



University Bulletin

Undergraduate Degree Programs

Petroleum and Natural Gas Engineering (P N G)

P N G 405 Rock and Fluid Properties (3) Reservoir rock properties, rock and fluid properties (interaction between rock and fluids), flow behavior in reservoir, and fluid properties.

P N G 405 Rock and Fluid Properties (3)

The objective of this course is to introduce students to basic reservoir rock and fluid properties. The course is divided into three sections: rock properties, rock and fluid properties (interaction between rock and fluids), and fluid properties. In the rock properties, Lithology of Reservoirs, Porosity and Permeability of Rocks, Darcy's Law, and Distribution of Rock Properties are discussed. In Rock and Fluid Properties Section, Existence of Multi-phases, Saturation, Wettability, Capillary Pressure, Effective and Relative Permeability, concepts are covered. Fluid properties topics include Phase Behavior of Single and Multi Component Systems, Compositional and Black-Oil models, Solution Gas-Oil Ratios, Formation Volume Factor, Compressibility, Density, Viscosity, and Interfacial Tension. This is also the first course that Petroleum and Natural Gas Engineering students take in the major. Therefore, an introduction to petroleum and natural gas engineering is also made.

This course is a pre-requisite for most of the Petroleum and Natural Gas Engineering major courses. It is an elective course for majors such as Environmental Systems Engineering. It is offered every Fall semester.

General Education: None

Diversity: None

Bachelor of Arts: None

Effective: Spring 2002

Prerequisite: **PHYS**

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Note : Class size, frequency of offering, and evaluation methods will vary by location and instructor. For these details check the specific course syllabus.

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