

**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](mailto:uaa.oaa@alaska.edu)).

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**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:** 10/11/2021

**Submitted by:** Mark Fitch, Professor of Mathematics, mafitch@alaska.edu

**Program(s) covered in this report:** Mathematics 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):** 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.**
  - **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)**

We hope that students recognize that the logic they have learned and the understanding that different conclusions result from different axiom sets will help them

understand and articulate various viewpoints and interact with understanding with a broad variety of people. Students should recognize that the required e-portfolio can help them reflect, communicate, and market their skills.

- **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 MATH A264 course Introduction to the Mathematics Major gives students the opportunity to learn and practice professional skills including mathematical typesetting and the use of computer algebra systems. Participants discover opportunities for research, graduate study, and careers. They meet their peers, more senior students, and alumni working in a variety of fields to discuss the expectations and paths to success in the major and in their careers ahead.

- **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)**

MATH A264 and the practicum can be refined to make this competency more explicit and increase the value of this course and the practicum.

## 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.***

Demonstrate knowledge of the techniques of modern mathematical subjects including all of algebra, analysis, discrete mathematics, and probability and statistics.

Met expectations.

Demonstrate an ability to solve problems using skills such as deductive logic, data analysis, computation, modeling, connections, and other mathematical techniques.

Met expectations.

Demonstrate an ability to create mathematical proofs.

Met expectations.

Demonstrate an ability to read, write, and speak mathematics.

Met expectations.

Demonstrate cognizance of their mathematical knowledge, of mathematics around them, and of the benefit of continued study of mathematics.

Met 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 ETS Major Field Test for Mathematics is a graduation requirement for all math majors that provides an external validation of knowledge. From the student portfolios the department uses the comments from the student goals, description of courses taken, and reflections to measure five outcomes: knowledge, problem solving, proofs, communication, and cognizance. The presence of meaningful student artifacts from each of the required (core) fields of mathematics demonstrates meeting outcome I (knowledge).

The exit survey questions address student cognizance of subject matter and need for life-long learning. They are also asked for general comments that can be used for program improvement.

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

Students are gaining knowledge of the core subjects. They are clearly using multiple methods to seek answers including increased evidence of use of statistical methods. They provided ample evidence that they can figure out and solve problems and write coherent proofs. There has been increased evidence of their ability to format these proofs well.

Students provide extensive evidence of their ability to write about mathematics. Evidence of speaking mathematics is present, but does not show the same strength. Evidence of reading mathematics is increasing, largely due to specific courses. They continue in large part to be aware of when they learned topics, developed skills, and gained confidence.

**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)**

Our recommendations at this time are solely for improved assessment.

## **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)**

Improved portfolio template and directions

- 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)**

Changes to the assessment process have been effective. More consistent artifacts are being inserted in portfolios based on changes to course assignments and some based on more regular submissions (checking the portfolio in each upper division class).

## 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)

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**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](mailto: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?**

In the next evaluation cycle the Department is encouraged to pursue the evaluation of a wider selection of courses, including entry level courses, and also to incorporate the use of quantitative data in addition to exit exams.

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.**

The Department is applauded for using the foundational course for the major, Math 264, as an opportunity to discuss careers paths through alumni participation.

Dean's signature: *Jenny McNulty*

**Date:** December 14, 2021