

Annex 6

SUBJECT OUTLINE

1. Information on the study programme

1.1 Academic institution	UNIVERSITY OF ORADEA
1.2 Faculty	FACULTY OF ENVIRONMENTAL PROTECTION
1.3 Department	FORESTRY AND FOREST ENGINEERING
1.4 Field of study	FORESTRY
1.5 Cycle of study	BACHELOR
1.6 Study programme/Qualification	FORESTRY / ENGINEER

2. Information on the discipline

2.1 Name of discipline	GEOLOGY AND GEOMORPHOLOGY						
2.2 Course holder	Lecturer MOTIU PETRICĂ TUDOR, Eng. PhD						
2.3 Seminar/Laboratory/Project holder	Lecturer MOTIU PETRICĂ TUDOR, Eng. PhD						
2.4 Year of study	I	2.5 Semester	II	2.6 Type of evaluation	Summative	2.7 Regime of discipline	C

(C) Compulsory; (O) Optional; (E) Elective

3. Total estimate time (hours per semester of didactic activities)

3.1 Number of hours per week	4	out of which: 3.2 course	2	out of which 3.3 laboratory	2
3.4 Total hours in the curriculum	56	out of which: 3.5 course	28	out of which 3.6 laboratory	28
Time allotment					hours
Study assisted by manual, course support, bibliography and notes					14
Additional documentation in the library/ on specialised electronic platforms and in the field					8
Preparation of seminars/laboratories/ topics/reports, portfolios and essays					12
Tutorship					2
Examinations					8
Other activities.....					
3.7 Total hours of individual study	44				
3.9 Total hours per semester	100				
3.10 Number of credits	4				

4. Pre-requisites (where appropriate)

4.1 curriculum	Biochemistry, Biophysics.
4.2 competences	Knowledge of the mineralogical and petrographic composition of the earth's crust and their role in landform modeling.

5. Conditions (where appropriate)

5.1. related to course	Video projector, computer
5.2. related to seminar/laboratory/ project	Equipment related to the development of laboratory hours (collection of minerals and rocks, color plates, etc.) Carrying out all laboratory work and field trips.

6. Specific competences acquired	
Professional competences	<input type="checkbox"/> C1.1 Description of the theoretical and practical foundations of the forestry processes, of those characteristic of the hunting, salmonic fund and of biodiversity; <input type="checkbox"/> C2.1 Technical substantiation of the forest production process; <input type="checkbox"/> C3.1 Defining ecological risk situations, methods, techniques and procedures that can be used in ecological reconstruction of ecosystems; <input type="checkbox"/> C1.2 Explaining and arguing the different sustainable management systems of the forest fund; <input type="checkbox"/> C2.2 Explaining and interpreting the phenomena and processes associated with the field of forest production;
Transversal competences	<input type="checkbox"/> CT.1 Realization of projects under coordination, for solving some problems specific to the field, with the correct evaluation of the workload <input type="checkbox"/> CT3. Objective self-assessment of the need for continuous training in order to constantly adapt and respond to the demands of economic development; the use of information and communication techniques and an international language.

7. Objectives of discipline (coming from the specific competences acquired)

7.1 General objective	The course "Geology and geomorphology" aims to familiarize students with the basics needed to know minerals and rocks, mineralogical and petrographic composition of the earth's crust, the role of lithology and geological structure in modeling the relief, classification and geomorphological region of Romania. Through the wealth of scientific data it provides, this course will be able to contribute in the future to a rational management of forests.
7.2 Specific objectives	The laboratory works are designed to provide future forestry engineers with practical skills on identifying (in the field) and describing geological phenomena, lithological composition, and units and forms of relief.

8. Contents*/

8.1 Course	Methods of teaching	No. of hours/Remarks
1. Elements of geology. Introductory notions	Video projector. Some parts of the course take place through lectures, presentations and debates by students.	2
2. Elements of dynamic geology	Video projector. Some	6

	parts of the course take place through lectures, presentations and debates by students.	
3. Mineralogical composition of the earth's crust	Video projector. Some parts of the course take place through lectures, presentations and debates by students.	2
4. Petrographic composition of the earth's crust. Magmatic rocks.	Video projector. Some parts of the course take place through lectures, presentations and debates by students.	2
5. Metamorphic rocks	Video projector. Some parts of the course take place through lectures, presentations and debates by students.	2
6. Sedimentary rocks	Video projector. Some parts of the course take place through lectures, presentations and debates by students.	2
7. Graphic representation of lithology and geological structures	Video projector. Some parts of the course take place through lectures, presentations and debates by students.	2
8. Morphostructural units in Romania	Video projector. Some parts of the course take place through lectures, presentations and debates by students.	2
9. Elements of geomorphology. Introductory notions. Genetic factors of relief and systematics of landforms	Video projector. Some parts of the course take place through lectures, presentations and debates by students.	2
10. The role of lithology and geological structure in relief modeling	Video projector. Some parts of the course take place through lectures, presentations and debates by students.	2
11. The genesis of the relief of Romania	Video projector. Some parts of the course take place through lectures, presentations and debates by students.	2
12. Classification and morphological region of Romania's	Video projector. Some	2

relief.	parts of the course take place through lectures, presentations and debates by students.	
Bibliography 1. Moțiu P. T., 2020. <i>Curs – Geologie și Geomorfologie</i> . Oradea. 2. Anastasiu N., Grigorescu D., Mutihac V., Popescu Gh. C., <i>Dicționar de Geologie</i> . Editura Didactică și Pedagogică. 3. Catană C., Popescu L., 1997. <i>Curs de Geologie Generală</i> . Editura Universității Ștefan cel Mare. Suceava. 4. Ielenicz M., 2004. <i>Geomorfologie</i> . Editura Universitară, București. 5. Josan N., Petrea R., Petrea D., 1996. <i>Geomorfologie generală</i> . Editura Universității din Oradea. Oradea. 6. Josan N., 2014. <i>Antropizarea Reliefului: Geomorfologie Antropică</i> . Editura Universității din Oradea. Oradea, 2014. 7. Mârza I., Constantina C., 2005. <i>Elemente de Geologie și Geomorfologie Aplicate Domeniului Agro-Silvic</i> . Editura Todesco. Cluj - Napoca. 8. Târziu D., Spârchez G., 1997. <i>Elemente de Geologie și Geomorfologie</i> . Editura Lux Libris. Brașov.		
8.2 Laboratory	Methods of teaching	No. of hours/ Remarks
1. Earth as a planet	In the first hour there will be a training related to labor protection specific to laboratory works. Lecture, presentation of topics and their debate by students. Interactive.	2
2. Physical properties of minerals - Morphological properties	Lecture, presentation of topics and their debate by students. Interactive.	2
3. Classification and description of minerals	Lecture, presentation of topics and their debate by students. Interactive.	2
4. Classification and description of magmatic rocks	Lecture, presentation of topics and their debate by students. Interactive.	2
5. Classification and description of metamorphic rocks	Lecture, presentation of topics and their debate by students. Interactive.	2
6. Classification and description of sedimentary rocks	Lecture, presentation of topics and their debate by students. Interactive.	2
7. Graphic representation of lithology and geological structures	Lecture, presentation of topics and their debate by students. Interactive.	2
8. Petrographic relief	Lecture, presentation of topics and their debate by students. Interactive.	2
9. Structural relief	Lecture, presentation of topics and their debate by students. Interactive.	2

10. Volcanic relief; The relief of volcanic sedimentary complexes	Lecture, presentation of topics and their debate by students. Interactive.	2
11. Fluvial relief	Lecture, presentation of topics and their debate by students. Interactive.	2
12. Glacial and periglacial relief; Aeolian relief	Lecture, presentation of topics and their debate by students. Interactive.	2
13. Age of relief	Lecture, presentation of topics and their debate by students. Interactive.	2
14. Practical work performed in the field.	Lecture, presentation of topics and their debate by students. Interactive.	2

Bibliography

1. Moțiu P. T., 2020. *Îndrumar de lucrări practice – Geologie și Geomorfologie*. Oradea.
2. Bodog Marinela., Pedologie cu Elemente de Geologie și Geomorfologie. Editura Universității din Oradea. Oradea, 2008.
3. Boiengiu S., 2003. *Geologie Generală – Îndrumător de lucrări practice*. Editura Universității din Craiova. Craiova.
4. Ilieș Dorina, 2003. *Geologie Generală – Lucrări practice*. Oradea.
5. Luca Anca, Marin Cornelia, Popescu Monica. 2000. *Geologie Generală și Geologia României – Caiet de lucrări practice*. Editura Fundației România de Măine. București.
6. Târziu D., Spârchez G., 1997. *Elemente de Geologie și Geomorfologie*. Editura Lux Libris. Brașov.

* The content, respectively the number of hours allocated to each course / seminar / laboratory / project will be detailed during the 14 weeks of each semester of the academic year.

9. Corroboration of discipline content with the expectations of the epistemic community, professional associations and representative employers from the field corresponding to the study programme

The content of the discipline is adapted and satisfies the requirements imposed by the labor market, being agreed by the social partners, professional associations and employers in the field related to the bachelor program. The content of the discipline is found in the curriculum of Forestry and other university centers in Romania that have accredited these specializations, so knowledge of the basics is a stringent requirement of employers in the field of Forestry and Forest Exploitation, such as: RNP, ICAS, IFN, etc.

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	Exam (written) - For grade 5: all subjects must be treated to minimum standards; - For grades > 5 all subjects must be treated to maximum standards;	The exam consists of 3 topics from the course topic. In order to pass the exam, each subject must be	75%

		treated for at least grade 5.	
10.5 Seminar			
10.6 Laboratory	Evaluation test (written) - For grade 5: all subjects must be treated to minimum standards; - For grades > 5 all subjects must be treated to maximum standards;	Practical exam.	25 %
10.7 Project	-		
10.8 Minimum standard of performance			
Minimum performance standard: Carrying out coordinated work to solve specific problems in the field of forestry and forest exploitation, with the correct assessment of workload, available resources, time required for completion and risks, under conditions of application of safety rules and occupational health.			
Grade components: Exam (Ex), Laboratory (L); - Note calculation formula: $N = 0.75Ex + 0.25L$; - Condition for obtaining loans: $N > 5$; $L > 5$;			

Date of completion

Signature of course holder**

Signature of seminar

laboratory/project holder **

14.09.2020
Eng. PhD

Lecturer Moțiu Petrică Tudor, Eng. PhD

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Date of approval in the department
05.10.2020

Signature of the Head of Department***

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** - Name, first name, academic degree and contact details (e-mail, web page, etc) will be specified.

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*** - Name, first name, academic degree and contact details (e-mail, web page, etc) of the academic entity beneficiary of the Discipline Outline will be specified.

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