

Colorado Mesa University Geology Program

Course Guidelines for Petroleum Geology Employment

Overview

Although entry-level employment in the petroleum industry has been limited to individuals with a M.S. (mostly) or a Ph.D. (rarely) degree in Geology for many years, companies do on occasion hire undergraduate degree holders for entry-level positions. Even so, students who plan to work in the oil and gas industry for a service company such as Halliburton or Weatherford without a graduate degree, need to make appropriate plans early during their undergraduate careers. Because many of our geology students want to pursue a career in the petroleum industry, we have developed a series of courses to provide our students with more expertise in this area (see below).

What do employers want for undergraduate degree holders?

Coursework. Petroleum geologists need the strong skills in fundamental geology, sedimentology and structural geology, computer literacy, and communication that are provided by the CMU Geology degree requirements. In addition, students should consider taking the following courses as upper-division Restricted Electives:

Highest priority & courses currently offered on a regular basis:

- GEOL 359 – Survey of Energy-Related Natural Resources**
- GEOL 396 – Topics: Basin Analysis**
- GEOL 396 – Topics: Depositional Systems Field Seminar**
- GEOL 396 – Topics: PETRA**
- GEOL 496 – Topics: Subsurface Methods**

Secondary priority:

- GEOL 332 & 332L - Introduction to GIS**

Lowest priority (offered on an irregular basis)

- GEOL 325 - Introduction to Engineering Geology**
- GEOL 351 - Applied Geochemistry**

Interpersonal Skills. Virtually all work in the petroleum industry is done by small groups with diverse scientific, cultural, and ethnic backgrounds. Technical qualifications alone no longer suffice. Employers sometimes must choose between a brilliant scientist who can't get along with anyone, and an adequate scientist who works well with others. The latter is almost always kept.....

Leadership Experience. Students should be active in club and program activities such as the **American Association of Petroleum Geologists (AAPG) Student Chapter** and in the **Grand Junction Geological Society**. Service as an officer in a student club serves notice to prospective employers that you are interested in going the extra mile and are learning leadership skills.

Research Experience. Many of the CMU Geosciences faculty have ongoing research projects that students can cycle into as they progress through the program. Talk to these faculty, and get involved in one or more projects that are of interest.

Internships. Internships can help greatly strengthen a resume. If possible, undergraduates should try to obtain part-time or summer employment related in some way to geology, and if at all possible, related to the petroleum industry. A number of students have done so recently, and virtually all have obtained more permanent employment soon after graduation.