

ACADEMIC PROGRAM REVIEW FORM

All academic programs and units at UAA are required by Board of Regents Policy P10.06.010 to engage in program review on a seven-year cycle. University Regulation R10.06.010 sets out the minimum requirements for program review, including centrality of program mission, quality, demand, program productivity, effectiveness, and efficiency. Exceptional reviews may be conducted, per University Policy and Regulation, and with the provost's approval. The UAA process integrates information about student learning outcomes assessment and the improvement of student learning, as well as progress on student success measures and the closing of equity gaps, aligning program efforts and resources with institutional priorities. Final decisions include commendations and recommendations, which guide future program efforts. The results of cyclical Academic Program Review are reported to the UA Board of Regents annually and are published on the UAA [Academic Program Review website](#).

This form is composed of four parts: the Program Section, the Dean Section, the Program Optional Response Section, and the Provost Section. Guidance for submission is provided in each section.

Using the Form: The form is pre-loaded with information specific to each program and sent by the dean to the program. The program should download and save their form to begin using it. The form is locked, so instructions are viewable and the only sections of the document that can be edited are the form fields. 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, prior to entering final responses in the official fillable form.

The form uses narrative boxes, text only, and drop-down boxes. Narrative boxes have a character limit, which includes spaces. To undo an answer, press "Control-Z" or "Command-Z."

Responses are to be narrative text only, and must be ADA and FERPA compliant, and must not include the names of any current or former employees. Do not embed any tables or 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 may be published, as per the accreditor or external organization. Do not include appendices. Appendices to this form will not be accepted.

Data: Each program is provided a datasheet, along with this pre-loaded form. For questions about the data, please contact Institutional Research (uaa.oir@alaska.edu).

Assistance: For technical assistance with this form, email Academic Affairs (uaa.oaa@alaska.edu).

Program(s) in the review: AAS Architectural and Engineering Technology

Specialized Accrediting Agency (if applicable): N/A.

Campuses where the program is delivered: Anchorage KOD KPC MSC PWSC

Year of last review: AY20

Final decision from last review: Continued Review

PROGRAM SECTION (Due on March 1)

The program review committee chair and committee members are assigned by the dean. All program faculty should be included in the review process, including faculty on the community campuses. After completing the Program Section below, the program review committee chair will enter their name and date, and email this form to the dean, copying all committee members. If the program is fully delivered on a community campus, copy the appropriate community campus director(s). The program review committee chair's name and date lines are at the end of the Program Section.

Program Review Committee:

Joel Condon, Associate Professor, Construction Management, Chair

1. Demonstrate that the program has responded to previous recommendations.

Recommendation 1: Review the course rotation and semester offerings, reduce the number of sections offered each semester, and increase course capacity to reduce cost and increase revenue.

How do you know the recommendation has been successfully achieved? (2000 characters or less)

In 2020 there was one Full-Time Equivalent Faculty in AET. That full professor retired and the faculty position has not been filled. The faculty member had a limited range of expertise. Extra sections of courses within that faculty member's purview were offered mainly to satisfy workload requirements. This problem is now eliminated; adjunct faculty are used to teach the classes. This has reduced the number of sections offered which has increased the number of students in each section. The courses are now taught by adjunct faculty which substantially reduces the salary expenses of a full professor thus resulting in revenue savings.

Actions taken to date (2000 characters or less)

More adjunct faculty have been recruited to teach in the AET department. The introductory CAD class has been taught by the same adjunct professor for the last year and a half. The Building Information Modeling class has had difficulty in maintaining steady instructor engagement but replacements have been found.

Evidence of success to date (2000 characters or less)

The Personnel Expense Category shown in the FY20 Budget Summary for Dec. 31 Cycle 6 Year to Date Activity was \$83,193. The Personnel Expense Category shown in the FY23 Budget Summary for Dec. 31 Cycle 6, Year to Date Activity is \$72,979. This is a 12.3% expense reduction with a cost savings of \$10,214.

Recommendation 2: Engage in efforts to recruit students, particularly those from secondary schools that offer drafting or construction programs.

How do you know the recommendation has been successfully achieved? (2000 characters or less)

Since Fall of 2020, AET has been engaged in a transitional period, emerging from program suspension mandated during times of financial stress in the university system. As termination neared, the program was directed to revise its curriculum. The revised curriculum prepares students to work as support personnel in the Architecture, Engineering, and Construction (AEC) industry. It no longer emphasizes drafting skills but rather the development of creative critical thinking skills and digital software skills: skills needed to solve design challenges rather than revise construction documents produced by others. The program is based on curriculum used in accredited architecture programs. It is no longer focused on drafting and construction but rather seeks to recruit students who are interested in developing their creative capacity: students who are interested in following a path to higher education and potentially to professional architectural licensure.

Actions taken to date (2000 characters or less)

Prior to the Covid pandemic, AET engaged in Junior Day and Preview Day at UAA. For the event, secondary school students were brought into a computer lab in ECB which had the 3D digital modeling program Revit installed on each computer. Students were instructed on the creation of walls and roofs in Revit. Students could create their own house models at the size they wanted with the roof type they wanted.

AET was represented at the Alaska Construction Career Day at the Palmer fairgrounds where a laptop computer was set up to loop through AET promotional videos. Students were informed about the program's curriculum and career opportunities.

In February 2023, AET will be hosting an event organized by UAA's TRIO Pre-College Program to provide career exploration opportunities for secondary school students. This will again be a hands-on experience using 3D digital modeling software and an opportunity to inform students about the AET program and career opportunities. Students will be encouraged to enroll and assisted in the enrollment process.

Videos of student design projects have been submitted to CTC Technical Program Support personnel for advertising and marketing purposes.

Evidence of success to date (2000 characters or less)

Students who attend AET events provide contact information for follow up. Students are later contacted by the Student Success Advisor via emails and phone calls. They are provided with more program information and instruction on the application process for UAA. Enrollment numbers from Institutional Research indicate a steady rise.

Recommendation 3: Continue to use existing courses and faculty from related programs to keep costs low.

How do you know the recommendation has been successfully achieved? (2000 characters or less)

As noted above, the Personnel Expense Category shown in the FY20 Budget Summary for Dec. 31 Cycle 6 Year to Date Activity was \$83,193. The Personnel Expense Category shown in the FY23 Budget Summary for Dec. 31 Cycle 6, Year to Date Activity is \$72,979. This is a 12.3% expense reduction with a cost savings of \$10,214. This indicates that the reduction in the number of AET faculty combined with the continued use of existing CM faculty and adjuncts for delivery of courses shared by both programs has resulted in the successful reduction in program costs.

Actions taken to date (2000 characters or less)

AET continues to rely on Construction Management (CM) faculty for program delivery. The CM program evolved out of the AET program and the two continue to share many of the same courses. Since 2020, the two AET full time faculty members had retired, leaving no dedicated AET faculty members. The program has continued to operate using only CM faculty and adjuncts. The design aspect of AET relies on the one registered architect who is a member of the CM department as well as adjunct faculty from the Anchorage architectural community.

Evidence of success to date (2000 characters or less)

The budget summaries from fall 2020 and fall 2023 are clear evidence that efficient use of existing program resources has resulted in the reduction of program costs.

Recommendation 4: Work with Institutional Research to try to understand the post-award enrollment patterns of the program's students.

How do you know the recommendation has been successfully achieved? (2000 characters or less)

Institutional Research shows that enrollment patterns are strong and improving. The return rate from Spring 2021 to Fall 2021 was 58.8%. The return rate from Spring 2022 to Fall 2022 was 70%. Post-award enrollment patterns are more difficult to ascertain. Given the relatively recent introduction of the revised AET curriculum, definitive post-award enrollment patterns have yet to be established. The revised curriculum anticipates that students who graduate from the AET program are positioned to enroll as juniors in National Architectural Accrediting Board (NAAB) accredited architectural programs.

Actions taken to date (2000 characters or less)

AET has recently joined the Coalition of Community College Architecture Programs (CCCAP). This organization works closely with NAAB accredited architecture programs to facilitate admission of two-year architecture students with junior level status. Contact has been made with the University of New Mexico (UNM) regarding willingness to accept UAA AET graduates into their program. Review of the AET program curriculum is in progress by the UNM registration office. A

recent invitation to a faculty member teaching AET courses to join the CCCAP Board of Directors may help improve access to other NAAB accredited institutions.

Evidence of success to date (2000 characters or less)

At this time, Arizona State University will be enrolling AET's first graduate in Fall of 2023. Another AET student transferred into NewSchool of Architecture and Design in San Diego. Currently enrolled students indicate that they will be applying to accredited architecture programs upon graduation.

Recommendation 5: Monitor the progress of enrolled students and offer support as needed to ensure they can complete their degrees.

How do you know the recommendation has been successfully achieved? (2000 characters or less)

The work of the AET Student Success Advisor in supporting and monitoring student progress has been a key factor leading to student success. Program faculty are also instrumental in providing students with the encouragement and supplementary instructional guidance needed to successfully comprehend and complete course assignments.

Actions taken to date (2000 characters or less)

The Student Success Advisor for AET tracks the progress of students using TOAD reports, "Navigate" alerts from instructors, and conversations with instructors when there is concern about a student's progress. Regular academic advising appointments are scheduled with students to review progress and completion plans.

Evidence of success to date (2000 characters or less)

Since the inception of the revised AET curriculum in Fall of 2020, the graduation rate clearly shows an upward trajectory. Numbers are low but rising. Graduation of the first student from the revised program occurred in 2022, indicating that program completion is happening within the prescribed time frame for the AAS degree. This is evidence that there is the support necessary to keep students on track for timely graduation. It is anticipated that there will be six students graduating from the program in Spring 2023, a 600% increase since Spring 2022.

- 2. Demonstrate the centrality of the program to the mission, needs, and purposes of the university and the college/community campus. Include how the program is integrating (or planning to integrate) intentionally designed opportunities for students to develop the four core competencies (Effective Communication; Creative and Critical Thinking; Intercultural Fluency; and Personal, Professional, & Community Responsibility). (2500 characters or less)**

Although use of design and modeling software remains a strong part of the AET curriculum, a more comprehensive understanding of creative, critical design thinking has been incorporated into the curriculum. It is becoming progressively more important for industry participants to have more than a simple mastery of digital tools. The AEC industry is looking for individuals who are able to embrace a variety of tasks, who are adept at independent, creative thinking and able to communicate design initiatives into built projects.

According to data from UA Statewide and UAA Offices of Workforce Programs provided to the Board of Regents on September 5, 2018, there is a shortage of fifty-nine architects in Alaska each year. The revised AET program seeks to rectify this disparity by providing architectural training that can be applied to continued education and eventual architectural licensure. This supports the UAA Mission of, "Serving students, the state, and the communities of Southcentral Alaska..." as well as the stated mission of the Community and Technical College to "[build] Alaska's workforce [...] through technical training."

AET students are required to take CM A422, Sustainability in the Built Environment. This course applies the high impact learning practices of intensive writing and undergraduate research. Sustainability engages students in issues that affect not only themselves but the broader community and the environment. Students create their own research topic, critically evaluate work that has been done on the subject, and propose ideas (or develop prototypes) that expand the existing body of knowledge. Final results are presented in a term paper that articulates the process of their investigation and the results.

Students are required to complete two semesters of architectural design studio. These classes develop students' awareness of the elements of composition which they apply to the creation of design solutions for various building types. Projects have ranged from the design of a Visitors Center at UAA to a nature center located at the Glen Alps trailhead. Students will be involved in a national design competition sponsored by the CCCAP in the development of a Center for Conversation. The aim of the competition is to "...provide places for individual contemplation and for group discussion to heal our society and knit it together to create community and peace, [where] people are willing to come together to find ways to live civilly together."

3. Demonstrate program quality and improvement through assessment and other indicators.

a. Program Student Learning Outcomes Assessment and Improvement Process and Actions

i. AAS Architectural and Engineering Technology

- *1) Demonstrate skill and proficiency in computer-aided drafting and design (CADD) and 3-D modeling; 2) Demonstrate knowledge of drawing conventions including symbols, line types, line weights, and dimension styles as applicable to the design discipline; 3) Visualize and translate drawing information to actual physical objects and completed construction components; 4) Demonstrate an understanding of the role and purpose of building codes and standards as they pertain to the life, health, and safety of the public; 5) Demonstrate an understanding of the role, duties, and responsibilities of design team members; 6) Demonstrate an understanding of the elements of the construction document set and the role of construction documents as communication tools for the construction contract; 7) Demonstrate an understanding of the construction process from the transformation of an idea or need into a completed project; 8) Demonstrate communication skills to be successful in the employment environment; 9) Demonstrate critical thinking and problem-solving skills in the employment environment.*

Describe your key findings for these outcomes. (3000 characters or less)

Computer Aided Design and Drafting (CADD) remains the mainstay of the AET program. The drafting component of the program continues to play a significant role in training students to use the software. Before program revisions in 2019, drafting was the primary focus of the program. Since revision, the design aspect of CADD has come to play a more prominent role. This is a result of input from industry participants and advisors. As the software technology has evolved, 3D modeling by professional designers has eliminated the need for drafting technicians to produce construction documents. AET graduates are currently trained to apply critical design thinking skills in the use of CADD software, enabling them to be valuable contributors to the visualization and formulation of designs needed for the completion of construction projects.

Throughout the educational process students are exposed to code requirements for the permitting of construction documents. They are required to take AET A123, Codes and Standards which is an intensive investigation of the International Building Code (IBC), the industry standard, as well as Title 21 used by the Municipality of Anchorage.

Starting with the introductory class, AET A101, Fundamentals of Construction Documents, students are made aware of the many participants in the construction industry. AET A242, Mechanical, Electrical, and Plumbing Systems requires students to read and apply information found in mechanical, electrical, and plumbing drawings. CM A422, Sustainability in the Built Environment, introduces students to the Integrated Design Process (IDP) that requires all members of a design team (architects, engineers, and constructors) to collaboratively design all aspects of a project as a team in order to eliminate conflicts and minimize construction costs.

The program seeks to impress upon students the need for communication and collaboration in the construction process. Given the number of individuals involved in any construction project, successful completion relies on effective communication among project participants. The graphic construction drawings are only one part of effective communication. The specifications that accompany a set of construction documents must be clearly written. The immense flow of information between the myriad participants in a construction project requires articulate oral communication skills and fastidious written documentation.

Describe actions taken to improve student learning for these outcomes. (3000 characters or less)

At the beginning of each year, students must download (free of charge from Autodesk) the most recent versions of the CADD software, AutoCAD and Revit. This keeps students current on the latest changes and developments in the software. Similarly, the most current version of the International Building Code (IBC) is used in all classes requiring the use and application of the IBC.

In the design studio classes, AET A285 and 286, students are instructed in the application of advanced modeling techniques including conceptual mass modeling, generic modeling, and adaptive generic modeling. These skills allow students to go beyond the 3D modeling of standard building components to realize complex, visually compelling designs that can be transformed into formal construction documents.

In AET A242, Mechanical, Electrical, and Plumbing (MEP) Systems, students are required to develop a written report that documents an innovative aspect of one of these systems. Students must identify an area of interest to them and research the topic. This assignment supplements instruction in the reading, understanding, and manipulating MEP documents with the development of written communication skills that demonstrate their grasp of the topic. They are also required to give an oral presentation to the class regarding their findings which further enhances their skill at orally articulating details about the built environment.

The Sustainability in the Built Environment class is based on a semester-long in-depth research project requiring students to develop a thesis statement articulating what aspect pertaining to sustainability they intend to research, how they plan to expand the field of knowledge, and what results they anticipate. Research into scholarly, peer reviewed material is required. This exposes students to the rigorous pursuit of research endeavors and the formal presentation of research findings.

Describe evidence that these actions are working. (3000 characters or less)

The first graduate of the AET program in Spring 2021 took an internship with a construction company in Wasilla. In the fall they were hired as a full-time employee and six months later, made head of the company's design division. They are currently scheduled to enroll in the Master of Architecture program at Arizona State University in Fall 2023. Another student in the first cohort of design studio students applied and was accepted into the graduate architecture program at NewSchool of Architecture and Design in San Diego, California in Fall 2021.

- b. Demonstrate program quality and improvement through other means, for example, maintaining specialized accreditation, using guidance from advisory boards/councils, responding to community partners and local needs, maintaining currency of the curriculum, implementing innovative program design, intentionally integrating high-impact teaching and learning practices into the program, and meeting indications of quality in distance education, such as the C-RAC Standards. (3000 characters or less)**

The first design studio for AET A286 engaged in a community-based project that proposed housing designs based on input from residents of the Brother Francis Shelter. The class was run in conjunction with the Human Services Department in the UAA College of Health. The results of the project were presented to members of the Anchorage Housing, Homeless, and Neighborhood Development Commission, members of the Anchorage Planning Department, members of Anchorage architecture community, and the Anchorage Home Builders Association. The project was published in the Green and Gold News on December 14, 2021.

The program has integrated the high-impact teaching and learning practices of writing intensive curriculum and undergraduate research. The Sustainability in the Built Environment course engages students in a semester-long research project that students base on individual interests. They are given detailed instruction on the use of Consortium Library resources by library faculty. They are also provided a tour of the Engineering Workshop located in the Engineering and Computation Building to encourage the development of innovative prototypes that may arise in

the course of their investigations. Students must develop a thesis statement to guide their research and present their findings in a detailed end-of-term research paper.

Faculty attended the Pivot online teaching instructional in the Fall of 2020. It provided a cornucopia of tools, strategies, ideas, and attitudes for use in the online environment. It sketched a roadmap in the quest for an online experience that is truly equivalent to face-to-face instruction. Pivot was not presented as a step-by-step “how to” informational on successful online education. It was rather a varied collection of potentialities that instructors might, or might not, adopt in crafting their online courses.

4. Demonstrate student success and the closing of equity gaps.

- a. Analyze and respond to the disaggregated data in the data sheet for your program. Provide clarifications or explanations for any positive or negative trends indicated by the data, and discuss what you are doing to close any equity gaps. The Student Success program review metrics are Junior Graduation Rate, Associate Graduation Rate, Semesters to Degree – Graduate Programs, and Course Pass Rates by Course Level. (3000 characters or less)**

Graduation Rate

Graduation rates indicate that many AET students are enrolled part-time. Few students for this AAS degree complete the program in two or four years. The 8th Year Graduation Rate has the highest percentage of students graduating. By offering all the required AET class in a hybrid online format, it is anticipated that more student will be able to complete their degree in a timely manner.

Historically, a significant number of students in the program were white males. The percentages show a negative trend in the data. Analysis indicates that the change from a drafting-centered to a design-centered curriculum appeals to a more diverse range of students.

Course Pass Rate

Since the inception of the revised AET program in 2020 the course pass rate has risen significantly. The lower division pass rate went from under 45.6% in 2020 to above 67% in 2022. The upper division pass rate jumped from 85% to 100%. Data analysis indicates that more students are inclined to stay in the program after their first year and then become highly motivated in the upper division courses that focus on developing creative, critical design thinking skills. The creative aspect of the upper division design studios is likely a major contributor to student enthusiasm and engagement.

- b. Provide evidence of the overall success of students in the program. For example, you might talk about the percent of students in post-graduation employment in the field or a related field, the percent of students who go on to graduate school or other post-graduation training, and/or the percent of students who pass licensure examinations. You might also give examples of students who have been selected for major scholarships or other competitive**

opportunities. [Please do not use personally identifiable information.] (3000 characters or less)

Positive trends shown in the program data for 4a above suggests that revisions to the AET curriculum in 2019 has led to substantial gains in program enrollment and student success. Enrollment numbers found in the <http://curric.uaa.alaska.edu/> website for AET A181, Fundamentals of Building Information Modeling, show a very encouraging trend. AET A181 is the class where the CM curriculum and the AET curriculum bifurcate; it is the clearest indicator of enrollment trends in the AET program to date. In AY20, before the revised curriculum was launched and AET was close to termination, there were no students enrolled in the class. In AY 21 there were three. In AY22 there were five (a 67% increase). In AY23 there were thirteen (a 160% increase). Overall, since inception of the revised curriculum, there has been a 433% increase in student enrollment. The total enrollment numbers are small but percentage increases are significant.

Of the three students enrolled in AY21, one is currently enrolled in the Master of Architecture (March) program at NewSchool of Architecture and Design in San Diego and another is due to attend Arizona State University's MArch program in Fall 2023. That is 66% of AY21 students pursuing graduate professional degrees. The MArch and Bachelor of Architecture degrees qualify graduates to sit for the Architectural Registration Exam, a required step in the process leading to professional architectural licensure.

5. Demonstrate demand for the program.

- a. Analyze and respond to the data in the data sheet for your program. Provide clarifications or explanations for any positive or negative trends indicated by the data, and discuss what you are doing to improve. The Demand program review metrics are Ratio of Out-of-Discipline Credit Hours to Total Credit Hours, Number of Program Graduates Who Continue Education, Number of Program Graduates Who Return to UAA to Pursue an Additional Program, and Gap between Job Openings and Degree Completions. (Note: Gap between Job Openings and Degree Completions not required for AY23 Program Reviews.) (3000 characters or less)**

The Ratio of Out-of-Discipline Credit Hours to Total Credit Hours shows that until 2022 all students in the metric were not officially enrolled in the AET program. The implication is that the students were unconvinced that AET was the appropriate major for them. In 2022 the percentage of students from outside the program major dropped over 10%. This indicates that students who joined the program after the program was revised from a drafting program to a design-oriented program were committed to the program and were genuinely interested in the prospect of following a career path into architecture or a field in which their creative design skills could be applied.

In 2019, as the program was being revised, IR data for Enrollment by Primary Majors shows a steady decline in enrollment. In 2020, as the program gained traction, enrollment jumped by 30%. In 2021 it jumped by 67%. 2022 saw the program maintain its strong enrollment numbers. This trend indicates that the program resonates with students.

To enhance this trend, the program has joined the Coalition of Community College Architecture Programs. This organization facilitates the connection of two-year architecture programs with architecturally accredited programs outside Alaska. By establishing such connections, it is anticipated that students will be further convinced that pursuit of the AAS in AET is a pathway to higher education and professional opportunities.

Historically, a relatively high number of AET graduates have continued their education or returned to UAA to pursue an additional program. This can be attributed to the fact that there is limited demand for drafting-specific skills. On the other hand, there is a high demand in Alaska for design professionals. This has been documented in a report from UA Statewide and UAA Offices of Workforce Programs provided to the UA Board of Regents on September 5, 2018, stating that there is a shortage of fifty-nine architects in Alaska each year. Designers no longer need the limited services provided by drafters due to advances in 3D digital modeling technology. Those with a degree in drafting have found themselves with unmarketable skills and are forced to pursue training in other fields with stronger job prospects. The revised AET program has opened a path for students to easily segue into advanced degree programs that offer strong employment possibilities.

6. Demonstrate program productivity and efficiency.

Analyze and respond to the data in the data sheet for your program. Provide clarifications or explanations for any positive or negative trends indicated by the data, and discuss what you are doing to improve. The Productivity and Efficiency program review metrics are Five Year Degree and/or Certificate Awards Trend, Student Credit Hours per Full-Time Equivalent Faculty, and Full-Time Equivalent Student per Full-Time Equivalent Faculty. (3000 characters or less)

The Five-Year Degree and/or Certificate Awards Trend fell to zero in 2021 due to the effect of program teach-out and the prospect of termination. This trend was the result of system-wide prioritization initiated in 2016. The program was scheduled for termination in 2019. That year saw a high number of graduates seeking to avoid being left in a defunct program. 2020 initiated the revised AET program. 2021 saw no graduates because students enrolled in the revised program were completing the first year of a two-year program. The first graduate of the program was in 2022. 2023 anticipates the number of degrees awarded to rise to five.

To improve the graduation rate, AET will continue to participate in Junior Day and Preview Day for Anchorage School District students as well as set up a booth at the Alaska Construction Career Day at the Palmer fairgrounds. A recent connection has been made with UAA's TRIO Pre-College Program and a hands-on exercise in the Engineering computer lab will engage prospective AET students in the 3D digital design and modeling of a house.

Student Credit Hours (SCH) per Full Time Equivalent Faculty (FTEF) spiked in 2020. The ratio before and after 2020 remained relatively consistent. 2020 was unusual due to the retirement of two AET faculty members. Remaining faculty covered the departmental deficiency until new FTEF and adjuncts were hired in 2021. Since 2021, SCH/FTEF has been trending higher. With the loss of the two dedicated AET professors, new hires have helped to relieve the instructional load, however SCH/FTEF has remained elevated and continued to climb in 2022.

The ratio of Full Time Equivalent Students (FTES) to FTEF reflects the program dynamics indicated by SCH/FTEF. Again, the ratio spiked in 2020 due to the departure of faculty members. Since 2020 the ratio has remained above historical levels and continues to trend upward. The upward trends in SCH/FTEF and FTES/FTEF both demonstrate improved program efficiency: more is being done with fewer resources.

Optional: Discuss the extent to which, if any, extramural funding supports students, equipment, and faculty in the program. (2500 characters or less)

- 7. Assess program distinctiveness, as well as any duplication resulting from the existence of a similar program or programs elsewhere in the University of Alaska System. Is duplication justified, and, if so, why? How are you coordinating with UAA's community campuses and the other universities in the system? (2000 characters or less)**

Both the University of Alaska Fairbanks and the University of Alaska Southeast offer certificates in drafting technology. UAF also has an Occupational Endorsement certificate for drafting technicians. The UAA AET program has the distinction of being the only program in the UA system that combines the development of drafting skills with critical design thinking skills. With input from the Anchorage design community into the revision of the AET program, it became clear that simple drafting skills were no longer needed in much of the Architectural, Engineering, and Construction (AEC) industry. Historically, drafting technicians were needed to produce the documents used to construct projects. The conceptual design was generated by design professionals who would then turn the design over to the drafting technician who would transform the concept into construction documents. Advances in digital 3D modeling technology has conflated design production with construction document production. As designers develop a design initiative as a digital 3D model, the modeling software allows the designer to easily generate the drawings needed for construction, obviating the need for drafting specialists.

There is still a need for multiple perspectives on design initiatives and the resolution of design details. UAA's AET students are taught to think independently and creatively, preparing them to take an active role in the evolution of a design, from start to finish. Historically, drafting technicians were critical contributors to the creation of project documents but that has changed. Drafting programs at other UA campuses could benefit from the ground-breaking changes made in UAA's AET program giving their graduates better career opportunities. The challenge will be finding qualified instructors with formal design training.

- 8. Assess the strengths of your program and propose one or two action steps to address areas that need improvement. (3500 characters or less)**

The AET program was revised after careful study of NAAB accredited architecture programs affiliated with the Western Interstate Commission for Higher Education (WICHE). The intention was to create a program that would not only develop digital 3D modeling skills and critical design thinking skills but also provide an education reflective of the first two years of a NAAB accredited architecture program. The hope is that AET graduates will be able to transfer into outside programs with junior level standing. The revised program gives AET graduates a better chance to participate in

the AEC industry as well as providing a career pathway to higher education and professional licensure.

AET's new curriculum has yet to definitively prove student demand and matriculation into outside institutions. Initial indications from the IR Program Review Data Sheet show the program is on an ascendant trajectory. The initial cohort of AET students has seen two thirds of its students going on to NAAB accredited architecture schools. Employment metrics have yet to be established but, given the dearth of architects in Alaska, employment prospects are promising for local graduates trained in critical design thinking and digital 3D modeling.

Having joined the dozens of other community college members in the national Coalition of Community College Architecture Programs (CCCAP), it is anticipated that partnerships with NAAB accredited architecture programs can be cultivated. CCCAP membership gives the AET program a strong sense of what standards need to be implemented and maintained in order to be a reliable conduit for program graduates into accredited outside programs.

To improve the program, AET needs faculty. The retirement of AET's two faculty members leaves AET with no official faculty. A coalition of CM faculty and adjuncts is currently maintaining the program. Having dedicated AET faculty would improve the program's standing and provide a solid foundation on which to run and build the program.

Another improvement would be to reinvigorate the Industry Advisory Board (IAB). The AET IAB was helpful in formulating program changes but during revisions and the ensuing time between launching the program and shepherding it through initial implementation, the IAB went dormant. Given indications of a successful launch and continued program viability, the IAB should be reconvened on a regular basis. The connection to the community which the program serves is vital to its successful evolution.

After completing the Program Section above, the program review committee chair should enter their name, date, and email this form to the dean, copying the committee members. If the program is fully delivered on a community campus, copy the appropriate community campus director(s).

Committee chair first name last name: Joel Condon

Date: 2/14/2023

END OF PROGRAM SECTION

DEAN SECTION (Due on April 1)

If the program is fully delivered on one or more community campus, the dean should consult with the director(s) of the campus. After completing the Dean Section below and entering their name, the dean should email this form to the committee, and to uqa.oaa@alaska.edu. If the program is delivered on a community campus, copy the appropriate community campus director(s). The program has one week to provide an optional response to the Dean Section using the Program Optional Response Section of this form.

1. Evaluation of Progress on Previous Recommendations

For each recommendation from the last program review, indicate if the recommendation has been met or has not been met and provide commendations and guidance as appropriate. (2000 characters or less for each recommendation)

Recommendation 1: Review the course rotation and semester offerings, reduce the number of sections offered each semester, and increase course capacity to reduce cost and increase revenue. Recommendation has been met.

The faculty, all Construction Management faculty, have adjusted how often courses are offered and reduced the different redundant sections. We have also increased the use of adjunct faculty to further reduce costs. However, with the starting growth with both AET and CM, which also uses AET courses, it would be prudent to look at a full-time assigned faculty to AET if the trend continues.

Recommendation 2: Engage in efforts to recruit students, particularly those from secondary schools that offer drafting or construction programs. Recommendation has not been met.

This recommendation is hard to truly gauge. The program shifted to a more design focus right before the pandemic, which led to a lack of outreach while resources were diverted elsewhere. The faculty are correct in stating that they have done some outreach with local groups but it has been minimal. CTC Dean's office will work to coordinate with the faculty and local schools to improve awareness of the program and coordination with programs throughout the state.

Recommendation 3: Continue to use existing courses and faculty from related programs to keep costs low. Recommendation has been met.

This is currently being done.

Recommendation 4: Work with Institutional Research to try to understand the post-award enrollment patterns of the program's students. Recommendation has not been met.

I agree with the faculty, because of the pandemic and curriculum changes shortly before the pandemic, there was limited data available. Also, IR at the time was not able to provide much of the post-award data. The changes in IR and a few more years will allow AET to examine this recommendation in more depth.

Recommendation 5: Monitor the progress of enrolled students and offer support as needed to ensure they can complete their degrees. Recommendation has been met.

Recent changes have led to students moving more readily through the program. Also, we have had a noticeable increase in completions of the initial AET courses.

Provide your analysis of #2-8 below, based on the data provided and the program's responses above.

2. Centrality of the Program. (1750 characters or less)

As the faculty pointed out, the current curriculum is more comprehensive and unique within the UA system. The focus is on critical building designs and comprehensive knowledge for building designers. It now goes beyond the basics of CAD and Drafting. This program is unique in the UA

system. As we move forward and connect to Architecture programs throughout the country this could provide a solution to the limited number of architects in Alaska.

3. Program Quality and Improvement (1750 characters or less)

The first cohort of the revised program has impressive post-graduation employment stats with students becoming heads of design units and some have moved into graduate programs in Architecture in other states. The first group of graduates were in 2021. We are tracking more student success stories. The program is showing the strength of its rigor and new focus as a comprehensive program.

4. Student Success and the Closing of Equity Gaps (1750 characters or less)

The success of the students in the program, even after permanently transitioning into an online program, has been increasing since 2020. However, the students being full-time employed often take longer to graduate. We are hoping the shifts in schedule will help shorten the time, especially with the program being online.

5. Demand (1750 characters or less)

The largest demand for the AET courses seems to lie in the Construction Management program. There is significant cross-over between the two programs. However, the program topics by their very nature converge. By using the courses in both programs, we are being more efficient with our resources. We do see a large increase in statewide needs for designers in the architecture realm, as well as 3D modelers. The demand for the program and its classes seems to be stable and growing.

6. Productivity and Efficiency (1750 characters or less)

The program's efficiency and productivity has increased and remains at high levels since the transition of several faculty out of the program and the change in curriculum. We are seeing renewed interest in the program and this should continue to show an increase in revenue.

7. Duplication and Distinctiveness (1750 characters or less)

CTC's AET program is designed to provide a unique set of skills that includes the use of drafting and CAD programs, but also skills and knowledge that are desirable in the construction and design industries. AET is designed to be a pathway to architecture skills and could lead students to architecture programs throughout the country.

8. Strengths and Ideas for Moving Forward (1750 characters or less)

I believe the faculty made some great points. The largest shift during this period is the move to join the CCCAP, which will eventually give our students options to move forward with an Architecture program connected to other schools. I also agree that a full-time dedicated faculty is needed to continue the revisions to the program, though fiscally we need to see more growth or find an external funding source for the program.

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Dean's Final Evaluation

I commend the program for: (number and list the specific commendations in the narrative box, 1500 character limit)

I commend the Construction Management faculty and adjuncts that have moved this program into a modern design and CADD program. The faculty should be proud of the changes made and the effect it is having on the students. Completions are up and students are moving out of the program into successful careers.

The additional work to line it up with national standards for architecture programs will provide additional long term possibilities for our students to work toward licensure in various fields. Well done.

I recommend that the program: (number and list the specific recommendations in the narrative box, 1500 character limit)

I have three recommendations.

Recommendation 1: In conjunction with the CTC Dean's office and OAA, develop one agreement to allow AET students to transfer into an architectural program at another university.

Recommendation 2: Examine the possibility of developing an Online Professional Architecture Bachelor's degree.

Recommendation 3: Create an advisory board for the program.

Dean's overall recommendation to the provost: Continuation -- Program is successfully serving its students and meeting its mission and goals. No immediate changes necessary, other than regular, ongoing program improvements.

If an Interim Progress Report is proposed, recommended year: N/A

If a Follow-up Program Review is proposed, recommended year: N/A

Proposed next regular Program Review: AY2028

After completing the Dean Section above, the dean should enter their name, date, and email this form to the committee, and to uaa.oaa@alaska.edu. If the program is fully delivered on a community campus, copy the appropriate community campus director(s). The program has one week to provide an optional response to the Dean Section using the Program Optional Response Section below.

Dean first name last name: Raymond Weber

Date: 3/31/2023

END OF DEAN SECTION

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PROGRAM OPTIONAL RESPONSE SECTION (Due within one week of receiving dean’s review)

Programs have the option to submit to the provost a response to the dean’s evaluation within one week of receiving the dean’s review, using the narrative box below. Please indicate whether or not you will submit an optional response below.

Are you submitting an optional response? If yes, add your response below, enter your name and date, and follow the guidance below for submission. If no, enter your name and date, and follow the guidance below for submission. **No**

Optional Response: (10,000 characters or less)

After completing this section, the form should be submitted to uaa.oaa@alaska.edu, with a copy to the dean. If the program is fully delivered on a community campus, copy the appropriate community campus director(s) as well.

Committee chair first name last name: Joel Condon

Date: 4/3/2023

END OF PROGRAM OPTIONAL RESPONSE SECTION

PROVOST SECTION (Due on August 1)

After completing, signing, and dating the Provost Section of this form, email the completed form to the program review committee and dean, with a copy to uaa.oaa@alaska.edu for posting. If the program is delivered on a community campus, copy the appropriate community campus director(s) as well.

Provost’s commendations, additional or adjusted recommendations, if any, and other general comments (3000 characters or less):

I agree with the dean’s commendations. I wish, in particular, to point out the program’s improvements in efficiency, the connections that the program’s graduates are making to immediate employment and schools of architecture, as was the intent of the curriculum redesign, and the use of high impact practices in a technical program. I also agree with the dean’s recommendations, and, in addition, recommend that the college consider making one of the faculty lines a full-time position for the AET program. Where possible, the program should continue to address the past recommendations #2 and #4, which remain unmet.

As I did last year in the Program Review process, I am asking programs to think about how they put students first. This includes continuing to monitor any courses with high DFW rates and seeking out strategies for remediation as needed. It also includes continuing to think about what it means to embrace diversity and inclusivity on the course and program level and to demonstrate this in your particular program(s). This could be through the use of proven, high-impact practices at the program level, or through proven pedagogic strategies such as designing assignments using Transparency in

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Learning and Teaching (TILT). It can also be through implementing OER and ZTC materials, particularly where course materials can be more reflective of diverse perspectives, or by using the same materials across all sections of a course. Finally, I am asking that every program identify at least one opportunity for students to develop each of UAA's core competency within the program's curricular and/or co-curricular offerings.

Provost's decision: Continuation -- Program is successfully serving its students and meeting its mission and goals. No immediate changes necessary, other than regular, ongoing program improvements.

Interim Progress Report year: N/A

Follow-up Program Review year: N/A

Next regular Program Review: AY2028

Provost's signature: 

Date: 5/12/2023