



Marine geology

Objectives

To provide engineers with a **solid knowledge base in geology** and adequate **specialist training in marine geology**, in order to develop a professional response to the issues raised by **industrialists working in marine-related activities**.

Who is the programme for?

This programme is for students with training in geology, **a special interest in the sea** and who want to combine **earth and marine sciences**.

Career opportunities

Geological engineer involved in petroleum exploration, geotechnics applied to petroleum production, coastal development, natural risks and exploration of mineral resources in the marine environment.

Content

The programme provides theoretical and practical training as well as field work at sea.

- > Mapping and positioning
 - Marine charting tools
 - Sampling and observation tools
 - GIS tutorial and cable laying role play
- > Marine geophysics
 - Marine reflection seismic tools
 - Marine refraction and resistivity seismic tools, etc.
 - Profile implementation strategy
 - Specific processes (multiple, swell, water column, cetaceans)

- Streamer positioning and protection
- Tutorial in seismic interpretation and seismic and sequence stratigraphy
- > Applications in deep-sea environments
 - Deep subsurface petroleum: stakes and prospects
 - Gravity-driven processes
 - Architectural elements of deep-sea fans
 - Geohazards related to fluid flow, gas hydrates and diapirs
 - Seismic hazards and paleoseismicity
- > Applied marine geotechnics
 - Sampling tools
 - *In situ* measurement tools
 - Sample measurement
 - Engineering (pipes, petroleum structures, cables, piles, etc.)
- > Coastal development and environment
 - Specific features of the coastal environment (physico-chemical and biological composition)
 - Specific methods and tools (land-sea link)
 - Coastal erosion, sand deposition and silting
 - Research and extraction of aggregates
 - Coastal and port area development and management.

Four partners: CREOCEAN, FUGRO, IFREMER, TOTAL

Six-month company placement

Programme administrator: Pascal Barrier

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