Associate of Science Program
School of Arts & Science, University of Alaska Southeast
Annual Report AY 2023-24
April 9, 2025

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1. Program Overview & Prior Evaluation:
The Associate of Science (AS) degree, administered by the School of Arts and Sciences, provides a solid foundation in the core academic areas of mathematics, written and oral communication, the natural and social sciences, the humanities and fine arts. Although the specific basis for the current program design and degree requirements are unknown, the AS degree is intended to prepare students for career advancements and for transfer to baccalaureate programs with an emphasis in the sciences. The core components of the degree are:

- Completion of 60 credits at 100 level or above
- 34 credits of General Education Requirements (GERs), including MATH S152
- Of remaining 26 credits above the level of GERs, 12 credits in BIOL, CHEM, ENGR, ENVS, GEOL, MATH, PHYS or STAT
- 20 credits at the 200 level or higher, in subjects suitable for their intended career/academic paths

Additional requirements include:
- 13-14 elective credits from the School of Arts and Sciences and no more than 4 credits of PE/ODS courses.
- Cumulative GPA of at least 2.00 at UAS.
- At least 15 credits completed in residence at UAS

The program status is as follows:

- A comprehensive 5-year program review that was conducted in AY22-23 for AY17-18 thru AY21-22, along with the subsequent set of peer/administrative feedback to that review, is most insightful for discerning the overall program status and furthermore, established the basis to begin a restructuring of the A.S. beginning in AY23-24. These reforms are still ongoing and because the program coordinator is on sabbatical in AY24-25 with no replacement, the restructuring effort will ensue into AY25-26.
- The program restructuring is comprised of the following: 1) restoring program coordination and cross-campus committee membership; 2) identifying specific problems with degree requirements and proposing new changes (see attachment A); 3) deriving a sustainable and achievable AS-specific assessment plan with focal coursework and practical learning outcomes; 4) establishing communication and workflows between faculty coordinators and key administrative staff (advising, enrollment, IE); 5) identifying bridge opportunities with other associate/baccalaureate degrees and certificate programs; and 6) re-thinking aspects of the program mission/vision.

- The 5-year review also concluded that the Assessment Plan on record for the AS degree was defunct because it never included an evaluation of learning outcomes for courses that were specifically tied to the AS, and rather relied on methodology that conflated the AS with AA and used only generic GER information (PAC GELO). Ultimately, new assessment methodology derived from a designated set of flagship courses tied to specific learning outcomes needs to be implemented , however this needs to take place after the program restructuring is completed. An interim assessment protocol (see Data Collection below) was therefore utilized in the review, and for consistency this protocol was carried over to this current AY23-24 annual assessment.
- Based on the 5-year review, the AS degree is understood to be a contributing asset to UAS institutionally and the Southeast Alaska region because of its unique role as a springboard for UA baccalaureate degrees. Furthermore, although IE data about student origins are limited, it is also understood that the program plays an important role for transitional students from the rural coastal and island communities across southeast Alaska. But retention data suggest only about 1 in 10 AS students ultimately end up with a AS from UAS, and of the remaining: 2 in 10 students graduate with a different UAS degree (typically the more flexible AA degree based on feedback from academic advising staff); 3 transfer to other degree programs with unknown trajectories; and the remaining 4 reportedly leave UAS altogether. These findings underscore the severity of degree-requirement issues identified as targets in the restructuring effort. While this attrition is significant and clearly there is room for improvement, this may simply reflect how the AS continues to be a transitional option for more junior students with less certainty initially about their interests in academics, geography, and STEM careers.
- The AS appears to continue to fill a basic need for post-secondary degree pursuit in STEM for some students: the low yet consistent (< 6) number of AS degrees awarded is comparable to some UAS baccalaureate programs with much greater headcounts. Since AY17-18, annual enrollment headcounts in the AS ranged between 28-33, with minor year-to-year enrollment fluctuations ranging between 0-9%, no discernable enrollment trend during the period, and a slight improvement from the previous 5-year review (AY12-13 to AY16-17).
- Scores for all Student Learning Outcomes for the AS ranged between 0.72-0.92 across the 5-year review period, suggesting > 3/4 of students meet program objectives for learning outcomes in coursework core to the AS degree. There were no discernible score differences among, or apparent deficiencies in individual SLOs; however scores uniformly increased for all SLOs from AY17-18 to AY21-22, suggesting a trend in greater student competency.
- The 5-year review noted that the UAS Office of Institutional Effectiveness was unable to provide information for key data categories of importance to the 5-year program review, so some aspects of 5-year comprehensive assessment were not feasible.

2. Student Learning Outcomes

Per the Assessment Plan for the AS degree, student learning outcomes for the AS are derived from the generic 2018 Provost's Assessment Committee for General Education Learning Outcomes (PAC GELO). These are:

- Effective Communication: Communicate thoughts and ideas effectively, orally and in writing.
- Critical Thinking: Demonstrate comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.
- Creative Thinking: Present creative works of expression, innovative approaches to tasks, or solutions to problems.
- Empirical Reasoning: Articulate the scientific method and pose well-reasoned questions in the search for answers through data.
- Synthesis and Analysis: Use and extend theoretical concepts to qualitative and quantitative applications and problem solving.
- Environmental and Community Engagement: Use and extend Indigenous and global cultural perspectives with respect for diversity of people, the sustainable use of resources, and awareness of the environment.

3. Data Collection Process

Consistent with the most recent 5-year comprehensive review and prior annual review for AY22-23, the only source of data for this annual assessment is that extracted through the UAS Office of Institutional Effectiveness (IE). Target metrics and corresponding datasets include enrollment (head counts, annually), and degrees awarded (head counts, annually). As far as student learning outcomes, the rubric in the legacy Assessment Plan is questionable because the relationship of the university-wide metrics that the Assessment Plan exclusively depend on -- GER data in PAC GELO reports -- to AS-specific competencies is not established. Until program restructuring occurs, and in the absence of valid rubric and relevant data – and consistent with the most recent 5-year review and prior annual review for AY22-23 -- an interim assessment was derived from IE pass/fail data for a set of 3 GERs that are gateways to other AS courses and/or are sufficiently general to be of interest to AS students. These are: MATH 152 Trigonometry (2 sections in AY23-24), ENVS 102 Earth and Environment (3 sections), and BIOL 104 Natural History of Alaska (2 sections). In reviewing syllabi, course requirements, and course learning outcomes, these 3 courses also emphasized SLOs specified in the Assessment Plan (Table 1). The % of students passing the course in a given year was used as an annual score for every SLO the course promotes, and scores were pooled across any courses sharing the same SLO to derive an average annual score for the SLO.

Table 1. Gateway GERs were used for exploratory analysis of SLOs specified in the AS Assessment Plan.

SLO	MATH 152	ENVS 102	BIOL 104
Effective Communication		X	X
Critical Thinking	X	X	X
Creative Thinking	X		X
Empirical Reasoning	X	X	X
Synthesis and Analysis	X	X	
Environmental Engagement		X	X

4. Program Evaluation Data

- *Enrollments*: The IE generated enrollment headcount for AY23-24 was 33, which is in line with the prior AY (34) as well as the 5-year average (31) and range (28-33) reported in the most recent 5-year program review.

- *Distribution*: A little over 3/4 (80%) of AS students were based on the Juneau campus in AY23-24. Enrollments in the past were typically split more evenly between Juneau and other campuses, and perhaps this change is due to a continuing decline in Sitka and Ketchikan-based AS enrollments observed over the last decade. Sitka and Ketchikan campuses enrolled 2-5 students in AY23-24.
- *Composition*: 20% of AS students identified as Alaska Native, similar to the percentages observed university wide and in prior years. 24% of students originated from non-urban Alaska, which is in the range with the prior decade but lower (42%) than the prior AY.
- *Graduates*: The number of degrees awarded in AY23-24 was 6, which is consistent with nearly all years since AY17-18. As in previous years, a very high percentage of graduates (84%) were Alaska Native students.
- *Learning Outcomes*: Scores for the 6 SLOs identified in the AS Assessment Plan ranged between 0.55-0.69 for AY23-24, suggesting that between 1/2 and 2/3rds of students meet program objectives for learning outcomes in coursework core to the AS degree. SLO scores nearly all improved since the prior AY but were still notably lower (~21%) than that reported in the prior 5-year comprehensive review. Based on review of underlying data, this disparity is mostly due to lower passing rates in 2 of 3 courses (MATH152, BIOL104) targeted by the assessment methodology. Further underscoring this point, the SLO (Creative Thinking) that is lowest is dependent on only these 2 courses. It is important to emphasize that these generalizations are derived from a pooled student population that included AS students but are not necessarily specific to AS students.

Table 2. SLO scores for AS-relevant GERs relevant, AY23-24 vs prior AY and 5-year period of prior comprehensive review. SLOs were derived from average % of enrolled students passing, see Table 1 and section 3 above for rubric.

SLO	AY23-24	AY22-23	5-year
Effective Communication	0.69	0.57	0.88
Critical Thinking	0.63	0.56	0.86
Creative Thinking	0.55	0.59	0.82
Synthesis and Analysis	0.63	0.59	0.83
Empirical Reasoning	0.65	0.64	0.87
Environmental Engagement	0.69	0.57	0.88

5.Synthesis/Evaluation

- Enrollment numbers and degrees awarded in AY23-24 remain more or less consistent since reporting has been most accountable (AY17-18), suggesting the AS degree continues to represents a small, yet non-declining and persistent number of students. Along with the recognition that the numbers of AS degrees awarded each year is comparable to some baccalaureate programs at UAS - some with much higher headcounts -- these observations suggest the AS appears to continue to fill a basic need in post-secondary achievement for some students.
- Compared to the recent past, a greater proportion of AS students in AY23-24 were based in Juneau, and this is based on enrollment drops in Ketchikan and Sitka campuses. It's not clear what the basis of this result is, however future reviews and program

restructuring should consider if this is an anomaly or a trend worthy of further investigation. One likely possibility is that this simply a positive outcome of the recent development and robustness of a number of applied AS (AAS) degrees more specific to the 2 satellite campuses : these days s tudents may be directed toward more technical degree options rather than the general AS in Sitka and Ketchikan.

- The lower SLO scores in AY23-24 (and AY22-23) compared to the past decade or so is a continuing concern. The SLO rubric used in this and recent assessments is not a strict indicator of AS students, but it is a window into student performance in a cross section of lower-division courses that are "gateways" for AS students. 2 of 3 underlying courses - MATH152 and BIOL104 – exhibited lower student passing rates. Student performance at-large in such gateway s could be low for systematic reasons, which foreseeably could impact AS students more than baccalaureate students. Future annual reviews and program restructuring efforts should carefully evaluate this aspect of the program, and more information should be gathered from the associated set of instructors that teach these courses.
- The 5-year program review conducted in AY22-23 previously described numerous curriculum design flaws that appear to inhibit student progress: overloading or misaligned GERs, lack of breadth in 200-level course offerings (20 credits of which are required), unnecessary stringency in which programs can count above-GER-level courses towards AS degree requirements, inaccessibility of courses for students in Sitka and Ketchikan campuses, and lack of curriculum coordination across the 3 campuses. The review also lays out a plan for a concrete series of curriculum changes that should continue into AY25-26.
- As identified above, the current Assessment Plan for the AS degree nay be defunct because it employs methodology that conflates programs, uses legacy data, and does not allow for depth or completeness in evaluating program success. After the curriculum restructuring is completed, a priority in AY25-26 should be to rapidly develop new assessment methodology derived from a set number of flagship courses tied to specific learning outcomes, with the intent to incorporate the new methodology for the forthcoming AY24-25 annual report.

Attachment A: Summary of proposed A.S. degree changes
Draft March 1 2024

	Degree Requirement	***UAS (Current)***	***UAS (Proposed)***	***UAF***
1	*Credits Total*	≥ 60cr	≥ 60cr (no change)	≥ 60cr
2	*GERs*	34cr	34cr (no change)	43cr
3	*AK Native Theme*	--	-- (no change)	3cr
4	*Math Requirement*	MATH152 (Trig)	1 of following: MATH 113, 151, 152*, 251*, STAT 200; or advisor-approved course	1 of following:MATH 113, 114, 122, 151, 152 (+Calc courses 156, 230, 251, 252, 253)
5	*STEM Concentration*	• ≥ 12 cr • ENVS/CHEM/PHYS/BIOL/MATH/STAT/ENGR only • Above GER only	• ≥ 12 cr • Change to "Natural Sciences, Mathematics and Social Sciences" • Include relevant technical programs (FishTech, Pre-Nursing, CT) • Add 'or advisor-approved courses' • Eliminate 'above GER' restriction	N/A (25 credits built into GER)
6	*200+ level credits*	≥ 20cr	Maintain/Reduce	≥ 20cr
7	*Electives / Specialization*	• ≥ 13cr • Arts & Science courses only	• ≥ 13cr • Eliminate Arts & Science restriction	15cr specialty courses, as approved by dept.
8	*Residency*	≥ 15cr in residency	≥ 15cr in residency (no change)	≥ 15 cr earned at UAF
9	*GPA Min.*	≥ 2.0	≥ 2.0 (no change)	≥ 2.0

*Include language like: "Strongly encouraged for students interested in pursuing a STEM baccalaureate degree upon A.S. degree completion."