



THE OHIO STATE UNIVERSITY
COLLEGE OF ENGINEERING

Petroleum Project Evaluation

CBE 5260

Credit Hours:

3.00 - 3.00

Course Levels:

Undergraduate (1000-5000 level)

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Economic analysis and investment decision methods in the petroleum industry; reserves estimation, depletion, petroleum taxation and market regulations, and projects of the type found in the industry; project evaluation case studies.

Prerequisites and Co-requisites:

Prereq: 5200 and EarthSc 5661.

Course Goals / Objectives:

- Provides students the tools required to analyze investments in the petroleum industry.
 - Emphasizes the risk and uncertainty in petroleum investments and the stochastic nature of petroleum reservoir operations.
 - Illustrates how petroleum investments are tied to the prevailing commercial system
 - Emphasizes the cultural, governmental, and environmental constraints on petroleum engineering projects
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Course Topics:

- Energy market outlook
 - Reserves estimation methods, classifications a. Decline curves b. Volumetric method and analogy c. Material balance
 - Mineral ownership
 - Time value of money
 - Project economics, revenue and cost estimations, before-tax cash flow analysis
 - Taxation and government take, after-tax cash flow analysis
 - International contracts and project evaluation
 - “Yardsticks” – Performance Metrics
 - Selecting investments, Project Financing
 - Evaluating uncertainty, decision making with uncertainty a. Expected value and decision trees b. Risk preference
 - Simulation of Uncertain Outcomes (Monte Carlo analysis)
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Designation:

Elective