

**ERASMUS MUNDUS MASTER PROGRAMME IN SOIL SCIENCE – emiSS**  
**2020-2021 ACADEMIC YEAR - MODULE SYLLABUS**

<b>Name of course:</b>	
<i>INTRODUCTION TO GEOLOGY AND GEOMORPHOLOGY</i>	
ECTS	6
Type of Course	<i>Mandatory</i>
Form of Examination	<i>Written Examination</i>
Prerequisites	<i>Basic knowledge of geography.</i>

<b>Field of Study:</b>
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*Agriculture / Soil Science / Environmental Science*

Education profile	<i>Academic</i>
Code of study form and level of education	<i>Master of Science</i>
Academic year/Semester	<i>First year/ Spring Semester</i>
Specialization	<i>Agriculture</i>
Language of education	<i>English</i>

<b>The lecturer module:</b>
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The name of faculty	<i>University of Agriculture in Krakow, Faculty of Agriculture and Economics</i>
The name of department	<i>Department of Soil Science and Agrophysic</i>

<b>Educational outcomes:</b>
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**Description of the learning effect**

**KNOWLEDGE - student knows and understands:**

1	<i>Student knows the geological processes shaping the structure of the Earth</i>
2	<i>Student has knowledge of surface geomorphological processes shaping the Earth's surface</i>
3	<i>Student understands the processes of soil parent material formation</i>

**SKILLS - the graduate can**

1	<i>Student able to recognize the main soil-forming minerals and rocks</i>
2	<i>Student can separate natural and anthropogenic transformations of the Earth's surface</i>
3	<i>Student/ can practically recognize geomorphological processes</i>



<b>SOCIAL COMPETENCES - graduate:</b>	
1	<i>Student can interact and work in a group, and takes part in the discussion</i>
2	<i>Student is aware of the function and protection of the Earth's surface for the sustainable development of the world</i>

**Course objectives and content:**

The aim of the course is to learn the basic issues of geological phenomena, geomorphological processes. Lecture topics include the structure of the Earth, the origin of minerals and rocks, and rock tectonics. Endogenous and exogenous processes as well as the sculptural activity of external forces. Historical geology - stratigraphy. Review of geomorphological forms.

<i>INTRODUCTION TO GEOLOGY AND GEOMORPHOLOGY</i>		<i>36 hours</i>
Subject of lecture	1	<i>Structure of the earth and its surface - components of the earth's crust (chemical composition, minerals, rocks) and the formation of the lithosphere surface. 3 h</i>
	2	<i>Endogenous geological processes. 3 h</i>
	3	<i>Activities of the nature forces in shaping the Earth's surface. 3 h</i>
	4	<i>Exogenous geological processes. 3 h</i>
	5	<i>Denudative relief and fluvial processes. 3 h</i>
	6	<i>Midterm exam</i>
	7	<i>Karst and glacial relief. Biogenic and anthropogenic forms. 3h</i>
	8	<i>Outline of historical geology, basics of stratigraphy. 3h</i>
	9	<i>Quaternary. 3 h</i>
	10	<i>Rock weathering processes. 3 h</i>
	11	<i>The genesis of surface rocks and parent materials soil. 3h</i>
	12	<i>Geological and geomorphological conditioning of soil parent rock diversity. 3 h</i>
	13	<i>Impact of parent material on soil properties. 3h</i>
	14	<i>Final exam</i>
The methods of verification and assessment criteria and principles		<i>Written test exam, for passing an examination at least 60% of questions should be answered correctly. The contribution of the evaluation of the lectures in the final grade is 50%.</i>

**Literature:**

Recommended Textbooks	1- Earle, S. (2019). Physical Geology – 2nd Edition. Victoria, B.C.: B Ccampus. Retrieved from <a href="https://opentextbc.ca/physicalgeology2ed/">https://opentextbc.ca/physicalgeology2ed/</a> . 2- Class book edited by lecturer.
Complementary	<i>Current publications in scientific journals related to course issues and some course materials supported by lecturer.</i>

**Structure of learning outcomes:**
**The area of study:** soil science, environmental science, agriculture, natural resources **6 ECTS\***
**The structure of student activity:**

<i>Learning Activities</i>	<i>Amount</i>	<i>Time (h)</i>	<i>Total workload (h)</i>
Participate in lecture	12	3	36
Participate in midterm exam	1	2	2
Individual study for midterm exam	5	3	15
Individual study for lectures	12	1	12
Laboratory study	10	3	30
Quiz			
Field classes	2	12	24
Assignment	11	2	22
Participate in final exam	1	2	2
Individual study for final exam	5	3	15
Literature critical review			
Oral exam			
Individual study for problem solution	11	2	22
Consultations			
Participate in researches			
Mandatory practices and internships			
	<b>Total workload (h)</b>		<b>180</b>

\*ECTS Credits = Total Workload (Hours) / 30 (Hours/1 ECTS) = 180 / 30 = 6 ECTS

Name Surname  
 of Lecturer : .....

Sign:.....

Date: .....