

SLO Assessment for Geology BA / BS Fall, 2010

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Introduction

The table below contains student learning outcomes (SLO) for the BA and BS degrees in Geology at EWU.

BA-Geology			1. Develop effective skills in oral and written communication in order to be successful in the field of geology.
			2. Understand basic principles of the history and development of earth through time.
			3. Learn and demonstrate the proper use of office, laboratory and field equipment used in the field of geology.
BS-Geology			1. Develop effective oral and written communication skills necessary for employment in the various fields of geology.
			2. Develop critical thinking skills to solve geological problems encountered in the various fields of geology.
			3. Understand and be able to use the tools and equipment available to professional geologists to solve geological problems.
			4. Have a solid understanding of geologic principles and processes that operate in the complex systems of the earth.

I have assessed SLO 3 for the BA degree and SLO 3 for the BS degree by analyzing student performance in GEOL 490, Geology Field Camp.

Geology Field Camp

GEOL 490 is a required disciplinary capstone for the BS degree program and an optional capstone and geology elective for the BA degree program. Students take GEOL 490 in the summer following their senior year. It is a 4-week course taught in the Ruby and Pioneer Mountains of southwestern Montana. Students spend 6 days per week in the field solving problems related to all aspects of geology including

mineralogy, petrology, structural geology, sedimentology, and paleontology. They spend evenings and their one day off per week making maps and cross-sections that illustrate their interpretations of surface and subsurface geology. In so doing, they use field and lab skills, tools, and equipment that professional geologists apply to real-world geological problems.

EWU's Geology Field Camp is attended by outside students as well as EWU geology majors. Virtually all BS degree programs in geology in the United States require Field Camp for graduation, but most universities do not offer their own Field Camp. Instead, their students attend Field Camps like ours that admit outside students. Last year (summer, 2010) students came to EWU's camp from the following universities:

- University of North Carolina
- Case Western Reserve University
- California Lutheran University
- Pacific Lutheran University (3 students)
- Washington State University

One of the advantages of admitting students from other universities to our field camp is that it permits us to compare the abilities of our students with the abilities of students from other geology programs. It should be noted that all of the universities listed above have academically selective admission processes, unlike EWU. Please note that three of the five schools are Tier 1 Research Institutions.

SLO Assessment

SLO assessment is based on students' overall grades and also on students' grades on their independent final exam. The overall grade is based in part on large multi-day projects based on group mapping, analysis, and geologic interpretation. Therefore the overall grade, while an indicator of the success or failure of our department's ability to achieve desired student learning outcomes, is not solely based on a single student's abilities. Therefore I am also assessing each student's independent final exam result as no collaborative work was permitted on this particular one-day mapping project.

For the purposes of assessing success in achieving SLO's, I will compare EWU BS and BA degree students' results in GEOL 490 with those of students from outside institutions in GEOL 490 for summer, 2010.

Results

Below are the averages of final exam grades (percent) and overall grades (percent) for student groups including (1) BS degree students from EWU, (2) BA degree students from EWU, and (3) outside students from the universities listed above.

<u>Student Group</u>	<u>Final Exam (%)</u>	<u>Overall Grade (%)</u>
BS – EWU	86.5	88.0
BA – EWU	95.0	87.6
Outside Students	80.8	84.9

Conclusions

Both BS and BA degree students from Eastern Washington University outperformed students from other universities on both the independent final exam and the overall grade. EWU BS students exceeded outside students by 5.7 percentage points in the final exam average and by 3.1 percentage points in the overall grade average. EWU BA students exceeded outside students by 14.2 percentage points in the final exam average and by 2.7 percentage points in the overall grade average. EWU students' grades demonstrate a high level of understanding and performance in GEOL 490. These results indicate that the EWU Geology Department is successful in achieving the desired student learning outcomes.