Engineering Geology of Hungary - BMEEOGMMG64

I. Subject Specification

1. Basic Data

1.1 Title

Engineering Geology of Hungary

1.2 Code

BMEEOGMMG64

1.3 Type

Module with associated contact hours

1.4 Contact hours

Type	Hours/week / (days)
Lecture	2

1.5 Evaluation

Midterm grade

1.6 Credits

3

1.7 Coordinator

name	Dr. Ákos Török, Dr. Nikoletta Rozgonyi-Boissinot
academic rank	Professor
email	torok.akos@emk.bme.hu

1.8 Department

Department of Engineering Geology and Geotechnics

1.9 Website

https://epito.bme.hu/BMEEOGMMG64
https://fiek2.mywire.org/course/view.php?id=2074

1.10 Language of instruction

hungarian and english

1.11 Curriculum requirements

Optional in the Structural Engineering (MSc) programme

1.12 Prerequisites

1.13 Effective date

5 February 2020

2. Objectives and learning outcomes

2.1 Objectives

The goal of the subject, that the students getting familiar with the main geological regions of Hungary and gain the required regional and local geological knowledge for engineering design and operate of facilities. Furthermore it is also an important additional part of the course to present knowledge about the main geological structures of Hungary, the location of the most important soils and rocks, the surface-forming processes with anthropogenic effects, the most important relief forms caused by flowing water, wind. Introduces to the students the karstic landforms, and the surface forming effect of mining, road, railway and other civil engineering constructions. Furthermore the subject give comparison between the Hungarian and well-known international geological units and landforms.

2.2 Learning outcomes

Upon successful completion of this subject, the student:

A. Knowledge

1. is familiar with the geological structure of the main landscapes of Hungary,
2. knows the important properties of the main geological formations of Hungary,
3. is familiar with the processes which contribute to the formation of the landscapes
4. knows the major geomorphological features of the natural landscapes of Hungary,
5. recognizes the signs of geological formations and their cartographic representation,
6. knows the relief forms resulting from engineering activities.

B. Skills

1. is able to characterize typical geological formations,
2. is able to interpret geological maps,
3. is able to distinguish between the geological formations with help of geological maps during the field survey,
4. is capable of collecting and understanding the extant drilling results from an arbitrary area,
5. is able to collect geological and geomorphological data of an arbitrary area based on digital and paper-based datas,
6. is capable for written and oral presentation about the geological and geomorphological characteristics of a designated area.

C. Attitudes

1. expands knowledge continuously,
2. is open to use of information technology (IT) tools,
3. is open for independent research work,
4. strives for accurate and error-free problem solving,

5. is interested for the geological processes,
6. is ready to participate in field surveys.

D. Autonomy and Responsibility

1. researches independently in the databases of the previous drilling results about the designated area,
2. is open to accept well-founded critical comments,
3. prepares independently a geological and geomorphological documentation and presentation of the designated,
4. take care of the physical safety of themselves and others of others during the field trips.

2.3 Methods

Lectures, written and oral presentation, use of IT-technics, field survey, self-made exercise.

2.4 Course outline

Week	**Topics of lectures**
1.	Summary of the geochronological knowledge, moving of crustal fragments, the position of the area of Hungary in the geological ages.
2.	Structural outline of Hungary.
3.	Geology of the Soproni and Kőszegi Mountains, geomorphology of the Eastern Alps.
4.	Geology of the Mecsek and Villányi Mountains
5.	Geomorfology and geology of the Balaton-Highlands.
6.	Geomorfology and geology of the Vértes and Gerecse Mountains.
7.	Geomorfology and geology of the Budai Mountains.
8.	Geology of the right and left part of the Danube in Budapest, geomorphological features.
9.	Geomorfology and geology of the North Hungarian Mid-Mountains – sedimentary rocks, geomorphology of karsts.
10.	Geomorfology and geology of the North Hungarian Mid-Mountains – volcanism
11.	Geomorfology and geology of the Great Hungarian Plane, Little Hungarian Plane.
12.	Summary.
13.	Field trip.
14.	Presentations of the students.

The above programme is tentative and subject to changes due to calendar variations and other reasons specific to the actual semester. Consult the effective detailed course schedule of the course on the subject website.

2.5 Study materials

a) Printed lecture notes
1. Haas, J. (2015). Geology of Hungary, Springer

b) Online materials
1. Lecture notes

2.6 Other information

1) Date of field survey may change depending on weather conditions.

2.7 Consultation

The instructors are available for consultation during their office hours, as advertised on the department website. Special appointments can be requested via e-mail: rozgonyi.nikoletta@epito.bme.hu

This Subject Datasheet is valid for:

Inactive courses

II. Subject requirements

Assessment and evaluation of the learning outcomes

3.1 General rules

The assessment of the learning outcomes specified in clause 2.2. above and the evaluation of student performance occurs via test, homework assignments and presentation.

3.2 Assessment methods

Evaluation form	Abbreviation	Assessed learning outcomes
1. midterm test	MT	A.1-A.4; B.1-B.2
2. homework	HW	A.1-A.6; B.1-B.4, B.5-B.6; C.1-C.6; D.1-D.4
oral presentation	OP	B.1, B.6; C.1-C.3; D.2, D.4

The dates of deadlines of assignments/homework can be found in the detailed course schedule on the subject's website.

3.3 Evaluation system

Abbreviation	Score
MT	50%
HW	30%
OP	20%
Sum	**100%**

To obtain the midterm grade the student must reach separately 50% of the control test, and homework and oral presentation.

3.4 Requirements and validity of signature

There is no signature for this subject.

3.5 Grading system

Determination of the final grade is according to the below described considerations:
The final grade is the average value of the result of the midterm test and the homework weighted according to the clause 3.3.

Grade	Points (P)
excellent (5)	85<=P
good (4)	74<=P<84%
satisfactory (3)	62<=P<73%
passed (2)	51<=P<61%
failed (1)	P<50%

3.6 Retake and repeat

1) Homework – after the payment of the fee determinated in the regulation – can be submit with delay until 16.00 or in electronic format until 23.59 of the last day of the completion week.
2) The submitted and accepted homework can be corrected without any fee until the deadline described in the point 1.
3) The midterm test can be retaken in the last practical week free of charge. In case of correction the better result will be taking into account from the new and previous results.

4) In case of failing the retake described in the point 3. there is a possibility for second retake – after the payment of the fee determinated in the regulation – in the completion week.

3.7 Estimated workload

Activity	**Hours/semester**
contact hours	14×2=28
preparation for the courses	14×1=14
preparation for the tests	16
homework	20
home studying of the written material	12
Sum	**90**

3.8 Effective date

5 February 2020

This Subject Datasheet is valid for:

Inactive courses