

TOROS ÜNİVERSİTESİ

Institute Of Graduate Education
Civil Engineering Master's Program (With Thesis)

Course Information

ADVANCED SOIL MECHANICS					
Code	Semester	Theoretical	Practice	National Credit	ECTS Credit
		Hour / Week			
FIM621	Fall	3	0	3	6

Prerequisites and co-requisites	
Language of instruction	Turkish
Type	Elective
Level of Course	Master's
Lecturer	PROF.DR. AZİZ ERTUNÇ
Mode of Delivery	Face to Face
Suggested Subject	
Professional practise (internship)	None
Objectives of the Course	Stress-strain-time behavior of soils under isotropic and axial loads is investigated as one dimensional and two dimensional, taking into account the initial conditions. Considering the drainage conditions, the changes in the stress and shape changes are calculated by taking advantage of the elasticity and plasticity theories and the conditions for reaching the displacement condition at the ground are defined.
Contents of the Course	Stress and deformation definitions in soils with continuous media acceptance, traces of stress. Laboratory tests to investigate the mechanical behavior of soils, isotropic and one dimensional consolidation, shear strength tests, failure criteria, soil parameters for design / numerical analysis of behavior of soils.

Learning Outcomes of Course

#	Learning Outcomes
1	Will be able to learn the basic concepts necessary to be able to investigate the mechanical behaviors of soils under load
2	Model the soil problems numerically
3	He will be able to evaluate the project
4	

Course Syllabus

#	Subjects	Teaching Methods and Technics
1	Introduction to mechanical behavior of soils	lecture
2	Introduction to mechanical behavior of soils	lecture
3	Strain and shape changes in floors	lecture
4	Strain and shape changes in floors	lecture
5	Laboratory experiments, water flow in soils	lecture
6	Laboratory experiments, water flow in soils	lecture
7	One-dimensional consolidation	lecture
8	One-dimensional consolidation	lecture
9	Shear strength tests	lecture
10	Shear strength tests	lecture

11	Shear strength tests	lecture
12	Pre-migration behavior of soils	lecture
13	Pre-migration behavior of soils	lecture
14	Pre-migration behavior of soils	lecture
15	Pre-migration behavior of soils	lecture
16	Final Exam	

Course Syllabus

#	Material / Resources	Information About Resources	Reference / Recommended Resources
1	Önalp, A., Sert A. SGeoteknik Bilgisi III, Birsen Yayınevi		

Method of Assessment

#	Weight	Work Type	Work Title
1	40%	Mid-Term Exam	Mid-Term Exam
2	60%	Final Exam	Final Exam

Relationship between Learning Outcomes of Course and Program Outcomes

#	Learning Outcomes	Program Outcomes	Method of Assessment
1	Will be able to learn the basic concepts necessary to be able to investigate the mechanical behaviors of soils under load	3	1,2
2	Model the soil problems numerically	4	1,2
3	He will be able to evaluate the project	2	1,2
4			

PS. The numbers, which are shown in the column Method of Assessment, presents the methods shown in the previous table, titled as Method of Assessment.

Work Load Details

#	Type of Work	Quantity	Time (Hour)	Work Load
1	Course Duration	14	3	42
2	Course Duration Except Class (Preliminary Study, Enhancement)	14	7	98
3	Presentation and Seminar Preparation	0	0	0
4	Web Research, Library and Archival Work	0	0	0
5	Document/Information Listing	0	0	0
6	Workshop	0	0	0
7	Preparation for Midterm Exam	0	0	0
8	Midterm Exam	0	0	0
9	Quiz	0	0	0
10	Homework	0	0	0
11	Midterm Project	0	0	0
12	Midterm Exercise	0	0	0
13	Final Project	0	0	0
14	Final Exercise	0	0	0
15	Preparation for Final Exam	1	9	9
16	Final Exam	1	1	1

