

**Construction Management Technology**  
**March 26, 2018**

External Review Report submitted by Slade Opheikens, LEED AP, President and CEO, R&O Construction; Dr. Barry Hallsted, Associate Professor, Construction Management, Utah Valley University; and Dr. Allyson Saunders, Associate Dean, the College of Engineering, Applied Science & Technology.

The review team visited the Construction Management Technology (CMT) program on Monday, March 26. The team met with Dr. David Ferro, Dean; Rainie Ingram, Senior Advisor; Dana Dellinger, Director, Center for Technology Outreach; Kelly Stackaruk, Development; Joseph Wolfe, Department Chair, Construction Management Technology Department; Steve Peterson, Chris Soelberg, Russell Butler, Pete van der Have, faculty in the CMT program; and students in CMT courses.

### **1. Introduction**

The mission of the Parson Construction Management Technology program, as an integral part of the College of Engineering, Applied Science & Technology, is a program to educate students from diverse backgrounds in the fundamental skills, knowledge, and practices of the construction profession in order to prepare them for construction management positions in service to the community and employers of the construction industry. The 5-year program review committee noted the program's strengths, challenges and opportunities, and made recommendations for improvement. The review committee did not find any areas that did not meet the outlined standards.

### **2. Strengths**

The review committee observed and noted several strengths related to the CMT program. As such, the committee notes the following:

- a. The CMT program has tremendous value and support from industry and students by serving non-traditional students through night courses, assisting students, who are currently working in the industry to obtain a degree. (Standard A: Mission).
- b. The CMT program has updated curriculum meeting the needs of industry. A significant benefit for students in this program is the ability to learn concepts in the program and then concurrently apply them at their jobs since the evening classes allow students to work during the days. (Standard B: Curriculum.)
- c. Benchmarks for student learning outcomes have been set at a standard above the national average. The CMT program has done an outstanding job of making adjustments to the curriculum to increase student learning as evidenced by the national AIC Constructor Certification exam. Also, faculty efforts to assist students in passing the required exam is commendable (Standard C: Student Learning Outcomes and Assessment.) While the AIC Constructor Certification exam proves helpful in measuring many SLO's, it may lack the ability

to measure SLO's (as defined by ACCE) in soft skills that are equally important. Please see comments in the "Challenges/Opportunities" and "Recommendations" section below.

- d. The CMT program has exceptional faculty with many years of experience in the construction industry. Faculty, who are working in industry through summer employment, are to be commended for continuing to keep current in the industry and proven to have better relationships with students and also provide more relevant instruction in their respective classes. Adjunct faculty are exceptional and essential for this program because of their specialties (Standard E: Faculty.)
- e. The CMT program has an active advisory committee, meeting formally four times annually. In addition, the advisory committee provides active on-going support and guidance to the program and faculty. Faculty and staff also do an amazing job supporting students and industry (Standard G: Relationships with External Communities).

### **3. Challenges/Opportunities**

The review committee observed and noted several challenges and/or opportunities related to the CMT program. As such, the committee notes the following:

- a. The program should consider increasing civil engineering (such as surveying) to improve the program (Standard B: Curriculum.)
- b. Marketing to traditional students is a growth opportunity for the CMT program. The CMT program is working toward this goal with the Center for Excellence (Standard F: Program Support.)
- c. The program appears to lack a commitment to the use of technology in the program. Students commented that a few key programs such as Bluebeam, Revit and .... are introduced, but no in-depth instruction occurs. Based on feedback from an industry questionnaire, additional commitment to the use of technology will better prepare students to enter the industry and be a competitive advantage when the economy changes to a downturn.
- d. The AIC Constructor Certification exam is helpful in measuring many SLO's as defined by ACCE. However, it may lack the ability to measure the "soft skill" SLO's that are equally important.

### **4. Recommendations**

The review committee observed and noted several recommendations for change related to the CMT program. As such, the committee notes the following:

- a. The CMT program would benefit from reviewing technology instruction and use in the entire curriculum, planning coursework to build upon previous technology used in courses, and polishing relevant technology skills as the student nears completion of the program (Standard B: Curriculum.)
- b. The students in the CMT program would benefit from spreading the use of electronic based technology throughout the curriculum in addition to, or in lieu of, a specific technology based

class. For example, using a program such as Bluebeam in management based courses to generate submittals and/or RFI's would encourage learning while addressing ACCE SLO's 1, 6, 7, 8, and 10. The same program could be used to teach students take off skills and incorporate ACCE SLO's 4, 7, 8, 10, and 14. Implementing the use of various technologies across the curriculum as opposed to just in one dedicated class encourages expanded and/or reinforced knowledge through other SLO's and technologies (Standard C: Student Learning Outcomes and Assessment.)

- c. CMT students have a strong work ethic and are thus in demand by industry. One area of improvement would be in students' presentation skills. Consideration should be given to conducting additional local competitions supported by industry allowing students to polish their presentation skills (Standard C: Student Learning Outcomes and Assessment.)
- d. Ensure that all SLO's are being met throughout the curriculum. Many SLO's may be difficult to access through using a test such as the AIC Constructor Certification Exam. Specifically SLO's that focus on "soft skills" and technology may need to be accessed in different ways (Standard C: Student Learning Outcomes and Assessment.) These may include the following ACCE SLO's:
  - i. 1. Create written communications appropriate to the construction discipline
  - ii. 2. Create oral presentations appropriate to the construction discipline.
  - iii. 6. Analyze professional decisions based on ethical principles.
  - iv. 10. Apply electronic-based technology to manage the construction process.
- e. To improve students' scores on the structures portion of the graduation (AIC) exam, consider ways to encourage students' taking Physics immediately before the structures courses (Standard C: Student Learning Outcomes and Assessment.)
- f. Students were concerned about Writing Center requirements in courses. The availability of the Writing Center through either online or in-person was limited for these evening students. Most students felt the Writing Center was over-used and was more "busy work" rather than productive and relevant to the topics being taught. Review of the frequency of use of the Writing Center should be re-evaluated. If the Writing Center is used, coordination should occur with the Writing Center to offer services at the Davis Campus that would serve the working student's schedule. Sessions where students may phone in and/or consult online may also be helpful. Faculty must ensure that students are taught the importance of writing and construction communication. Doing so, they will see the value in the sessions and how the help students meet SLO's. Consideration should also be given to a consistent writing style (APA) for student work (Standard C: Student Learning Outcomes and Assessment.) This consistency will help better prepare students for the construction industry.
- e. The CMT program needs to invest in continuing education to maintain relevancy for faculty. Faculty in the CMT program should consider opportunities such as externships as an opportunity to maintain relevancy. The faculty should consider applying for grants such as Perkins to fund these experiences. In addition, industry is willing to provide additional real-work examples for classes (Standard E: Faculty.)