DEPARTMENT OF CIVIL ENGINEERING

Course Details

Code	Academic Year			Semester
BAU 356	3			Spring
Title	**T**	**A**	**L**	**ECTS**
Geology for Civil Engineers	3	1	1	6

Language	German					
Level	**Undergraduate**	✓	**Graduate**		**Postgraduate**	
Department / Program	Civil Engineering					
Forms of Teaching and Learning	Formal					
Course Type	**Compulsory**		**Elective**	✓		
Objectives	To teach Civil Engineering students the basic structure of the earth, geological formations, mineral and rock types, to inform them about the material properties of soil and rocks, to gain experience in preparing geological mapping in the context of topographic mapping and technical applications.					
Content	Fields of Construction Geology. Fundamentals of geology, Structure of the Earth. Geotechnical, Exogenous and endogenous Dynamics. Historical Geology and Geomorphology. Rock and rock assemblages. Stress in mountainous areas. Material properties of soil, rocks and mountainous areas. Groundwater in Soils and Rocks. Evaluation criteria in Soil and Rocks. Reporting and documentation in Construction Geology.					
Prerequisites	--					
Coordinator	--					
Lecturer(s)	Assoc. Prof. Dr. Enver Vural YAVUZ					
Assistant(s)	Res. Assist. Ozan SUBAŞI					
Work Placement	--					

Recommended or Required Reading

Books / Lecture Notes	Baugeologie (Edwin Fecker) - Springer Spektrum (2019)
Other Sources	--

Additional Course Material

Documents	--
Assignments	--
Exams	--

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Course Composition		
Mathematics und Basic Sciences	15	%
Engineering	25	%
Engineering Design	20	%
Social Sciences	--	%
Educational Sciences	--	%
Natural Sciences	25	%
Health Sciences	--	%
Expert Knowledge	15	%

Assessment		
Activity	**Count**	**Percentage (%)**
Midterm Exam	1	30
Quiz	--	--
Assignments	1	10
Attendance	--	--
Recitations	3	10
Projects	--	--
Final Exam	1	50
	Total	**100**

ECTS Points and Work Load			
Activity	**Count**	**Duration**	**Work Load (Hours)**
Lectures	15	3	45
Self-Study	15	3	45
Assignments	1	10	10
Presentation / Seminar Preparation	--	--	--
Midterm Exam	1	2	15
Recitations	15	1	15
Laboratory	15	1	15
Projects	--	--	--
Final Exam	1	2	20
		Total Work Load	**165**
		ECTS Points (Total Work Load / Hour)	**6**

Learning Outcomes	
1	Gain knowledge about geological events, determine the structure of the earth and geological time, and apply the principles of relative dating.
2	Identify metamorphic, igneous, sedimentary processes and compare corresponding common minerals and rock types.

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3	Understands the decomposition processes of the soil according to the particle size, the formation of the soil.
4	Understands the differences between ground and rock, creates information about the structure of rock and mountainous areas.
5	Interprets topographic maps and simple geological maps, uses information from geological and topographic maps to develop geological sections, and identifies basic geological structures in sections.
6	Discusses the concepts of groundwater and surface water in geology, relates surface water to the ground, relates geological concepts to technical applications;
7	Acts effectively as a member of a group to relate geology to one of its technical applications and to communicate in both written report and presentation formats.
Weekly Content	
1	Introduction
2	Fundamentals of Geology
3	Fundamentals of Geology
4	Rock science
5	Structure of Rocks and Mountainous Areas
6	Stress in Mountainous Areas
7	Stress in Mountainous Areas
8	Collection and Presentation of Construction Geology data
9	Material Properties of Soil, Rock and Mountainous Areas
10	Material Properties of Soil, Rock and Mountainous Areas
11	Groundwater in Ground and Rock
12	Groundwater in Ground and Rock
13	Evaluation Criteria in Soil and Rock
14	Collection and Presentation of Construction Geology Data
15	Reporting and Documentation in Construction Geology(

Contribution of Learning Outcomes to Program Objectives (1-5)

	P1	P2	P3	P4	P5	P6	P7
1	5	3	3	4	4	5	5
2	5	3	3	4	4	5	5
3	5	3	3	4	4	5	5
4	5	3	3	4	4	5	5
5	5	3	3	4	4	5	5
6	5	3	3	4	4	5	5
7	5	3	3	4	4	5	5
Contribution Level	1: Low 2: Low-intermediate 3: Intermediate 4: High 5: Very High						

https://obs.tau.edu.tr/oibs/bologna/progLearnOutcomes.aspx?lang=en&curSunit=5728

Compiled by:	Ozan SUBAŞI

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