

2022 ANNUAL ACADEMIC ASSESSMENT REPORT FORM
(Due October 15 to the dean)**PROGRAM SECTION (Due to the dean on October 15)****Submission date:** 02 FEB 2023**Submitted by:** Greg Russo, Assistant Professor, grusso@alaska.edu.**Program(s) covered in this report:** Advanced Welding OEC, Nondestructive Testing OEC, and Welding OEC**College:** Community and Technical College**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 skill sets 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)

N/A

- 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)

In our soon-to-be approved WELD A217 Pipe Fabrication Level II course, one graded assignment students will be exposed to, involves the delicate intricacies, cultural dilemmas, and both social and political decisions during an assignment in which they are to simulate constructing a petroleum pipeline through Alaska. This assignment primarily deals with such considerations as the thermal coefficient of expansion, geological foundations and seismic activity, stresses and fatigue in high strength steel, associated metallurgical considerations, welding codes, and related logistics. However, reflecting on the fourth core competency, students must take into consideration native cultural aspects, Native American and American relations, political, and environmental debates. In addition to solving the issues associated with the steel fabrication of this pipeline, the student will have to come to a personal conclusion as to whether or not they would actually construct this pipeline. The pursuit of this endeavor promotes the fourth core competency.

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)

Typically, our welding and nondestructive testing courses aren't diverse at their core. Blueprints, procedures, policies, welding, and the flow of electrons are all very explicit and entertain an absence from diversity and formatting. However, I would hope our students would continue this core competency through their Tier 1 programs and their interactions in the classroom and welding laboratory. Our students share one semi-large welding laboratory. Just barely large enough to conduct compressed training, and small enough that you cannot ignore or otherwise exclude yourself from social interaction. Our program's student demographic is diverse: men and women 18 – 50 years of age, U.S. Veterans, people with disabilities, Alaskan Natives, seniors, and members of the LGBTQ community. Team building exercises, partnered projects, shared successes and failures in capturing a multitude of skill sets, and the pursuit of perfection foster effective communication in our diverse program.

- **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)**

Personal health and safety depends on the student's ability to comprehend and communicate. Every welding course our program has contains hazards that are lethal. High voltage electricity, both flammable and oxidizing gasses, and radiation can potentially kill. Every student is verbally taught how to energize and de-energize machinery, pressurize and purge flammable gas lines, and engage in operating safely in and around radiation sources, as per the Nuclear Radiation Committee. Every course has verbal commands. Every course has potential to harm a student, a faculty member, and university property if not understood. Most welding courses near the completion of the course, have assignments where students from nondestructive testing courses are brought in as participants, where welding students are tasked to explain basic setup and operation of welding machinery.

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.

Demonstrate enhanced levels of technical skills in welding: Met faculty expectations

Demonstrate application of advanced mathematical formulas and computations, as applied in the welding and inspection fields: Met faculty expectations

Demonstrate hazard assessment and best safety practices: 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)**

1. Observe students taking direction by engaging in assignments: The Academic Assessment Coordinator will witness students processing oral instruction, and reviewing both technical documents and procedures prior to and during the final week of a student's welding course.

2. Analyze Performances from the point of initiation, to the point of completion: Students compile all information and skills learned through rigorous and repetitive training to demonstrate the skills needed to energize electrical equipment, engage in hot-work by way of cutting steels, forming steels, and joining steels via electrical arc welding.

3. Test welds to code standards and compliances: Trained and certified faculty engage in visual testing, nondestructive testing, and destructive testing. This can include ultraviolet inspection, ultrasonic inspection, x-ray inspection, and mechanically deforming students welding tests.

4. Evaluate conclusions to national code standards: Trained and certified faculty interpret the results

of both destructive and nondestructive tests to conclude if the student meets National Code acceptance criteria set forth from the American Welding Society (AWS), American Petroleum Institute (API, and the American Society of Mechanical Engineers (ASME). Faculty holding inspection credentials by the aforementioned will then complete the necessary documentation to nationally certify the student, should the student meet acceptance criteria.

5. Conduct internal department meetings: Faculty meet after weld qualification courses end, to discuss overall results, progress, impedance, and any other matters associated with the forward progression of the department's mission. Faculty cross-references cumulative data against previous semesters to determine historical averages, increases, decreases, and abnormalities if present.

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

Certain courses have specific objectives, each orbiting some type of welding or nondestructive qualification event. These qualifications are a graduation requirement, as well as a course requirement. Most course's qualification objectives are paired to what faculty and students believe to be an unacceptable level of contact hours, when compared to the level of industry requirements for entry level employment. This has warranted the utilization of a Special Topics course that has run two consecutive semesters, in which students get additional time with faculty members, both in the classrooms and in the welding laboratory. Furthermore, during some of these strained courses, faculty have offered open-lab conditions for students who need more time training. However, greater than 75 percent of students pass their semesters qualifications, without the need to utilize a selected topics course. Feedback from our students that were here and exposed to campus wide mandated shutdowns attest to both the urgency and applicability of welding and nondestructive testing remaining a face-to-face program. Faculty state that when administering tests, whose topics and tasks require both basic mathematics and literary accuracy, scores tend to be declining. For mathematical issues, fraction and decimal conversions are at the epicenter of all issues.

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)

No recommendation has been given. This is because all courses are currently in the process of being restructured into 2 categories, and 2 groups each within their respective categories: Welding Level I, Welding Level II, Nondestructive Testing Level I, and Nondestructive Testing Level II. Due to these additional courses orbiting pre-existing industry required certifications, combined Level I and Level II programs will greatly increase student contact hours, weld laboratory time, scholastic objectives, and industry related exposure. An increased number of courses are also projected to be offered off campus, and on on-site work areas, where trained and certified faculty will lead and expedite

students alongside of local trade businesses to simulate real-world scenarios that coincide with their respective course objectives. Future academic assessments will determine recommendations and improvements.

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)

Enrollment is not decreasing. Students are acquiring summer work during their off-time. Graduating students are securing entry level employment or better. Feedback from our students, when discussing upcoming changes to our programs, is very positive. Discussions with administration are underway to allow graduating students to enroll in the new programs and courses while waiving prerequisites for those students which have endured the transition from Welding OEC and Advanced Welding OEC, to Level I & Level II Welding OECs, and Level I & Level II Nondestructive Testing OECs.

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.

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.

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)

Two of the last A.A.S students to graduate the program, once dorm mates, graduated and relocated together. One student was a transferred Art Degree prospective major, and the other, his friend, was a socially-troubled student. Both students moved out-of-state for employment in the nondestructive testing field, and are gainfully employed with a contracting company performing X-ray inspection on large scale bio-chemical plants being constructed in Nevada, Utah, and Colorado. Working with technicians with an average of ten years or greater experience, these two UAA Alumni were chosen to become team leaders over other technicians, based on their unique ability for creative and critical thinking (a UAA core competency) to perform tasks without stopping production, and their fresh technical expertise.

DEAN SECTION (Due to the program on January 15)

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 programs addressed in this assessment were the OECs in Welding, Advanced Welding, and Non-destructive Testing. Because of the previous AAS these programs are all linked. Because of this, the faculty are examining how the program should flow and if we are still meeting industry needs and standards with just the OEC's. It is recommended that the program faculty still continue to work with the Dean's office to develop a smoother flow through the multiple stacked credentials.

Additionally, the program should continue to work with the Dean's office to consider marketing opportunities.

- 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 has maintained a high level of students compared to the other programs within CTC. It is also clear that the skills are in demand and our students have a high rate of post-graduation employment. The faculty should be commended for their continued work to refine the program and meet community and industry needs. Additionally, the program thoroughly examines their student performance and requires industry qualifications and certification to graduate. This clearly shows their high level of student success.

Dean's signature:



Date: 02/03/2023