

Department of Physical Science
Division of Geosciences and Physics
2004-2005

**Expanded Statement
of Institutional
Purpose**

Mission Statement

The Division of Geosciences and Physics (DG&P) strives to provide students at Southern Utah University with excellence in physical science education. Our integrated efforts are directed toward those methods we feel produce the best possible educational experience. The primary goal of the DG&P faculty is to ensure academic excellence in our students while demanding integrity, building self-esteem, and developing critical thinking skills.

**Program Intended
Educational Outcomes-**

Outcomes/Objectives

1. Courses will be taught by faculty with expertise appropriate to their teaching assignments.
2a. Laboratories, field experiences, and other hands-on experiences will be conducted by faculty members with appropriate expertise in their fields.
2b. Students will practice and demonstrate understanding of theoretical and applied principles via laboratory experiments, undergraduate research, field experiences, etc.
2c. Graduates in geoscience will write a senior thesis based on their independent research.

**Means of Program
Assessment and
Criteria for Success**

**Assessment Criteria and
Activities**

1./2a. Only doctoral or professionally qualified faculty with appropriate expertise who are evaluated in teaching, scholarly, professional commitment, and service at least as “fair/average” in two areas, and as at least “good/above average” in the other two areas will be promoted, and tenured. Faculty will participate annually in development activities to enhance subject knowledge and presentation methods.
2b. Geoscience and physics students will pass their “major” courses with a grade of “C” or better. Graduating seniors will perform acceptably on the subject and general portions of the Graduate Records Examination (GRE) and pre-healthcare admissions exams (MCAT and DAT).
2c. Geoscience students will also complete directed undergraduate research/senior thesis projects, including presentation of the results

**Summary of Data
Collected**

1./2a. All full-time faculty members are doctorally or professionally qualified, and have specializations appropriate to the courses they teach. All participate in teaching development activities, including pedagogical short courses, and four faculty members made professional presentations on pedagogical issues at national and regional meetings last year.
2b. Geoscience students have completed their “major” courses with a grade of “C” or better and graduating seniors have performed acceptably on the subject and general portions of the Graduate Records Examination (GRE).

Use of Results

1./2a. At this time, no added action is required for geoscience faculty members.
2b./2c./3. We are attempting to integrate undergraduate research and reporting its results earlier into our curriculum. This past year, not only did seniors present research results, but sophomores and juniors conducted research and presented it at a state and regional professional meetings. Based on the success of the last two year’s students, we have added an undergraduate research component to two three additional major’s courses.
4a. Greater effort will be expended to encourage graduate studies.
5. We have assisted students in content related job placement.
6. Student survey data have been used to modify the assessment criteria in two (PSCI 2010 and GEOL 1210) of the courses surveyed. Student response to these changes was very positive.

Expanded Statement of Institutional Purpose (Cont'd)

Goal Statement

The Division of Geosciences and Physics will:

1. Provide expert instruction in all teaching settings: lectures, labs, field trips, etc.
2. Provide expert direction/instruction for competitive opportunities in scholarship, employment, and other experiences.
3. Educate students to think critically and independently, and to improve communicative, creative, analytic and information gathering skills.
4. Prepare students who choose to pursue pre-healthcare (physics) or graduate (geoscience) education.
5. Prepare students who choose to pursue employment in a science related field in business, industry, or public education upon graduation.
6. Provide service courses for other academic and professional programs and for the purpose of general education.

Program Intended Educational Outcomes

Outcomes/Objectives (cont'd)

3. Students will learn and demonstrate the ability to critically think about the physical science principles, and to communicate them orally and in writing.
- 4a. Students desiring professional/graduate degrees will have the opportunity to develop and demonstrate their abilities to meet entrance requirements: tests, scholarship, etc.
- 4b. Appropriate curricula will be provided for pre-healthcare professional/geoscience graduate preparation.
- 5a. Students desiring employment upon graduation will be prepared for business, industry, or public education.
- 5b. Appropriate curricula will be provided for technician/physical science employment.
6. In addition to offering courses for the campus general education program, the Division will provide courses that meet the needs of other academic majors (engineering, forestry, chemistry, biology, etc).

Means of Program Assessment and Criteria for Success

Assessment Criteria and Activities (cont'd)

- at state, regional or national professional meetings.
3. Capstone experiences (senior thesis and field camp) will assess each student's ability to communicate via written and oral reports. Their success in these activities will provide evaluation of prior "course embedded activities" requiring critical, logical, and analytical thinking.
 - 4a./4b. Graduate acceptance/entrance success in graduate geoscience programs will be tracked. In addition, GRE and other relevant scores will be monitored for determining subject matter mastery. (Also, see 2b. above).
 - 5a./5b. Placement of graduates will be monitored annually. Surveys of both students and employers will assess preparedness of geoscience graduates.

Summary of Data Collected (Cont'd)

- 2c. Graduating geoscience students have all participated in directed senior thesis projects, the results of which were presented in the annual meetings of the SUU Student/Faculty Research Day, Utah Academy of Arts, Letters and Humanities and the Rocky Mountain Section of the Geological Society of America.
3. All geoscience graduates have completed senior thesis and field camp, and their success in these capstone courses provides evidence of competency in "course embedded activities" requiring critical, logical, and analytical thinking.
4. Three of seven geoscience graduates applied were accepted to geology graduate programs this year.
5. Two of seven geoscience graduates have secured employment in the field, and two of seven are currently seeking jobs. Their success is being monitored.
6. Surveys were conducted in general education courses (GEOL 1010, 1110, 1210, and PSCI 2010). The data are currently being analyzed.