Geologist Licensing in Washington State

http://www.dol.wa.gov/business/geologist/

Bob Mitchell – rjmitch@wwu.edu
32 States Require Geologist Licensure
Since 2001, Washington State requires that all practicing geologists have a professional license.

18.220 RCW & 308-15 WAC

WAC = Washington Administrative Code (policy interpretations of the law)

RCW = Revised Code of Washington (laws)
Why is licensure necessary in WA?

To ensure the protection of the environment and the public's health, safety, and welfare.

Landslide: Kelso, WA

Liquefaction: 2001 Nisqually Earthquake

Rock Fall: Hwy 2, WA

Groundwater Contamination
Who needs to be licensed?

**Anybody who** practices geology or represents that they can perform the work of a geologist (e.g., uses verbal claim, sign, advertisement, letterhead, business card)
WA Geologist Licensing Exemptions

• Working under a licensed geologist’s supervision (e.g., your first job)
• US Federal Government (e.g., USGS, EPA, US Forest Service)
• Energy & minerals exploration
• Academics (research and teaching)
Why pursue licensure?

- Because it is the law! 18.220 RCW & 308-15 WAC
- More job opportunities and professional growth potential.
- Portable to 32 states + Puerto Rico (it is the law in most western states, e.g., California, Idaho, Oregon and there are reciprocity agreements between states).

A better question is why not pursue licensure?
Where are geologists working?

[Map showing employment of geoscientists, except hydrologists and geographers, by state, May 2017]

https://www.bls.gov/oes/current/oes192042.htm#st

States with the highest employment level in Geoscientists, Except Hydrologists and Geographers: May 2022

<table>
<thead>
<tr>
<th>State</th>
<th>Employment (1)</th>
<th>Employment per thousand jobs</th>
<th>Location quotient (9)</th>
<th>Hourly mean wage</th>
<th>Annual mean wage (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>5,440</td>
<td>0.42</td>
<td>2.45</td>
<td>$ 70.00</td>
<td>$ 145,600</td>
</tr>
<tr>
<td>California</td>
<td>3,570</td>
<td>0.20</td>
<td>1.19</td>
<td>$ 47.33</td>
<td>$ 98,440</td>
</tr>
<tr>
<td>Colorado</td>
<td>2,260</td>
<td>0.82</td>
<td>4.78</td>
<td>$ 57.02</td>
<td>$ 118,600</td>
</tr>
<tr>
<td>Washington</td>
<td>900</td>
<td>0.26</td>
<td>1.55</td>
<td>$ 48.72</td>
<td>$ 101,340</td>
</tr>
<tr>
<td>New York</td>
<td>780</td>
<td>0.09</td>
<td>0.50</td>
<td>$ 40.57</td>
<td>$ 84,380</td>
</tr>
</tbody>
</table>
In what discipline areas are geologists working?

How do geologists make a living in 2019?

Visit the WA State Geologist Licensing web site for information.

https://www.dol.wa.gov/professional-licenses/geologists
Steps to Geologist Licensure

Meet WA State’s educational requirements and pass ASBOG’s Fundamentals of Geology Exam

Geologist in Training (GIT)

Have a geology degree and acquire 5-years of working experience and pass ASBOG’s Practice of Geology Exam

Professional Geologist (PG)

Document 5 years of working experience in a specialty and pass the Specialty Exam

Licensed Engineering Geologist (LEG) or Hydrogeologist (LHG)
Steps to Geologist Licensure

Meet WA States’ geology educational requirements
WA State’s Educational Requirements

(2) Education. You have graduated from an accredited college or university with:

(a) A degree in the geological sciences, or a related degree approved by the board, and have either:

(i) 24-semester or 36-quarter hours of upper division geology courses that includes 14 semester or 21 quarter credits (nonrepeatable) from the following list:

- Earth Materials (combination of mineralogy and petrology)
- Economic Geology
- Engineering Geology
- Field Camp
- Geochemistry
- Geomorphology
- Geophysics
- Hydrogeology
- Mineralogy
- Petrology
- Sedimentology
- Stratigraphy
- Structural Geology
(ii) Or

Successfully completed coursework that is determined by the board to be educationally equivalent in content and rigor to the classes listed above. You must submit documentation that demonstrates your coursework is equivalent to the requirements in (a)(i) of this subsection acceptable to the board. Examples of documentation include course syllabi, copies of study materials, and the tables of contents of books used in the course.
WA State’s Educational Requirements

You meet the education requirements if you receive a B.S. Degree in Geology at WWU.

<table>
<thead>
<tr>
<th>B.S. Upper Division Core</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>306 Mineralogy</td>
<td>4</td>
</tr>
<tr>
<td>310 Geomorphology</td>
<td>5</td>
</tr>
<tr>
<td>318 Structural Geology</td>
<td>4</td>
</tr>
<tr>
<td>352 Geophysics</td>
<td>4</td>
</tr>
<tr>
<td>406 Petrology</td>
<td>4</td>
</tr>
<tr>
<td>409 Field Methods and Theory</td>
<td>6</td>
</tr>
<tr>
<td>410 Field Mapping</td>
<td>6</td>
</tr>
<tr>
<td>415 Stratigraphy and Sedimentation</td>
<td>4</td>
</tr>
</tbody>
</table>

21 credits

37 credits
If you choose the **B.S. in Geophysics** degree plan, make sure you take enough upper division geology courses (300 and above) to accumulate 36 credits and 21 of the credits must be from the requirement list.

21 quarter credits (nonrepeatable) from the following list:

- Earth Materials (combination of mineralogy and petrology)
- Economic Geology
- Engineering Geology
- Field Camp
- Geochemistry
- Geomorphology
- Geophysics
- Hydrogeology
- Mineralogy
- Petrology
- Sedimentology
- Stratigraphy
- Structural Geology
If you choose the B.A. in Geology degree plan, make sure you take enough upper division geology courses (300 and above) to accumulate 36 credits and 21 of the credits must be from the list.

21 quarter credits (nonrepeatable) from the following list:

- Earth Materials (combination of mineralogy and petrology)
- Economic Geology
- Engineering Geology
- Field Camp
- Geochemistry
- Geomorphology
- Geophysics
- Hydrogeology
- Mineralogy
- Petrology
- Sedimentology
- Stratigraphy
- Structural Geology
Steps to Geologist Licensure

Meet WA States’ educational geology requirements and pass ASBOG’s Fundamentals of Geology (FG) Exam

The State has adopted the National Association of State Boards of Geology (ASBOG) standardized exam as the Fundamentals of Geology Exam (FG)
WA State’s Educational Requirements

You can take the ASBOG FG Exam without a degree if you have met the educational requirements.

If you want to take the ASBOG Fundamentals Exam before graduating, you must meet the educational requirements about three months in advance, because there is a 90-day administrative processing period.

For example, the spring ASBOG Fundamentals Exam is March 24, 2024, but the application deadline is December 31, 2023.

The application requires an official university transcript. Make sure your fall-quarter grades are recorded on your transcript before you have WWU send it the WA DOL.

https://www.dol.wa.gov/professional-licenses/geologists/exams-geologists
ASBOG FG Exam Application Procedures

The exam application procedures, due dates and exam dates can be found here. Complete the Geologist-in-Training Certificate Application. You can mail your application or apply online.

It costs $135 to apply to the WA State DOL, the $135 application fee covers one attempt at the FG, one attempt at the PG and the first issuance of a license.

Once your application is approved, the Licensing Board will send you application materials for the ASBOG Fundamental Exam (it will cost another fee $275 to ASBOG for the exam and fee for the computer-based testing site). Note, the application will come by email, so if you are out of town (e.g., field camp), make the proper arrangements because if you do not pay ASBOG you cannot take the exam. After payment has been received by ASBOG, you will receive an exam admission letter by email about one month before the exam date.

If you pass the FG exam, you will be a Geologist in Training (GIT). If you fail the FG Exam, you will be required to pay a reexam fee to DOL of $88 and the exam fee to ASBOG.
New Geologist Licensing Fund!

Your fees will be subsidized if you are an enrolled undergraduate or graduate student at WWU. Due to the generosity of a donor, the Department has set up Geologist Licensing Exam Fund.

- If you PASS the ASBOG FG 100% of your application fees will be reimbursed.
- If you FAIL the ASBOG FG Exam 50% of your application fees will be reimbursed.

So, there are no excuses for not taking the ASBOG FG Exam as an enrolled student:
1. there are study materials in the department,
2. the testing location is convenient,
3. your fees will be subsidized, and
4. passing the FG exam will improve your job marketability because Washington State requires that practicing geologists be licensed.
Steps to Geologist Licensure

The State has adopted ASBOG exams to assess geology competency

140 multiple choice questions

Computer-based testing as of 2023
The **ASBOG Fundamentals of Geology (FG) Exam** has 140 multiple choice questions in the categories below.

![Figure 17 - ASBOG® 2023 Task Analysis Survey FG Test Blueprint - Domain Percentages (Effective - October 2023)](image-url)

- **A. General Geology and Geological Investigations, 17%**
- **B. Mineralogy, Petrology, and Geochemistry, 12%**
- **C. Sedimentology, Stratigraphy, and Paleontology, 11%**
- **D. Geomorphology and Surficial Processes, 14%**
- **E. Structure, Tectonics, and Seismology, 12%**
- **F. Hydrogeology, 13%**
- **G. Engineering Geology, 12%**
- **H. Mineral and Energy Resources, 9%**
Washington State computer testing sites

- Bellingham
- Camas
- Fife
- Liberty Lake
- Mountlake Terrace
- Olympia
- Pasco
- Seattle
- Spokane
- Yakima

https://testingcenter.wwu.edu/

333 32nd Street – AC120
Bellingham, WA 98225

Note: Testing Center is located off-campus at 333 32nd Street – AC120

Parking Permits are required in the Testing Center parking lot (32G) from Monday through Friday.
How to prepare for the ASBOG FG Exam
GEOLOGY STUDY MANUAL

Review for
the National (ASBOG) Geology Licensing Exam

Published by

REG REVIEW, Inc.

37 Rosewell Road
Bedford, NH 03110

http://regrevieiw.com

We have two hard copies of this in the Geology office.
Examination Candidates... here are some useful resources for examination preparation
(use Ctrl+f to search)

I. ASBOG® Candidate Handbook  ...click
II. Physical Geology (Open Textbook Library)  ...click
III. MIT Open Courseware (Geology Topics) ...click
IV. Basic Groundwater Hydrology- USGS WRI 2220  ...click
V. Engineering Geology Field Manual (Bureau of Reclamation) - Volume I & II  ...click
VI. Rock Mechanics (Rocscience (Evert Hoek, Ph.D.))  ...click
VII. Visible Geology Web Site  ...click
VIII. Rock and Mineral Jeopardy  ...click
IX. AGI Data Sheets 5th Edition ($for purchase)  ...click
X. AGI GOLI Webinar's  ...click

https://www.asbog.org/candidates/candidates.html
Join the WWU AEG Student Chapter

ASSOCIATION OF ENVIRONMENTAL & ENGINEERING GEOLOGISTS

WWU GEOLOGY DEPARTMENT - STUDENT CHAPTER
Join the WWU AEG Student Chapter

Professional Development (work on your exit strategy!)

- Free AEG Membership
- Networking at AEG Meetings in Seattle
- **ASBOG FG Exam Study Groups**
- Resume/Cover Letter Reviews
- Grad School Information
- Case study presentations from practicing profess
- Internship/Scholarship Applications

[Visit their website](https://www.aegweb.org/students)
Western is top in the nation for number of people taking the FG Exam

Number of people that have taken the ASBOG between 1992 and 2017. Note Washington started administering the exam in 2002.
Since 2008 about 41% of WWU students and alums have taken the ASBOG FG and the passing rate is about 78% (about 10% than the national average).
Steps to Geologist Licensure

Meet WA State’s educational requirements and pass ASBOG’s Fundamentals of Geology Exam

Geologist in Training (GIT)

Have a geology degree and acquire 5-years of working experience and pass ASBOG’s Practice of Geology Exam
WA Geology Experience Requirements

You must accumulate 5 years of professional geological practice after receipt of a geoscience degree and meet the educational requirements.

• experience earned prior to receiving a degree will not be considered (e.g., summer internships)

• at least 3-years of the 5 must be under the supervision of licensed geologist or others who, in the opinion of the board, are qualified to be in responsible charge

• part-time experience will be prorated

• A graduate degree can be counted as a maximum of two years of practicing experience.

• Geological research or teaching at the university or college level is credited year for year if, in the judgment of the board, it is comparable to experience obtained in the practice of geology.
Meet WA State’s educational requirements and pass ASBOG’s Fundamentals of Geology Exam

Geologist in Training (GIT)

Have a geology degree and acquire 5-years of working experience and pass ASBOG’s Practice of Geology Exam

140 multiple choice questions

Computer-based testing as of 2023
WA Specialty Professional License Options

Hydrogeologist

Engineering Geologist

State of Washington
Licensed Geologist

Your Name Here

State of Washington
Licensed Geologist

Your Name Here
Steps to Geologist Licensure

Meet WA State’s educational requirements and pass ASBOG’s Fundamentals of Geology Exam

Geologist in Training (GIT)

Have a geology degree and acquire 5-years of working experience and pass ASBOG’s Practice of Geology Exam

Professional Geologist (PG)

Document 5 years of working experience in a specialty and pass the Specialty Exam

Licensed Engineering Geologist (LEG) or Hydrogeologist (LHG)
WA Specialty Education Requirements

WAC 308-15-055

Completed advanced study in the specialty

- 18 semester/27 quarter hours of specialty course work, OR
- 270 hours of seminars or workshops, OR
- 540 hours of on-the-job training under the supervision of a licensed specialist or others who in the opinion of the board, are qualified to be in responsible charge of specialty work, OR
- or a combination of the above
WA Specialty Education Requirements

WAC 308-15-055

Complete 5 years of professional specialty practice after completing the advanced education requirements

- 3 years under the supervision of licensed specialist or others who in the opinion of the board are qualified to be in responsible charge
- Part-time experience will be prorated
Alternative experience credit

- Each year of graduate study counts as one year of training up to a maximum of two years
- Geological research or teaching at the university or college level is credited year for year if, in the judgment of the board, it is comparable to experience obtained in the practice of a specialty
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For future reference see my web site

http://kula.geol.wwu.edu/rjmitch/index.html