

Master's degree in branch: Geology

Specialty: Engineering Geology and Geotechnics

Brief

Engineering Geology and Geotechnics specialty at Khemis Miliana University is one of the essential specialties of earth sciences, which focusses on understanding the Earth, its processes, and resources in order to design safe and sustainable ground engineering for environmental infrastructure. However, it provides to students with an understanding of the fundamental principles of geology and geotechnics. At the Master's level, all students are required to follow three semesters of different courses on soil treatment techniques, and both stability and durability of geotechnical projects that will be defended at the end of the fourth semester by a Master's thesis.

Field	Branch	Speciality
Earth Sciences and Universe	Geology	Engineering Geology and Geotechnics

First Semester

Teaching Unit	Matter	Credit	Coefficient	C	TD	TP	Volume (hour)
Fundamental Unit	Applied Mathematics	4	2	3h00	1h30		45h00
	Continuum Mechanics	4	2	1h30	1h30		45h00
	Resistance of Materials	4	2	1h30	1h30		45h00
	Geotechnics I	6	3	1h30	1h30	1h30	67h30
Methodological Unit	Matrix analysis of Structures	4	2	1h30	1h30		45h00
	Construction Materials	1	1	1h30			22h30
	Computer Programming	4	2	1h30		1h30	45h00
Discovery Unit	Elements of Civil Engineering Structures	2	2	1h30	1h30		45h00
Transversale Unit	English	1	1	1h30			22h30

Second Semester 2

Teaching Unit	Matter	Credit	Coefficient	Courses	TD	TP	Volume (hour)
Fundamental Unit	Hydraulic	4	2	1h30	1h30		45h00
	Soils Dynamics	4	2	1h30	1h30		45h00
	Finite Element Method	4	2	1h30	1h30		45h00
	Geotechnics II	6	3	1h30	1h30	1h30	67h30
Methodological Unit	Computer Tools in Geotechnics	4	2	1h30		1h30	45h00
	Applied Geophysics	1	1	1h30			22h30
	Topography	4	2	1h30		1h30	45h00
Discovery Unit	Geotechnical Design	2	2	1h30	1h30		45h00
Transversale Unit	English	1	1	1h30			22h30

Third Semester

Teaching Unit	Matter	Credit	Coefficient	C	TD	TP	Volume (hour)
Fundamental Unit	Slope Stability	4	2	3h00	1h30		45h00
	Road Geotechnics	6	3	1h30	1h30	1h30	45h00

Teaching Unit	Matter	Credit	Coefficient	C	TD	TP	Volume (hour)
	Soils Rheology	4	2	1h30	1h30		45h00
	Underground Structure	4	2	1h30	1h30		67h30
Methodological Unit	Computer Programming	4	2	1h30		1h30	45h00
	Soils Treatment	1	1	1h30	1h00		45h00
	Modeling of Structures	4	2	1h30			22h30
Discovery Unit	GIS/Geotechnical Mapping	2	2	1h30		1h30	45h00
Transversale Unit	Communication	1	1	1h30			22h30

Semester 4

Internship in a company sanctioned by a thesis and a defense.

	VHS	Coeff	Crédits
Personal Work	280	/	/
Internship in a company	/	/	/
Seminars	/	/	/
Other (Supervision/ Thesis)	280	/	/
Total Semester 4	560	17	30