

GEOLOGICAL ENGINEERING

- Duration: 240 ECTS points
- Facility: E.T.S.I DE MINAS Y ENERGIA- UPM
- Web: www.minasyenergia.upm.es
- Contact us: 91 067 63 24



POLITÉCNICA



ESCUELA TÉCNICA SUPERIOR
DE INGENIEROS DE MINAS Y ENERGÍA

Goals:

Training professionals in geological resources engineering and its interaction with the environment.

Enable students to carry out activities related to prospecting and research; design, planning and execution of oil, natural gas and underwater drilling, and underground fluid injection.

Planning and performing special foundations, carrying out geotechnical, topographic, economic valuation, planning and security studies.

Specialization:

This university degree offers only one specialization: drilling and mining prospecting.

Career opportunities:

- Geotechnics and public works.
- Geological resources exploration.
- Companies focused on the design of risk-prevention plans, both natural and human-induced.
- Engineering focused on the study of the location of urban, industrial toxic and dangerous dumps.





GEOLOGICAL ENGINEERING SUBJECTS



FIRST YEAR

FIRST SEMESTER	ECTS	SECOND SEMESTER	ECTS
Calculation I	6	Calculation II	6
Algebra	6	Statistics	6
Physics I	6	Physics II	6
Chemistry I	6	Chemistry II	6
Computing and programming	6	Graphic expression	6

SECOND YEAR

FIRST SEMESTER	ECTS	SECOND SEMESTER	ECTS
Advanced mathematics	6	Geomatics	4.5
Electromagnetism	6	Business management	6
Mechanics	6	Fluid Mechanics	6
Physical chemistry	6	Material Technology	7.5
Geology	6	Electrical engineering	6

THIRD YEAR

FIRST SEMESTER	ECTS	SECOND SEMESTER	ECTS
Rock and soil mechanics	4.5	Geophysical prospection	4.5
Stratigraphy and geomorphology	4.5	Geotechnics and underground works	4.5
Structural geology and mapping	4.5	Environmental geological engineering	4.5
Mining I	4.5	Applicable geochemistry	4.5
Mineralogy and petrology	4.5	Drilling and witnessing	4.5
Academic and Professional communication in English (annual subject)			6
Control and electronics	4.5	Structure theory and construction procedures	4.5

FOURTH YEAR

FIRST SEMESTER	ECTS	SECOND SEMESTER	ECTS
Hydrology and hydrogeology	7.5	Practicum I.G	6
Geology and hydrocarbon exploitation	4.5	Elective subject II	1.5
Project engineering	3	Internship	12
Deposits	6	Final project	12
Health and safety	4.5		
Elective subject I	6		