Architectural, Engineering & CAD Technologies (AEC Tech)

2019
ANNUAL REPORT OF PROGRAM DATA

UNIVERSITY of HAWAI'I®
HAWAI'I
COMMUNITY COLLEGE

1. Program Description

This program prepares students for employment with architectural firms, contractors, engineers, surveyors, or government agencies. Job responsibilities range from making accurate working drawings of buildings to assisting a surveying crew.

Program Learning Outcomes (PLOs):

1. Using computational and reasoning skills, demonstrates entry-level skills for accuracy in drawings, and identifies the relationship of features to demonstrate visualization proficiency.
2. Formulate, design, revise, and construct projects utilizing knowledge of proper construction materials and resources based on design criteria, and be able to defend, explain, and discuss.
3. Design and generate Architectural and Engineering documents using two-dimensional and three-dimensional CAD programs.
4. Demonstrate operational competence in using surveying hand tools and equipment.
5. Demonstrate communication, critical thinking, research, and problem-solving skills.
6. Illustrate within the design process an understanding of the balance between cultures, community and the environment.

2. Analysis of the Program

AEC is thrilled to see that both our Efficiency and Effectiveness Indicators have been deemed healthy. The program's fill rate has gone up with the same amount of faculty as the previous year. AEC has been participating in career fairs and also making our classroom available for high school tours. We display student's work as well as drawings and balsa models created by students to entice future students. Most of them are impressed and excited looking over all of these projects.

Although our Persistence, Fall to Fall, and Successful Completion rates dropped slightly, we were able to issue 25 degrees and certificates during this year. As line 35 shows, we have significantly increased our graduation rates even with the persistence decreasing. Students are able to earn an AAS degree as well as have the opportunity to gain a certificate. After two semesters, some students realize that this is not the program for them and change their major. AEC faculty strongly supports all students and encourages them to continue and complete their degree. We also try to accommodate many with personal and family matters that might be a distraction for some, which helps to alleviate some of their anxiety. We also have employers who reach out to us for referrals and some students choose to leave school and grab this opportunity because of finances.

AEC's Demand Indicators have a Cautionary status, which is expected due to the limitation set by our CIP code that consists of only one SOC (Architectural and Civil drafters). After completing the AEC program, drafting is only one of the skills our students gain. Our students obtain jobs from a variety of sources. We have former graduates who are Inspectors in the County Engineering Department, doing engineering duties in the Department of Transportation, surveyors and drafters for HELCO, drafters at Hawaii Planning Mill and at

Hawaiian Telcom. We also have several students working for a very prominent Engineering company in Hilo. Most of our students find jobs soon after graduating and a few also begin their own drafting business.

AEC will continue to work and push forward for a program name change which will allow us to obtain a new code with more SOC options. In turn, this might solve our problem of being deemed unhealthy on a yearly basis.

AEC's fill rate for our Distance Indicators has dropped slightly. We offer AEC 112 online for non-majors both in the Fall and Spring semester. We also offer a separate course in the Fall for majors and one for the Construction Academy's early college credit program. Upon approval, AEC would like to offer the course for non-majors once a year during the Spring semester only to try and be able to achieve a higher fill rate.

AEC is extremely pleased to see that we have met all but one of the Perkins Indicators. Our numbers for non-traditional participation and completion have more than doubled, most likely due to our recruitment efforts at numerous career fairs and classroom tours done throughout the year. 4P1, Student Placement was the only Indicator not met. Most AEC students finds employment soon after graduating in various types of job positions. AEC will work to keep informed of prior students' employment to be able to provide evidence of why AEC believes these numbers are incorrect.

2018 ACTION PLAN:

G#1: AEC will continue new student recruitment efforts. (Timeline: ongoing)

AEC has shown improvement in our fill rate and will continue to make every effort to recruit new students into the Program through more career fairs and school visits, and through the Construction Academy high school program.

G#2: AEC will push through curriculum for program name change as part of the articulation process with HonCC. (AY 18-19)

G#3: AEC will continue discussions with HonCC and Manoa to have courses articulated, at which time CLO's will be adjusted for the streamlining of assessment reporting. (AY 18-19)

G#5: AEC would like to follow HonCC with some Construction Management courses due to demand in Industry. Faculty would like to enroll in some of these courses in the near future for training. (Timeline: dependent on completion of curriculum at HonCC)

Goals 2, 3 and 5 are linked. AEC has put in for Program name change, from "Architectural, Engineering & CAD Technologies" to "Architecture, Engineering and Construction Technologies." Although this proposal has been approved through the College's curriculum process, we have encountered a set-back at the UHCC System level and are awaiting resolution. We continue to work with our sister college, Honolulu CC (HonCC) on this issue. More meetings will need to be held to continue discussions about which courses can be articulated between the two colleges. HonCC is currently working their courses through their

curriculum process. As soon as that process is complete, we will have a PCC meeting to further articulate our courses cross-program and possibly get some faculty professional development training for providing our students with Construction Management education.

G#4: AEC will work with Assessment Coordinator to "clean up" assessment reports and schedules. (AY 18-19, dependent on G#3 above)

AEC has made great progress in catching up with assessment and continues to work with the Assessment Coordinator one on one on a regular basis to be able to stay on schedule.

3. Program Learning Outcomes

A. **Program Learning Outcomes (PLOs)**:
   1. Using computational and reasoning skills, demonstrates entry-level skills for accuracy in drawings, and identifies the relationship of features to demonstrate visualization proficiency.
   2. Formulate, design, revise, and construct projects utilizing knowledge of proper construction materials and resources based on design criteria, and be able to defend, explain, and discuss.
   3. Design and generate Architectural and Engineering documents using two-dimensional and three-dimensional CAD programs.
   4. Demonstrate operational competence in using surveying hand tools and equipment.
   5. Demonstrate communication, critical thinking, research, and problem-solving skills.
   6. Illustrate within the design process an understanding of the balance between cultures, community and the environment.

B. PLO's 2, 3, 4, 5, and 6 were assessed during the Spring of 2019 through AEC 247 (Geomatics and Land Surveying II).

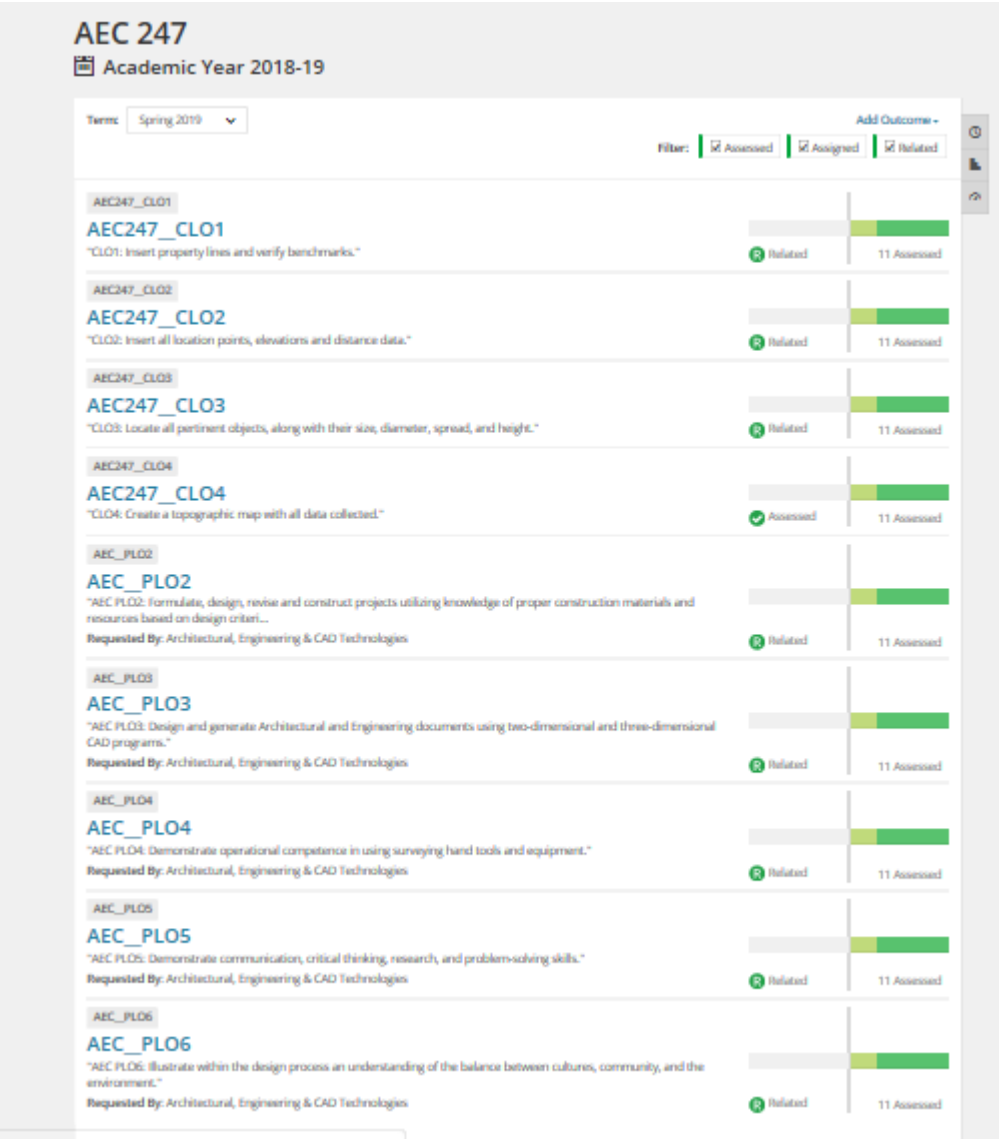
C. 100% of students assessed met or exceeded the achievement standards set by the program.

D. Action items for AEC 247 includes:

   1. Faculty will update lesson plan for this final project to include more descriptive instructions to include appearance of maps. Students will be made more aware of point deductions for such items.

   2. CLO's will be revised to simplify assessment using this final project as the core of the course. All course material covered will be implemented into this final project.

   3. AEC will try to have more community involvement, such as quest speakers, which will give the students a more realistic awareness into what is expected of an entry level surveyor in the industry.



4. Action Plan

Action Item 1: AEC will continue recruitment efforts at all career/job fairs. We will also encourage classroom tours to promote our program. We will work to update all material for promotion, such as advising sheets, brochure, and banners and be sure to keep our program web site up to date.

Action Item 2: AEC will begin to offer AEC 112 for non-majors once a year, every Spring, instead of every semester in hopes of trying to reach a better fill rate for our DE courses. We

will continue to offer AEC 112 for our Construction Academy students every Fall semester as needed.

Action Item 3: Although AEC has made great progress with the help of our Assessment Coordinator to move forward with our assessment reporting, we will continue to schedule meetings to keep up with our assessment schedule and also to update all course CLO's for better clarity and to simplify the Assessment process.

Action Item 4: AEC will put through the curriculum process for program modification and have regular meetings with our Advisory Council to maintain high standards so our students meet our industry standards upon receiving their degrees or certificates.

Action Item 5: AEC will continue to meet when necessary with HonCC for articulation, and/or Manoa campus to make the 2 + 3 program a success. This will greatly benefit the students and make it easier for transferring to further their education.

5. Resource Implications

1. The Codes for the County of Hawaii have drastically changed and therefore it is beneficial for faculty to attend professional development training to be sure our students are taught the correct and current information.
2. I believe the AEC classroom still consists of canec walls which are hazardous to both students and faculty. Students are always ill for one reason or another and maybe this plays a part.