Online Assessment Tracking Database

Sam Houston State University (SHSU)
2014 - 2015

Geology BS

Goal

Sufficient Knowledge Of Geology To Qualify For A Bachelor Of Science

Students will acquire a comprehensive knowledge of the discipline that encompasses both theoretical and field-based practical skills.

Objective (L)

Successful Completion Of An Externally Evaluated Geology Field Camp

All SHSU Geology majors must attend a six credit, externally evaluated capstone Field Camp as a required component of their degree program. Such field camps are typically open to suitably qualified upper level students from geology programs situated anywhere in the country. They are conventionally evaluated using a letter grade system which the Department of Geography and Geology converted to a ranking system.

SHSU Geology students must be nationally competitive at this capstone task as indicated by at least 60% of our participants achieving at least a Limited Mastery ranking.

Indicator

Successful Completion Of Field Camp

All students must attend a six credit hour Field Camp that is externally evaluated on the following basis: Mastery, Limited Master, Adequate Comprehension, Limited Comprehension, and Very Low Comprehension. Students are free to choose from a very wide range of applicable courses, each of which offers slightly different emphases in terms of geographical location and course structure. ALL courses offer a capstone-like review with Mastery reflecting mastery of taught and examined modules as well as high levels of precision in final field review stand-alone projects. A ranking of Limited Mastery reflects mastery of one or more modules but with some imprecision; a ranking of Adequate Comprehension reflects broad comprehension but demonstrates a lack of sophistication in the use of basic course material; rankings of Low Comprehension and Very Low Comprehension reflect low levels of understanding and effort and indicate inappropriate general preparation prior to field camp participation.

Criterion

60% Of Students Will Achieve At Least A Limited Mastery Ranking By The External Evaluator Of The Field Camp

60% of students will achieve at least a limited mastery ranking or better by the external evaluator of the Field Camp.

Finding

Field Camp Results From External Evaluators

This year 12 students attended field camp sponsored by the University of Missouri. Seven attained mastery three attained limited mastery, so 83% achieved limited mastery or better. The field camp director wants us to clone at least 8 of our students and send them year after year. The field camp director did not comment on any weaknesses of the groups as a whole this year, in fact she was very impressed with their skill levels coming into camp. Anecdotal evidence indicates

a similar impression by other field camp directors. The field camp director from Southern Utah University commented that our three students at their camp "were always on time, prepared for the day, and turned in great work. This group was also the only group in the entire class to notice a relay ramp in one of our mapping areas. I was impressed with their level of preparedness, geologic knowledge,and professionalism." Last year three students attended field camp at Sul Ross State University and received the three highest grades, and one was offered a graduate position there. He starts their graduate program this Fall. The person we sent to Sul Ross this year obtained the highest grade in the class. She had already accepted a graduate position at Texas A&M. Four out of five students attending field camp with Oklahoma State University achieved at least a limited mastery ranking, with two of them getting the top two grades in the entire group.

Action

Response To External Evaluation Based On Field Camp Performance

Our response to the feedback from students and field camp directors over the past number of years was to develop an introductory field methods course. Dr. Joseph Hill first offered this course Fall 2013. The difficulty with offering the course during a regular semester was that all the field trips had to be run on weekends, sometimes having to leave Thursday afternoon. This was a major disruption to student schedules. Therefore, we decided to try offering it again during May minimester 2014. This way they were able to focus on field methods in places like Palo Duro Canyon and New Mexico. We offered field methods again in May 2015, except this time we sent Dr. Pat Harris along to help Dr. Hill work the 25 students taking the course. Once again, anecdotal feedback from students taking field camp is that the introductory field methods course put them at an advantage over many other students at the various summer field camps. And the feedback that we are receiving from field camp directors is that they are very impressed with the preparation that we have provided to our students.

Goal

Deliver Core Curriculum Education Appropriate To The Geology Discipline

The Department of Geography and Geology provides discipline-specific offerings to the Core Curriculum.

Objective (L)

Apply Basic Components Of Geology

Students completing the core curriculum courses will demonstrate an understanding of the basic components of a geological perspective and will recognize geological themes.

Indicator

Core Curriculum Geology Comprehensive Exam

All students enrolled in core curriculum geology classes complete a final comprehensive exam related to the foundations of geology.

Criterion

Average Of At Least 75% Accuracy

The average score of core curriculum geology students will be at least 75% on the final comprehensive exam.

Finding

Geology Pre- And Post-exams

This is embarassing, we do not have results for these exams this year. We have to chalk it up to a changing of the guard. Dr. Chris Baldwin and Dr. Brian Cooper always took it upon themselves to administer these exams in their introductory courses, and do the evaluations of the results. The faculty members assigned to do the testing this year administered a pre-test (but not the one that was requested), and then forgot to administer any sort of post-test. Apparently, they did not understand or appreciate the importance of this exercise. Perhaps the department chair did not communicate the importance in a way that they would understand.

Action

Geology Exams

The department chair will write, help administer, and evaluate the exams this year.

Goal

Development Of A Geologic Knowledge Base

Each student is required to have developed a level of knowledge in various areas of geology prior to attending the capstone geology field course.

Objective (L)

Mineral Recognition

After completing Geology 3404, students will be able to recognize minerals.

Every geology student must take Geology 3404, Mineralogy. One of the objectives of this course is to be able to recognize minerals, which is a skill that will be needed when they take the capstone geology field course.

Indicator

Final Mineral Practical Exam

Students completing Geology 3404, Mineralogy, must take a final practical exam that requires the recognition of minerals.

Criterion

Student Scores

60 percent of the students will be able to recognize 15 or more of the 30 minerals presented to them on the final mineral practical.

Finding

Mineral Practical Scores

90% of the students (35 of 39) were able to recognize 15 or more of the 30 minerals presented to them on the final mineral practical, up from 70% last year and 57% the year before.

Action	**Mineral Practical Performance** Increasing the emphasis on learning the distinguishing properties of minerals as opposed to memorizing what they look like seems to be helping, but there is still a long way to go. It is time to raise the bar because even with this apparent improvement on the final practical exam there is insufficient carry-over into the subsequent course (Petrology). The plan is to change up the format again, both in terms of the lab meeting times and the organization of the course. There will be more day to day and lab to lab continuity than in any of the previous formats. In the past, students were required to have six notebooks or a binder divided into six sections. This coming semester, there will only be two notebooks required. There will be a greater emphasis on mineral recognition, and will include exercises requiring the recognition of minerals in rocks to provide that experience for students prior to Petrology.

Previous Cycle's "Plan for Continuous Improvement"

Student performance in the summer field camp will continue to be monitored since the field camp course is the capstone course for Geology majors. Hopefully, a larger number of students will enroll at the University of Missouri field camp because we get very useful feedback from the camp director. The introductory field methods course will only be offered during the May minimester. We start implementing the revised core curriculum measures in our freshman geology courses, and until instructed otherwise we will track our progress within the OATDB. Mineral recognition will continue to be emphasized, but with a look at how much of this skill carries over into the Petrology course (GEOL 3305).

Please detail the elements of your previous "Plan for Continuous Improvement" that were implemented. If elements were not implemented please explain why, along with any contextual challenges you may have faced that prevented their implementation.

Student performance in summer field camp was monitored, and a larger number of students enrolled at the University of Missouri field camp. Quantitative information in the form of student standing in the various field camps, as well as anecdotal responses from various field camp directors all indicate the increased preparation of our students for summer field camp. We did offer the course again in May, but with two faculty members instead of just one. Implementation of the revised core curriculum measures was an epic failure as described earlier. Mineral recognition continues to improve on the final mineral practical, but there are still some issues concerning how much of this skill carries over into Petrology.

Plan for Continuous Improvement - Please detail your plan for improvement that you have developed based on what you learned from your 2014 - 2015 Cycle Findings.

Student performance in the summer field camp will continue to be monitored since the field camp course is the capstone course for Geology majors. The introductory field methods course will again be offered during the May minimester, and hopefully with two faculty members again. The Chair will oversee the implementation of the revised core curriculum measures in our freshman geology courses, and until instructed otherwise we will track our progress within the OATDB. The bar will be raised on mineral recognition and a way to measure how much of this skill carries over into the Petrology course (GEOL 3405) will be devised.