Expected Outcomes: 1. Mastery of concepts and knowledge

Students completing the baccalaureate program in Geology will demonstrate a mastery of the concepts and knowledge base considered essential for a contemporary geoscientist. In addition, they will have specialized familiarity with at least one research topic and be able to deliver written and oral summaries of this area.

Related typical general education outcomes:

1  Information Literacy
2  Analytical and Critical Reading
3  Ability to Critique Arguments
4  Ability to Construct Arguments
7  Written Communication
8  Oral Communication
11  Scientific Literacy
12  Aesthetic Appreciation and Engagement

Assessment methods

Method: 1a. Senior Seminar Course

The Geology Senior Seminar course (GEOL 4110), required of all majors, has now been revised to accomplish a number of goals perceived by the faculty as important outcomes that were not met sufficiently well in the past. These center around an undergraduate research experience and the written and oral presentation of the student’s research. Specific goals of this course with regard to assessment are that Geology majors should be able to do the following: 1. Search library and Web resources effectively and retrieve useful scientific literature. 2. Demonstrate familiarity with the format and content of the scientific article. 3. Graph numerical data and interpret the types of graphs commonly used in the geological sciences. 4. Express themselves in text in a professional manner. 5. Produce and deliver oral presentations, including illustrations, in a professional manner.

Findings:

Research experience of Geology seniors varied widely: from classroom reports to an Honors Senior Thesis project. Of the nine students who took the course, four (44%) had little experience with literature searching techniques. All students were familiar with the organization of a scientific paper by the end of the course, but most seemed vague about it initially. Over half of the class were not adequately aware of graphing software. Four students scored less than 70% on the research paper first draft (mean 71.8%), whereas only one student score less than 70% on the first attempt at the oral presentation (mean 82.5%). Note: students were allowed to revise and repeat the written and oral presentations, and all students scored 70% or above on the second attempts.

How did you use findings for improvement?
While the senior-level course serves a valuable purpose in ensuring that all majors have at least a minimal experience with individual research, it also points to the need to address deficiencies earlier in the student’s undergraduate training. Faculty are currently attempting to focus more attention on these issues in their courses.

Additional comments:

As stated above, the new Senior Seminar course can be used to detect areas of weakness where we can focus our attention. This is in contrast to the earlier version of the course, in which, once certain goals were met, no action was required.

Expected Outcomes : 2. Employment

Students completing the baccalaureate program in Geology will be well prepared to enter the workforce in the geological sciences and related areas.

Related typical general education outcomes:

1 Information Literacy
2 Analytical and Critical Reading
4 Ability to Construct Arguments
7 Written Communication
8 Oral Communication
11 Scientific Literacy

Assessment methods

Method : 2a. Status reports

Geology majors will be tracked after graduation. These graduates will find professional employment in the geological sciences or related areas.

Findings:

Our expectation is that seventy-five percent or more of those students who pursue professional employment in the geological sciences or related areas after graduation will be successful. Of the ten students who graduated with a B.S. degree from the Geology program in 2011-2012, one elected to go on to graduate school (at Virginia Tech.), three are known to have secured employment in the geological sciences, three are employed outside the discipline at present, and three of the students have eluded our attempts to keep track of their whereabouts. Thus, of the nine students presumably attempting to secure employment in geology, only three (33%) to five (56%) have been successful.

How did you use findings for improvement?

Discussion has centered on better ways of tracking our alumni, including use of social-networking Web sites. In addition, we plan to attempt to contact graduates 3 months after the graduate by e-mailing them using their Auburn University e-mail addresses and to maintain a bank of cell-phone numbers, accumulated while they are AU students. Also, we are discussing some possible ways to help our recent graduates make contact with our older alumni so that they may help them to find a position.

Additional comments:
Expected Outcomes: 3. Preparation for graduate studies

Students completing the baccalaureate program in Geology will be well prepared to continue their studies at the graduate level.

Related typical general education outcomes:

1. Information Literacy
2. Analytical and Critical Reading
3. Ability to Critique Arguments
4. Ability to Construct Arguments
5. Ability to Use Mathematical Methods
6. Ability to Solve Open-Ended Problems
7. Written Communication
11. Scientific Literacy

Assessment methods

Method: 3a. Former supervisor’s reports

Former thesis supervisors within the Auburn University Geology faculty will provide information on the outcome of the students’ applications to graduate school.

Findings:

Of the ten students who graduated with a B.S. degree from the Geology program in 2011-2012, two elected to go on to graduate school. One was successful (now at Virginia Tech.), and one was not accepted.

How did you use findings for improvement?

The sample is not sufficiently large to warrant action.

Additional comments:

None