

Geophysical Prospecting

Calendar: 5th day semester

Contact Hours: T 30 h; TP 22,5h; OT 7,5h

Scientific Area: Geotechnics

Intended learning outcomes (knowledge, skills and competences to be developed by the students):

It is intended that students acquire skills and competences on geophysical methods applied to petroleum and gas industry.

Syllabus:

1. Introduction to petroleum geophysics.
2. Gravity methods.
3. Magnetic method.
4. Electromagnetic methods.
5. Seismic methods. Fundamentals. 2D seismic.
6. Geophysical methods applied in surveys: case studies.

Evidence of the syllabus coherence with the curricular unit's intended learning outcomes:

The content taught enable students to acquire the fundamental knowledge and skills required for the steps and the essential activities of the Petroleum Geophysics methods domain: gravimetry, magnetic, electromagnetic and seismic.

The exercise of practical application of such methods in prospecting surveys already carried out allows students to achieve the consolidation and development of the knowledge acquired through the attendance of real case study.

References:

Bleistein, N. Mathematical Methods of Wave Phenomena, Academic Press, 1984.

Claerbout, J. Imaging the Earth's Interior, Blackwell; C.L. Liner, 1985.

Sheriff, R., Geldart, L. Exploration Seismology, 2nd. ed. Cambridge University Press, 1995;

Telford, W., Geldart, L., Sheriff, R. Applied Geophysics. Cambridge University Press, 1990.

Yilmaz, O. Seismic Data Analysis. Vols I and II. Investigations in Geophysics series n. 10. Society of Exploration Geophysicists, 1987.

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