# COURSE SYLLABUS SEMESTER FALL 2020/2021

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| Name of Course | Geology for Civil Enineering |
| **Course Code** | **MSB134ANEP** |
| **Allotment of Hours per Week** | **1 lectures, 1 practice /week** |
| **Number of Credits** | **3** |
| **Program** | **B.Sc in Civil Engineering** |
| **Evaluation** | **Midterm- final exams, and Homework** |
| **Semester** | **1 st** |
| **Prerequisites** | **None** |
| **Department** | **Civil Engineering** |
| **Instructor** | **Ali Mohamed Mohamed Salem**  **Office: Boszorkány street 2 C0042**  **E-mail:** [**ali.salem@mik.pte.hu**](mailto:ali.salem@mik.pte.hu) |
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## OBJECTIVES

This course aims at teaching the basics of Geology connecting to the civil engineering and covers the following topics: The role of geology in geosciences and in civil engineering; Cosmological background of the Earth; Earth’s systems and plate tectonics; Lithosphere: minerals, rock groups (igneous, sedimentary and metamorphic); Main geologic hazards and damage protection: earthquakes, volcanoes, landslides; Geosciences in mining and environmental protection: case studies;

Students will gain from this course:

- knowledge in the basics of main areas, methods and tools of geosciences,

- Providing the Practical meaning of the various aspects of soil geosciences.

- prepare students with a basic knowledge for practical aspects and applications of geology in civil engineering

## CONTENTS

**Short description:**

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**Methodology:**

- Lectures: will give the basis of soil exploration, Soil classification Soil classification, soil consistency, soil compaction, shear strength of soil, and soil improvement.

- Practical class and lab practice: Students will be assigned tasks to complete

- Exams: Accumulated knowledge is tested in two exams: a midterm and a final exam. Both feature multiple-choice, true-false or short essay questions.

**Schedule:**

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| **Week** | **Topic of lecture** |
| Week 1 | Course description. Orientation. |
| Week 2 | Basic aspects of geosciences |
| Week 3 | Geological maps, editing, home work |
| Week 4 | Cosmological background of the Earth; Earth’s systems and plate tectonics |
| Week 5 | Structural geology, effects of faults |
| Week 6 | Lithosphere: minerals, rock groups (igneous, sedimentary and metamorphic) |
| Week 7 | Folds, dams, tunnels |
| Week 8 | Autumn break |
| Week 9 | **Mid-Term Exam** |
| Week 10 | Main geologic hazards and damage protection: earthquakes, volcanoes, landslides |
| Week 11 | Introduction to engineering geology |
| Week 12 | Geosciences in mining and environmental protection: case studies |
| Week 13 | Home work submission |
| Week 14 | Final exam. |
| Week 15 | Second exams (only if required). |

## 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

20% - Assignments

30% - Midterm 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

**Students with Special Needs:**

Students with a disability and needs to request special accommodations, please, notify the Deans Office. Proper documentation of disability will be required. All attempts to provide an equal learning environment for all will be made.

## READINGS AND REFERENCE MATERIALS

- A .C. McLean C. D. Gribble: Geology for Civil Engineers; ISBN 0-203-37473-8 (Adobe e-Reader Format)

- Lecture notes and slides