SYLLABUS [1]

1. Information about the program

1.1 Higher education institution	Politehnica University Timisoara
1.2 Faculty[2]/ Department [3]	Civil Engineering Faculty/Department of Land Communication Ways, Foundations and Cadastre
1.3 Chair	—
1.4 Field of study (name/code[4])	Civil Engineering/80
1.5 Study cycle	Bachelor
1.6 Study program (name/code/qualification)	Civil Engineering (in English)/10/Engineer

2. Information about the discipline

2.1 Name of discipline/ formative category[5]	Engineering Geology/DD						
2.2 Coordinator (holder) of course activities	Lecturer PhD. Eng. Ciopec Alexandra						
2.3 Coordinator (holder) of applied activities[6]	Lecturer PhD. Eng. Ciopec Alexandra						
2.4 Year of study[7]	II	**2.5** Semester	3	**2.6** Type of evaluation	E	**2.7** Type of discipline[8]	DI

3. Total estimated time – hours / semester: direct teaching activities (fully assisted or partly assisted) and individual training activities (unassisted) [9]

3.1 Number of fully assisted hours / week	3 of which:	**3.2** course	2	**3.3** seminar / laboratory / project	1
3.1* Total number of fully assisted hours / semester	42 of which:	**3.2*** course	28	**3.3*** seminar / laboratory / project	14
3.4 Number of hours partially assisted / week	of which:	**3.5** training		**3.6** hours for diploma project elaboration	
3.4* Total number of hours partially assisted / semester	of which:	**3.5*** training		**3.6*** hours for diploma project elaboration	
3.7 Number of hours of unassisted activities / week	2 of which:	additional documentary hours in the library, on the specialized electronic platforms and on the field			0.5
		hours of individual study after manual, course support, bibliography and notes			1
		training seminars / laboratories, homework and papers, portfolios and essays			0.5
3.7* Number of hours of unassisted activities / semester	28 of which:	additional documentary hours in the library, on the specialized electronic platforms and on the field			7
		hours of individual study after manual, course support, bibliography and notes			14
		training seminars / laboratories, homework and papers, portfolios and essays			7
3.8 Total hours / week [10]	5				
3.8* Total hours /semester	70				
3.9 Number of credits	4				

4. Prerequisites (where applicable)

4.1 Curriculum	• Building Materials, Surveying, Geography

[1] The form corresponds to the Discipline File promoted by OMECTS 5703 / 18.12.2011 and to the requirements of the ARACIS Specific Standards valid from 01.10.2017.
[2] The name of the faculty which manages the educational curriculum to which the discipline belongs
[3] The name of the department entrusted with the discipline, and to which the course coordinator/holder belongs.
[4] The code provided in HG no.140 / 16.03.2017 or similar HGs updated annually shall be entered.
[5] Discipline falls under the educational curriculum in one of the following formative disciplines: Basic Discipline (DF), Domain Discipline (DD), Specialist Discipline (DS) or Complementary Discipline (DC).
[6] Application activities refer to: seminar (S) / laboratory (L) / project (P) / practice/training (Pr).
[7] Year of studies in which the discipline is provided in the curriculum.
[8] Discipline may have one of the following regimes: imposed discipline (DI), optional discipline (DO) or optional discipline (Df).
[9] The number of hours in the headings 3.1 *, 3.2 *, ..., 3.8 * is obtained by multiplying by 14 (weeks) the number of hours in headings 3.1, 3.2, ..., 3.8. The information in sections 3.1, 3.4 and 3.7 is the verification keys used by ARACIS as: (3.1) + (3.4) ≥ 28 hours / wk. and (3.8) ≤ 40 hours / wk.
[10] The total number of hours / week is obtained by summing up the number of hours in points 3.1, 3.4 and 3.7.

4.2 Competencies	• Using the scientific engineering fundamentals

5. Conditions (where applicable)

5.1 of the course	• Classroom having 35 seats. Support materials: laptop, projector, screen, blackboard
5.2 to conduct practical activities	• Classroom having 35 seats, blackboard, laptop, screen

6. Specific competencies acquired through this discipline

Specific competencies	• Aquire knowledge about geological principles in the field of engineering geology
Professional competencies ascribed to the specific competencies	• Design of structural elements in civil engineering, specific to graduated study programme • Complying to quality and sustainable requirements for civil, industrial and agricultural constructions
Transversal competencies ascribed to the specific competencies	• Documentation in Romanian and foreign language, in view of professional and personal development, via continuous learning and efficient adaptation to the new technical specifications

7. Objectives of the discipline (based on the grid of specific competencies acquired - pct.6)

7.1 The general objective of the discipline	• The lecture's objective is to initiate the student in the field of engineering geology. • The engineering geology is concerned with the applications of the principles of geology to civil engineering. The lecture of engineering geology comprises a number of chapters regarding the following branches: mineralogy, petrology, structural geology, palaeontology and geomorphology.
7.2 Specific objectives	• Geological principles must be used to explain the variation in the mechanical properties of rocks and soils. • After completion of the course students should be able to identify principal minerals and rocks, to understand the processes which conducted to the present state of the Earth crust.

8. Content [11]

8.1 Course	Number of hours	Teaching methods [12]
Introduction (Earth History)	2	Lecturing, conversation, explanation
Geological Investigation Methods (Procedures for Soil Sampling, Field Tests)	2	
Dynamic Geology (Plate Tectonics, Earthquakes, Volcanoes)	8	

[11] It details all the didactic activities foreseen in the curriculum (lectures and seminar themes, the list of laboratory works, the content of the stages of project preparation, the theme of each practice stage). The titles of the laboratory work carried out on the stands shall be accompanied by the notation "(*)".
[12] Presentation of the teaching methods will include the use of new technologies (e-mail, personalized web page, electronic resources etc.).

Minerals and Rocks (Minerals Classification Criteria, Igneous, Sedimentary and Metamorphic Rock Properties and Classification)	6	
Rock Weathering (Weathering Processes, Climate Products of Weathering)	2	
Geological Structures (Fundamental Unit Structures: Dips, Faults, Folds, Joints)	4	
Soils (Mineral Composition of Soils, Texture and Fabric of Soils, Characteristics of Soil Masses)	4	

Bibliography [13]

1. F.C. Beavis-Engineering Geology, Blackwell Scientific Applications, 1985
2. R.F. Symes-Rocks and Minerals, Alfred A. Knopf, New York, 1988
3. W.K. Hamblin-Earth Dynamic Systems: A Textbook in Physical Geology, MacMillan Publishing Company, Canada, 1992
4. I.P. Boldurean-Engineering Geology, Politehnica Publishing House, Timisoara, Romania, 1996
5. A. Ciopec, M. Mirea, L. Roman, O. Roman-Aide-Memoire Romanian-English for Engineering Geology Terms, Politehnica Publishing House, Timisoara, Romania, 2013

8.2 Applied activities [14]	Number of hours	Teaching methods
Geological Investigation Methods	2	Explanation, example, experiment, questions, discussion
Plate Tectonics	2	
Volcanoes	2	
Earthquakes	2	
Mineral Properties	2	Explanation, example, experiment, questions, discussion
Rock Classification	2	Explanation, example, experiment, questions, discussion
Geological Structures	2	Explanation, example, experiment, questions, discussion

Bibliography [15]

1. F.C. Beavis-Engineering Geology, Blackwell Scientific Applications, 1985
2. R.F. Symes-Rocks and Minerals, Alfred A. Knopf, New York, 1988
3. W.K. Hamblin-Earth Dynamic Systems: A Textbook in Physical Geology, MacMillan Publishing Company, Canada, 1992
4. I.P. Boldurean-Engineering Geology, Politehnica Publishing House, Timisoara, Romania, 1996
5. A. Ciopec, M. Mirea, L. Roman, O. Roman-Aide-Memoire Romanian-English for Engineering Geology Terms, Politehnica Publishing House, Timisoara, Romania, 2013

[13] At least one title must belong to the discipline team and at least one title should refer to a reference work for discipline, national and international circulation, existing in the UPT library.
[14] Types of application activities are those specified in footnote 5. If the discipline contains several types of applicative activities then they are sequentially in the lines of the table below. The type of activity will be in a distinct line as: "Seminar:", "Laboratory:", "Project:" and / or "Practice/training".
[15] At least one title must belong to the discipline team.

9. Corroboration of the content of the discipline with the expectations of the main representatives of the epistemic community, professional associations and employers in the field afferent to the program

- The discipline is in accordance with the ability of the civil engineers required by the civil engineering management and design companies.
- The content of the discipline was adapted to the requirements of the labor market, following the discussions in professional meetings or scientific conferences organized by civil engineering companies.

10. Evaluation

Type of activity	**10.1** Evaluation criteria [16]	**10.2** Evaluation methods	**10.3** Share of the final grade
10.4 Course	Answer to subjects from lecture and application area	Written exam: will be treated two subjects from the lecture content.	60%
10.5 Applied activities	**S:**		
	L: Solving problems corresponding to the laboratory works during semester time	Answer to questions regarding the solved problems or tests performed during the semester time	40%
	P[17]**:**		
	Pr:		
10.6 Minimum performance standard (minimum amount of knowledge necessary to pass the discipline and the way in which this knowledge is verified [18])			
• To pass the exam it is necessary to obtain a minimum 5 (five) grade for each of the exam subjects, the presence is compulsory to the laboratory works and it is necessary to prove knowledge learned during laboratory hours.			

Date of completion	**Course coordinator (signature)**	**Coordinator of applied activities (signature)**
January 2018	……	……
Head of Department (signature)	**Date of approval in the Faculty Council [19]**	**Dean (signature)**
……	12.02.2018	……

[16] Syllabus must contain the procedure for assessing the discipline, specifying the criteria, methods and forms of assessment, as well as specifying the weightings assigned to them in the final grade. The evaluation criteria shall be formulated separately for each activity foreseen in the curriculum (course, seminar, laboratory, project). They will also refer to the forms of verification (homework, papers, etc.)

[17] In the case where the project is not a distinct discipline, this section also specifies how the outcome of the project evaluation makes the admission of the student conditional on the final assessment within the discipline.

[18] It will not explain how the promotion mark is awarded.

[19] The endorsement is preceded by the discussion of the board's view of the study program on the discipline record.