



## Job Summary

Petroleum geophysicists evaluate geophysical data (seismic, gravity, magnetic, etc.) in order to identify potential exploration prospects, or assist with the development of existing prospects. They generally work in offices or at drilling and well sites. Travel is frequently required to visit these sites or to meet with engineers, oilfield workers, and customers.

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This career compass provides options, tips, suggestions, and strategies for how a student can obtain critical skills, experiences, and competencies in order to launch their geoscience career based on their academic standing. The content herein is based on data from the U.S. Bureau of Labor Statistics, interviews with personnel in the occupation, and research on available student opportunities.



## Undergraduate

- Geoscience or petroleum geology professional society membership and/or conference (e.g. AAPG or SEG student chapters)
- Clubs, student government, or professional societies
- Hone skills through public speaking or science communication courses or conference presentations, local community education and outreach events
- Events, activities, and technical sessions or short courses at professional society conference
- Geoscience internship with a non-profit, for profit organization or company, research institution, or federal agency
- American Association of Petroleum Geologists (AAPG) grants, Society of Exploration Geophysicists (SEG) scholarships, grants, and travel grants
- First Aid/ AED/CPR training
- Geologist in Training Certification (ASBOG Fundamentals Exam)
- Degree in geology, geophysics, or geological /civil/ environmental engineering, physics for some technical or field jobs in petroleum companies
- Course work in math, chemistry, physics, engineering, geology, surveying, seismology, computer science, or other courses as required by program
- Writing class outside the discipline (business or technical writing)
- Field experiences
- Research, capstone project and/or instrument experiences
- Write a senior thesis, undergraduate research, and present results locally

## Graduate/Master's

- Departmental committee, campus club, geoscience or petroleum geology professional society or student chapter (e.g. AAPG or SEG)
- Events, activities, and technical sessions or short courses at professional society conference or at education and outreach events and student chapters (e.g. AAPG or SEG)
- Publish research
- Present research at conference or within department
- Geologist in Training Certification or Professional Geologist license (ASBOG Fundamentals of Geology Exam and/or the Practice of Geology Exam)
- AAPG's Imperial Barrel Program, SEG's Evolve program
- Degree in geology or geological engineering or a related degree in civil or environmental engineering is required for most petroleum company jobs
- Master's research project or independent study project may be required in addition to course work
- Coursework in advanced math, physics, statistics, engineering, data science, programming may be required
- Map creation software or modeling software
- Public speaking or science communication courses
- Write a thesis or report, present results at conferences

## Ph.D./Post-doc

- Develop interpersonal skills
- Also applicable at Ph.D. level
- Present complex scientific concepts to nontechnical audiences
- Present research at conference
- Also applicable at Ph.D. level
- Degree in geology or allied field may be required for research positions
- Dissertation topic(s) related to the field
- Coursework in advanced math, data science, computer programming experience
- Interpretation and reservoir modeling software
- Write a dissertation

