

IM 361 SOIL MECHANICS I		CIVIL ENGINEERING	
Semester	Credit Structure		
	Lecture	Recitation	Laboratory
5	3	0	0
Language	English		
Compulsory / Elective	Compulsory		
Prerequisites	-		
Catalog Description	Introduction. Soil problems in Civil Engineering. Origins and composition of soils. The soil model and basic physical properties. Compaction of soils. Water in soil; permeability, flow nets. Effective stress concept. Total stress, pore pressure. Stress in soils due to external loading. Consolidation theory.		
Course Objectives	To provide a clear explanation of the fundamental principles of soil mechanics.		
Course Outcomes	Having elementary knowledge of the fundamental principles of soil mechanics.		
Textbook and /or References	R.F. Craig, 1990, Soil Mechanics, ELBS, England		
Assessment Criteria		Quantity	Percentage
	Midterm Exams	2	60
	Quizzes	-	
	Homeworks	-	
	Projects	-	
	Term Paper	-	
	Laboratory Work	-	
	Other	-	
	Final Exam	1	40
Course Category by Content (%)	Mathematics and Basic Sciences	%25	
	Engineering Science	%50	
	Engineering Design	%25	
	Social Sciences	-	
Instructors	Yrd. Doç. Dr. Sami Oğuzhan Akbaş, Öğr. Gör. Dr. Ünsal Soygür		

COURSE PLAN	
Week	Topics
1	Soil problems in civil engineering
2	Origins and compositions of soils
3	The soil model and basic physical properties
4	Compaction of soils
5	Water in soil; permeability, flow nets
6	Water in soil; permeability, flow nets
7	Effective stress concept. Total stress pore pressure
8	Effective stress concept. Total stress pore pressure
9	Effective stress concept. Total stress pore pressure
10	Stress in soils due to external loading
11	Stress in soils due to external loading
12	Consolidation theory
13	Consolidation theory
14	Consolidation theory

RELATIONSHIP BETWEEN THE COURSE AND DEPARTMENT CURRICULUM				
	Program Outcomes	1	2	3
1	An ability to apply knowledge of mathematics, science, and engineering		X	
2	An ability to design and conduct experiments, as well as to analyze and interpret data		X	
3	An ability to design a system, component, or process to meet desired needs		X	
4	An ability to function on multi-disciplinary teams		X	
5	An ability to identify, formulate, and solve engineering problems		X	
6	An understanding of professional and ethical responsibility			X
7	An ability for effective written and oral communication in Turkish and English			X
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context			X
9	A recognition of the need for, and ability to engage in life-long learning			X
10	A knowledge of contemporary issues		X	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice		X	
Contribution of the course : 1:None 2:Partially 3:Completely				