

## ITÜ - Undergraduate Program of the Geological Engineering

<b>First Year</b>	ECTS	<b>Second Semester</b>	ECTS
<i>First Semester</i>	Credits	<i>Second Semester</i>	Credits
MAT101 Mathematics I (TB, Turkish)	7	MAT102 Mathematics II (TB, Turkish)	7
FIZ101E Physics I (TB, English)	4,5	FIZ102E Physics II (TB, English)	4,5
FIZ101E Physics I Lab (TB, English)	1,5	FIZ102E Physics II Lab (TB, English)	1,5
<b>JEO111 Crystallography (TB, Turkish)</b>	<b>3</b>	KIM101 General Chemistry I (TB, Turkish)	4,5
STA201 Statics (TM, Turkish)	4	KIM101 General Chemistry I Lab (TB, Turkish)	1,5
<b>JEO121 Design in Earth Sciences (TM, Turkish)</b>	<b>4,5</b>	<b>JEO112 General Geology (TB, Turkish)**</b>	<b>5</b>
<b>JEO131 Intro to Geological Engineering (MT, Turkish)</b>	<b>2</b>	BIL101E Intr. to Comp. & Inf. Systems (TM, English)	2,5
ING101/ING102 English I (ITB, English)	3,5	ING102/ING103 English II (ITB, English)	3,5
<b>Total</b>	<b>30</b>	<b>Total</b>	<b>30</b>

<b>Second Year</b>	ECTS	<b>Fourth Semester</b>	ECTS
<i>Third Semester</i>	Credits	<i>Fourth Semester</i>	Credits
MAT201 Differential Equations (TB, Turkish)	5,5	<b>JEO212 Chem. Eq. Geology (MT, Turkish)</b>	<b>3</b>
BIL102E Intr. to Science & Eng. Computing (TM, English)	2,5	<b>JEO222 Geomechanics (TM, Turkish)</b>	<b>4</b>
MAL201 Material Science (TM, Turkish)	5	MAD312 Surveying (TM, Turkish)	4,5
MUK203 Strength of Materials (TM, Turkish)	4	<b>JEO242 Optical Mineralogy (MT, Turkish)</b>	<b>4</b>
ING201 English III (ITB, English)	3,5	<b>JEO252E Structural Geology (MT, English)**</b>	<b>6,5</b>
<b>JEO211 Mineralogy (MT, Turkish)</b>	<b>4,5</b>	<b>JEO262E Stratigraphy (MT, English)**</b>	<b>5</b>
<b>JEO221 Paleontology (MT, Turkish)</b>	<b>5</b>	Elective Course (TB, Turkish)	3
<b>Total</b>	<b>30</b>	<b>Total</b>	<b>30</b>

<b>Third Year</b>	ECTS	<b>Sixth Semester</b>	ECTS
<i>Fifth Semester</i>	Credits	<i>Sixth Semester</i>	Credits
<b>JEF341 Geophysics (TM, Turkish)</b>	<b>4</b>	MAT271E Probability & Statistics (TB, English)	5
<b>JEO321 Ore Deposits (MT, Turkish)</b>	<b>4</b>	TUR102 Turkish II (ITB, Turkish)	2
EKO201 Economics (ITB, Turkish)	4	<b>JEO312 Field Geology (MT, Turkish)*</b>	<b>7</b>
TUR101 Turkish I (ITB, Turkish)	2	<b>JEO322 Hydrogeology (MT, Turkish)</b>	<b>3</b>
<b>JEO331 Petrography (MT, Turkish)</b>	<b>4</b>	<b>JEO332E Petrology (MT, English)</b>	<b>5</b>
<b>JEO341E Sedimentology (MT, English)**</b>	<b>6</b>	Elective Course (MT, Turkish)	3
Elective Course (TM, Turkish)	4	Elective Course (ITB, Turkish)	4
<b>Total</b>	<b>30</b>	<b>Total</b>	<b>30</b>

<b>Fourth Year</b>	ECTS	<b>Eighth Semester</b>	ECTS
<i>Seventh Semester</i>	Credits	<i>Eighth Semester</i>	Credits
ATA101 History of Turkish Revolution I (ITB, Turkish)	2	ATA102 History of Turkish Revolution II (ITB, Turkish)	2
<b>JEO441E Tectonics (MT, English)**</b>	<b>6</b>	<b>JEO412 Industrial Raw Materials (MT, Turkish)</b>	<b>5</b>
<b>JEO421E Geochemistry (TM, English)</b>	<b>5</b>	<b>JEO492 Graduation Project (MT, Turkish/English)</b>	<b>10</b>
<b>JEO431E Engineering Geology (MT, English)</b>	<b>5</b>	Elective Course (MT, Turkish/English)	6/7
Elective Course (MT, Turkish)	4	Elective Course (ITB, Turkish)	4
Elective Course (MT, Turkish)	4	ETK101 Ethics in Engineering (ITB, Turkish)	2
Elective Course (ITB, Turkish)	4		
<b>Total</b>	<b>30</b>	<b>Total</b>	<b>30</b>

**Total: 240 ECTS Credits**

Types of courses are: TB: Basic Science Course; TM: Basic Engineering Science Course; ITB: Humanities and Social Science Course; MT: Engineering Design Course.

\* Including 10 days field study    \*\*Including 1-2 days field study    \*\*\* Depending on the availability:  
Students, who had JEO312 Field Geology and JEO252E Structural Geology, and students should have the health insurance covering the cases on transportation and field studies.

## Elective Courses (MT) offered by the Department of Geological Engineering

		Third Year <i>Sixth Semester</i>	MT I	ECTS Credits	
		JEO314	Rock-forming Minerals ( <i>Turkish</i> )	3	
		JEO316	Precious Min. & Rocks ( <i>Turkish</i> )	3	
		JEO318	Environment & Minerals ( <i>Turkish</i> )	3	
		JEO324	Sedimentary Rock Petrography ( <i>Turkish</i> )	3	
		JEO326	Geology of Building Materials ( <i>Turkish</i> )	3	
		JEO328	Geological map. & Cartography ( <i>Turkish</i> )	3	
		JEO334	Underground Geology ( <i>Turkish</i> )	3	
		JEO336	Historical Geology ( <i>Turkish</i> )**	3	
		JEO338	Mining exploration ( <i>Turkish</i> )	3	
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Fourth Year <i>Seventh Semester</i>	MT II	ECTS Credits	Fourth Year <i>Eighth Semester</i>	MT III	ECTS Credits
JEO413	Autocad for Geologist ( <i>Turkish</i> )	4	JEO414	Clay Mineralogy ( <i>Turkish</i> )	6
JEO415	Photo Geology ( <i>Turkish</i> )	4	JEO416	Coal Deposits ( <i>Turkish</i> )	6
JEO417	Geology of Turkey ( <i>Turkish</i> )**	4	JEO418	Hydrogeochemistry ( <i>Turkish</i> )	6
JEO419	Applied Mineralogy ( <i>Turkish</i> )	4	JEO424	Volcanology ( <i>Turkish</i> )	6
JEO423	Evaluation of Ore Deposits ( <i>Turkish</i> )	4	JEO426	Mineral Phase Diagrams ( <i>Turkish</i> )	6
JEO425	Igneous Petrology ( <i>Turkish</i> )	4	JEO428	X-Ray Diffraction ( <i>Turkish</i> )	6
JEO427	Applied Geochemistry ( <i>Turkish</i> )	4	JEO434	Methods Min.& Rock determ. ( <i>Turkish</i> )	6
JEO429	Thermal Hydrogeology ( <i>Turkish</i> )	4	JEO438	Marine Geophysics ( <i>Turkish</i> )	6
JEO433	Metamorphic Petrology ( <i>Turkish</i> )	4	JEO436	Environmental geology ( <i>Turkish</i> )	6
JEO435	Radioactive Mineral Deposits ( <i>Turkish</i> )	4	JEO344E	Intro. to Climate Dynamics ( <i>English</i> )	7
			JEO345E	Con. & models in Ecology ( <i>English</i> )	7
			JEO444E	Marine Geology ( <i>English</i> )**	7
			JEO445E	Petroleum Geology ( <i>English</i> )	7
			JEO446E	Environ. Geochemistry ( <i>English</i> )	7
			JEO447E	Petrology of Sed. Rocks ( <i>English</i> )	7
			JEO448E	Neotectonics ( <i>English</i> )**	7