Academic Affairs
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REPORT ON AY2022-2023 ACADEMIC ASSESSMENT

Submission date: 11/3/2023

Assessment Plan covered in the report: Construction Management BS

College: Community and Technical College

Campuses where the program(s) is delivered: ☒Anchorage ☐KOD ☐KPC ☐MSC ☐PWSC

Submitted by: Joel Condon, Chair/Associate Professor, jcondon1@alaska.edu

After responding to the questions below, the program should email this form to the dean, with a copy to the appropriate community campus director(s) if the program is delivered on a community campus.

1. **Please list and number the Program Student Learning Outcomes your program assessed in AY23. For each outcome, indicate one of the following: Exceeded faculty expectations, Met faculty expectations, or Did not meet faculty expectations.**

   Example: 1. Communicate effectively in a variety of contexts and formats – Exceeded faculty expectations.

   1. Create written communications appropriate to the construction discipline. - Exceeded faculty expectations

   2. Create oral presentations appropriate to the construction discipline. - Met faculty expectations

   3. Create a construction project safety plan. - Exceeded faculty expectation

   4. Create construction project cost estimates. - Met faculty expectations

   5. Create construction project schedules. - Met faculty expectations

   6. Analyze professional decisions based on ethical principles. - Met faculty expectations

   7. Analyze construction documents for planning and management of construction processes. - Met faculty expectations

   8. Analyze methods, materials, and equipment used to construct projects, - Exceeded faculty expectations

   9. Apply construction management skills as a member of a multi-disciplinary team. - Exceeded faculty expectations

10. Apply electronic-based technology to manage the construction process. - Exceeded faculty expectations

11. Apply basic surveying techniques for construction layout and control. - Exceeded faculty expectations

12. Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process. - Exceeded faculty expectations

13. Understand construction risk management. - Met faculty expectations

14. Understand construction accounting and cost control. - Met faculty expectations

15. Understand construction quality assurance and control. - Exceeded faculty expectations

16. Understand construction project control processes. - Exceeded faculty expectations

17. Understand the legal implications of contract, common, and regulatory law to manage a construction project. - Met faculty expectations

18. Understand the basic principles of sustainable construction. - Exceeded faculty expectations

19. Understand the basic principles of structural behavior. - Exceeded faculty expectations

20. Understand the basic principles of mechanical, electrical and piping systems. - Met faculty expectations

2. Describe your assessment process in AY23 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. *(1000 words or less)*

The assessment process used both direct and indirect tools. Direct tools included results from exams and assignments. Student work was collected and analyzed. Performance criteria was established for each assessment tool (i.e. At least 70% of students earn a score of 80% or better). Results were posted for each PSLO. The American Institute of Constructors (AIC), Associate Constructor Exam was also used; it is required of all UAA BS CM students. This national examination provides information on how each student, and UAA as a whole, compare to others around the US. Again, performance criteria was established and results were tabulated.

The indirect assessment tool applied was a Qualtrics survey sent to all graduating seniors. To establish statistical relevance, it was required that there be at least an 80% response rate. Performance criteria for this metric was based on five-point student responses to questions regarding perceived proficiency in each student learning outcome.

3. What are the findings and what do they tell the faculty about student learning in your program? *(1000 words or less)*

Findings indicate that all performance criteria for the AIC Exam and the indirect Qualtrics survey were acceptable. However, three of the direct assessment performance criteria failed to achieve the

desired result. Considering that a score of 80% is a relatively high expectation (and that well above 50% of students met this challenge) reevaluation of this performance criteria metric will be examined by faculty.

Overall, data pertaining to student learning indicates that the program is being effectively taught and students are performing at levels that surpass national averages. This assessment coincides with conclusions reached by the CM external accrediting body, the American Council for Construction Education (ACCE), which found there to be no deficiencies or weaknesses in the program. ACCE recommended reaccreditation through 2029.

4. **Based on the findings, did the faculty make any recommendations for changes to improve student achievement of the Program Student Learning Outcomes?** Yes

    i. **Please describe the recommended action(s), what improvements in student learning the program hopes to see, the proposed timeline, and how the program will know if the change(s) has worked. If no recommendations for changes were made, please explain that decision.** ***(1000 words or less)***

    PSLO 20: The Mechanical, Electrical & Plumbing course has changed how the workshops that accompany projects are delivered. The workshops, along with their answer keys, are now released at the same time as projects, allowing students to study the procedures demonstrated in the workshops so those procedures can be more effectively applied to the projects. This process is being implemented Fall 23 and results can be assessed through end-of-semester grades on the midterm and final.

    PSLO 4: The Cost Estimating class has expanded the application of estimating techniques to create a comprehensive project cost estimate. In the past, estimates were limited to quantity takeoffs applied to a single construction assembly. The expanded scope is being implemented in Fall of 23. Results on the American Institute of Constructors (AIC) exam, taken in November, will determine the efficacy of this improvement.

5. **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 AY23. *(If no options above were selected)*

If you checked "Other" above, please describe. *(100 words or less)*

6. **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. *(1000 words or less)***

   Changes made in AY21 to the sequence of structural courses resulted in improved scores on the AIC Exam. AY20 showed UAA CM students scored 69%. In AY22 students scored 78%; more than 10% higher than the national average.

   The Mechanical, Electrical & Plumbing class is currently undergoing further refinement. It has undergone various improvements in the past. Between AY20 and AY22, results on the AIC Exam showed a 10% improvement, from 60% to 70%. It is hoped that the latest improvements yield similar results.

   In AY20, AutoCAD Civil 3D, was discontinued at the advise of the Industry Advisory Board. In the past it was used as a direct assessment for the use of electronic-based technology. In its place, Bluebeam Revu was adopted and greater emphasis was placed on Excel. AIC results showed an improvement from 72% to 74% indicating that the program did not suffer from the loss of Civil 3D and students are now educated in electronic-based technology that is responsive to industry needs.

DEAN SECTION (Due to the program on January 15)

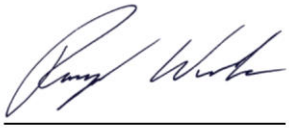
After completing the Dean Section and signing it, the dean should email this form to the program, and copy uaa_oaa@alaska.edu for posting. If the program is delivered on one or more community campus, the dean should consult with the appropriate community campus director(s) on the response and copy the appropriate community campus director(s) when emailing the response to the program.

1. **Based on the program's responses above, what guidance and support do you have for the program moving forward? *(200 words or less)***

   1.) The program is still meeting both the Student Learning Outcomes and the ACCE requirements. I recommend that the faculty continue to find the changes needed to maintain the high level of accreditation earned by the program. Additionally, continue to examine the changes that are being implemented in the cost estimating class and Mechanical, Electrical, and Plumbing course.

2. **Discuss what the program is doing particularly well in terms of its processes for the assessment and improvement of student learning, for example, the use of a common rubric or prompt, a signature assignment, etc.** ***(200 words or less)***

   2.) The program is maintaining the high level of rigor that the ACCE found amazing, leading to a 7-year accreditation. This includes the assessment of the program. I commend the faculty for their continued vigilance and focus on making sure the students are prepared for the industry and meeting the ACCE learning outcomes.

Dean's signature:  **Date:** 1/6/2024