

Institutional Effectiveness Report

2021-2022

Program: Earth Sciences BS

Unit: Geosciences

Contact: Jeannette Luna

Mission

1. To provide a robust undergraduate learning and research experience for geoscience

Program Goals

PG 1: The Department will maintain an average of 10 graduates/year.

PG 2: Increase the department's Alumni Endowment to offer more scholarships, experiences, and student research.

Student Learning Outcomes

SLO 1: Graduates will demonstrate sufficient geoscience knowledge that allows them to either pursue a graduate degree or enter the geoscience workforce.

SLO 2: Graduates will demonstrate proficiency in communication and critical thinking.

SLO 3: Graduates will demonstrate the ability to independently develop, conduct, and complete a novel research project.

Assessment Methods

PG 1: Number of majors and graduates, reviewed annually.

Programs graduating <10 students/year can be classified as low producing by the Tennessee Higher Education Commission. Low producing programs have been e]1. hj2(a)7.6 (m)-9.3 (i)-3.3 (n)-0.7a(i)

The Department tracks the size of the endowment as well as the number of scholarships, experiences and student research funded.

SLO 1: Competency

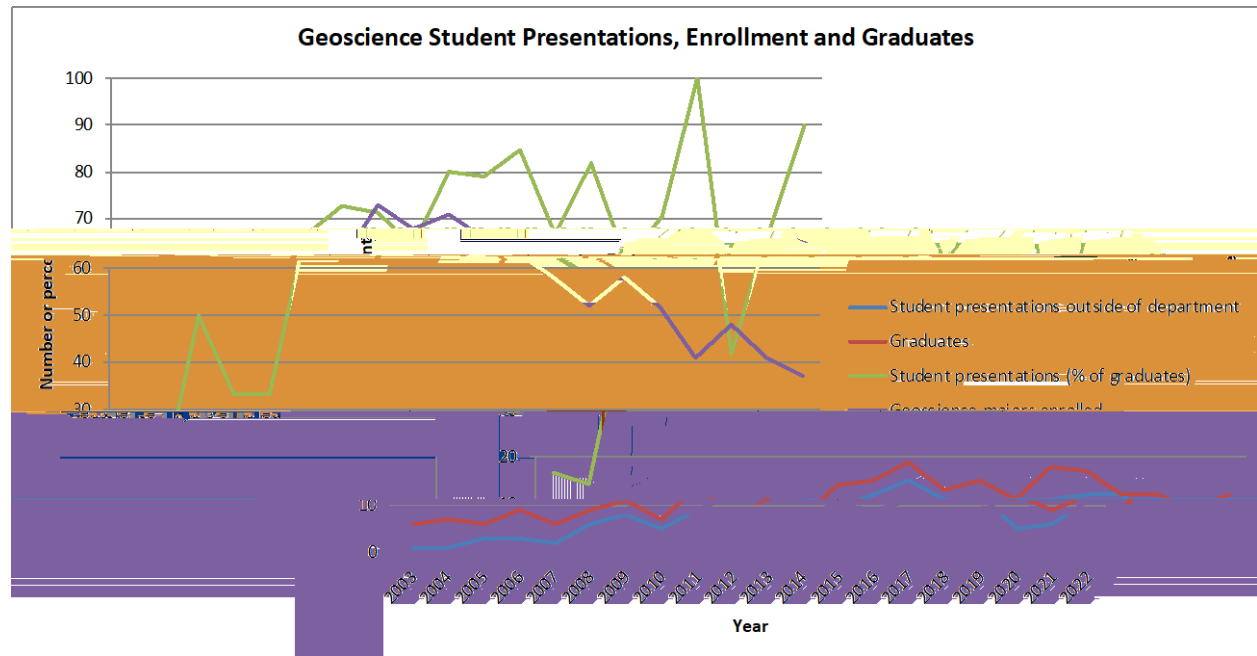
Two exams are used to assess a student's understanding and retention of fundamental knowledge and to help us identify content gaps in our curricula.

Results

PG 1: Number of majors and graduates, reviewed annually.

The number of majors in the Fall 2021 semester was 38, but decreased to 36 in spring 2022. For F2021-S2022, we graduated 12 students. As of summer 2021, our graduation average is 2.6 students/year, a decrease from last year's year average of 13.6.

Figure 1. Geoscience student presentations, enrollment and graduates from 2003



PG 2: Donations and endowment growth

As of August of 2022, our Earth Sciences Restricted account has a balance of \$54,021.54 (increase of 7%), our GasPro Geology Endowment has a balance of \$4,269.90 (increase of 7%), and our Earth Science Alumni Endowment has a balance of \$38,032.62 (increase of <1%). Donations from department alumni may go to any of these accounts. In calendar year 2021, we received \$6,460.00 in donations. As of August 2022, we have received \$1,600.00. The Earth Sciences Restricted account is the most flexible and can be used for scholarships, travel, supplies, and equipment. The GasPro Geology Endowment supports student field trips. The Earth Sciences Alumni Endowment supports student scholarships.

SLO 1: Competency

Department Exam for all Major: From spring 2006 to spring 2022, 177 students completed the department exit exam. During this time, 36 students scored 70 or above on the exam (12/12 for the F2021-S2022 cohort). The 2021-2022 exam average increased slightly, from 57% compared to 33% for 2020-21.

ACAT Exam for GEO Concentration: For the 2021-2022AY, geoscience students (N=10) scored in the 42nd percentile on the national ACAT Geology exam, the same as last year. This is our seventh year of data for this exam. The percentile range on this exam for 12022 students was from 10 to 75, indicating a disparity that may not reflect student aptitude.

EGEO and GIS/GEOG Concentration Exams: For the 2022AY, the EGEO exam score was 67.5% (N=2), a decrease from an average of 75% (N=4) the previous year. The GIS/GEOG exam score was 50% (N=1), an increase from an average of 42% (N=4) in 2020-2021. This is our third year of data for the EGEO and GIS/GEOG exams.

SLO 2: Communication and Critical

	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022	
MAJOR	Mean	N*	Mean	N*	Mean	N*	Mean** 34 point /100 point	N*	Mean** 100 point	N*
GEOS	20.2	13	20.6/83	8	18.7/79	6	79	2	76	8

education courses are now cross-listed to offer online and in-person options (GEOL 1040, GEOL 1045, GEOG 1120, GEOG 1130). Each class includes at least one lecture showcasing geoscience careers and highlighting the curriculum pathways for geology, environmental geology, and geography.

PG 2: Donations and endowment growth

We continue to work with alumni to increase contributions to the Alumni Endowment. This ongoing work resulted in two new geoscience scholarships and the acquisition of an XRD instrument -nwc64.6 (es)6.7 (

Appendix 1: Curriculum Map

Alignment of required geoscience courses with student-learning outcomes. Core courses

GEOL 4150	Geomorphology	x	x	
GEOL 4200	Geological Exploration Techniques	x	x	

Appendix 2: Grading Rubric

Faculty adopted the following grading /f11.04mg fhdradradinee fllsi0.5v(di)50.51913.2 (/TT7)-3 (0.5d)/TT7: 2T89