

COURSE SYLLABUS AND COURSE REQUIREMENTS

ACADEMIC YEAR 2023/2024 SEMESTER FALL

Course title	<i>Geotechnics 1. (Soil Mechanics)</i>
Course Code	MSB135AN-EA-00
Hours/Week: le/pr/lab	2 lectures, 2 practice /week
Credits	3
Degree Programme	B.Sc in Civil Engineering
Study Mode (TVSZ-ben training schedule)	
Requirements	None
Teaching Period	3th
Prerequisites	None
Department(s)	Civil Engineering
Course Director	
Teaching Staff	<i>Ali Mohamed Mohamed Salem</i>
Hours/Week: le/pr/lab	2 lectures, 1practice /week

COURSE DESCRIPTION

Neptun: Instruction/Subjects/Subject Details/Basic data/Subject description

This course is aimed to provide basic and various aspects of soil mechanics. Topics covered by the course include soil site explorations, Soil classification, soil consistency, soil compaction, shear strength of soil, and soil improvement. This course is designed to teach students how to classify the soil. Explain different techniques of soil site explorations. Explaining and discussing methods of soil compaction. Explaining and discussing hydraulic properties of soil and shear strength of soil. Teaching students different methods of soil improvement

SYLLABUS

Neptun: Instruction/Subjects/Subject Details/Syllabus

1. GOALS AND OBJECTIVES

Neptun: Instruction/Subjects/Subject Details/Syllabus/Goal of Instruction

This course is aimed to provide basic and various aspects of soil mechanics. Topics covered by the course include: soil site explorations, Soil classification, soil consistency, soil compaction, stresses in soil, consolidation, permeability, and shear strength of soil.

Students will gain from this course:

- knowledge of soil exploration and soil classification,
- Providing the Practical meaning of the various aspects of soil mechanics.
- Knowledge of Ground improvement

2. COURSE CONTENT

Neptun: Instruction/Subjects/Subject Details/Syllabus/Subject content

TOPICS

LECTURE	TOPICS
	1. Soil investigation
	2. Physical properties of soil
	3. Grain size distribution
	4. Soil Consistency
	5. Soil Classification
	6. Soil compaction
	7. Consolidation
	8. Hydraulic Properties of soils (Geo – static stress)
	9. Hydraulic Properties of soils Permeability
	10. Shear strength of soils

PRACTICE

11. Ground improvement and soil reinforcement

1. Physical properties of soil
2. Grain size distribution
3. Soil Consistency
4. Soil Classification
5. Soil compaction
6. Consolidation
7. Hydraulic Properties of soils (Geo – static stress)
8. Hydraulic Properties of soils Permeability
9. Shear strength of soils

DETAILED SYLLABUS AND COURSE SCHEDULE

ACADEMIC HOLIDAYS INCLUDED

LECTURE

<i>week</i>	Topic	Compulsory reading; page number (from ... to ...)	Required tasks (assignments, tests, etc.)	Completion date, due date
1.	Course description. Orientation.
2.	Introduction in Geotechnical Engineering	Lecture notes and slides	----	
3.	Soil investigation	Lecture notes and slides	Assignment _1	20-09-2023
4.	Physical properties of soil	Lecture notes and slides	Assignment _2	27-10-2023
5.	Grain size distribution	Lecture notes and slides	Assignment _3	04-10-2023
6.	Soil Consistency	Lecture notes and slides	Assignment _4	11-10-2023
7.	Soil Classification	Lecture notes and slides	Assignment _5	18-10-2023
8.	Soil compaction	Lecture notes and slides	Assignment _6	25-10-2023
9.	Mid-Term Exam	-----	-----	-----
10.	Consolidation	Lecture notes and slides	Assignment _7	08-11-2023
11.	Hydraulic Properties of soils (Geo – static stress, Permeability)	Lecture notes and slides	Assignment _8	15-11-2023
12.	Shear strength of soils	Lecture notes and slides	Assignment _9	22-11-2023
13.	Ground improvement and soil reinforcement	Lecture notes and slides	-----	-----
14.	Final exam.			

PRACTICE, LABORATORY PRACTICE

<i>week</i>	Topic	Compulsory reading; page number (from ... to ...)	Required tasks (assignments, tests, etc.)	Completion date, due date
1.	Course description. Orientation.
2.	Introduction in Geotechnical Engineering	Lecture notes and slides	----	
3.	Soil investigation	Lecture notes and slides	Assignment _1	20-09-2023
4.	Physical properties of soil	Lecture notes and slides	Assignment _2	27-10-2023
5.	Grain size distribution	Lecture notes and slides	Assignment _3	04-10-2023

6.	Soil Consistency	Lecture notes and slides	Assignment_4	11-10-2023
7.	Soil Classification	Lecture notes and slides	Assignment_5	18-10-2023
8.	Soil compaction	Lecture notes and slides	Assignment_6	25-10-2023
9.	Mid-Term Exam	-----	-----	-----
10.	Consolidation	Lecture notes and slides	Assignment_7	08-11-2023
11.	Hydraulic Properties of soils (Geo – static stress, Permeability)	Lecture notes and slides	Assignment_8	15-11-2023
12.	Shear strength of soils	Lecture notes and slides	Assignment_9	22-11-2023
13.	Ground improvement and soil reinforcement	Lecture notes and slides	-----	-----
14.	Final exam.			

3. ASSESSMENT AND EVALUATION

(Neptun: Instruction/Subjects/Subject Details/Syllabus/Examination and Evaluation System)

ATTENDANCE

In accordance with the Code of Studies and Examinations of the University of Pécs, Article 45 (2) and Annex 9. (Article 3) a student may be refused a grade or qualification in the given full-time course if the number of class absences exceeds 30% of the contact hours stipulated in the course description.

Method for monitoring attendance (e.g.: attendance sheet / online test/ register, etc.)

attendance sheet

ASSESSMENT

Cells of the appropriate type of requirement is to be filled out (course-units resulting in mid-term grade or examination). Cells of the other type can be deleted.

Course resulting in mid-term grade (PTE TVSz 40§(3))

Mid-term assessments, performance evaluation and their ratio in the final grade

Type	Assessment	Ratio in the final grade
Attendance	10 points	10%
Assignments	20 points	20%
Midterm Exam	30 points	30%
Final Exam	40 points	40%

Opportunity and procedure for re-takes (PTE TVSz 47§(4))

all tests and assessment tasks can be repeated/improved at least once every semester, and the tests and home assignments can be repeated/improved at least once in the first two weeks of the examination period.

Grade calculation as a percentage

based on the aggregate performance according to the following table

Course grade	Performance in %
excellent (5)	85 % ...
good (4)	70 % ... 85 %
satisfactory (3)	55 % ... 70 %
pass (2)	40 % ... 55 %
fail (1)	below 40 %

The lower limit given at each grade belongs to that grade.

Course-unit with final examination

Mid-term assessments, performance evaluation and their weighting as a pre-requisite for taking the final exam

Type	Assessment	Weighting as a proportion of the pre-requisite for taking the exam
1. Attendance	10 points	10%
2. Assignments	20 points	20%
3. Midterm Exam	30 points	30%
4. Final Exam	40 points	40%

Requirements for the end-of-semester signature

The end-of-semester signature is successful if the result is minimum **40** %.

Re-takes for the end-of-semester signature (PTE TVSz 50§(2))

All tests and assessment tasks can be repeated/improved at least once every semester, and the tests and home assignments can be repeated/improved at least once in the first two weeks of the examination period.

Type of examination (written, oral): written

The exam is successful if the result is minimum **40** %.

Calculation of the grade (TVSz 47§ (3))

The mid-term performance accounts for **30** %, the performance at the exam accounts for **40** % in the calculation of the final grade.

Calculation of the final grade based on aggregate performance in percentage.

Course grade	Performance in %
excellent (5)	85 % ...
good (4)	70 % ... 85 %
satisfactory (3)	55 % ... 70 %
pass (2)	40 % ... 55 %
fail (1)	below 40 %

The lower limit given at each grade belongs to that grade.

4. SPECIFIED LITERATURE

In order of relevance. (In Neptun ES: Instruction/Subject/Subject details/Syllabus/Literature)

COMPULSORY READING AND AVAILABILITY

- [1.] Primary compulsory reading and its availability
- [2.] Compulsory literature and its availability

RECOMMENDED LITERATURE AND AVAILABILITY

- [3.] - Das, B.M. (1998). Principles of Geotechnical Engineering, 4th edition, PWS Publishing Company.
- [4.] - Holtz, R.D. and Kovacs, W.D. (1981). An Introduction to Geotechnical Engineering, Prentice Hall
- [5.] - Lecture notes and slides