

South Dakota School of Mines and Technology
Department of Geology and Geological Engineering
Strategic Plan 2019-2023

Approved by Department Faculty 1May2019

GGE Vision

The Department of Geology and Geological Engineering aims to be renowned for undergraduate education, research-centered graduate programs, and innovative geoscience research and engineering design.

GGE Mission

The mission of the Department of Geology and Geological Engineering is to prepare students for careers as geologists, geological engineers, and paleontologists by providing them with strong technical backgrounds, significant research opportunities, and excellent field and laboratory experiences, so they are prepared to succeed in a diverse global environment.

GGE Core Values

Discovery: productivity, innovation, research, learning

Integrity: professionalism, ethics

Collaboration: inclusiveness, respect, mentoring, outreach

GGE Goals to Meet South Dakota School of Mines & Technology Strategic Plan (2019-2023)

Academic & Co-Curricular Excellence – Graduate innovative students in the fields of science and engineering who are prepared to contribute to solving global challenges and serve as leaders in an increasingly competitive and interconnected world.

GGE Goals:

- Provide a quality education to our students, so that our graduates are well prepared to succeed
- Emphasize experiential learning within and outside the classroom, through research opportunities, internships, co-ops, student clubs, seminars, and other activities
- Foster impactful graduate research
- Prioritize strong academic and research mentoring
- Support undergraduate recruiting efforts of the university

GGE Action Steps:

Led by Curriculum Committees with support from Department Head, all Faculty, and Staff

- Participate in program review processes (ABET for GEOE B.S., Board of Regents for graduate programs) and use results from these reviews to continuously improve programs
- Seek accreditation for GEOL B.S. program through the ANSEC commission of ABET

- Continuously review curricular options and course scheduling to achieve a balance among faculty expertise, teaching/research loads, student interests, and workforce trends

Led by Undergraduate Recruiting Committee

- Work with the Undergraduate Admissions Office to help recruit students into the undergraduate majors

Led by Instructors

- Design and update courses to meet the contemporary skills and expertise needs of industry and academia, especially through experiential learning
- Continuously improve courses, including through informal faculty discussions, regular faculty peer-review, and student input from IDEA surveys

Led by Academic and Research Advisors

- Provide students accurate and timely information on curriculum, schedules, and university resources
- Mentor graduate students in all aspects of the research and scholarship process from hypothesis development and experimental design to presentation of research results
- Promote internship and co-op opportunities

Led by Department Head with support from all Faculty, Staff and Advisory Board Members

- Expand opportunities for internships, co-ops, and full-time hires by supporting student travel to venues such as Rocky Mt Rendezvous and through networking by faculty and advisory board members with their industry/agency contacts to bring a diverse portfolio of employers to campus for recruiting

GGE Metrics for Success:

- Maintaining accreditation for the GEOE B.S. program and achieving accreditation for the GEOL B.S. program (i.e., ABET)
- Achieving and/or maintaining career/graduate-school placement within the profession at >90% for undergraduate programs
- Increase graduation rates to 2 GGE PhD/year, 10 MS GGE/year, and 5 MS PALE/year

Research & Innovation – Promote an innovative and research-driven culture that discovers knowledge and creates wide-ranging partnerships that benefit society through economic growth.

GGE Goals:

- Expand our dynamic, high-impact research enterprise with local to global impacts where faculty and students regularly publish research results in high quality journals and present research at professional meetings
- Equip labs with state-of-the-art equipment and maximize efficient use of research space
- Support efforts to fund new or renovated MI Building

GGE Action Steps:

Led by Individual Faculty

- Expand participation in diverse research collaborations

- Explore novel avenues for external funding
- Increase proposal submission activities
- Provide significant undergraduate research experiences, including through senior-design and senior-research classes
- Recruit and mentor graduate students

Led by Department Head and Faculty

- Hire faculty who have strong potential to strengthen departmental research efforts
- Mentor, provide competitive salaries and start-up, and otherwise support junior faculty so they are able to develop successful teaching and research programs, including achieving tenure and promotions
- Work with Media Relations to promote research achievements of faculty, staff, and students

Led by Head with support from all Faculty, Staff and Advisory Board Members

- Participate in the design, planning, construction, and fundraising phases for MI renovation or new construction

GGE Metrics of Success:

- Advise four (2.5 MS and 1.5 PhD) graduate students per unit faculty member per year
- Support 50% of graduate students with nationally competitive research assistantship stipends
- Data on promotion and tenure for GGE faculty
- MI move-in date

Outreach & Engagement - Build recognition and respect by promoting the unique achievements of our students, faculty, and staff and increasing engagement with alumni, stakeholders and the community.

GGE Goals:

- Increase alumni engagement
- Expand industry contacts
- Engage area K-12 programs and students in informal STEM education activities
- Increase engagement with area technical schools for recruiting students and coordinating programs

GGE Action Steps:

Led by Undergraduate Recruiting Committee

- Work with University Relations on marketing materials and online content specific to the GGE department.

Led by Student Clubs and their Advisors

- Participate in outreach to local schools and K-12 programs independently or in collaboration with the Admissions Office and Museum

Led by Youth Field Camp Instructors

- Work with Youth Programs to provide strong educational experiences for camp participants

Led by Geospatial Program

- Collaborate with state technical schools for recruiting students and coordinating geospatial programs

Led by Department Head with support from all Faculty, Staff and Advisory Board Members

- Develop key relationships with industry representatives, alumni, and others who will support GGE programs
- Work closely with the SDSM&T Foundation and SDSM&T Administration to develop high-quality materials (proposals, business plans, press releases, etc.) for use in promotional, recruiting, marketing, and development efforts

GGE Metrics of Success:

- Achieve funding for department priorities
- Increased recruitment of undergraduate students from the region into our educational programs

Campus Culture – Strive to make our campus a place where students, faculty, and staff thrive in an inclusive, equitable, diverse, and creative environment.

GGE Goals:

- Ensure that the Department is an intellectually stimulating, respectful, and welcoming place for all
- Increase representation of women and persons from underrepresented groups
- Promote safe practices in the lab and field
- Maximize the impact of expenditures by supporting these strategic priorities

GGE Action Steps:

Individuals or Teams of Faculty/Staff

- Participate and lead departmental field trips and other social activities
- Advise active student organizations
- Mentor students and peers

Led by Field and Lab Instructors and Researchers

- Maintain and update field and laboratory safety policies
- Continue to enhance lab and field safety training programs
- Use campus-wide safety programs as they become available

Led by Student Club Advisors and/or PIs with support from Department Head, all Faculty, and Staff

- Encourage faculty and student participation in STEM diversity programs
- Provide professional development, service, and social activities through student clubs

Led by Department Head

- Tie expenditures to GGE strategies and action steps in this plan

GGE Metrics of Success:

- Ensure that graduation rates for students from groups underrepresented in STEM are equivalent to overall rates
- Minimize the number of reportable incidents involving field and lab activities, including faculty, staff and students.
- Financial support for these priorities.