SYLLABUS

1. Data about the program of study

1.1	Institution	The Technical University of Cluj-Napoca
1.2	Faculty	Faculty of Civil Engineering
1.3	Department	Structures
1.4	Field of study	Civil Engineering
1.5	Cycle of study	Bachelor of Science
1.6	Program of study/Qualification	Civil Engineering
1.7	Form of education	Full time
1.8	Subject code	6.00

2. Data about the subject

2.1	Subject name			Geologie inginereasca			
2.2	Subject area			Civil Engineering			
2.3	Course responsible/lecturer			Dr. Cristian Victor Mircescu			
2.4	Teachers in charge of seminars			Dr. Cristian Victor Mircescu			
2.5 Year of study	I	2.6 Semester	SI	2.7 Assessment	Examination	2.8 Subject category	DD DI

3. Estimated total time

3.1 Number of hours per week	2	3.2 of which, course:	1	3.3 applications:	1
3.4 Total hours in the curriculum	50	3.5 of which, course:	14	3.6 applications:	14
Individual study					hours
Manual, lecture material and notes, bibliography					12
Supplementary study in the library, online and in the field					2
Preparation for seminars/laboratory works, homework, reports, portfolios, essays					4
Tutoring					2
Exams and tests					2
Other activities					-

3.7	Total hours of individual study	22
3.8	Total hours per semester	50
3.9	Number of credit points	2

4. Pre-requisites (where appropriate)

4.1	Curriculum	
4.2	Competence	

5. Requirements (where appropriate)

5.1	For the course	Cluj Napoca, 25 Bariţiu Building, Room AII or BII

5.2	For the applications	Cluj Napoca, 25 Bariţiu Building, Room 170, Geology Laboratory

6. Specific competences

Professional competences	Adequate usage of concepts in order to determine the Earth shape and dimension Correct interpretation of geological maps, profiles and columns Macroscopic identification of the most important rock categories and their physical-mechanical properties in areas where constructions are to be built Identification of dynamic phenomena and processes affecting an area Interpretation of geological maps, profiles and columns Adequate usage of the geological compass in order to determine the spatial orientation of the rock beds (geological bodies)
Cross competences	Efficient application of teamwork methods

7. Discipline objectives (as results from the *key competences gained*)

7.1	General objective	Evaluation, selection and optimal utilisation of different rock types for foundation purposes
7.2	Specific objectives	Recognising the main geological aspects with implications in the construction domain. The final goal is to apply this knowledge in order to produce geotechnical studies and to properly use the rocks from a technical and qualitative point of view

8. Contents

8.1. Lecture (syllabus)	Teaching methods	Notes
1. Introduction into Earth's structure. Minerals.	Discutions, presentations	Video-projector
2. Igneous, metamorphic and sedimentary rocks and processes		
3. Internal dynamics of the Earth. Structural relief.		
4. External dynamics of the Earth.		
5. Petrographic relief.		
6. Geological investigations in Civil Engineering: Earthquakes, Mass Wasting, Karstic phenomena		
7. Ground water		

Bibliography

Bibliografie

1. Anastasiu N., 1988 - Petrologie sedimentară, Editura Tehnică, Bucureşti.
2. Balog A., 2010- Geologie inginerească, Editura UT Press, Cluj-Napoca
3. Băncilă O., N. Florea, D. Fota şi al.,1981- Geologie inginerească, Editura Tehnică, vol. I-II, Bucureşti.
4. Dragoş V., 1982 - Geologie generală şi stratigrafică, Editura Didactică şi Pedagogică, Bucureşti.
5. Filipescu, S., 2002. – Stratigrafie. Presa Universitară Clujeană.
6. Fossen, H., 2010.-Structural Geology, Cambridge University Press

8.2. Applications/Seminars	Teaching methods	Notes
1.Properties of minerals and their identification.	Interactive solutions for various problems	Usage of mineral and rock samples, geological maps and compasses
2.Igneous, Metamorphic and Sedimentary Rocks and Processes.		
3.Properties of rocks.		
4.Structural geology. Geological maps, cross sections, columns, geological scale.		
5.The determination of strike, dip and dip direction of a bedding surface.		
6.Petrographical relief. Relative ages of rocks.		
7.Groundwater.		

Bibliography

1.Balog A., 2011- Geologie inginerească- Îndrumător pentru lucrări de laborator-DVD, Editura UT Press, Cluj- Napoca
2. Clichici O., Stoici S., 1986 - Cercetarea geologică a substanţelor minerale solide, Editura Tehnică, Bucureşti
3.Popa A., Suciu A-A ,2002- Geologie, îndrumător pentru lucrări de laborator, U.T.Press, Cluj-Napoca

9. Bridging course contents with the expectations of the representatives of the community, professional associations and employers in the field

The acquired skills will provide good knowledge for graduates who are willing to work in the construction domains

10. Evaluation

Activity type	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight in the final grade
10.4 Course	Written test with 9 questions	Written examination	50 %
10.5 Applications	Written test with 3 questions	Written examination	50 %
10.6 Minimum standard of performance			
(a) minimal eligibilitz criteria for attending the examination: attendace of at least 80 % of laboratories **(b) Minimal application mark (A): min. 5(five)** **Theory (mark T); Application (mark A); N=0.5 T+0.5 A;** **Conditions for obtaining the credits: T≥5, A≥5**			

Date of filling in:	27.09.2019	Title Surname Name	Signature
	Lecturer	Dr Cristian Victor Mircescu	
	Teachers in charge of application	Dr Cristian Victor Mircescu	

Date of approval in the department ……..

_____

Head of department
Conf.dr.ing. Atilla Puskas

Date of approval in the faculty ……

_____

Dean
Conf.dr.ing. Nicolae Chira