Academic Affairs
University of Alaska Anchorage

3211 Providence Drive
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907.786.1050

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

The Faculty Senate Academic Assessment Committee (AAC) is committed to a vision of assessment that leads to continuous program improvements and benefits students. Annual assessment reporting informs decision making and resource allocation aimed at improving student learning and success. It also enables the AAC to analyze assessment across the institution and to respond to UA System, Board of Regents, legislative, and Northwest Commission on Colleges and Universities (NWCCU) requests. We thank you for your continued support of and participation in this annual activity.

Starting in Spring 2021, UAA is moving to one academic assessment reporting mechanism. The below form merges and streamlines the former Annual Academic Assessment Survey and the Annual Academic Assessment Report. It also incorporates questions about how academic programs contribute to student achievement of institutional core competencies and to student success.

This annual report will be due to the dean on October 15. Programs with suspended admissions and new programs in the first year of implementation are not required to complete this form.

These reports are public documents and will be posted on the assessment website. Responses are to be narrative only, and must be ADA and FERPA compliant. Do not embed any links, including to webpages or other documents. To be FERPA compliant, do not include the names of any current or former students. Rather, use statements such as, “In AY21 four program graduates were accepted to graduate programs in the field.” Programs with specialized accreditation or other external recognitions must comply with restrictions regarding what can be published, as per the accreditor or external organization. Do not include appendices. Appendices to this form will not be accepted.

The form uses narrative, text, and drop-down boxes. Narrative boxes have a character limit, which includes spaces. When using text and drop-down boxes, if you want to undo an answer, press “Control-Z” or “Command-Z.”

For technical assistance with this form, email Academic Affairs (uaa.oaa@alaska.edu).

PROGRAM SECTION (Due to the dean on October 15)

After completing the Program Section, the program should email this form to the dean, with a copy to the appropriate community campus director(s) if the program is delivered on a community campus.

Submission date: 12/21/2021

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Submitted by: Scott Hamel, PE, PhD, Chair, Department of Civil Engineering

Program(s) covered in this report: Civil Engineering BS
(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): 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 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.**
    - **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)***
      Given that this program trains professionals to design, repair, and maintain Civil infrastructure, I would hope that students would learn professional excellence and community engagnement in every Civil Engineering Course. However, three courses are

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specifically targeted to achieve these core competencies: CE A201 - Introduction to Civil Engineering, CE A437 - Project Planning, and CE A438 - Design of Civil Engineering Systems (Capstone)

- **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)*
  The Civil Engineering Capstone course (CE A438) is organized like a group of small engineering firms that are assembled to solve local relevant engineering problems. The problems are generated and provided by outside clients and support for the semester-long process is provided by local engineers

- **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.

   There are 7 Program Learning Outcomes. Graduates of the program should have:
   1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics - Met faculty expectations
   2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as cold regions, global, cultural, social, environmental, and economic factors - Met faculty expectations
   3. an ability to communicate effectively with a range of audiences - Met faculty expectations
   4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts - Met faculty expectations
   5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
   6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions - Met faculty expectations
   7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

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- Met faculty expectations.

3. **Describe your assessment process in AY21 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 followed the BSCE Academic Assessment Plan (AAP) (May 2018) and reported four major activities from the plan in which program feedback is collected. In addition, supplemental data on items related to the program were collected in a Graduate Exit Survey. The four major areas are: 1) Course Level Assessment, 2) Program Level Assessment (Capstone), 3) FE Exam Results, and 4) Graduate Exit Survey. The findings from each of these were discussed at the annual workshop, which was held in two parts, on May 7 and August 12, 2021.

4. **What are the findings and what do they tell the faculty about student learning in your program? *(750 characters or less)***
   In general, the findings indicate that the program is achieving its student learning outcomes and there are no major issues with the current curriculum. FE Exam results indicate that preparation for a few areas, such as Environmental and Structural engineering could be improved.

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)***
   One primary topic of conversation at the annual workshop was strategies to reduce the number of credits in the program, to improve student success in completing the degree. One major proposal was to eliminate Physics A212, which has long been a source of frustration for CE students. Another was to require a 2nd discipline course in less disciplines. These proposals will be discussed by the Curriculum Committee in AY21-22.

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

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☐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)***
   Based on surveys of seniors, improvements to the CoEng Advising program have yielded significant improvement. Only 43% of graduates in 2019 rated the Quality of advising as Satisfactory or better, while this statistic rose to 82% in 2020 and 95% in 2021.

STUDENT SUCCESS AND THE CLOSING OF EQUITY GAPS

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.

8. **Respond to at least one of the following metrics. Student success depends on many aspects of a student's experience. On the academic program level, it can relate to correct placement, course sequencing, standardized pre-requisites, the intentional use of high impact practices, proactive advising, course scheduling practices, etc. UAA is using the following two metrics in its cyclical Program Review process, as well as in its reaffirmation of accreditation process. These data are included in the most recent IR-Reports Program Review dashboard. Please review these data for your program, note any equity gaps, and describe steps you are taking or plan to take to close those gaps.**

Metric	Definition	Rationale
JUNIOR GRADUATION RATE - BACCALAUREATE	The percentage of students who graduate with a bachelor's degree within four years of first reaching junior class status (60 credits). *Data source: RPTP end-of-term freeze files. Disaggregate as per accreditation.*	Junior graduation rate (after 60 credits) can reflect a department's success in helping students complete their degrees. Within their first 60 credits, students typically focus on completing GERs and often switch majors. Tracking how long it takes students to complete their degrees after 60 credits, when

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Metric	Definition	Rationale
		many students have likely committed to a specific major, can provide actionable information for departments.
COURSE PASS RATES BY COURSE LEVEL (Undergraduate lower-division, undergraduate upper-division, and graduate).	The percentage of students who receive a passing grade (A, B, C, P) for all undergraduate students and (A, B, P) for graduate students in a course offered by a program compared to the same rate calculated for all courses at that level. Based on a 5-year trend. Included in the denominator for undergraduate courses are the grades D, F, W, I, NP, NB. Included in the denominator for graduate level are the grades C, D, F, W, I, NP, NB. Discipline acts as a proxy for a program. *Data source: RPTP end-of-term freeze files. Disaggregate as per accreditation.*	Low pass rates are one critical way to identify courses that are barriers to student success and degree completion. Failing key courses correlates with low retention and more major switching. Mitigation strategies can be internal or external to the course itself, including, among other things, the use of high-impact pedagogical practices, appropriate placement, course sequencing, tutoring, and other means to ensure student success within a particular course. This metric and the disaggregation of the data can inform planning, decision making, and the allocation of resources to programs and services designed to mitigate gaps in achievement and equity.

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)***

   In the Spring of 2021, the UAA passing rate of students that took the Fundamentals of Engineering (FE) Exam was 89%, far surpassing the National rate of comparable schools (70%). This FE exam is the first step of the licensure process for Professional Engineering Licensure.

DEAN SECTION (Due to the program on January 15)

After completing the Dean Section and signing it, the dean should email this form to the program, and copy uaa_oaa@alaska.edu for posting. If the program is delivered on one or more community campus, the dean should consult with the appropriate community campus director(s) on the response and copy the appropriate community campus director(s) when emailing the response to the program.

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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)***
   The Dean's Office notes the inclusion of a more lengthy summary of BSCE annual assessment activities that have been written up in a manner more appropropriate for ABET (2020-2021 PRGR Civil Engineering BS COENG ANC). This report is thorough and will be able to be included with ABET display materials without any revision. The program has completed what appears to be an appropriate level of CLA (course-level assessment) and robust assessment of its capstone, FE exam results, and student survey results.
   BSCE (and all other ABET-accredited program in CoEng) are scheduled for a general review by ABET in Fall 2022. The CE faculty are encouraged to continue their excellent assessment work for inclusion in their self-study report.

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 Dean's Office would like to express its agreement that the CE capstone sequence (CE A437 and CE A438) is an excellent example of UAA's core competency of Personal, Professional, and Community Responsibility in action.
   The BSCE program has a robust assessment process (connected with its ABET accreditation) involving assessment data from four areas (CLA, capstone assessment, FE Exam, and senior exit survey).

Dean's signature: DocuSigned by: Kenrick Mock 9F62E5B1BB71428... **Date:** 1/18/2022