; 5. describe how to follow financial and physical progress of a construction project; 6. describe risks and risk management in construction projects; 7. prepare a technical report on issues related to professional practice; 8. demonstrate effective communication skills. 			

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	H	1, 2, 3, 4, 5	Quiz and Assignments
(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	S	7	Term Project
(3) an ability to communicate effectively with a range of audiences	S	8	Term Project 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	S	6	Quiz and Assignments
(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			
(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			
Prepared by and Date	Prof. Dr. S. Ümit Dikmen / August 2020		
Semester	Fall 2020-2021		
Name of Instructor	Prof. Dr. S. Ümit Dikmen		
Course Contents	Week	Topic	
	1.	Introduction to construction industry	
	2.	Fundamental concepts of project and construction management	
	3.	Project life cycle, documentation, design process, project team	
	4.	Project procurement methods	
	5.	Contracts	
	6.	Fundamentals of scheduling	
	7.	Fundamentals of scheduling	
	8.	Fundamentals of scheduling	
	9.	Cost management and control	
	10.	Cost management and control	
	11.	Risk management	
	12.	Occupational health and safety	
	13.	Advanced topics	
	14.	Advanced topics	
	15.	Final Exam/Project/Presentation Period	
	16.	Final Exam/Project/Presentation Period	
Required/Recommended Readings	<ul style="list-style-type: none"> Project Management for Construction: Fundamental Concepts for Owners, Engineers, Architects and Builders by Chris Hendrickson, Department of Civil and Environmental Engineering, Carnegie Mellon University, Pittsburgh, PA Technical papers to be assigned 		
Teaching Methods	Lectures/contact hours using 'flipped classroom' as an active learning technique		
Homework and Projects	Term project		
Laboratory Work	-		
Computer Use	Microsoft Office Applications, Tools for construction management		

