Academic Program Review

Program Name: Instrumentation Technology - Certificate

Academic Year 2025/2026

Recent Recommendations

Using your most recent review, please respond to all feedback and recommendations.

Response:
We are in the process of differentiating the industrial process operator and instrumentation by expanding the instrumentation certification by adding in an automation section as per the request
of our process industry partners. Although there is much overlap between the industrial process operator A.A.S. degree and the instrumentation certification. This will add 10 additional credits to the certification. This process has been submitted for a major program change and is anticipated to be part of the program starting fall 2026.

Student Learning Outcomes

Describe the assessment of your student learning outcomes (SLOs). Discuss your findings, changes you are making, and what you hope to see as a result.

Response:

No changes have been made to the SLOA since it was completed. The outcomes have improved over the last several years with increased enrollment as well as our high graduation rate. Due to staffing changes the SLOA did not undergo any changes. This is currently being studied by the new program coordinator and will be looking at potential changes, and how they can be implemented.

Did you make any curricular changes based on your most recent SLOA? If so, discuss what changes were made. If no changes were made, please discuss the strengths of your curriculum based on the assessment of your outcomes.

Response:

No changes have been made to the SLOA since it was completed. The outcomes have improved over the last several years with increased enrollment as well as our high graduation rate. Due to staffing changes the SLOA did not undergo any changes. This is currently being studied by the new program coordinator and will be looking at potential changes, and how they can be
implemented.

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

Communication outcomes in the SLOA plan are: Select

Check the checkbox to certify completion of the following tasks:

☑ Upload supporting documents to the Supporting Documents folder. This includes artifacts, rubrics, and other documents related to your SLOA.
☑ Upload your most recent SLOA to the Supporting Documents folder, even if no changes have been made since the last review.
Have changes been made to your SLOA document since your last review? No

If so, please summarize what changes were made.

Response:

NA

High Impact Practices

Please indicate which high impact practices are currently being implemented in relation to the program's student learning outcomes.

- [x] Capstone Courses & Projects
- [ ] Collaborative Assignments & Projects
- [ ] Diversity/Global Learning
- [ ] ePortfolios
- [ ] First-Year Seminars and Experiences
- [x] Internships
- [ ] Service or Community-Based Learning
- [ ] Undergraduate Research
- [x] Labs
- [ ] Graduate Level Research
- [ ] Writing-Intensive Courses
- [ ] Publications
- [ ] Communications
- [ ] Scholarly Activities
- [ ] Studios
- [ ] Practicum
- [ ] Other
- [ ] None of these

Discuss how the HIPs in the program are reflected in the SLOA. If you have identified HIPs that are not included in the SLOA, please consider an update.

Response:

The students are being prepared for industry jobs. They learn about the various pieces of process equipment including instrumentation, that they will be operating in various labs and hands-on settings, under numerous conditions in order to expose them to as many operating systems and scenarios as possible. The labs and the capstone projects all tie in together for the students. From understanding basic AC and DC physics, P&ID drawings, breadboards, circuitry, programable logic controllers (PLC) to writing a start-up procedure for the plant, to troubleshooting, and maintenance of the unit. All this cumulates from plenty of hands-on and classroom learning.

Student Success

Please reference the Resources tab for information on accessing the Student Success Data Dashboard and contacting your designated data liaisons.

Student Success Data Trends

Persistence: No Change

Pass Rates: No Change

Student Credit Hours: Increase

Majors: Increase

Degrees Awarded: Increase

Other Trends (if applicable):

NA

Achievement Disparities

Discuss any achievement disparities identified in your disaggregated student success data and explain how you plan to address them.

Response:

No disparities were noted in the student success data.

Closing the Loop

Please discuss how your student learning outcomes are reflected in high impact practices and student success data.

Response:

The high impact practices allow the students to become familiar with the many hands-on activities that are part of the program. Many of these hands-on items were donations by our industry partners. This helps ensure the students are learning on the proper pieces of equipment, techniques, safety, proceedures and operation. The lab leads up to the capstone project, which is the result of everything they have learned on in real life, real time operational plant with a control room.

Academic Program Profile

The following questions help show how your program supports the university's mission, connects with other UA programs, engages with the community, contributes through service courses, and supports student success after graduation. Please use this section to highlight the value your program brings to students, the university, and beyond.

UAF's Mission:

The University of Alaska Fairbanks is a Land, Sea, and Space Grant university and an international center for research, education, and the arts, emphasizing the circumpolar North and its diverse peoples. UAF integrates teaching, research, and public service as it educates students for active citizenship and prepares them for lifelong learning and careers.

In what ways does your program advance UAF's mission?

Response:

- The instrumentation technology program allows the students the opportunity to gain an internship opportunity between the first and second year of classes as well as after graduation They shadow, learn, assist, and in many ways are a part of the company during their internship. Our UAF/CTC instrumentation students have occasionally been hired upon completion of their internship, with one of the stipulations being that they need to complete their instrumentation/industrial process operator program.

How is your program related to others in the UA system?

Response:

KPC has a similar program. The biggest difference is that their program is all online with an intensive hands-on at the end of the semester. Their program is also an associate degree program.

Who are your key community or external partners?

Response:

Key partners for the instrumentation certification program are ConocoPhillips, Hilcorp, UAF powerplant, Alyeska, Doyon and GVEA.

What role do your services courses play, if any?

Response:

Our services - the education, training and hands-on experience makes every one of our students and graduates job ready. The knowledge gained, on average, saves industry [redacted] in training costs, allowing the new employee, who completed the process technology /instrumentation program, to start actually working months sooner than an untrained hire. The safety training, equipment experience and knowledge as well as the engineering principles of operations makes our graduates highly desired by industry.

How do your graduates succeed after leaving the program?

Response:

Most of our graduates are hired directly into the process industries in varying capacities. Many of our students complete an internship for an assortment of process industries in the State of Alaska. Student have occasionally been hired during or upon completion of their summer internship. The amount of potential income for instrumentation technicians can vary but it is tied in with one of the highest paying associate degree programs not only in Alaska but the United States.

Submitter and Collaborator Names:

David Fonger

Submitter Email:

drfonger@alaska.edu

Committee Review

Program Name: Instrumentation Technology - Certificate

Academic Year 2025/2026

Overall Recommendations

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

- [x] Insufficent Narratives
- [ ] Address Achievement Gap Develop
- [ ] Online Offerings/Options
- [ ] Increase Enrollment
- [ ] Increase Retention/Persistence
- [ ] May be asked to share Effective Practices
- [x] Report Incomplete
- [ ] Consider Curricular Revisions
- [ ] Improve Time to Degree
- [ ] Increase Graduates
- [ ] Strengthen Advising Practices
- [ ] Recommendation to University-Wide Committee

Explanation of Overall Recommendations

Response:

There is no evidence that the data is being used to "close the loop." Engaging students in hands-on learning enhances their skills and knowledge and promotes essential competencies that industry partners may require. Students may be hired during or upon completion of their summer internship, which offers a positive outlook for both the students and the program. However, the narrative could be improved by highlighting student success and SLOAs.

Student Learning Outcomes Feedback

- [ ] Strong
- [ ] Requires Minor Revision
- [ ] Developing
- [x] Requires Major Revision

Student Learning Outcomes Assessment Feedback

- [ ] Strong Alignment with SLOA Plan
- [ ] Compelling Learning Story
- [ ] Missing Active Verbs
- [ ] Missing Collaboration within Department
- [ ] Clear, Concise Presentation of Findings
- [ ] Missing a Direct Measure
- [ ] Missing Curricular Connection

SLOA Feedback Narrative:

The review indicates there are no changes to the SLOA and that outcomes have improved over time. However, there is no SLOA; therefore no feedback can be provided to confirm this narrative.

Student Success and Equity Feedback

Narrative:

I am not sure if the program examined the Student Success Dashboard thoroughly because the outcomes that were reported were not the same as what I am seeing. The program indicates no equity gaps and thus no strategies for retention and graduation or evidence of inclusive practices. From my review -

Persistence - The program noted no change. However, when reviewing the data, there is a decrease in the number of students from 12 to 9. The previous year it was 27 and higher in previous years. What has caused this?

Pass rates - This has also dropped although the program indicated no change. When considering demographics, [redacted] and Race not Indicated data show a considerable drop in pass rates since 2024. For the age group [redacted] the pass rate has also dropped. Pass rates for [redacted] have also dropped significantly.

Student Credit Hours - The program identified an increase in Student Credit Hours, but I am seeing a decrease from 15.3 to 9.9. By race, the student credit hour load decreased for [redacted] but there was a significant increase for [redacted] and [redacted] students. Is there any reasoning behind these? For students in the [redacted], SCH has increased, however, as we saw above pass rates have dropped. Has the increase in SCH led to a decrease in pass rates for this age group? Students in the [redacted] category also saw a decrease in SCH. [redacted] students have a decrease in SCH but [redacted] have an increase. There is also an increase in [redacted].

Majors - The program identified an increase, which is evident.

Degrees - The program identified an increase, which is evident.

The program should identify the disparities as indicated above.

Profile Feedback

- [x] Mission-Centric to College and/or UAF
- [ ] Collaborative with other UA Programs
- [ ] Strong Post-Grad Success for Students
- [x] Strong Ties to Community or Industry
- [ ] Unique within UA
- [ ] Provides Job Placement for Graduates
- [ ] Strong Service Teaching Component

Financial Feedback

- [ ] High Tuition Revenues
- [ ] Operates at Low Cost
- [x] Opportunities to Increase Revenue
- [ ] High Grant Revenues
- [x] Productive Faculty
- [ ] Low Enrollment

Reviewer Names:

Debra Steed, Suzan South, Jackie Hatley

Dean Review

Program Name: Instrumentation Technology - Certificate

Academic Year 2025/2026

Dean Feedback

Overall feedback narrative:

This program is seeing a resurgence in enrollment thanks to the sole faculty member's on-going connections to industry and above-and-beyond service to CTC. Critical to Alaska's oil and gas industry, this certificate also serves powerplant operators, coal plant workers etc. With the recent curricular adjustment based on input from industry partners, this program will increase its relvance, and thus student success even further. CTC is in the process of filling a years-long empty faculty position to better resource this critical program area.

Recommendation to University-Wide Committee No

Vice Provost Review

Program Name: Instrumentation Technology - Certificate

Academic Year 2025/2026

Vice Provost Feedback

Overall feedback narrative:

The reviews for the Instrumentation Technology Certificate and Industrial Process Operator AAS programs remain nearly identical to the 2023 mid-cycle review because recommended revisions have not yet been implemented. The most critical need is to differentiate the SLOs between the two programs; otherwise, they appear redundant. The program currently lists five primary SLOs and two secondary outcomes, most of which are fine as written, though one is a program-level outcome rather than a true SLO and should be retained internally for documentation. Assessment procedures and artifacts were included, which is good, but the program needs to provide data and narrative analysis showing whether students meet the SLOs. For the 2027 mid-cycle review, the program must revise the SLOA and SLOs, include evidence of assessment results, and document curricular changes and their impact. Differentiation between the certificate and AAS remains essential, and closing-the-loop evidence should be clearly demonstrated.

The program reports student success indicators such as persistence, pass rates, SCH, majors, and degrees awarded, noting growth in majors and degrees but inconsistencies in SCH and pass rate trends compared to PAIR data. Future reviews should include longitudinal analysis of these metrics and explore relationships between credit load, persistence, and pass rates. Hands-on learning through labs, internships, and capstone experiences is a strength, but the program should explain how these practices support diverse or underserved students and outline strategies such as tutoring or early intervention. Equity gaps should be addressed, as PAIR data indicates declines for [redacted] and [redacted] students and students age [redacted], as well as shifts in SCH loads by race/ethnicity. Tracking graduate outcomes may also be a useful future focus.

High-Impact Practices are present and align with program goals, but the report lacks sufficient detail for meaningful feedback. Future reviews should include specific examples and evidence of when and where students engage in HIPs, such as coursework or fieldwork, to demonstrate their impact on student learning.

Department Profile and Financial Data only needs to be completed for programs undergoing FULL review.

Department Profile and Financial Data

Department Name: Process Technology

Last updated: 2025/2026

Department Profile and Financial Data

This section aligns with Board of Regents Policy 10.06 and supports systemwide consistency in academic program review. Responses are maintained across review cycles and may not need to be updated annually. Please review your previous answers and update only if necessary.

When answering the following questions, refer exclusively to the standardized Financial Data Template provided by UAF. Work with your data liaison to interpret the template accurately. Do not include any additional or alternative data — consistency across programs is essential. To maintain integrity and standardization across all of UAF it is very important that you do not provide any additional or alternative data from this template.

Confirmation of Review

Have you reviewed the information in this section and made any necessary updates? Yes

Financial Data Spreadsheet

☑ I have reviewed the Financial Template for updates and accuracy.

Cost Effectiveness

Please describe strategies such as instructional efficiency, shared resources, cross-listed courses, or other ways your department uses resources thoughtfully.

Response:

Associated Programs

Program Name	Degree Type
Industrial Process Operator	A.A.S.
Mining Mill Operations	OEC

Collaborator Name(s):

Collaborator Email(s):

Financial Data only needs to be completed for programs undergoing FULL review.

Financial Data

Department Name: Process Technology

Academic Year 2025/2026

	FY2023	FY2024	FY2025	For Data Entry Staff	For Programs and Review Committees
Total Student Credit Hours (SCH)	454	571	585	Provided in SCH tab in the student success data provided by PAIR.	
Service SCH				Sum rows labeled as "In unit, outside department, Service" and "Outside unit, Service" in the SCH tab of the data provided by PAIR.	
Department FTEs	2.158333333	1.841666667	1.241666667	FTE = Full-time equivalent employee. This field will auto-populate from the FTE Worksheet below.	
Total SCH per Department FTE	210.35	310.05	471.14		
Service SCH per Department FTE	0.00	0.00	0.00		

Majors in Programs	48	47	50	Sum for all programs from the Majors Total tab in the data provided by PAIR.	
Department FTE's	2.158333333	1.841666667	1.241666667	This field will auto-populate from the FTE Worksheet below.	
Majors per Department FTE	22.24	25.52	40.27		

Total Unrestricted Expenditures	[redacted]	[redacted]	[redacted]	Total Expenditures made from budgets with an F1 or F7 fund type designation, from provided cycle report data filtered by Data Liasion	
Total Restricted Expenditures	[redacted]	[redacted]	[redacted]	Total Expenditures made from budgets with revenue of the F2 or S2 fund type designation, from provided cycle report data filtered by Data Liasion	
Total Unit/Central Support Allocated to Program(s)				Expenses incurred for direct support of instruction within orgs identified as central or academic support, if applicable	
Total Expenditures	[redacted]	[redacted]	[redacted]		

Tuition Revenue	[redacted]	[redacted]	[redacted]	Receipts to college from tuition generated by the department/program (F1). NOTE: under the current 80/20 percent tuition distribution model generating units receive 80%. PLEASE USE PAIR REPORTED SCH.	Receipts to college from tuition generated by the department/program, based on the campus's active tuition distribution model, which determines how much the unit receives of their generated tuition, and how much the campus keeps (in addition to the out-of-state surcharges) to support central offices/functions. The current distribution model is 80/20, where the unit/college receives 80% of their generated in-state tuition.
State Appropriation Revenue	[redacted]	[redacted]	[redacted]	Appropriations for current funds operation of the university from the general fund of the State of Alaska through the annual budget cycle. This category also includes TVEP and State Mental Health Trust funds, if allocated to the department. (F1)	Appropriations for current funds operation of the university from the general fund of the State of Alaska through the annual budget cycle.
Restricted/Sponsored Project Revenue	[redacted]	[redacted]	[redacted]	Revenue from external sponsors; includes grants, contracts, sponsored projects & restricted (grant) accounts funded by UA Foundation funds (F2/S2)	Revenue from external sponsors; includes grants, contracts, sponsored projects & restricted (grant) accounts funded by UA Foundation funds
Fees	[redacted]	[redacted]	[redacted]	Course Fees (9159)	
Other UA Receipts/Revenue				e.g. Performance and Sales Receipts, Space Rental Revenue, Indirect Cost Recovery (F1/F7); NOTE: COURSE FEES (9159) REPORTED ABOVE	
Total Revenue	[redacted]	[redacted]	[redacted]		

Workload Allocation	FY2023	FY2024	FY2025	
Teaching Units	45	43	25	Department facultys' workload units assigned to teaching
Service Units	12	12	6	Department facultys' workload units assigned to service
Research Units	0	0	0	Department facultys' workload units assigned to research

Full-Time Equivalent Worksheet*	FY2023	FY2024	FY2025	
Faculty FTEs	1.5	1.5	0.75	**Base assumption: 12-month full-time = 1.0 FTE. 9-month = 0.75 FTE.** Split appointments are multiplied by the % of effort assigned to this department. Part-time are multiplied by the % of effort assigned. F9 faculty on sabbatical count as 67% of one 9-month 0.75 FTE (or 0.50 FTE).
Adjunct FTEs	0.325	0.175	0.325	**Base assumption: 40 units/credits = 1.0 FTE.** Total # of credits taught by adjuncts in a year divided by 40 = the FTE of adjuncts in that year.
Staff FTEs	0.33	0.17	0.17	**Base assumption: 12-month full-time = 1.0 FTE. 9-month = 0.75 FTE.** Split appointments are multiplied by the % of effort assigned to this department. Part-time are multiplied by the % of effort.
Graduate TA/RA FTEs	0	0	0	**Base assumption: 40 hours/week for 12 months = 1.0 FTE. 9-month = 0.75 FTE.**
Total Department FTEs	2.158333333	1.841666667	1.241666667	Sum of all employee FTEs

**Note: FTE definitions and calculations for the purpose of Academic Program Review are different than for other institutional reporting processes (e.g. OMB or IPEDS reporting)*

Information last updated by:	Sheena Tanner / Martha Westphal
Date:	9/18/25