



COURSE INFORMATION FORM

Course Name	Course Code
GEOLOGY FOR CIVIL ENGINEERS	151412216

Semester	Number of Course Hours per Week		ECTS
	Theory	Practice	
2	2	0	3

Course Category (Credit)				
Basic Sciences	Engineering Sciences	Design	General Education	Social
1	2			

Course Language	Course Level	Course Type
Turkish	Undergraduate	Elective

Prerequisite(s) if any	None
Objectives of the Course	This course aims to teach students current issues related to geology that they encounter in civil engineering applications.
Short Course Content	Definition of geology. The Earth's crust, the physical and chemical properties of minerals uncomplimentary. Classification of rocks. Geological materials use in civil engineering structures. Earthquake geology. Geology of the mass movements and landslides. Basic geology. Geology of the tunnel. Geology of the dam.

Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1 Understanding geological problems encountered in civil engineering.	1, 2	1, 2	A, K
2 To be able to describe rock-forming minerals and evaluate them in terms of civil engineering applications.	1, 2	1, 2	A, K
3 To be able to evaluate rocks based on engineering classifications.	1, 2	1, 2, 8	A, K
4 To identify the causes affecting earthquake damage by defining earthquake formation mechanisms.	1, 2	1, 2, 8	A, K
5 Knowing the types of dams and the factors affecting the location selection of dams and being able to discuss the reasons for dam failure.	1, 7	1, 2, 8	A, K
6 Knowing mass movements and engineering measures to be taken.	1, 7	1, 2, 8	A, K
7 -			
8 -			

*Teaching Methods 1:Expression, 2:Discussion, 3:Experiment, 4:Simulation, 5:Question-Answer, 6:Tutorial, 7:Observation, 8:Case Study, 9:Technical Visit, 10:Trouble/Problem Solving, 11:Individual Work, 12:Team/Group Work, 13:Brain Storm, 14:Project Design / Management, 15:Report Preparation and/or Presentation

**Measuring Methods A:Exam, B:Quiz, C:Oral Exam, D:Homework, E:Report, F:Article Examination, G:Presentation, I:Experimental Skill, J:Project Observation, K:Class Attendance; L:Jury Exam

Main Textbook	Ünsal, N., İnşaat Mühendisleri için Jeoloji, G.Ü.M.M.F., 2001
Supporting References	<ol style="list-style-type: none"> Bell, F., 1993, “Engineering Geology”, Blackwell Scientific Publications, London Holtz, D., and Kovacs, W.D., 1981, An Introduction to Geotechnical Engineering, Prentice-Hall. Erguvanli, K., 1995, “Mühendislik Jeolojisi”, Dördüncü Baskı, Seç yayın, 590 sayfa. Rahn, H. P., 1996, “Engineering Geology-An Environmental Approach”, Prentice-Hall, New Jersey,
Necessary Course Material	Data show machine

Course Schedule	
1	Definition of geology and importance of geology in civil engineering, layers of the Earth, and Plate Tectonics
2	The Earth's crust and the physical and chemical properties of minerals
3	The Earth's crust and the physical and chemical properties of minerals
4	Main minerals forming rocks
5	Main minerals forming rocks
6	Classification of rocks (igneous, metamorphic, sedimentary rocks)
7	Classification of rocks (igneous, metamorphic, sedimentary rocks)
8	Mid-Term Exam
9	Engineering properties of rocks
10	Structural properties of rocks (secondary structures)
11	Earthquake geology
12	Earthquake geology
13	Geology of the dam
14	Geology of the dam
15	Landslide geology and mass movements
16,17	Final Exam

Calculation of Course Workload			
Activities	Number	Time (Hour)	Total Workload (Hour)
Course Time (number of course hours per week)	14	2	28
Classroom Studying Time (review, reinforcing, prestudy,...)	14	2	28
Homework	-	-	-
Quiz Exam	-	-	-
Studying for Quiz Exam	-	-	-
Oral exam	-	-	-
Studying for Oral Exam	-	-	-
Report (Preparation and presentation time included)	-	-	-
Project (Preparation and presentation time included)	-	-	-
Presentation (Preparation time included)	-	-	-
Mid-Term Exam	1	1.5	1.5
Studying for Mid-Term Exam	1	15	15
Final Exam	1	1.5	1.5
Studying for Final Exam	1	15	15
Total workload			89
Total workload / 30			2.97
Course ECTS Credit			3

Evaluation	
Activity Type	%
Mid-term	40
Final Exam	60
Total	100

RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	PROGRAM OUTCOME	Contribution
1	Sufficient knowledge of engineering subjects related with mathematics, science and own branch; an ability to apply theoretical and practical knowledge on solving and modeling of engineering problems.	2
2	Ability to determine, define, formulate and solve complex engineering problems; for that purpose an ability to select and use convenient analytical and experimental methods.	5
3	Ability to design a complex system, a component and/or an engineering process under real life constrains or conditions, defined by environmental, economical and political problems; for that purpose an ability to apply modern design methods.	1
4	Ability to develop, select and use modern methods and tools required for engineering applications; ability to effective use of information technologies.	1
5	In order to investigate engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results.	1
6	Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence.	2
7	Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language.	2
8	Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement.	3
9	Understanding of professional and ethical issues and taking responsibility	2
10	Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development.	1
11	Knowledge of actual problems and effects of engineering applications on health, environment and security in global and social scale; an awareness of juridical results of engineering solutions.	1

LECTUTER(S)				
Prepared by	Prof. Dr. Murat TÜRKÖZ	Assoc.Prof. Dr. Hasan SAVAŞ		
Signature(s)				

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