Petroleum Technologies Laboratory IIIA

Calendar: 5th day semester

Contact Hours: PL 37,5h; OT 7,5h

Scientific Area: Geotechnics / Chemical Industrial Engineering

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

This course is based on the application of the theoretical concepts lectured in the UCs of Fundamentals of Reservoirs Engineering, Hydrocarbon Sedimentary Basins, Fundamentals of Well Engineering, Introduction to Oil & Gas Structures and Geophysical Prospecting in several laboratory experiments.

It is intended that in this course, students acquire the following skills:

- Plan, execute, develop and optimize experiments in the area of the several referred UCs.
- Interpret results of experiments that highlight some of the fundamental concepts of the same UCs.
- Correlate theoretical models taught with the proper applicability in the treatment of experimental results.
-Handle material /specific equipment used the experiments.
-Assess the importance of the accuracy of measurements performed.
- Develop a scientific report clearly and objectively.

Syllabus:

Chapter 1 - 3.0 week(s)

Work associated with the course of Fundamentals of Reservoir Engineering

Chapter 2 - 3.0 week

Work associated with the course of Hydrocarbon Sedimentary Basins

Chapter 3 - 2.0 week(s)

Work associated with the course of Fundamentals of well Engineering

Chapter 4 - 3.0 week(s)

Work associated with the course of Introduction to Oil & Gas Structures

Chapter 5 - 2.0 week(s)

Work associated with the course of Geophysical Prospecting

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

Petroleum Technologies Laboratory IIIA is a curricular unit that aims to consolidate the theoretical and theoretical-practical knowledge acquired in the various courses lectured in the same semester (Fundamentals of Reservoir Engineering, Hydrocarbon Sedimentary Basins, Fundamentals of Well Engineering, Introduction to Oil & Gas Structures and Geophysical Prospecting). By performing these laboratory experiments, students will gain knowledge of planning, implementation, development and optimization of experiments, in the area of the curricular units that the laboratory work supports, as well as learn to correlate the experimental work with the theoretical models taught, its correct applicability in the treatment of the experimental results. Syllabus was defined to directly follow the curricular unit's objectives.

References:

Selley, R. (1997). Elements of Petroleum Geology, Academic Press.

Bjørlykke, Knut (2010). Petroleum Geoscience: From Sedimentary Environments to Rock Physics, Springer.

Bourgoyne Jr, A. T, Millheim, K. K., Chenevert, M. E., Young Jr, F. S., Applied Drilling Engineering, SPE Series Textbooks, Richardson, TX, USA, 1986.

Rocha, L. A. S., Perfuração Direcional, 2ª ed., Ed. Interciência, 2006.

Craft, B., Hawkins, M., Terry, R. Applied petroleum reservoir engineering. Pearson, 2nd ed. 1991.

Chierici, G. Principles of Petroleum Reservoir Engineering. Vol. 2. Springer, 1995.

Dasgupta, S., Aminzadeh, F. Geophysics for Petroleum Engineers. Developments in Petroleum Science. Vol. 60. Elsevier, 2013.