

Students' Application of Related Fields to Geological Systems

College of Natural Sciences and Mathematics – Geology BS

Step 1: Student Learning Outcome

Apply mathematics, chemistry, biology and/or physics to help clarify the mechanisms behind major geological systems.

Step 2: Methods and Measures

Direct: Faculty select assignments that they felt tested students' ability to apply math, chemistry, biology and/or physics. Assessment data is collected from applicable courses: GEOL 303A, GEOL 381, GEOL 470, and GEOL 406. Students were sorted into their majors and the data used to test this SLO are major specific.

Indirect: Survey measuring confidence levels in related fields knowledge on a 4 point scale.

Step 3: Criteria for Success

Direct: 80% of students score a C or better; 70% of students regularly apply each related field (rank greater than or equal to 3 - regularly applied).

Indirect: 70% of all students rank between 3 and 4 in confidence.

Step 4: Results

Direct: Findings indicate that on average BS students (n=25) earned an 85% on their assignment that incorporated related field skills; Students were most proficient in Biology (90%) and Chem (96%), Physics (81%). and Math (76%) Thus, the target was met.

Indirect: Findings indicate that 92% of all students rank between 3 and 4 on their perceived confidence of knowledge in their related fields knowledge; Only 1 student ranked a 2. The average ranking = 3.0 on a scale of 1 to 4; thus, this part of the assessment was met.

Step 5: Improvement Actions

Improvement actions include incorporating more physics and math related assignments in the BS student curriculum and surveying the students on which related field students feel most confident in.