

**2022 ANNUAL ACADEMIC ASSESSMENT REPORT FORM**  
**(Due October 15 to the dean)****PROGRAM SECTION (Due to the dean on October 15)****Submission date:** 1/9/2023**Submitted by:** Scott Hamel, Professor and Chair, sehamel@alaska.edu**Program(s) covered in this report:** Civil Engineering MS

If you selected "Other" above, please identify. (100 characters or less)

**College:** College of Engineering**Campuses where the program(s) is delivered:** ☒ Anchorage ☐ KOD ☐ KPC ☐ MSC ☐ PWSC**Specialized accrediting agency (if applicable):** Engineering Accreditation Commission of ABET**If explanation is necessary, such as only some of the certificates and degrees are covered by the specialized accreditation, briefly describe:****INSTITUTIONAL STUDENT LEARNING CORE COMPETENCIES**

In 2020, UAA launched a consensus-based, deliberative process to identify the key skillsets that help students achieve academic and post-graduation success. After a year-long process that included students, faculty, staff, administrators, alumni, and employers, the UAA community identified four core competencies at the heart of a quality UAA education. Students develop mastery of these competencies through curricular (e.g., courses), co-curricular (e.g., internships, conferences), and extra-curricular (e.g., student clubs) learning experiences.

After the stakeholder-based process in AY20, UAA is phasing in the integration of the core competencies into ongoing processes, including program student learning outcomes assessment. Personal, Professional, and Community Responsibility (PPCR) was integrated into the AY21 Annual Academic Assessment Report. The AY22 Annual Academic Assessment Report now also integrates Effective Communication.

Question #1 below is designed to engage program faculty in thinking about how they can or already do promote student learning in these two core competencies.



1. **A. *Personal, Professional, and Community Responsibility: The knowledge and skills necessary to promote personal flourishing, professional excellence, and community engagement.***
  - If last year you provided your program's current or planned example of an intentionally designed course, assignment, or activity that develops and showcases the student learning in this core competency, please discuss that implementation and any observations you have regarding how well it is working. *(500 characters or less)*  
none provided
  - If last year you *did not* identify a current or planned example of an intentionally designed course, assignment, or activity that provides students the opportunity to develop and showcase this core competency, please identify one now. *(500 characters or less)*  
This program trains professionals to design, repair, and maintain Civil infrastructure at an advanced level. The MS project (3 credits) showcases a student's academic and professional excellence and is usually a community engaged project.
- B. *Effective Communication: The knowledge and skills necessary to engage in effective communication in diverse contexts and formats.***
  - What would you hope a student would say if asked where in your program or support service they had the opportunity to develop proficiency in this core competency? *(500 characters or less)*  
Communication is a major part of the professional activities of Civil Engineers. I would hope that students would say that effective communication is highlighted throughout the program. Most, if not all, graduate courses require a semester project that dives into a technical subject, but also requires a written report, and often an oral presentation.
  - Provide your program's current or planned example(s) of an intentionally designed course, assignment, or activity that showcases the student learning in this core competency. *(500 characters or less)*  
As noted, most, if not all, graduate courses require a semester project that dives into a technical subject, but also requires a written report, and often an oral presentation. In addition, the MS requires either a written thesis with oral defense, or a Project Management course (usually PM A601), which has a heavy communications component.

**PROGRAM STUDENT LEARNING OUTCOMES**

2. Please list the Program Student Learning Outcomes your program assessed in AY22. For each outcome, indicate one of the following: Exceeded faculty expectations, Met faculty expectations, or Did not meet faculty expectations.

***Example: Communicate effectively in a variety of contexts and formats – Exceeded faculty expectations.***

There are 6 Program Learning Outcomes. Graduates of the program should have an ability to:

1. use advanced methods of mathematical analysis.
2. understand advanced civil engineering theory.
3. conduct advanced civil engineering research.
4. apply advanced engineering theory to the design of civil engineering systems.
5. work effectively in a professional environment.
6. understand the engineering issues associated with cold regions.

3. Describe your assessment process in AY22 for these Program Student Learning Outcomes, including the collection of data, analysis of data, and faculty (and other, e.g., advisory board) conversations around the findings. (750 characters or less)

The Department follows the Academic Assessment Plan (AAP) for the MSCE, last revised in April 2017. The primary assessment methods are discussion with the Advisory Board, surveys of the graduates and employers of graduates of the program, and review of the Master's Theses by program faculty. The surveys, along with a formal assessment report is generally conducted about once every 3 years, and this year was not an assessment year since the focus was on ABET accreditation. Surveys were conducted in 2022 as part of the ABET preparations, but the data has not been analyzed.

4. What are the findings and what do they tell the faculty about student learning in your program? (750 characters or less)

Enrollments of the program increased significantly several years ago when the Fast-track program was created, and have been steady since then. They continue to be historically high, and including mostly part-time professional students. Course level assessments indicate that students are satisfactorily learning the advanced-level material in the graduate courses, which contribute to the program outcomes.

5. Based on the findings, did the faculty make any recommendations for changes to improve student achievement of the Program Student Learning Outcomes? Please describe the recommended action, what improvement in student learning the program hopes to see with this change, the proposed timeline, and how the program will know if the change has worked. If no recommendations for changes were made, please explain that decision. (750 Characters or less)

No, there are no major recommended changes to the program at this time. There are several minor administrative and policy changes that have been recommended to better serve students as they

navigate the process of writing, defending, and submitting an MS Thesis or Project.

#### PROGRAM IMPROVEMENTS AND ASSESSING IMPACT ON STUDENT LEARNING

- 6. In the past academic year, how did your program use the results of previous assessment cycles to make changes intended to improve student achievement of the Program Student Learning Outcomes? Please check all that apply.**

- ☐ Course curriculum changes
- ☐ Course prerequisite changes
- ☐ Changes in teaching methods
- ☐ Changes in advising
- ☐ Degree requirement changes
- ☐ Degree course sequencing
- ☐ Course enrollment changes (e.g., course capacity, grading structure [pass/fail, A-F])
- ☐ Changes in program policies/procedures
- ☐ Changes to Program Student Learning Outcomes (PSLOs)
- ☐ College-wide initiatives (e.g., High-Impact Practices)
- ☐ Faculty, staff, student development
- ☐ Other
- ☒ No changes were implemented in AY22.

**If you checked "Other" above, please describe. (100 characters or less)**

- 7. Do you have any information about how well these or other past improvements are working? Are they achieving their intended goals? Please include any data or assessment results that help you demonstrate this. (750 characters or less)**

N/A

- 8. PROGRAMS ARE NOT REQUIRED TO RESPOND TO QUESTION #8 FOR THEIR REPORT DUE ON OCTOBER 15, 2022. IT IS HERE JUST FOR THEIR REFERENCE.**

- 9. Do you have any examples of post-graduate success you want to highlight? For example, major scholarships, the percent of students who pass licensure examinations, the percent of students accepted to graduate programs, the percent in post-graduation employment in the field or a related field. (750 characters or less)**

**DEAN SECTION (Due to the program on January 15)**

- 1. Based on the program's responses above, what guidance and support do you have for the program moving forward? (750 characters or less)**

The schedule for the major surveys and discussion of MSCE assessment is acknowledged. Presumably assessment of theses by MS committees is ongoing. The continuous improvement by minor administrative and policy changes to better serve students is also acknowledged.

- 2. What is the program doing particularly well in terms of its processes for the assessment and improvement of student learning, for example, the achievement of the Program Student Learning Outcomes, the closing of equity gaps, or addressing the core competencies? (750 characters or less)**

As noted, the program is enjoying high enrollments and enviable productivity of technical theses and projects.

Dean's signature:



Date: 1/23/2023