

CWU Student Learning Outcome Assessment Plan
 Department: **Geological Sciences**
 Programs: **M.S. Geology**

Student Learning Outcomes (performance, knowledge, attitudes)	Related Program/ Departmental Goals	Related College Goals	Related University Goals	Method(s) of Assessment (What is the assessment?)*	Who Assessed (Students from what courses – population)**	When Assessed (term, dates) ***	Standard of Mastery/ Criterion of Achievement (How good does performance have to be?)
1) Critically interpret published scientific literature; differentiate data from interpretation	1 and 5	I and III	One, three, four, five	Instructor evaluation of literature-based and original research papers, directed reading assignments, oral presentations in class, laboratory, disciplinary and other meetings Faculty mentor evaluation of thesis proposal, defense	Graduate students enrolled in GEOL 501, 502, 503 and other 500-level classes Graduate students enrolled in GEOL 595 and 700	Fall, winter, spring quarters Fall, winter, spring quarters	90% of students get grade of B or better on such assignments 95% of students enrolled receive passing grade
2) Under supervision of advisor, design and implement an original research project that develops multiple hypotheses, predictions from hypotheses, data gathering strategy, data analysis, and literature review	1, 4. and 5	I and III	One, three, four, five	Instructor evaluation of research proposal Faculty mentor evaluation of thesis proposal	Graduate students enrolled in GEOL 503 Graduate students enrolled in GEOL 595	Winter quarter Fall, winter, spring quarters	90% of students get grade of B or better on such assignments and 20-25% per year receive funding in internal or external competition 20-25% per year receive funding in internal or external competition
3) Where appropriate submit research proposal to internal and external competition based on proposal outlined in #2	1, 4. and 5	I and III	One, three, four, five	Evaluation of thesis proposal by internal and external funding committees	Graduate students enrolled in GEOL 595	Fall, winter, spring quarters	20-25% per year receive funding in internal or external competition

4) Report the results of original research using standard geoscience formats and conventions.	1, 4. and 5	I and III	One, three, four, five	Chair and committee member evaluation of written thesis, final thesis oral presentation (defense) Acceptance of conference abstracts, peer reviewed journal articles or equivalent (e.g., book chapters)	Graduate students enrolled in GEOL 595, 700 Peer reviewers	Fall, winter, spring quarters Fall, winter, spring, summer quarters	95% of students enrolled receive passing grade for GEOL courses. 25% of graduate students present at local, regional or national meeting, 25% successfully publish work in peer-reviewed journal (mostly post graduation)
5) Present research results, both orally and in writing.	1, 4. and 5	I and III	One, three, four, five	Chair and committee member evaluation of written thesis, final thesis oral presentation (defense) Acceptance of conference abstracts, peer reviewed journal articles or equivalent (e.g., book chapters)	Graduate students enrolled in GEOL 595, 700 Peer reviewers	Fall, winter, spring quarters Fall, winter, spring, summer quarters	95% of students enrolled receive passing grade for GEOL courses 25% of graduate students present at local, regional or national meeting, 25% successfully publish work in peer-reviewed journal (mostly post graduation)
6) Evaluate uncertainties with respect to observations and measurements	I	I	One	Instructor evaluation of laboratory and field reports Chair and committee member evaluation of thesis research	Graduate students enrolled in 500-level classes Graduate students enrolled in GEOL 595, 700	Fall, winter, spring quarters Fall, winter, spring quarters	90% of students get grade of B or better on such assignments 95% of students enrolled receive passing grade for GEOL courses,
7) Demonstrate working knowledge of standard geologic reference tools and	I	I	One	Instructor evaluation of literature-based and original research papers, laboratory assignments	Graduate students enrolled in GEOL 501, 502, 503 and other 500-level	Fall, winter, spring quarters	90% of students get grade of B or better on such assignments

resources, e.g. library, web, computer databases & libraries (e.g. plotting, stats, georeferencing, etc.)				Chair and committee member evaluation of thesis research	classes Graduate students enrolled in GEOL 595, 700	Fall, winter, spring quarters	95% of students enrolled receive passing grade for GEOL courses
8) Demonstrate in-depth knowledge and currency in area of specialization.	1	I and III	One, three, four, five	Instructor evaluation of literature-based and original research papers, laboratory assignments Chair and committee member evaluation of thesis research	Graduate students enrolled in GEOL 501 & 503 Graduate students enrolled in GEOL 595, 700	Fall, winter, spring quarters Fall, winter, spring quarters	90% of students get grade of B or better on such assignments 95% of students enrolled receive passing grade for GEOL courses,
9) Gain experience in teaching geosciences in the classroom and/or field.	1	I, III, IV, VI	One, three, four, five	Instructor evaluation of teaching effectiveness	Student TAs	Fall, winter, spring, summer quarters	95% of students enrolled receive passing grade

*Method(s) of assessment should include those that are both direct (tests, essays, presentations, projects) and indirect (surveys, interviews) in nature

Data needs to be collected and differentiated by location (Ellensburg campus vs. University Centers – see NWCCU standard 2.B.2) **MS program only offered at Ellensburg campus.

***Timing of assessment should be identified at different transition points of program (i.e., admission, mid-point, end-of-program, post-program)