



Global Energy Management Program

BUSINESS SCHOOL

UNIVERSITY OF COLORADO DENVER



Lifecycle of Oil & Natural Gas (Three-day, compressed course)

Getting oil and gas out of the ground and to the consumer depends on a complex interplay of multidisciplinary energy professionals, companies and government agencies. This certificate course provides the opportunity to gain a deeper working-knowledge of the key players, technologies, processes and market forces that go into the oil and gas industry.

Offered through the Global Energy Management Program at the University of Colorado Denver Business School, this three day professional development course provides energy professionals from Denver and beyond the chance to improve their understanding of this complex and dynamic industry. Upon successful completion of both classroom days, students will receive a certificate of completion from the University of Colorado Denver and can request an official university transcript verifying their participation.

Wednesday, April 24: Noble Energy Training Facility

7:30 am – 8:00 am	Agenda and Course Review
8:00 am – 10:15 am	Drilling and Completions Engineering
10:30 am – 11:30 am	Facilities
11:30 am – 12:30 pm	Environmental Health and Safety
12:30 pm – 1:30 pm	Lunch (provided)
1:45 pm – 5:30 pm	Rig Tour (optional)

Thursday, April 25: CU Denver Business School

8:00 am – 10:30 am	Geology
10:45 am – 12:00 pm	Land Management
12:00 pm – 1:15 pm	Lunch & Game Instructions
1:30 pm – 5:00 pm	Energy Exploration Game

Friday, April 26: CU Denver Business School

8:00 am – 10:00 am	Geopolitics
10:15 am – 11:15 am	Reservoir Economics
11:15 am – 12:15 pm	Marketing and Trading
12:15 pm – 12:45 pm	Wrap up

What you need to know:

Cost: \$1524 (\$1274 for Denver Petroleum Club members)

Dates: April 24-26, 2019

Locations:

April 24 **Noble Energy Training Facility**
2115 117th Ave, Greeley, CO 80634

April 25-26 **CU Denver Business School**
1475 Lawrence Street, Denver, CO 80202

Lunch and transportation to energy site tours are included in the cost of tuition.



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Course Topic Overview

Geology

Provides an introduction to geology and addresses reservoir characteristics, exploration, seismic survey, sample well logs, maps and hydraulic fracturing. Discusses oil and gas play concepts as well as the role of the geologist.

Land Management

Review of the critical role of land management in the oil and gas sector, including: types of ownership, leasing, contractual frameworks, split estate, negotiating royalty interest, management of assets and contracts, payment of burdens and lease administration.

Drilling and Completions Engineering

Covers the basics of how an oil and gas well is drilled, completed and produced. Provides a deeper study of hydraulic fracturing processes; discusses topics such as groundwater protection and reviews rig components, equipment used and well completions.

Marketing and Trading

Dives into the differences between natural gas and crude oil marketing. Includes a market overview as well as a study of key concepts such as: hedging, margins, benchmark prices, wholesale vs. retail, trading and commodity exchange.

Geopolitics

Addresses the regional, national and international issues that affect oil and gas production as well as the market trends. Discusses managing risks in these environments and the implications to a company's bottom line.

Facilities and Terminalling

Provides an overview of refining crude oil and gas processing treatment, storage and transportation. This includes pipeline and distribution networks as well as LNG, CNG, LPG.

Regulatory/Environmental Health and Safety

Studies how the oil and gas industry is regulated, reporting requirements, environmental concerns, and health and safety issues. It also covers development of a basin; history of how a play develops over time, look at geology, spacing, drilling issues, etc.

Energy Game

Students form teams and engage in a classroom activity designed to replicate steps taken by oil and gas production companies to find and develop oil or natural gas. Each team will start with a bank, prepare their investment strategy, lease land, acquire permits and geology reports, drill and produce. Students must draw on knowledge gained from previous classes, as well as face challenges such as permit delays, environmental hazards, and drilling dry holes. Teams will be evaluated based on level of production and return on investment.

"Students in the industry can go back to their jobs and better understand what other business units do and how it contributes to the larger picture. They know what geologists do and know it is more than look at rocks and know how it affects their department."

- Nick Nelson

Course subject matter expert - geology

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Go to www.business.ucdenver.edu/gem/lifecycle for more information