

1 Geology and Geological Engineering Graduate Program Expectations, Outcomes, and Assessment Plan

The purpose of this assessment is to collect data to be used by the faculty to continually assess the quality of the GGE graduate degree programs. These assessments are not intended for evaluating the success of individual graduate students (Rubric 1) or specific faculty advisors (Rubric 2). GGE Graduate Program-wide expectations are designed to target the following program outcomes in the context of the GGE Strategic Plan and greater professional community:

GGE Graduate Program Outcomes	
A	Students will have technical expertise.
B	Students will be effective communicators.
C	Students will engage in meaningful professional service.
D	Students will impact the profession.

1.1 Outcome Rubric 1: Faculty Perspective

GGE administers two rubrics, which specify expectations that demonstrate achievement of the program outcomes from both the faculty and graduate student perspectives. From the faculty perspective, the successful GGE graduate student is expected to achieve criteria I-V listed in the following rubric:

Rubric 1 - GGE Graduate Student Outcomes: Faculty Perspective					
The following rubric will be applied at (1) The Coursework Exam (MS) or proposal defense (PhD) and (2) The time of degree confirmation for all graduate students. The goal is for 25% of students to achieve a score of at least 2 at the proposal defense assessment and 75% to achieve a score of 3 in all categories at a degree confirmation assessment.					
	4 (Achieved outcome)	3	2	1	0 (did not achieve outcome)
I. Professional Conference (Outcomes A, B, D)					
PHD	Student delivered an invited oral presentation at a national or international conference	Student delivered an oral presentation at a national or international conference	Student presented a poster at a national or international conference	Student presented at a state or regional conference	Student did not present results at a professional venue.
MS	Student delivered an oral presentation at a national or international conference	Student presented a poster as a national or international conference	Student presented at a state or regional conference	Student presented at a department or university conference	Student did not present results at a professional venue.
II. Publication (Outcomes A, B, D)					
PhD	Student is first author on an article published or accepted for publication in a high-impact journal (IF>1)	Student is co-author on an article published or accepted for publication in a high-impact journal (IF>1)	Student is an author or co-author on a manuscript submitted to a high-impact journal (IF>1)	Student is an author or co-author on gray literature article	Student did not author/co-author a publication
MS	Student is author or co-author on an article published or accepted for publication in a high-impact journal (IF>1)	Student is an author or co-author on a manuscript submitted to a high-impact journal (IF>1)	Student is an author or co-author on an article published in the gray literature	Student is author or co-author on non-reviewed report (published/submitted)	Student did not author/co-author a submitted manuscript
III. Seek External (outside of South Dakota School of Mines) Funding/Support (Outcomes A, B, D)					
	Student was awarded a fellowship with full support (at least stipend and full tuition for at least one full calendar year) from an external agency.	Student submitted a proposal for a fellowship with full support (at least stipend and full tuition for at least one full calendar year) from an external agency.	Student was awarded a scholarship application to an external agency.	Student submitted a scholarship application to an external agency.	Student did not submit any scholarship or fellowship applications to an external agency.
IV. Participation in professional organizations (Outcomes B, C, D)					
	Student is a member of a national or international professional society	Student is a member of a regional or state professional society	Student is an officer for at least one GGE or University club	Student is a member of at least one GGE or University club	Student is not a member of any professional society or club
V. Service (Outcomes A, B, C, D)					
	Student led national or international level professional service activities	Student participated in national or international level professional service activities	Student led GGE or external professional service activities	Student participated in GGE or external professional service activities	Student did not participate in any service activities

1.2 Outcome Rubric 2: Graduate Student Perspective

From the graduate student perspective, the successful GGE program is expected to achieve criteria I-III listed in the following rubric:

Rubric 2 - GGE Graduate Student Outcomes: Graduate Student Perspective				
The following rubric will be applied at (1) The Coursework Exam (MS) or proposal defense (PhD) and (2) Following degree confirmation for all graduate students. The goal is for 75% of program items to achieve a score of at least 3 in all categories for both assessment applications.				
4 (Achieved outcome)	3	2	1	0 (did not achieve outcome)
I. Program web-based advertisement (Outcomes A, C, D).				
Faculty expertise is accurately described.	Faculty expertise descriptions are mostly accurate.	Faculty expertise descriptions are moderately accurate.	Faculty expertise descriptions are mostly inaccurate.	Faculty expertise descriptions are entirely inaccurate.
Research facilities are accurately described.	Descriptions of available research facilities are mostly accurate.	Descriptions of available research facilities are moderately accurate.	Descriptions of available research facilities are mostly inaccurate.	Descriptions of available research facilities are entirely inaccurate.
II. Major Professor (MP) and Committees (Outcomes A, B, C, D)				
MP is readily available and always provides timely guidance.	MP is mostly available and usually provides timely guidance.	MP is sometimes available and sometimes provides timely guidance.	MP is mostly unavailable and generally does not provide timely guidance.	MP is systematically unavailable and does not provide timely guidance.
All committee members* provide timely and relevant guidance.	Most committee members* provide timely and relevant guidance.	Some committee members* provide timely and relevant guidance.	Few committee members* contribute timely or relevant guidance.	The committee* contributed negligible guidance.
MP placed a high priority on facilitating integrations with external specialists in the MP's field of expertise.	MP placed a moderate priority on facilitating integrations with external specialists in the MP's field of expertise.	MP placed a low priority on facilitating integrations with external specialists in the MP's field of expertise.	MP made little attempt to facilitate integrations with external specialists in the MP's field of expertise.	MP did not attempt to facilitate integrations with external specialists in the MP's field of expertise.
MP or student provided full external support*, other than one year of TA support.	Both MP and student submitted proposals for full external support*, other than one year of TA support.	Either MP or student submitted proposals for full external support*, other than one year of TA support.	Either MP or student submitted proposals for partial external support*, other than one year of TA support.	Neither MP nor student attempted to acquire full support*.
III. GGE Graduate Degree Perception (A, B, C, D)				
Degree program exceeded my expectations.	Degree program met my expectations.	Degree program met most of my expectations.	Degree program met few of my expectations.	Degree program failed to meet my expectations.

*Excludes MP.

*Full support includes competitive stipend, maximum allowable tuition and fees, and all necessary travel and research costs.

1.3 Mapping outcomes to required graduate courses

	Rubric 1 Criteria				
	I	II	III	IV	V
GEOL700	x	x	x	x	x
GEOL808	x	x	x	x	x
GEOL798	x	x	x		
GEOL898	x	x	x		

1.4 Outcome sustainability and relevance

GGE will evaluate the outcomes and ensure that they remain relevant and aligned with student, workplace, and societal needs. Outcome sustainability and relevance will be addressed annually via Rubric 1 (I-V) and Rubric 2 (III), in consultation with the GGE Advisory board. Note that Rubric 1 is directly mapped to evaluation by the greater professional community.