

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

Name of course:	
<i>SOIL GEOGRAPHY AND SOIL RESOURCES OF THE WORLD</i>	
ECTS	6
Type of Course	<i>Mandatory</i>
Form of Examination	<i>Written Examination</i>
Prerequisites	<i>Basic knowledge in the geography, soil science – classification WRB, environmental science or earth science.</i>

Field of Study:	
<i>Agriculture</i>	
Education profile	<i>Academic</i>
Code of study form and level of education	<i>Master of Science</i>
Academic year/Semester	<i>First year/Summer Semester</i>
Specialization	<i>Soil Science</i>
Language of education	<i>English</i>

The lecturer module:	
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>

Educational outcomes:	
Description of the learning effect	
KNOWLEDGE - student knows and understands:	
1	<i>Student knows the trends in soil geography and understands the importance of soil resources in the world</i>
2	<i>Student defines the main soil-forming factors affecting soil distribution on Earth</i>
3	<i>Student knows the distribution of major soil groups on Earth</i>
SKILLS - the graduate can	
1	<i>Student describes and classifies soils according to WRB and knows the basic principles of Soil Taxonomy</i>

2	<i>Student has the ability to critically analyze, selection and evaluation of information from various sources, especially from the Internet</i>
	<i>Student fluently uses scientific literature in the field of soil science, reads and understands scientific texts in English</i>

SOCIAL COMPETENCES - graduate:

1	<i>Student understands the need for continuous improvement of qualifications and is able to organize the training of other people</i>
2	<i>Student can work in a group, and takes part in the discussion</i>
	<i>Student uses knowledge and skills to set priorities for efficient operation</i>
	<i>Student understands the need for continuous education in the field of profession</i>

Course objectives and content:

The aim of the course is to study the distribution of soils on the globe and the basis for the most important global soil classifications. The following issues will be discussed: world soil resources and population nutrition, soil classification rules according to the World Reference Base for Soil Resources and Soil Taxonomy, pedogenic factors affecting soil distribution on the globe, soils of individual climate and plant zones on Earth, soil distribution in Europe.

SOIL GEOGRAPHY AND SOIL RESOURCES OF THE WORLD

36 hours

Subject of lecture	1	<i>Soil resources as a fundamental part of the environment</i>
	2	<i>Trends in soil geography and soil classification</i>
	3	<i>Pedogenic factors affecting the distribution of soils on the globe</i>
	4	<i>Development of soil classification systems, global and national soil classifications Soil Reference Groups, Introduction and principles of soil classification according to WRB,</i>
	5	<i>Diagnostic soil horizons, properties and materials according to WRB, Guidelines for soil profile description</i>
	6	<i>Mineral soils conditioned by subtropical and tropical climate</i>
	7	<i>Mineral soils conditioned by dry climate</i>
	8	<i>Midterm exam</i>
	9	<i>Mineral soils conditioned by cool temperate climate</i>
	10	<i>Mineral soils conditioned by warm temperate climate</i>
	11	<i>Mineral soils conditioned by limited age</i>
	12	<i>Mineral soils conditioned mainly by geomorphology, Mineral soils conditioned mainly by parent material</i>
	13	<i>Anthropogenic soils</i>
	14	<i>Final exam</i>
The methods of verification and assessment criteria and principles		<i>For a positive grade, sum of 40% of midterm (100%) and 60% of final (100%) exams should be greater than 60.</i>

Literature:

Recommended Textbooks	<ol style="list-style-type: none"> 1. IUSS Working Group WRB. 2015. World Reference Base for Soil Resources 2014, update 2015. International soil classification system for naming soils and creating legends for soil maps. World Soil Resources Reports No. 106. FAO, Rome. 2. Soil Survey Staff. 2014. Keys to Soil Taxonomy, 12th ed. USDA-Natural Resources Conservation Service, Washington, DC. 3. Schaetzl R. J., Thompson M. L. 2015. Soils: Genesis and Geomorphology, Cambridge University Press. 4. Food and agriculture organization of the united nations, Rome. 2006. Guidelines for soil description. 5. Jenny H. 1941. Factors of soil formation. McGraw-Hill, New York
Complementary	<ol style="list-style-type: none"> 1. Lecture notes on the major soils of the World (ed.) P. Driessen, J. Deckers., J. Spaargaren. FAO 2001 2. Soil Survey Staff. 2015. Illustrated guide to soil taxonomy, version 2. U.S. Department of Agriculture, Natural Resources Conservation Service, National Soil Survey Center, Lincoln, Nebraska. 3. Publication recommended during classes by teacher

Structure of learning outcomes:

The area of study: agricultural, soil science, environmental science, natural resources **6 ECTS***

The structure of student activity:

<i>Learning Activities</i>	<i>Amount</i>	<i>Time (h)</i>	<i>Total work-load (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			
	<i>Total workload (h)</i>		<i>180</i>

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

Name Surname
of Lecturer :

Sign:.....

Date: