

İTÜ - Undergraduate Program of the Geological Engineering

First Year	ECTS	Second Semester	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
JEO111 Crystallography (TB, Turkish)	3	KIM101 General Chemistry I (TB, Turkish)	4,5
STA201 Statics (TM, Turkish)	4	KIM101 General Chemistry I Lab (TB, Turkish)	1,5
JEO121 Design in Earth Sciences (TM, Turkish)	4,5	JEO112 General Geology (TB, Turkish)**	5
JEO131 Intro to Geological Engineering (MT, Turkish)	2	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
Total	30	Total	30

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

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

Fourth Year	ECTS	Eighth Semester	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
JEO441E Tectonics (MT, English)**	6	JEO412 Industrial Raw Materials (MT, Turkish)	5
JEO421E Geochemistry (TM, English)	5	JEO492 Graduation Project (MT, Turkish/English)	10
JEO431E Engineering Geology (MT, English)	5	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		
Total	30	Total	30

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