Mission of Geological Engineering Program

The mission of the geological engineering program supports the mission of the institution and was developed in parallel with it. The geological engineering program’s mission is:

1. To prepare men and women for an enhanced quality of life by providing an educational experience that leads to baccalaureate and post-baccalaureate degrees in geological engineering.

2. To contribute to the expansion of knowledge of geological engineering through programs of basic and applied research, scholarship, and other creative endeavors.

3. To use the special capabilities and expertise of the program’s faculty to address regional, national, and international needs in geological engineering, including the areas of ground water, environmental site planning, contaminant remediation, geomechanics, natural hazards, geotechnics, and development of natural resources.

4. To serve the State of South Dakota and the nation by providing training and education that will benefit the development and conservation of natural resources.

The principal goals in support of the geological engineering program’s mission are:

1. To enhance our state and national recognition as an outstanding geological engineering program that provides well prepared employees to the geological engineering profession.

2. To develop centers of excellence in research and graduate education, using faculty expertise to further develop interdisciplinary research.

3. To create and maintain an environment that ensures growth of the intellect, character, and spirit of students as well as faculty and staff members.

4. To build mutually beneficial partnerships with the broader community.

5. To increase the resources available to the department and the geological engineering program.
Geological Engineering Program Objectives

The geological engineering program’s objectives describe the expected accomplishments of graduates during their first few years after graduation.

The objectives of the program in geological engineering are to provide students with: 1) an understanding of the fundamental principles of geological engineering, basic engineering, and geology, and 2) academic training and design experiences to prepare them for their first several years of practice in the geological engineering profession. This education also prepares them to continue with graduate studies.

Geological Engineering Program Outcomes

Program outcomes are defined here as statements that describe what students are expected to know or be able to do by the time of graduation from the geological engineering program.

1. Ability to apply basic knowledge in mathematics, science, and engineering.

2. Field, laboratory, technical, and computer competence.


4. Critical thinking and research skills, including the ability to design and conduct experiments as well as interpret data.

5. Ability to communicate effectively.

6. Ability to work effectively on multidisciplinary professional teams.

7. Broad, general knowledge of the impact of engineering solutions in society and in a global context.

8. An understanding of professional and ethical responsibility.

9. Ability to identify, formulate, and solve engineering problems.

10. Ability to design a system or process to meet desired needs.

11. Ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

12. Recognition of the need for and ability to engage in life-long learning.