

2022 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 moved 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 AY22 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."

Note: To ensure the fillable fields function correctly, the form must be completed in Microsoft Word. It will not function properly in Google Docs. Programs that wish to record collaborative discussion of the report might consider creating a separate document to take notes, before entering final responses in the official fillable form.

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: 10/17/2022

Submitted by: Jonathan Stecyk, Professor of Biological Sciences, jstecyk@alaska.edu

Program(s) covered in this report: Biological Sciences 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 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: N/A

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)**

- **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)**

All of our required graduate courses provide students numerous opportunities to develop and showcase this core competency. BIOL A601 and 605 focus on the development of a range of personal and professional skills. A component of BIOL A601 is the writing of an NSF style research proposal, which must contain a Broader Impacts section with focus on community engagement. BIOL A606, 698, and 699 promote the development of the professional skills needed to succeed in the workforce post-graduation.

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)**

We would hope that our MS graduates would respond that their degree prepared them to communicate science in a variety of means, ranging from oral presentations to written records of their research.

- **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)**

Our thesis option MS students must publicly defend their thesis by giving a seminar of ~45 min in duration. The expectation for the seminar is that it is understandable by a senior biology student. Thus, students gain experience and preparation with communicating their complicated and technical work at a level that should be understandable by other academics. Likewise, our non-thesis MS students must orally present their capstone project to the public.

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.

The MS degree for the Department of Biological Sciences has four student learning outcomes, and all were assessed this academic year.

The successful candidate for the MS degree in Biological Sciences will:

1. Have a working knowledge of the fundamental concepts of biology across a broad range of fields, and have a demonstrated mastery of at least one focus area within biology. - Met faculty expectations.
2. Have a working knowledge of the principles of the scientific method, of the methods and technology of biological research, and of appropriate quantitative methods for the analysis of scientific data. - Met faculty expectations.
3. Be capable of writing a publishable scientific paper, and presenting research findings at scientific conferences. - Met faculty expectations.
4. Be prepared for a career in biological sciences, and/or able to pursue more advanced research opportunities. - Met faculty expectations.

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 Dept. of Biological Sciences Graduate Affairs Committee works with MNS hub staff to gather data relevant to SLOs. Data is gathered from student annual reports, responses to queries sent to all students and faculty in the program, an exit survey sent to all graduates, and a Google sheet utilized to track student progress. Metrics analyzed include data on student publications and presentations at local, national, and international meetings, semesters to degree completion, number of students in the program, number of graduations, number of faculty advising students, and the number of students per faculty. SLOs are also assessed by a public oral thesis defense and by departmental review of the written thesis.

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

The number of MS BIOS graduates has increased in the past 3 years. (7 in AY19/20; 8 in AY20/21; 9 in AY21/22). The implementation of the non-thesis MS option in Fall 2021 is contributing to the increase. 1 student completed the program in AY21/22 and 3 students are currently enrolled. Overall enrollment (24) is on par with past years indicating that demand for the program remains strong. Student success was demonstrated by the publication of 15 papers and 21 conference

presentations with graduate students as co-authors. Most importantly, the graduates that reply to our exit survey continue to indicate that they have gained employment in science research, or related fields, or are continuing their graduate research at the Ph.D. level.

- 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 AY21/22 we further refined the Biological Sciences-specific thesis writing and formatting guideline that was developed in AY20/21. The guideline aids students in successful thesis writing and ensures consistency across the various research specialties represented by our faculty. In AY22/23 we will develop guidelines for the non-thesis option capstone project and exit exam. We will also continue to refine information flow to students and faculty regarding student degree progress by adapting the type of information that we are tracking. The Graduate Student Handbook, which was transitioned to an MNS student and faculty information website in 2019, is also continuously updated to reflect current university and departmental policies.

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)

In order to meet demand, expand student opportunities and increase tuition revenue, the Department of Biological Sciences developed a non-thesis option (first offered Fall 2021). In AY21/22 we further revamped the program by adding an Accelerated MS degree option. To date, 1 student has successfully completed the non-thesis degree and 3 are currently enrolled. 1 student has applied to the accelerated MS option with a start date of Summer 2023. We expect enrollment in the Accelerated MS to grow with the return of undergraduate students to campus and in search of research experiences. We will assess the success of non-thesis and accelerated MS options in future years and will continuously refine the programs if necessary based on the assessment results.

STUDENT SUCCESS AND THE CLOSING OF EQUITY GAPS

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 across sets of courses, the intentional use of high-impact practices, proactive advising, course scheduling practices, etc.

UAA has selected the below metrics as student success metrics for accreditation.

In response to faculty questions and concerns about reporting on these data without more discussion and training, we will spend AY23 exploring together what equity data are and are not, how they can be used responsibly, and what programs can do to close equity gaps in student achievement on the below metrics, as well as to improve overall student achievement on them. UAA has a team participating in the NWCCU Data Equity Fellowship, and that team will help to guide these conversations.

1. 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. Describe the actions your program is taking to improve student achievement on one or more of the following metrics. Also, describe any resulting improvements in student learning.

Metric	Definition	Rationale
UNDERGRADUATE COURSE PASS RATES BY COURSE LEVEL (Undergraduate lower-division, undergraduate upper-division).	The percentage of students who receive a passing grade (A, B, C, P) for all undergraduate 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. <i>Data</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

Metric	Definition	Rationale
	<i>source: RPTP end-of-term freeze files. Disaggregate as per accreditation.</i>	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.
ANNUAL RETENTION 1 ST TO 2 ND FALL	Traditional measure of the % of first-time, full-time associate and baccalaureate degree-seeking freshmen who enter in a given fall term and return the following fall. <i>Data source: UA System Warehouse RPTP/DEDMGR end-of-term freeze files. Disaggregate as per accreditation on an annual basis.</i>	Following the student from the 1 st fall to 2 nd fall can indicate ongoing connections and support inside and outside of the classroom are motivating students to return to continue their studies at the institution. Continuing enrollment is a key factor in completion.
SEMESTERS TO DEGREE – GRADUATE PROGRAMS	The average number of semesters taken by students to complete any graduate degree or graduate certificate program. Determined by students who have graduated from a graduate program as their primary degree. 5-year trend. <i>Data source: UA System Warehouse RPTP/DEDMGR end-of-term freeze files. Disaggregate as per accreditation on an annual basis.</i>	Looking at the number of semesters graduate students take to complete their degrees illustrates how students progress through their degree programs (full-time, part-time, stop-out). This information on student behavior and completion can inform program structure and help the institution support students in a way that honors the time needed for rigorous intellectual engagement and growth and also ensures that students can complete in a timely manner.

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)

Our MS program, with its strength in Biomedical and Ecosystem Health Sciences research, is contributing to fulfilling the diverse employment needs of the State of Alaska and beyond. Recent graduates have obtained positions in local (community) agencies, including: Biologist, USFWS; Lead Botanist, ACCS; Lead Vegetarian Ecologist, ACCS, Lead Terrestrial Ecologist, ACCS; Head of Ecological Research, Tribal Gov't of St. Paul Island, Research Tech, USFWS. We expect that these placements

will cultivate additional collaboration and partnerships between our program and the agencies. Employment opportunities for our graduate students remain strong with no indication of market saturation.

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? (750 characters or less)

The Department is commended for providing a range of degree options to students to best meet their needs. They are encouraged to develop guidance for the non-thesis option as they have for the thesis option.

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)

The program's attention to preparing students for a variety of careers is appreciated. For example, the requirement of all students (thesis and non-thesis) to deliver live reports (either in seminar format or as a simple oral presentation) and to develop NSF-style research proposals is a plus. Student success is noteworthy and well documented.

Dean's signature:

Jenny McNulty

Date: 1/9/2023