![UAA Academic Affairs, University of Alaska Anchorage logo]

2021 ANNUAL ACADEMIC ASSESSMENT REPORT FORM
(Due October 15 to the dean)

PROGRAM SECTION (Due to the dean on October 15)

Submission date: Select date.

Submitted by: Jennifer Brock, Associate Dean for Academics and Professor of Mechanical Engineering

Program(s) covered in this report: Mechanical Engineering MS
(Programs with suspended admissions and new programs in the first year of implementation are not required to complete this form.)

  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): N/A
  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 conducted a pilot project focusing on the core competency of Personal, Professional, and Community Responsibility (PPCR). This decision was based on input from the 2020 Annual Academic Assessment Retreat.

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

1. **Personal, Professional, and Community Responsibility: The knowledge and skills necessary to promote personal flourishing, professional excellence, and community engagement.**
   o **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)*

A significant number of our MSME students are working professionals who feel like they live this core competency daily, and who would probably say that this competency was part of the reason they chose graduate study. The project or thesis, for students who choose one of these options, is an excellent place to hone these skills.

- o **Do you have an example that could be a model for the university of an intentionally designed course, assignment, or activity that showcases the student learning in this core competency?** ☐Yes ☒No
  If yes, please briefly describe. *(500 characters or less)*

- o **Do you have any ideas about where your program or the university might develop other intentionally designed opportunities for students to develop proficiency in this core competency?** ☐Yes ☒No
  If yes, please briefly describe. *(500 characters or less)*

PROGRAM STUDENT LEARNING OUTCOMES

2. **Please list the Program Student Learning Outcomes your program assessed in AY21. 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.
   1. Use in-depth methods of analysis.
   2. Demonstrate graduate-level mechanical engineering theory.
   3. Conduct advanced mechanical engineering research and applications.
   4. Apply graduate-level engineering theory to the design of mechanical engineering systems.
   5. Work effectively within the professional framework of organizations responsible for the practice of engineering.

3. **Describe your assessment process in AY21 for these program students 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)*

   We assess all outcomes by sending out a questionnaire to thesis and project committees when a student defends a thesis or project. Last academic year, we had one graduate complete a thesis, so we collected assessment data for one student.

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

   Our students who choose a project or thesis continue to demonstrate a high level of accomplishment.

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)*

    In the MSME program, we have struggled with the statistics of small numbers with respect to our assessment data. We continue to work with students on a case-by-case basis to promote their graduate study and support their work.
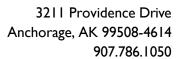
PROGRAM IMPROVEMENTS AND ASSESSING IMPACT ON STUDENT LEARNING

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 AY21.

    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)*

8. Programs are not required to respond to question #8 below for their report due on October 15, 2021. Question #8 will be required for the next round and moving forward.

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? Is there a particular area the program should focus on?** *(750 characters or less)*
    We acknowledge the program's point that it is difficult to track trends in assessment data when they are collected from very small numbers of students. Along those lines, it is hoped that the department will make growing the graduate program a priority.

2. **Is there something the program is doing particularly well in terms of its processes for the assessment and improvement of student learning, including the closing of equity gaps, that might serve as a model for other programs? If yes, please explain. You may skip this question.** *(750 characters or less)*
    The MSME program is to be commended for the excellent quality of projects and theses that it produces and for providing opportunities to local students who wish to pursue a graduate degree in engineering.

Dean's signature:

DocuSigned by:

kenrick Mock

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Date: 1/18/2022