

COURSE SYLLABUS SEMESTER

Name of Course	GEOTECHNICS 2. (EARTHWORKS)
Course Code	MSB136AN-EA-00
Allotment of Hours per Week	1Lecture and 1 Practice/Week
Number of Credits	2
Program	B.Sc in Civil Engineering
Evaluation	Exam, Midterm, Homework (semester mark)
Semester	6th
Prerequisites	None
Department	Civil Engineering
Instructor	Ali Mohamed Mohamed Salem Office: Boszorkány street 2 C0042 E-mail: ali.salem@mik.pte.hu

INTRODUCTION, GENERAL COURSE DESCRIPTION

This course is aimed to provide basic and advanced knowledge on the principles and design of the different type of retaining structures. Topics covered by the course include: soil site explorations, Earth pressures, retaining walls, sheet pile walls, supported deep excavation, and soil improvement.

This course is designed to teach students how classify the soil. Explain different techniques of soil site explorations. Explaining and discussing methods of designing different types of retaining walls. Explaining and discussing methods of designing different types of sheet pile walls. Teaching students different methods of soil improvement, Site Dewatering, and supported deep excavation.

LEARNING OBJECTIVES

Students will gain from this course:

- knowledge of soil exploration and lateral earth distribution
- Understanding and Practical knowledge of retaining structures design.

Knowledge of Ground improvement and supported deep excavation.

Methodology:

Lectures: will give the basis of soil exploration, lateral earth distribution and geotechnical design of retaining structures

Schedule:

Week	Topic of lecture
Week 1	Course description. Orientation.
Week 2	Introduction in Geotechnical Engineering,
Week 3	Lateral earth pressure (at rest – active – passive)
Week 4	Earth pressure Distribution
Week 5	Practical for Earth pressure Distribution,
Week 6	Types and definition of earth retaining structures Retaining walls (Gravity – cantilever – counterfort)
Week 7	Mid-Term Exam
Week 8	Stability of Retaining walls
Week 9	Practical for Retaining walls
Week 10	Sheet Pile walls (Gravity – anchored – strutted)
Week 11	Spring Break
Week 12	Practical for Sheet Pile walls

Week 13	Supported deep foundation
Week 14	Ground improvement and dewatering systems
Week 15	Final exam.

ATTENDANCE AND GRADING

Attendance:

Attending is required all classes, and will impact the grade (max. 10%). Unexcused absences will adversely affect the grade, and in case of absence from more than 30% of the total number of lesson will be grounds for failing the class. To be in class at the beginning time and stay until the scheduled end of the lesson is required, tardiness of more than 20 minutes will be counted as an absence. In the case of an illness or family emergency, the student must present a valid excuse, such as a doctor's note.

Grading:

10% - Attendance

25% - Homework

25% - Mid-Term Exam

40% - Final Exam

Offered exam grade:

Evaluation in percents	Numeric grade
89%-100%	5
77%-88%	4
66%-76%	3
55%-65%	2
0-54%	1

READINGS AND REFERENCE MATERIALS

- **JOSEPH E. BOWLES, MCGRAW-HILL 1996 “FOUNDATION ANALYSIS AND DESIGN”, 5TH ED. BY .**
- Braja M. Das Principles of Foundation Engineering, 4th Edition.
- Farkas, J., Józsa, V., Szendefy J. (2014): Foundation Engineering, elektronikus angol BSc egyetemi jegyzet, BME, Geotechnikai Tanszék p. 97.
- Holtz, R.D. and Kovacs, W.D. (1981): An Introduction to Geotechnical Engineering, Prentice Hall.
- Presentations

SCHEDULE

		SZORGALMI IDŐSZAK, OKTATÁSI HETEK															VIZSGAIDŐSZAK				
		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	1.	2.	3.	4.	5.
2019/2020. 2. FÉLÉV																					
Előadás tematika sorszáma																					
Gyakorlat/Labor sorszáma																					
Zárthelyi dolgozat																					
Otthoni munka	kiadása																				
	beadási határidők																				
Jegyző-könyvek	beadási határidők																				
Egyebek	pl. beszámolók,																				
	stb.																				
Aláírás / Félévközi jegy																					

megadása																		
Vizgák tervezett időpontjai																		