

COURSE RECORD

Code	AMN-579
Name	GEOTECHNOLOGICAL MATERIALS
Hour per week	3 (3 + 0)
Credit	3
ECTS	10
Level/Year	Graduate
Semester	Fall
Type	Elective
Location	AGU
Prerequisites	---
Special Conditions	---
Coordinator(s)	Assist. Prof. Dr. Müge Akın
Webpage	---
Content	<ul style="list-style-type: none"> • Basic definition of geotechnological materials • A general view of the types of geotechnological materials • Functions and mechanisms of geotechnological materials • Properties of testing methodologies of raw industrial materials
Objectives	<p>The use of geotechnological materials in engineering applications is rapidly increasing all over the world. There is considerable demand for new materials in engineering practice. Thus, new geological materials employed for various technologies should be presented to the students to amplify their knowledge. The major aim of this course is to give information about various geotechnological materials. The geological as well as geomechanical properties and the usage areas of geological materials will be mentioned within the scope of this course.</p>
Learning Outcomes	<ol style="list-style-type: none"> 1. Learning general properties of geotechnological materials 2. Types of geotechnological materials 3. Comparison of different properties of geotechnological materials 4. Knowing the usage of different types of geotechnological materials 5. Choosing proper industrial material and categorizing the types of raw materials within the framework of engineering problems
Requirements	---
Reading List	<p>Course Textbook: D.A.C. Manning, 1995, Introduction to Industrial Minerals, DOI 10.1007/978-94-011-1242-0, 288 pages</p> <p>Additional Material: M. Kucera , 1984, Industrial Minerals and Rocks, Volume 18, 1st Edition, Elsevier Science</p> <p>Lecture notes and supporting documents (standards, articles etc.) will be given to students each week.</p>
Ethical Rules and Course Policy	---

LEARNING ACTIVITIES *Please, use this one as a reference for your course*

Activities	Number	Weight (%)
Lecture	3	50%
Group Works	2	20%
Presentations	2	20%
Site Visits	1	10%
	Total	100

ASSESSMENT

Evaluation Criteria	Weight (%)
Quizzes	0%
Weekly Assignments	20%
Group Project Assignments & Presentations	30%
Attendance/Participation	05%
Final Exam/Submission	45%
Total	100%

For a detailed description of grading policy and scale, please refer to the website <https://goo.gl/HbPM2y> section 28.

COURSE LOAD

Activity	Duration (hour)	Quantity	Work Load (hour)
In class activities	3	16	48
Lab	3	16	48
Group work	16	2	32
Research (web, library)	16	3	48
Required Readings	16	2	32
Pre-work for Presentation	20	2	40
Lab reports	0	0	0
General Sum			248

ECTS: 10 (Work Load/25-30)

CONTRIBUTION TO PROGRAMME OUTCOMES*

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
L01	5	5	3	2	2	4	5	5	3	2	2	4	3	2
L02	4	4	5	3	3	4	4	4	5	3	3	4	5	3
L03	3	3	4	1	4	5	3	3	4	1	4	5	4	1
L04	2	2	2	4	5	5	2	2	2	4	5	5	2	4
L05	1	2	3	3	2	4	5	3	2	3	4	5	4	5

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

WEEKLY SCHEDULE

W	Topic	Outcomes
1	Introduction and basic description of geotechnological materials Lab/Activity:	1,2,3
2	General applications of geotechnological materials Lab/Activity:	1,2,4
3	Industrial usage of geo-materials Activity:	2,4
4	Industrial raw materials Activity:	3,4
5	Properties of boron minerals Activity:	1,2
6	Usage of boron minerals in technological applications Activity:	3,4
7	Properties of pumice materials Activity:	1,2
8	Midterm Exam Activity:	
9	Usage of pumice in technological applications Activity:	1,4
10	Properties of barite minerals Activity:	2,4
11	Properties and types of clay minerals Activity:	2,4
12	Usage of clay minerals Activity:	3,4
13	Properties and usage of zeolite Activity:	1,3,4
14	Final Exam Activity:	

Assist. Prof. Dr. Müge AKIN
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