UNIVERSITY of ALASKA ANCHORAGE

Academic Assessment Plan

College: College of Engineering

Program(s): OEC Geographic Information Systems

Reviewed: Spring 2021

MISSION STATEMENT

The mission of the Geomatics department is to contribute to the wider body of knowledge in the geospatial sciences, and to disseminate this to society. By advancing our theoretical, professional, technical and educational capabilities, we will develop and maintain a community dedicated to the highest standards of scholarship. Within a student-centered environment, we are committed to the theoretical, professional and technical advancement of all our students, so that they may contribute to the advancement of their profession, their society, and their world, throughout their lives.

PROGRAM STUDENT LEARNING OUTCOMES

Students completing the Occupational Endorsement Certificate in Geographic Information Systems will be able to:

1. Effectively manage databases and visualize results of geospatial analysis
2. Apply programming skills in order to advance analysis with GIS
3. Address planning, decision-making, and operational needs with geospatial skills

MEASURES

Two principal measures are to be used to assess student attainment of the program SLOs. These include course level assessments and a graduate exit survey. The relationship between the measures and SLOs is given in Table 1. Each measure is described in its own appendix to this assessment plan.

Table 1: Mapping of SLOs to Measures

	Course Level Assessment	Graduate Exit Survey
1. Effectively manage databases and visualize results of geospatial analysis	**1**	**1**
2. Apply programming skills in order to advance analysis with GIS	**1**	**1**
3 Address planning, decision-making, and operational needs with geospatial skills	**1**	**1**

PROCESS

Table 2 summarizes the process for administering the various measures. The department assessment coordinator is to work with the faculty each semester to identify artifacts from within the courses which can be used directly observe and assess the level to which students are attaining the SLOs.

The data obtained from the various measures will be presented and discussed annually at the end of the spring semester. In this meeting, faculty will evaluate the collected data and explicitly review each SLO and make a judgment as to the level of student attainment of each outcome. Faculty will also discuss and recommend changes to curriculum, advising procedures, assessment plans, and other factors which will aid future students in better attainment of the SLOs. The results of these discussions will be summarized by the assessment coordinator in brief report which will include, for each SLO:

- Level of student attainment of the SLO
- A rationale for the level determination
- Potential actions which could enhance student performance relative to the SLO
- Recommendations for improving the applicable measures

This report will be filed on the department's directory on the college's shared drive so that they can be used for reporting to OAA.

Table 2
Program SLO Assessment Measures and Administration

Tool	Description	Frequency/ Start Date	Collection Method	Administered by
Course Level Assessment	Faculty each year will identify specific courses and assignments/test questions/projects where student attainment of SLOs can be directly observed/measured	Every year, beginning Fall 2021	Evaluation by course instructors	Geomatics Assessment Coordinator
Graduate Exit Survey	Survey given to graduating students in which students self-assess their perceived level of outcome achievement.	Every Year, beginning Fall 2022	Email or hard copy	Geomatics Assessment Coordinator

APPENDIX A: COURSE LEVEL ASSESSMENT

Tool Description:

The primary means of assessing student attainment of the SLOs. Student artifacts from across the curriculum will be used to determine the level to which students are attaining each SLO.

At the start of each fall semester the faculty will meet and produce a mapping matrix between courses and SLOs where they will identify the BEST two places in the curriculum where each SLO can be observed and assessed.

The faculty member responsible for the identified courses, will submit a department approved form at the end of each semester which will collect the result of the assessment activity for each SLO evaluated in their course.

Typical information collected:

- Course identification information
- Faculty member
- SLO being assessed
- Short description of the student work product used for the assessment
- Criteria (rubric) used for determining level of attainment
- Summary of student attainment of the SLO in the course
- Copy of the prompting document for the work product.
- Copy/example of a work product meeting each level of attainment.

The assessment coordinator collects these forms and prepares a summary report for the end-of-year assessment meeting.

Factors that affect the collected data:

- The quality of the prompting document. Students need to be clear on what is being requested.
- Single person review of the artifacts may skew the results of faculty are not in agreement on the rubric elements used in the evaluation.

How to interpret the data:

The faculty may develop and refine rubrics which can be used to interpret the data. Also, the faculty will have a chance to review the submitted data annually at the end-of-year meeting and come to a consensus regarding the meaning of the results.

APPENDIX B: GRADUATE EXIT SURVEY

Tool Description:

The students in the capstone course will be surveyed annually.

This survey may vary from year to year, depending on what other information may be desired each year, but at a minimum the students will be asked how well they were instructed relative to each SLO and what they feel their level of attainment has been.

The questions could take the form of:

> The UAA OEC in GIS program has adopted 3 student learning outcomes. Please rate your knowledge/skills and the program's effectiveness in teaching you knowledge/skills relative each student learning outcome.
>
> The program states that students graduating with an OEC in GIS will be able to:
>
> 1) Effectively manage databases and visualize results of geospatial analysis;
>
> What is your ability now? □ poor, □ fair, □ good, □ excellent, □ outstanding, □ No opinion
> How well did we do teaching this? □ poor, □ fair, □ good, □ excellent, □ outstanding, □ No opinion
>
> 2) Apply programming skills in order to advance analysis with GIS
>
> What is your ability now? □ poor, □ fair, □ good, □ excellent, □ outstanding, □ No opinion
> How well did we do teaching this? □ poor, □ fair, □ good, □ excellent, □ outstanding, □ No opinion

Add questions until all SLOs are covered.

Factors that affect the collected data:

- Research has shown that self-assessments are often inaccurate.

How to interpret the data:

The faculty is to compare these results to the more direct measures and discuss comparison. If student perceptions are significantly different that direct performance measures, then additional investigation may need to be establish the validity of the direct measures.