

Natural Resources and Sustainability - Doctor of Philosophy - Mid-Cycle Review & SLOA Year

Current Compliance Year: 2022-2023

Mid-Cycle review

Recent Recommendations

Feedback will include recommendations from the last Expedited Review or from your most recent review by your school or college. You may not see any feedback or recommendations until you have completed your first full or mid-cycle review.

Response to Previous Recommendations (if any):

No previous feedback was provided by the Portal. However, all programs offered by DNRE underwent "Expedited Program Review" during AY 2021, and received "Revision or Restructure" recommendations, which in essence encouraged DNRE to follow through on efforts identified in the SWOT analysis designed to attract more students. For our PhD degree (joint with CBSM), we have focused on the following efforts: 1. development of a graduate certificate in GIS (now in place and beginning to attract applicants), 2. led the development of the "sustainability" concentration within the newly approved Earth System Science graduate program, 3. co-led the development of the "geospatial" concentration within the newly approved Earth System Science graduate program, 4. signed an MOU with the University of Mongolia facilitating graduate study at UAF-DNRE, 5. opened discussions with UAA College of Business and Public Policy to facilitate greater access to UAF and UAA courses for graduate students enrolled in both programs and a route for UAA students to move into a UAF PhD degree program, 6. collaborated with CBSM Dean Cam Carlson to reinvigorate the Natural Resources & Sustainability PhD to make it more appealing to students interested in security.

Student Learning Outcomes

The previous Student Learning Outcomes Assessment has been submitted as its own report. Going forward you will use the following prompts to discuss the success of your most recent SLOA plan and address your assessment activities since your last SLOA report (typically the past two years or since your last program review).

Learning outcomes feedback from last review:

Feedback will be provided once you have completed a full or mid-cycle review.

Discuss your SLOA findings, changes you are making and what you hope to see as a result:

In June 2021, we sought and received feedback on our current SLOA plans and data collected to date from Dr. [REDACTED] in her capacity as faculty fellow in the Office of Assessment and Accreditation. Her feedback noted a strong alignment between plans and reports, and appropriate usage of AAC&U rubric tools. Reports showed broad success in achieving SLOs with no consistent deficiencies, and noted that our "academic programs emerge strong, collaborative, and important." Most discussion has focused on maintaining success in SLOs in a challenging environment of declining budgets, faculty, and course offerings. Dr. [REDACTED] noted that our graduate program SLOs "highlight the importance of decision making", and suggested that we strengthen the assessment of that outcome more directly. In

fact, however, only our current Masters programs (particularly MNRE) stress acquiring tools that prepare students for decision making (synthesis, critical thinking, and problem solving), which our current rubrics do assess. In the past 2 years, however, we've begun discussions with the College of Business and Security Management (our partner in this degree) about how we might update this PhD program to give more opportunities for students interested in security and sustainability to develop strengths in those areas.

Discuss the curricular changes made based on assessing your SLO. If you haven't made any curricular changes, please explain why not and address what you did notice in the review, including strengths of your curriculum through the assessment of your outcomes:

Our last SLOA report concluded that no curricular revisions were indicated by SLOAs.

Are communication outcomes embedded in the SLOA Plan?

As of 2017 all Baccalaureate programs were required to embed the communication outcomes within their SLOA Plans, this is optional for non-Baccalaureate programs.

Embedded

Student Success

To access the Student Success Dashboard please sign into a UA computer with VPN connection (if not on campus). You will need your UA credentials and it is best accessed with the most updated version of Chrome, Edge, Firefox or Safari browsers; Internet Explorer is not supported. You will need to filter the data to see your programs. If you need assistance in finding the data for your programs, please contact your data liaison or [Julia Manfredini](#) in the PAIR office.

Data Liaisons

Each school or college has a team of Data Liaisons to help you analyze the data provided in the portal and may be able to help you see your data in multiple contexts. You can find a list of data liaisons on the resources page for Program Review.

The college or school level committee will also have access to this data with the goal that by providing these visualizations data availability will be increased.

Data supplied within the dashboard linked below is intended for Academic Program Review and not for any other purpose.

Student Success Data Dashboard

Previous Feedback

Feedback will be provided once you have completed a full or mid-cycle review.

Student Success Data Trends:

No change in majors, No change in degrees awarded, No change in SCH, Decline in persistence, No change in pass rates

If equity gaps were found in any of your disaggregated student success data, please explain how you plan to address those gaps. Please contact your data liaison or make an appointment with [Julia Manfredini](#) to learn more about analyzing your data.

We have observed increasing numbers of our students identifying as [REDACTED], and we are committed to ensuring that our pedagogy works for them and all of our students. To that end, we have increasingly incorporated Indigenous scholars in classes, and where appropriate shared recordings with other DNRE faculty and classes. Dr. [REDACTED] also shared an 8/2022 workshop on indigenizing pedagogy with DNRE faculty. Many DNRE faculty will attend "Difficult Dialogs" (Indigenizing pedagogy) training May or Sept 2023, with some attending monthly trainings through the rest of academic year. There also will be a faculty workshop on science co-production in March 2023, which several faculty plan to attend. Finally, Dr. [REDACTED] is PI on a project to build supportive graduate experience for [REDACTED], [REDACTED], and other underrepresented students (NSF planning grant # 2228064).

Optional Data Explanation

Feel free to share more of your thoughts on the data provided.

The elephant in the room is the small and declining number of majors and student credit hours, which appears to us to be locked in a vicious cycle with declining faculty and resources. We have undertaken a number of initiatives, some outlined in this report, aimed at reversing those trends. Moreover, we are engaged in the CNSM Strategic Enrollment Planning effort to improve majors and student credit hours across the college. Most relevant to this area is our participation in the Earth System Science graduate program proposal in which two tracks (Geospatial Science and Sustainability) are led by DNRE faculty.

High Impact Practices

According to the AAC&U, High-Impact Educational Practices "have been widely tested and have been shown to be beneficial to college students from many backgrounds." UAF is particularly interested in Undergraduate Research and/or Scholarly Activity because it is one of our mission fulfillment indicators, but all of these researched High-Impact Educational Practices should be reflected in your program's student learning outcomes and curriculum.

Previous Feedback

Feedback will be provided once you have completed a full or mid-cycle review.

High-Impact Practices Used in this Program

Please use the following fields to discuss how your program is using the high-impact practices, successes and known issues and solutions, or ways you are considering incorporating them in the future. If you are not using any of the high-impact practices listed, please use the "Other or None of These," field to share what your program is doing to help students be successful.

High Impact Practices that currently apply to your program:

Collaborative Assignments and Projects, Diversity/Global Learning, "Service Learning, Community-based Learning"

Other or None of these (explain)

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Submission

Submitter & Collaborator Names

David Valentine Pete Fix Meriam Karlsson Jenifer McBeath Santosh Panda Sarah Trainor Mingchu Zhang
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Submitter Email

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College or School Review Committee

The college or school committees set the tone for helping each program feel seen during this process. We have provided you with strength-based feedback tags to attach to this program review. Please select as many as applicable.

Overall Recommendations

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Explanation of Recommendations

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Student Learning Outcomes Assessment Feedback (tags)

Strong alignment with SLOA plan,Missing active verbs
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Student Learning Outcomes Assessment Feedback (narrative)

The plan and assessment seem strong, and expand on outcomes from the MS, which shows a good progression of skills and knowledge. The program might consider revising the outcomes to include more “action” words. It is difficult to assess things like “understand” or “recognize.” “Identify”, “explain”, or “analyze” are clearer outcomes to assess. https://tips.uark.edu/blooms-taxonomy-verb-chart/
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Profile Feedback

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Financial Feedback

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Student Success & Equity Feedback

The program recognizes that declining enrollment and graduates is a problem and has taken several steps to address this, including developing a Gen Ed course and a required course (NRM647) by participating in the new Climate Change major (pending approval). Though it may take some time to see changes, it will be important to monitor enrollments. The programs in the department show an increase in [REDACTED] students and they have responded thoughtfully to support these students through faculty training and inclusive pedagogy. Data can be disaggregated at the program level, which would add more specificity to your report. The Accreditation and Assessment Office will follow up to walk you through the process. *This response is the same for all programs in the department because the report was the same for all programs.

High-Impact Practices Feedback

You provide excellent examples of the ways that high impact practices can be used in graduate programs to increase student engagement: research funding, teacher training through TA's, mentoring support in advancing their research, and intentional respect for and inclusion of Indigenous knowledge and methodology. *Please do not include students' names or other identifiers to avoid disclosing FERPA protected information.
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UNIVERSITY OF ALASKA FAIRBANKS
Student learning Outcomes Assessment Plan
PhD NRS

College of Natural Sciences and Mathematics

Expanded Statement of Intuitional Purpose	Intended Objectives/Outcomes	Assessment Criteria and Procedures	Implementation (what, when, who)
UAF and the Department of Natural Resources and Environment is committed to providing quality graduate education through small classes, close student-faculty relationships and research and scholarly endeavor. Continuous self-examination, flexibility and openness to innovation enhance the quality of graduate education available to students. The hallmark of the graduate program in Natural Resources and Environment is its recognition of individual differences and interests of students, and responding to these individual needs. The PhD NRS focuses on the sustainability of natural resources and communities that depend on those resources. Goal Statement: PhD NRS graduates will	1) Graduates will have the research skills to contribute to the advancement of the natural resources sustainability field and address sustainability problems faced by society. 2) Graduates are able to synthesize knowledge from multiple disciplines and provide new insights into natural resources sustainability. 3) Graduates are proficient in communicating their knowledge in oral and written format to scientists, agencies and private sector personnel at state, national, and international levels. 4) Graduates are prepared to enter careers in natural resources management or academia.	1) Comprehensive exams and theses will be evaluated with the Critical Thinking Decision Making, Qualitative Analysis, NRE Concepts, Sustainability Science, Inquiry and Analysis, and written communication rubrics as appropriate. The rubrics range utilize a 4-point scale, where 1 = benchmark and 4 = capstone; scores => 3.0 will be taken as evidence of competence related to the goal. 2) Thesis defenses will be rated on the rigor of the student's research design/analysis, the soundness of the process used to reach their conclusions, and communication skills. This will be conducted via a set of questions passed out to attendees (see attached). Questions will be asked on a 5-	1) The graduate committee will assess comprehensive exams, project presentations and theses with the appropriate rubrics. This will be done for each comprehensive exam and thesis presentation. Data will be compiled by the chair of the assessment committee. 2) This will be done via a set of questions passed out to attendees. The chair of the graduate committee will be responsible for administering questionnaires to attendees. The questionnaires will include the rater's affiliation (i.e., faculty, staff, student, and general public). This will be conducted at each thesis presentation. Data will be compiled by the chair of the assessment committee. Results will be presented separately for faculty, staff, and students. The

enter into advanced research-oriented positions within agencies or private firms or enter into academia. They will contribute to the field through publications, conference presentations, and collaboration with other researchers.		point scale where 1 = weak and 5 = excellent. A score of ≥ 4.0 will be taken as evidence of competence related to the goal. 4) Graduates will be tracked to assess career advancement.	oral communication skills will be evaluated by the committee chair. 3) The Director of Academic Programs will task the academic program assistant with the responsibility of tracking graduates. A qualitative report will summarize employment in the Natural Resources Management field.
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