

Extractive Resources

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Casper College



Extractive resource industries such as oil and gas, coal, uranium and minerals, are undergoing a period of robust expansion, especially in Wyoming. The need for more employees is expected to continue to grow for the foreseeable future. Through the innovative extractive resources program, Casper College can prepare you to take a vital role in this growth in any one of the following ways:

- A one-year certificate to help secure an entry-level position
- An associate's degree in applied science, extractive resources technology that will make you qualified for a variety of technical jobs
- The necessary background to pursue advanced training through a traditional science/engineering degree program or one of the new exciting programs in the field offered at the School of Energy Resources at the University of Wyoming
- Professional development for those already working in industry



Points of Pride

- Instructors with many years of experience working in the industry
- Programs that are flexible and can be tailored to your objectives
- Computer applications that are state-of-the-art such as the PETRA® geoscience package
- Programs of excellence, including GIS
- Opportunities to visit actual working sites
- Courses on the Internet
- Partnerships with the Rocky Mountain Oilfield Testing Center (RMOTC) and other industry-related businesses

Trades and Technology • Fact Sheet

Extractive Resources

Highlights of classes offered:

- **Introduction to Extractive Resources** – Learn about extractive resources such as oil and gas, coal, uranium, and base metals: how they form and how they are produced. The importance of Wyoming's resources are given special attention.
- **Fundamentals of Petroleum** – an introduction into the basic concepts of the oil and gas industry. Learn where oil comes from, why it costs so much and the prospects for its continued use in the future.
- **Petroleum Geology** – The origin and accumulation of oil and gas is examined, particularly the exploration and development methods of finding and producing them. Unconventional resources currently being drilled in Wyoming, such as coalbed methane and tight gas sands, are given particular emphasis.



- **Introduction to Well Logging** – Practical application and interpretation of well logs, with a particular emphasis on computer methods. The course will make use of actual problems presented in the American Association of Petroleum Geologists Methods 16: Basic Well Log Analysis.
- **Petroleum Refining** – The process, technology and operations necessary for the refining of petroleum. The course will feature hands-on experience at a refinery.
- **Fundamentals of Petroleum** – an introduction into the basic concepts of the oil and gas industry. Learn where oil comes from, why it costs so much and the prospects for its continued use in the future.



Focus on Computer Applications

As part of a renewed emphasis on state-of-the-art training for the energy industry, the Casper College Extractive Resources Department recently received a multi-platform educational license for PETRA® software.

PETRA® is a product from geoPLUS Corporation that allows geoscientists to speed the process of decision making in the analysis of oil and gas field data.

In use by many companies world-wide, PETRA® provides a unique solution to data management, manipulation, visualization and integration of geological, geophysical, petrophysical and engineering data.

In the classroom, PETRA® allows the use of real world examples to facilitate understanding of critical oil and gas exploration and production concepts. Obtained at a generous discount from geoPLUS, students in the department can now use some of the same tools utilized by professional and technical people currently working in industry.

PETRA® joins a growing inventory of computer software in use in the department, including basin analysis, geophysical modeling, and economic analysis. The student is also encouraged to gain proficiency in spreadsheets, word processing, and presentation software.

Curriculum: Extractive Resources

Major Requirements:

- Geology of Extractive Resources
- Introduction to GPS and Maps
- Fundamentals of Petroleum
- Electrical Power
- Basic Hydraulics
- Introduction to Well Drilling
- Introduction to Well Logging
- Oil and Gas Production
- Petroleum Refining
- Process Control
- Petroleum Geology
- Basic AC/DC Electronics
- Programmable Logic Control
- Industrial Safety