

UNIVERSITY OF ALASKA FAIRBANKS
Student Learning Outcomes Assessment Plan
Master of Science in Geological Engineering
 College of Engineering and Mines
 April 7, 2021

Expanded Statement of Institutional Purpose	Intended Objectives/Outcomes	Assessment Criteria and Procedures	Implementation (what, when, who)
MISSION STATEMENT: To advance and disseminate knowledge related to mineral and energy exploration, evaluation, development and production; engineering site selection, construction and construction material production; and groundwater and geo-environmental engineering including geologic hazards assessment, through creative teaching, research and public service with an emphasis on Alaska, the North, and its diverse peoples. GOAL STATEMENT: To develop professional expertise beyond the undergraduate program in areas of research pertinent to the needs of Alaska and industry.	(1) Students will apply advanced knowledge of mathematics and engineering sciences related to geological engineering.	ENTRY: GRE Score	The faculty will review the student's GRE score included in the student's application to the graduate program.
		EXIT: Evaluation of the student's graduate research project/thesis and graduate comprehensive exam covering subjects of the required and technical courses by the graduate advisory committee.	The graduate comprehensive exam will be administered at least one semester before the student's thesis/project defense.
	(2) Students will demonstrate in-depth knowledge in the areas related to geological engineering, particularly in the student's specialized field.	ENTRY: Review of student's academic record.	The faculty will review the student's academic record and provide guidance on how to overcome and identified deficiencies.
		EXIT: Evaluation of the student's graduate research project/thesis.	The student's thesis or project report will be reviewed by the student's advisory committee during the student's last semester.
	(3) Students will carry out a design or research project independently.	ENTRY: Review of student's academic record.	The faculty will review the student's academic record and provide guidance on how to overcome and identified deficiencies.
		EXIT: Evaluation of the student's graduate research project/thesis.	The student's thesis or project report will be reviewed by the student's advisory committee during the student's last semester.
	(4) Students will identify and solve engineering problems independently.	Evaluation of the student's thesis or project, and graduate comprehensive written exam.	The student's advisory committee will evaluate the student's thesis or graduate project. The graduate comprehensive exam will be administered at least one semester before the student's thesis/project defense.
	(5) Students will demonstrate leadership ability and/or ability to interact with industry.	Evaluation of the student's performance during the course of his/her study in the program.	During the student's tenure in the program, the faculty will monitor and evaluate the student's performance in research, teaching, communication, and leadership, as applicable.

Submitted by: Margaret Darrow

			• For a student who is working as a Research Assistant, an evaluation of their communication with the funding agency, progress and impact of their research, and how well they work with the research team will be addressed. • For a student who is working as a Teaching Assistant, faculty will assess their communication in teaching in addition to their research progress. • If students are members of student/professional organizations, then their leadership roles or contributions to the profession will be assessed and evaluated. • For students who fund their own studies, assessment will be based on their research progress, communication skills, and leadership.
	(6) Students will demonstrate good oral and written communication skills.	Evaluation of student's in-class oral presentations, publications, and presentations at professional conferences and meetings.	The student's graduate committee will review the student's thesis/project report and other publications. The committee also will evaluate the student's communication skills during the final oral exam (thesis/project defense).