

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: 10/8/2021

Submitted by: Rachael Hannah, Associate Professor, rmhannah@alaska.edu

Program(s) covered in this report: Biological Sciences BA/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 Arts and Sciences

Campuses where the program(s) is delivered: Anchorage KOD KPC MSC PWSC

Specialized accrediting agency (if applicable): Select Specialized Accrediting Agency or 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)**

Many courses in the biological sciences curriculum intentionally engage students to explore their communities and test biologically related question(s) that they observe

and connect them to their community. This course related research allows them to connect to their community and potentially increase their identities as scientists. Students have opportunities to volunteer and engage with UAA Brain Bee, UAA Stem Day, and community engaged projects. BIOL A465 prepares students for UR.

- **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)

BIOL A413, Neurophysiology, students have opportunities to engage in community learning projects that directly impact K-12 students in STEM in addition they have near-peer opportunities.

- **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)

In an effort to promote community engagement and professional excellence at the same time, we feel that it would be worth exploring community based CURE (Course Based Undergraduate Research Experiences) development in our lower division lab courses. Our Experiential Learning courses already offer inquiry based research experiences adding the community component would provide students an opportunity to give back while learning.

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.

Apply the process of science and construct knowledge through observations, experimentation, quantitative reasoning, and hypothesis testing.

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)**

To evaluate the learning outcome in AY 21 our committee of 3 faculty members collected artifacts from lower division and upper division Experiential Learning (EL) courses (BIOL A243, BIOL A273, BIOL A311, BIOL A342, BIOL A442, and BIOL A465). We then used the Process of Science Rubric and evaluated a sample of artifacts. We compared median and mode between the lower division and

upper division ELs. In addition we collected IR grade data and demographics for these courses. We continue to college ETS data (not assessed this year because of the PSLO). On October 1 we presented a draft of our findings at a faculty meeting for discussion.

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

Assessment of BIOL_A243 and BIOL_A273 courses used AY 20/21 IR grade data as baseline understanding of achievement of PSLO (92.5% pass, 86% A or B). Assessment artefacts were graded independently by the committee with a rubric to assess achievement of PSLO#2 for experiential learning BIOL_A243, 273, and 4 upper division courses (311, 342, 442, and 465). Assessment reflected steady achievement as students progressed from 243/273 EL (median 2.8/4) to 311/342 EL (median 2.8/4), with challenges achieving the expected outcomes at advanced 442/465 EL (median 2.4/4). This finding is based on a small sample size in 400-level EL, but highlights utility of artefact analysis to provides basis for feedback to BIOLSCI course instructors for improvement.

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)

During our Faculty discussion and review of the programmatic results, we will review PLSO #2 in 2 years to determine student engagement with the program post pandemic pedagogy, which is currently affecting our abilities to immerse students in an experiential lab. To increase transparency, the rubric used to assess PLSO #2 will be provided to the instructors for assignment design and creation of student learning options that are intentional toward achievement of this PLSO. The sample size of artifacts for this PLSO #2 will be increased in subsequent years. Moreover, artifacts will be collected from our advanced independent study courses (BIOLA498/499). This will likely provide greater understanding of students learning and their quantitative reasoning. Currently, our students are not meeting proficiency (median; 2, mode; 2 n = 34) in this metric.

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)

Redesigning our assessment plans and process to use IR data and more course artifacts.

- 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)**

We made the decision to remove the ePortfolio as a degree requirement because it put a tremendous burden on our students that did not help students achieve the PSLOs because reflection of science is built into the scientific method. In addition, the implementation and process of using ePortfolios was unduly burdensome for faculty. Moving to artifact collection via a google drive folder repository removed obstacles to assessing PLSO 2. By moving to faculty driven artifact gathering we were able to see possible challenges with students attaining proficiency of quantitative reasoning in our experiential lab courses.

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). <i>Data source: RPTP end-of-term freeze files. Disaggregate as per accreditation.</i>	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 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. <i>Data source: RPTP end-of-term freeze files. Disaggregate as per accreditation.</i>	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)

Instead of providing numbers, we wanted to highlight a particular student, who graduated from UAA with a B.S. in Biological Sciences with honors last Spring (2021). While at UAA he was a BUILD-EXITO student who worked in the Briggs lab. The skills he learned in bioinformatics (BIOL A455 and independent research) made him a highly sought-after graduate student. He ultimately accepted (from 4 other offers) a highly prestigious Ph.D. graduate program at John Hopkins University. They even offered him a signing bonus along with his research assistantship.

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.

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?

The current undergraduate research opportunities in the department provide students with valuable experiences; the department is encouraged to build upon these research experiences in order to make them available for more undergraduate students.

It is recommended that all programs review their Program Assessment Plan to ensure clear inclusion of the new UAA Core Competencies and in particular to address the closing of any equity gaps in the program.

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.

Their forays into experiential learning have been successful and could be a model for other departments and programs.

Dean's signature: *Jenny McNulty*

Date: December 14, 2021