

**HAWAI'I COMMUNITY COLLEGE
PROGRAM ANNUAL REVIEW REPORT**

Architectural, Engineering and CAD Technologies (AEC) Program

Date February 15, 2017

**Review Period
July 1, 2015 to June 30, 2016**

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Program/Unit Review at Hawai'i Community College is a shared governance responsibility related to strategic planning and quality assurance. Annual and 3-year Comprehensive Reviews are important planning tools for the College's budget process. This ongoing systematic assessment process supports achievement of Program/Unit and Institutional Outcomes. Evaluated through a college-wide procedure, all completed Program/Unit Reviews are available to the College and community at large to enhance communication and public accountability. Please see <http://hawaii.hawaii.edu/files/program-unit-review/>

Please remember that this review should be written in a professional manner. Mahalo.

PROGRAM DESCRIPTION

Describe the Program	
Provide the short description as listed in the current catalog.	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.
Provide and discuss the program's mission (or goals and objectives if no program mission statement is available).	<p><u>Mission Statement:</u> AEC strives to help students achieve their career objectives in architecture, engineering, land surveying, and in fields related to building and design.</p> <p><u>Discussion:</u> Training includes manual drafting, 2d CAD drafting, residential design and working drawings, land surveying, civil engineering, zoning and building codes, construction materials, architectural studio design, 3d design, sustainability in architecture, commercial working drawings and building utility services. Learned skills are applied to the design and creation of the contract drawings for the Annual Model Home Project, on a property in Hilo for the Department of Hawaiian Home Lands.</p> <p>Students explore engineering and architecture applications to help discover their career path. AEC studies includes: developing manual and computer skills in engineering and architectural design development and contract document preparation, building of physical study models, create 3d imaging in software, conducting research, produce written papers, create and deliver slide presentations.</p> <p>Students are exposed to geomatic concepts, land information systems and its history in Hawai'i. AEC provides training in using surveying tools and equipment, electronic field instruments, office and civil software, GIS and GPS applications to create maps.</p> <p>In addition, the AEC program continues to provide blueprint reading courses to support other trade programs such as Electricity, Welding, and Carpentry who are the builders of the Model Home.</p>

Comprehensive Review information: Required for ARPD Web Submission

Provide the year and URL for the location of this program's last Comprehensive Review on the HawCC Program/Unit Review website: http://hawaii.hawaii.edu/files/program-unit-review/	
Year	2015
URL	http://hawaii.hawaii.edu/files/program-unit-review/2015.php
Provide a short summary	

<p>regarding the last Comprehensive Review for this program. Discuss any significant changes to the program since the last Comprehensive Review that are not discussed elsewhere in this review.</p>	<p>*Note: Significant changes since the last Comprehensive Review are being discussed elsewhere in this review.</p>
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QUANTITATIVE INDICATORS

ARPD Data

Please attach a copy of the program’s ARPD data tables and submit with the Program Review document.

- a) If you will be submitting the Program Review document in hard copy, print and staple a copy of the data tables to the submission; the icon to print the data tables is on the upper right side, just above the data tables.

OR

- b) If you will be submitting the Program Review document in digital form, attach a PDF copy of the data tables along with the digital submission; the icon to download the data tables as a PDF is in the upper right side, just above the data tables.

Program data can be found on the ARPD website: <http://www.hawaii.edu/offices/cc/arpd/>

ANALYSIS OF THE PROGRAM’S DATA

<p>Analyze the program’s ARPD data for the review period. Describe, discuss, and provide context for the data, including the program’s health scores in the following categories:</p>	
<p>Demand Unhealthy</p>	<p>The number of SSH, FTE, majors and number of classes taught have increased during this review period. In addition, the positions within the Architectural CIP code are limiting. Students find employment within other CIP categories, such as in Civil, Mechanical, Electrical Engineering, Land Surveying, Landscape Architecture, and in positions with the County of Hawaii as surveyors and inspectors, State of Hawaii Dept. of Transportation-State Highways Division (civil engineering type work duties), and with utility companies such as Helco, and Department of Water, etc. thus reflecting an Unhealthy call with the existing Architectural Drafter CIP Code descriptions.</p>

<p>Efficiency Healthy</p>	<p>Based on AEC’s Efficiency Indicators, our average class size/fill rate dipped slightly from the previous year’s report. However, AEC’s appointed faculty has remained the same. 2014 -15 and 2015-16 Budget information have not been Reported and have Not Yet Been Reported, thereby reflecting as a Healthy call this year.</p>
<p>Effectiveness Cautionary</p>	<p>Degrees and Certificates awarded are on the rise. However, transfer activity is low. In this Effectiveness category, “Persistence” reflects dropping numbers over the review period between semesters of Fall to Spring and from Fall to the following Fall semesters. In light of the recent curriculum changes of offering a handful of additional short-term certificates, students did exit out of the AEC program between semesters as they earned these certificates. However, there were 5 withdrawals and from what the faculty surmises, some may have fallen by the wayside, perhaps due to the unfilled need for extra help in class. During this evaluation time period, the Rural Hawaii Grant Tutor was very busy. The persistence numbers could have been affected by the limited time the instructors and tutor was able to spend with everyone that needed help, especially during the onset of multiple additional new courses. In addition, the faculty construes, students tend to feel more comfortable seeking help from a peer type tutor vs. an instructor who is awarding their grades.</p>
<p>Overall Health Cautionary</p>	<p>The situations in the Demand (CIP Codes) and Effectiveness (new short term certificates) categories have negatively impacted the Overall health of the program.</p>
<p>Distance Education</p>	<p>This is the first year the AEC Program has initiated on-line and hybrid course offerings. A total of five DE classes were taught, with a fair amount of students filling the courses, 67%. Completion of classes with a C or higher resulted in a good percentage of 84.</p>
<p>Perkins Core Indicators (if applicable)</p>	<p>All items #29 through #34 have been Met, with the exception of #32 as Not Met 4P1 Student Placement Goal is 69.00, Actual is 38.89. AEC will need to address the decline in student placement and perhaps consider reaching out into the industry to establish internships for the AEC students. Otherwise, all other areas exceed their goals, for example the non-traditional Actual participation of 38.46, almost doubles the Goal stated as 19.69.</p>
<p>Performance Funding Indicators (if applicable)</p>	<p>N/A</p>

<p>Describe any trends, and any internal and/or external factors that are relevant to understanding the program's data.</p>	<p>Up until several years ago, the trend of females entering the program was on a steady incline, with the highest at 50% females enrolled two years ago. Last year's incoming student group declined to 10% female, but this academic year's incoming class is back up to 46% of females enrolled in AEC. This may be due to the increased effort participating in high school career fairs, by the AEC program faculty and students.</p>
<p>Discuss other strengths and challenges of the program that are relevant to understanding the program's data.</p>	<p>Historically the AEC program, since its beginning, had only offered one degree, the AAS. Just prior to this review time frame, the program had increased student options by offering an additional 2 CAs and 2 COs, for a new total of 5 pathways to completing their goals and requirements, and exiting the program at different times in-between semesters, thus reflecting the Cautionary call in the Effectiveness Indicators category.</p>

<p>Analyze the program's IRO data for the year under review. Discuss how data/analysis provided by the Institutional Research Office has been used for program improvement. (For example, how results from CCSSE or IRO research requests have impacted program development.)</p>	
<p>Describe, discuss, and provide context for the data.</p>	<p>One observance of the program data as reported by the IRO reports includes a Healthy call in the Efficiency Indicators. This is a positive call in light of our reduction in occupancy capacity of the physical space in the labs due to the renovation of power and data columns installed in the CAD Labs a few years ago.</p>
<p>Discuss changes made as a result of the IRO data.</p>	<p>At the same time, based on this IRO data, the changes to reduce the maximum occupancy still reflect negatively on the Demand Indicators. The IES>NCES reflects 2010 CIP codes. Our CIP code of 15.1303 is defined as Architectural Drafting and Architectural CAD/CADD. Our curriculum also includes the geomatics field where students are also hired into positions other than the specified "architectural" drafting. AEC graduates find jobs with utility companies such as Helco and Department of Water. They also are employed by various County of Hawaii offices such as in their Planning, Engineering, and Building Departments. Students who have recently been hired are in Inspector positions, estimating positions for contractors, land surveyor assistant positions, and some do non-architectural drafting for Civil, Mechanical and Electrical Engineering companies. Our graduates do drafting for Architectural firms and also some open their own private practice business of producing architectural drawings for clients. One of the</p>

	changes we are considering is to seek a CIP code to better reflect the results of where our graduates become employed.
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Report and discuss all major/meaningful actions and activities that occurred in the program during the review period. For example:	
Changes to the program’s curriculum due to course additions, deletions, modifications (CRC, Fast Track, GE-designations), and re-sequencing	A multitude of changes occurred within the AEC Program due to the Rural Hawaii Grant in the previous review period. Many courses had been added, with the options for students to seek different paths to earn certificates or to exit. The goal of the grant was to attract the working population as students in the courses. Many online, hybrid and evening courses were offered. Most changes were processed through CRC, and some recent minor adjustments were Fast Tracked. Most recently, AEC achieved our first “S” designated course, and look forward to applying for more of our courses under this designation.
New certificates/degrees	AEC is continuing to adjust to the recent degrees and certificates resulting from the Rural Hawaii Grant program. These consists of: CA in Architecture CA in Geomatics & GIS CO in Geospatial Tech CO in Sustainable Design and Site Prep
Personnel and position additions and/or losses.	With the addition of the course offerings, 1 lecturer position plus a tutor position was supported by the grant. However, the grant has now ended, and both positions have ended.
Other major/meaningful activities, including responses to previous CERC feedback.	In response to CERC’s initial feedback, an oversight on AEC’s part was the lack of a program description and summary. Being that the prescribed format began with Part I: Analysis of Program with listed bulleted items of ARPD Indicators, College Mission, etc. AEC headed right into those topics without discussing the program. At the same time, the Annual Program Review was submitted together with the 3-year Comprehensive, which did describe the program and summary. In this year’s submission, AEC will strive to clearly explain our successes, challenges and concerns separately, unlike in the past review, as mentioned by the review committee.

<p>Describe, analyze, and celebrate the program’s successes and accomplishments. (For example, <i>more students were retained/graduated OR the program successfully integrated new strategies/technologies.</i>)</p>	
<p>Discuss what the program has been doing well. Are there areas that need to be maintained and strengthened?</p> <p>Please provide evidence if applicable (ex: program data reports, relevant URL links, etc.).</p>	<p>With the recent curriculum changes afforded by the Rural Hawaii Grant program which provided various additional degrees and certificates are now being offered, the AEC program successfully gained an influx of an additional type of student group who signed up for those courses and earned these certificates. The additional COs and CAs, attracted students who were employed individuals returning to college to upgrade their skills, and mostly to learn how to utilize up-to-date software.</p> <p>However, at the same time, these students also needed an extra amount of help because they were not in the sequence of the typical AEC cohort, with co-reqs and pre-reqs. Fortunately, the temporary assistance of a specialized AEC program tutor was made available through the grant to address this need.</p>

<p>Describe, analyze, and discuss any challenges and/or obstacles the program has faced.</p>	
<p>Identify and discuss the program’s challenges/obstacles.</p>	<p>One challenge that occurred, in the past with the retiring of a former instructor, happened again with the new batch of geomatic courses and certificates. There has been and there remains a lack of land surveyors who are willing to teach these courses, as there would be a time conflict with their current positions, and not enough credits to teach full-time to be able to leave their current jobs to teach.</p> <p>With the retirement of an AEC faculty member a number of years ago, over 50 contacts were made in the search for a replacement. These calls were made to offices and individuals in Hilo, Kona, Honolulu and California. We eventually found a temporary California lecturer who was able to spend some time in Hawaii, although not the entire semester. Therefore class times were concentrated to equal the same amount of class hours in all the adjusted class meetings.</p>
<p>Discuss changes and actions taken to address those challenges, and any results of those actions.</p>	<p>Most recently, to address this ongoing challenge to find a lecturer, AEC considered a recent graduate of the AEC program who upon entering the AEC Program had identified “teaching” drafting and AutoCAD as the goal for her career. We approached her, she was interested, and thereafter was hired “by exception”, and have</p>

	since assisted in the delivery of our courses over the past several semesters. Prior to being hired as a lecturer, she had also volunteered a full academic year to assist the instructors and the AEC program. This lecturer is currently teaching a few surveying courses and a 3d drawing courses per academic year.
Discuss what still needs to be done in order to successfully meet and overcome these challenges.	AEC would like to secure this former student as a permanent part-time lecturer/specialized tutor. AEC will continue to guide, groom and provide training in the area of teaching, etc. to enable her to best fulfill the needs of the AEC program as well as meet her own personal needs. As a step in this direction, we are thankful that admin has supported her request to attend the upcoming 2017 Hawaii Student Success Institute.

PROGRAM ACTION PLAN

Discuss the program's prior year's (AY14-15) action plan and results.	
Describe the program's action plan from the prior review period and discuss how it was implemented in AY15-16.	<p><u>G/1</u>: This first goal was to transform an existing walk-in closet into a GREEN LAB with multiple uses for the courses and students by incorporating healthy green measures and features within a sustainable concept. This also addresses a health and safety issue of providing specific appropriate worktables, and a designated safe space to build studio project assignment models. Currently students often cut, glue and paint their work on the corridor walkway floors outside the Cad Lab and on the lawn, where painted projects are laid out to dry (weather permitting). <u>Goal alignment</u>: UHCC Strategic Directions, Goal: Modern Teaching and Learning Environments.</p> <p><u>G/2</u>: Replace aging printers to keep up with reproduction capabilities to print Model Home plans for all trades, including the building permit sets and also student drawing assignment prints and reproductions for the College in general. <u>Goal alignment</u>: UHCC Strategic Directions, Goal D: Investment in Faculty, staff, students and their environment.</p> <p><u>G/3</u>: Seek funding to hire peer tutor/s to support student success in our specific rigorous trade to increase graduation rates, in response to an area of concern as reflected in our ADP assessment.</p>
Discuss the results of the action	<p>G/1: This goal for the GREEN LAB was not achieved.</p> <p>G/2: This goal was partially achieved. 2 printers were acquired</p>

<p>plan and the program's success in achieving its goals.</p>	<p>for CAD Labs I and II, for students to print their assignments on 8.5"x11" & 11"x17". G/3: This goal was temporarily achieved with the hiring of an AEC tutor to assist students in advancing technology courses as part of the Rural Hawaii Grant project. This helped many students keep up with their assignments by having this additional support.</p>
<p>Discuss any challenges the program had in implementing that action plan or achieving its goals.</p>	<p>G/1: Assistance from the College is needed to properly plan the necessary steps to accomplish a project of this complexity. We will seek suggestions for the necessary steps from P.O.M. G/2: The challenge to secure funding for a replacement wide format printer. Recent collaboration may allow purchase. G/3: The challenge here is also funding to support this position. The Rural Hawaii Grant program has ended therefore, the lecturer and the tutor positions no longer exist.</p>

- Did the program review its website during AY15-16? Please check the box below that applies.

Reviewed website, no changes needed.

Reviewed website and submitted change request to webmaster on _____ (date)_____.

Reviewed website and will submit change request to webmaster.

Please note that requests for revisions to program websites must be submitted directly to the College's webmaster at <http://hawaii.hawaii.edu/web-developer>

<p>Discuss the program's overall action plan for AY16-17, based on analysis of the Program's data and the overall results of course assessments of student learning outcomes conducted during the AY15-16 review period.</p>	<p>Benchmarks and Timelines for implementation and achievement of goals.</p>
<p>Action Goal 1: Continue to search for an instructor to teach the surveying courses and also a specialized tutor to support student success in our specific trade to increase graduation rates, in response to an area of concern as reflected in</p>	<p>Benchmarks/Timelines: Fall 2017 for Spring courses. Spring 2018 for</p>

the ARDP assessment.	Fall courses.
<p>How can this action Goal lead to improvements in student learning and attainment of the program’s learning outcomes (PLOs)?</p> <p>These adjustments will directly impact improving student learning. All six AEC PLOs will be addressed especially PLO #4: Demonstrate operational competence in using surveying hand tools and equipment.</p>	
<p>Action Goal 2: AEC GREEN LAB, as requested in prior Program Reviews and comprehensive Reviews since 2010. The AEC program would like to efficiently use our existing walk-in closet by transforming it into a GREEN LAB, for multiple uses: The concept is to work with students who will research, design and draw the plans to incorporate green concepts to minimize energy usage of the space such as with natural lighting and ventilation, utilizing light shelves, wind vanes and solar exhaust fans; radiant barrier in ceiling to reduce heat from the exterior, create a healthy environment with low v.o.c. paints and greenery for natural air filtration. AEC would also use this Lab to support green research, experiments of green concepts learned in AEC’s sustainable course with meters to measure oxygen, electrical solar generation and other demonstration projects; display sustainable student projects, while providing a safe and healthy area for students to build their project models, Included will be a student recognition display identifying past student achievements who have earned LEED, NAHB and other industry credentials; posters and other displays of green building concepts, as a goal to inspire all students to pursue sustainability in their architectural and engineering career paths as well as in their daily lives. Students could also assist with portions of this project such as cleaning, measuring, designing, painting, and other “do-able” tasks as a “hands-on” real world project experience, as recommended by our AEC Advisory Council member. Work with the Director of P.O.M. to file necessary paperwork requesting the GREEN LAB to be placed on the building modification plans.</p>	<p>Benchmarks/Timelines: Spring 2017 begin discussions , planning and design.</p>
<p>How can this action Goal lead to improvements in student learning and attainment of the program’s learning outcomes (PLOs)?</p> <p>PLO # 1: Using computational and reasoning skills demonstrate entry-level skills for accuracy in drawings and identifies the relationship of features to demonstrate visualization proficiency.</p> <p>PLO#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.</p> <p>PLO#3: Design and generate Architectural and Engineering documents using 2 and 3 dimensional CAD programs.</p> <p>PLO#5: Demonstrate communication, critical thinking, research, and problem-solving skills.</p>	

PL0#6.Illustrate within the design process an understanding of the balance between cultures, community and the environment.

Action Goal 3:
 Seek funding to upgrade existing GPS hand held devices for use in the GIS/GPS coursework. Students use these to collect information from the job site and learn to create charts and maps using GIS software. Current devices are 9+ years old and many units are not working. Students complain these are old and some are missing pieces.
 Also replace existing operational equipment: Replace existing wide format printer for printing of student and Model Home Project plans for the related trades and building permit sets. Printer also used for general College large print needs.

Benchmarks/Timelines:
 Fall 2017 & Spring 2017
 (next GPS course offering)

How can this action Goal lead to improvements in student learning and attainment of the program’s learning outcomes (PLOs)?
 This directly aligns with improvements to student learning as well as PLOs# 1,2 & 3, by assisting with collection of data in the field, and also with printing the final product of their design and contract drawing assignments.

RESOURCE IMPLICATIONS

NOTE: General budget asks are included in the 3-year Comprehensive Review. Budget asks for the following categories only may be included in the Annual review: health and safety needs, emergency needs, and/or necessary needs to become compliant with Federal/State laws/regulations.

Please provide a brief statement about any implications of or challenges with the program’s current operating resources.
 None.

For budget asks in the allowed categories (see above):	
Describe the needed item(s) in detail.	
Include estimated cost(s) and	

timeline(s) for procurement.	n/a
Explain how the item(s) aligns with one or more of the strategic initiatives of <u>2015-2021 Strategic Directions</u> .	n/a

<http://hawaii.hawaii.edu/sites/default/files/docs/strategic-plan/hawcc-strategic-directions-2015-2021.pdf>

LEARNING OUTCOMES ASSESSMENT

For all parts of this section, please provide information based on CLO (course learning outcomes) assessments conducted in AY 2015-16, and information on the aligned (PLOs) program learning outcomes assessed through those course assessments.

If applicable, please also include information about any PLO assessment projects voluntarily conducted by the program’s faculty/staff.

Evidence of Industry Validation and Participation in Assessment (for CTE programs only)

Provide documentation that the Program has submitted evidence and achieved certification or accreditation from an organization granting certification in an industry or profession. If the program/degree/certificate does not have a certifying body, you may submit evidence of the program’s advisory committee’s/board’s recommendations for, approval of, and/or participation in assessment(s). **Please attach copy of industry validation for the year under review and submit with the document. [note: AEC was informed that industry validation is not required for course numbers below 100.]**

Courses Assessed

- List all program courses assessed during AY 2015-16, including those courses for which a follow-up “Closing the Loop” assessment was implemented during the review year.

Assessed Course Alpha, No., & Title	Semester assessed	CLOs assessed (CLO# & text)	CLO-to-PLO alignment (aligned PLO# & text)
BLPR 30F- Blueprint Reading for Carpenters	Fall 2015	1 - Use basic manual drafting tools	1 - Demonstrates entry- level skills for accuracy in drawing geometric shapes, axonometric pictorials, orthographic projections, and identify the relationship of
		2 – Read the Architectural and Engineering scale	
		3 – Create pictorial drawings – orthographic, isometric, and	

		oblique	<p>features to demonstrate visualization proficiency.</p> <p>5 - Formulate, design, revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss designs.</p> <p>6 - Demonstrate communication, critical thinking, research, and problem-solving skills.</p> <p>8 - Demonstrate computation and reasoning skills.</p>
		4 – Identify the building components of a simple residential structure	<p>1 - Demonstrates entry-level skills for accuracy in drawing geometric shapes, axonometric pictorials, orthographic projections, and identify the relationship of features to demonstrate visualization proficiency.</p> <p>2 - Identify or describe the characteristics and uses of construction materials, building products and systems, and research these materials for use based on a prescribed design project requirement.</p> <p>5 - Formulate, design,</p>

			<p>revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss designs.</p> <p>6 - Demonstrate communication, critical thinking, research, and problem-solving skills.</p> <p>8 - Demonstrate computation and reasoning skills.</p>
BLPR 30D – Blueprint Reading for Machine Trades	Fall 2015	1 - Use basic manual drafting tools	1 - Demonstrates entry-level skills for accuracy in drawing geometric shapes, axonometric pictorials, orthographic projections, and identify the relationship of features to demonstrate visualization proficiency.
		2 – Read the Architectural and Engineering scale	5 - Formulate, design, revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss designs.
		3 – Create pictorial drawings – orthographic, isometric, and oblique	6 - Demonstrate

			communication, critical thinking, research, and problem-solving skills. 8 - Demonstrate computation and reasoning skills.
		4 – Find dimensions from objects from a simple welding drawing	6 - Demonstrate communication, critical thinking, research, and problem-solving skills. 8 - Demonstrate computation and reasoning skills.
BLPR 30B – Blueprint Reading for Welders	Spring 2016	1 – Able to understand Detail, Assembly, and Sub-assembly prints.	1 - Demonstrates entry-level skills for accuracy in drawing geometric shapes, axonometric pictorials, orthographic projections, and identify the relationship of features to demonstrate visualization proficiency. 2 - Identify or describe the characteristics and uses of construction materials, building products and systems, and research these materials for use based on a prescribed design project requirement. 5 - Formulate, design, revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss

			designs.
		2 – Can identify different weld symbols and structural shapes	2 - Identify or describe the characteristics and uses of construction materials, building products and systems, and research these materials for use based on a prescribed design project requirement. 5 - Formulate, design, revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss designs.
BLPR 30C – Blueprint Reading for Electricians	Spring 2016	2 – Applies Alphabet of Lines to residential drawings.	1 - Demonstrates entry-level skills for accuracy in drawing geometric shapes, axonometric pictorials, orthographic projections, and identify the relationship of features to demonstrate visualization proficiency. 5 - Formulate, design, revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and

			be able to defend, explain, and discuss designs.
		5 – Design residential electrical layout in compliance to current NEC codes.	1 - Demonstrates entry-level skills for accuracy in drawing geometric shapes, axonometric pictorials, orthographic projections, and identify the relationship of features to demonstrate visualization proficiency.
		6 – Complete a full electrical print for DHHL Model Home.	2 - Identify or describe the characteristics and uses of construction materials, building products and systems, and research these materials for use based on a prescribed design project requirement. 5 - Formulate, design, revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss designs. 6 - Demonstrate communication, critical thinking, research, and problem-solving skills.
BLPR 40 – Blueprint Reading and Estimates	Spring 2016	1 - Able to understand a full set of working drawings.	1 - Demonstrates entry-level skills for accuracy

		2 – Able to construct a small scale model of a one bedroom dwelling by reading measurements off of a set of working drawings.	in drawing geometric shapes, axonometric pictorials, orthographic projections, and identify the relationship of features to demonstrate visualization proficiency. 2 - Identify or describe the characteristics and uses of construction materials, building products and systems, and research these materials for use based on a prescribed design project requirement. 5 - Formulate, design, revise, and construct projects of knowledge and comprehension based on design criteria requiring recall of past courses/experiences and be able to defend, explain, and discuss designs.
“Closing the Loop” Assessments Alpha, No., & Title	Semester assessed	CLOs assessed (CLO# & text)	CLO-to-PLO alignment (aligned PLO# & text)
Due to major curriculum changes made to the AEC program, courses that were due for re-assessment were no longer being offered during the 2015-2016 school year. Therefore, AEC was unable to complete Closing the Loop Reports for these courses.			

Assessment Strategies

For each course assessed in AY 2015-16 listed above, provide a brief description of the

assessment strategy, including:	
a description of the type of <u>student work or activity assessed</u> (e.g., research paper, lab report, hula performance, etc.);	<p>BLPR 30F – Artifact used: Exam covering scaling, pictorial drawings, and building components.</p> <p>BLPR 30D – Artifact used: Exam covering scaling, pictorial drawings, and dimensioning.</p> <p>BLPR 30B – Artifact used: Text book assignment and a quiz.</p> <p>BLPR 30C – Artifact used: An electrical layout of a three-bedroom dwelling.</p> <p>BLPR 40 – Artifact used: Balsa wood model of a three-bedroom dwelling and a supply list.</p>
a description of <u>who conducted the assessment</u> (e.g., the faculty member who taught the course, or a group of program faculty, or the program’s advisory council members, etc.);	Assessments of these courses were assessed by the Instructor of the course along with other AEC Faculty and Lecturers. It was advised by the assessment coordinator that assessment of first year courses can be done without burdening our Advisory Council members.
a description of <u>how student artefacts were selected for assessment</u> (did the assessment include summative student work from all students in the course or section, <u>OR</u> were student works selected based on a representative sample of students in each section of the course?);	For all courses during this 2015-2016 academic year that were assessed, artifacts were collected from 100% of students enrolled. Classes are fairly small and AEC faculty believed that assessing all would retain a more beneficial result.
a brief discussion of the <u>assessment rubric/scoring guide</u> that identifies criteria/categories and standards.	Each artifact for all of the courses were designed to assess the progress of students attaining each Course Learning Outcome by determining if they have met, not met, or exceeded the expectations of these CLO’s created by the AEC Faculty.

Expected Levels of Achievement

- For each course assessed in AY 2015-16, indicate the benchmark goal for student success for each CLO assessed.
 - example 1: “85% of students will Meet Standard or Exceed Standard for CLO#1”;
 - example 2: “80% of students will attain Competency or Mastery of CLO#4.”

Assessed Course Alpha, No., & Title	Benchmark Goal for Student Success for Each CLO Assessed
BLPR 30F	For all courses, which is part of the Architectural, Engineering & CAD Technologies program, we strive to achieve the minimum of 85% of all students meeting or exceeding expectations for each CLO assessed.
BLPR 30D	
BLPR 30B	
BLPR 30C	
BLPR 40	

Results of Course Assessments

For each course assessed in AY 2015-16:	
provide a <u>description of the summative assessment results</u> in terms of students’ attainment of the CLOs and aligned PLOs.	<p>BLPR 30F – Both Faculty and Lecturers and an AEC graduate currently employed at the County of Hawaii Engineering Dept. (Gayle Cho, Donna De Silva, Taylor Cockerham, Malia Souza, and Matt Okuno), looked over exams from all twelve students enrolled in this course. Exams covered scaling, pictorial drawings, and building components. Ten out of twelve students (83%) did well. Overall, we feel that we have almost met the goal of 85% of students meeting or exceeding expectations. Although a couple of students were still struggling with the scales, the majority of the class did very well in this portion of the exam. Line weights were used appropriately in their pictorial drawings, however, some students are still having trouble with organizing their layouts. As part of the manual drafting skills that we would like them to have, lettering could use some improvement. Building components were labeled correctly for most students.</p> <p>BLPR 30D - Both Faculty and Lecturers and an AEC graduate currently employed at the County of Hawaii Engineering Dept. (Gayle Cho, Donna De Silva, Taylor Cockerham, Malia Souza, and Matt Okuno), looked over exams from all twelve students enrolled in this course. Eleven out of 12 students (92%) did well. Overall, 85% of students have met or exceeded expectations. Feedback included: majority of the class did excellent work, using the scales were no problem, although spacing and layout proportions were not the greatest, their lines were of good quality. Students were able to find dimensions from a welding blueprint with no problem AEC</p>

Faculty and Lecturers are impressed with the students' results. All agree that students did a great job and have accomplished the CLO's for this course.

BLPR 30B - There were 9 students enrolled in this course. A text book assignment and a quiz were used as the artifacts. All students' work (100%) were collected and assessed. AEC faculty and lecturers discussed these items and concluded that 89% (8 out of 9) exceeds and meets expectations and the remaining 11% (1 out of 9) did not meet expectations. AEC faculty feels that we have met our expected goal for the semester. Some comments were: Class size is very small and students are very engaged. Open discussions after all lectures, helps the students to complete their assignments. Showing examples of what is expected gives the student a better understanding of what is expected.

BLPR 30C - There were 15 students enrolled in this course. An electrical plan layout of a three bedroom dwelling was used as the artifact to be assessed. All students' work (100%) was collected for this assessment. AEC faculty and lecturers discussed these plans and concluded that 93% (14 out of 15) exceeds expectations and the remaining 7% (1 out of 15) does not meet expectations. AEC faculty feels that we have met our expected goals for this semester. Discussing the whole assignment and showing examples with students helps them to understand what it is expected. Giving the students assignments at the beginning of the semester gets them ready for the final layout at the ending of the semester. Many drawing assignments as well as lettering assignments makes them more aware of how their layout should look as far as line types and thicknesses.

BLPR 40 - There were 16 students enrolled in this course. A balsa wood model of a three bedroom dwelling and a supply list was used as the artifacts. All students' lists (100%) were collected and progress of their building methods was observed. AEC faculty and lecturers discussed these items and concluded that 74% (12 out of 16) exceeds expectations and the remaining 26% (4 out of 16) meets expectations. AEC faculty feels that we have met the expected goal for this semester. Some comments received were: **The individual stations for each student are great, however it was found that having students participate in group work and assignment**

	<p>discussions work well. Also, the class size is small enough to give every student the personalized assistance when needed.</p> <p>One of the challenges of this course is the early morning starting time. Many of the students tend to stroll in after 7:30. Another challenge is the short supply of manual drafting equipment. Many students borrow these for use in class and have a tendency to leave with them. The classroom is shared with other blueprint courses and therefore the same problem occurs for those courses as well.</p>
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Other Comments

<p>Include any additional information that will help clarify the program's course assessment results.</p>	
<p>Include comparisons to any applicable College or related UH-System program standards, or to any national standards from industry, professional organizations, or accrediting associations.</p>	<p>n/a</p>
<p>Include, if relevant, a summary of student survey results, CCSSE, e-CAFE, graduate-leaver surveys, special studies, or other assessment instruments used that are</p>	

not discussed elsewhere in this report.	
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Next Steps – Assessment Action Plan

<p>Describe the program’s intended next steps to improve student learning, based on the program’s overall AY 2015-16 assessment results. Include any specific strategies, tactics, activities, or plans for instructional change, revisions to assessment practices, and/or increased student support.</p>	
<p>Instructional changes may include, for example, revisions to curriculum, teaching methods, course syllabi, course outlines of record (CORs), and other curricular elements.</p>	<p>Most Blueprint courses have a very early starting time which seems to affect attendance. Syllabi have been modified to reflect a more firm attendance requirement for each semester.</p> <p>Curriculum and teaching methods will be rearranged to assist students in completing assignments on a timely manner. An example would be to distribute the floor plan for an electrical layout earlier in the semester. More lettering exercises will be given throughout the semester. A smaller balsa wood model will be given to allow each student the ability to construct each of the different construction phases of building a structure.</p> <p>AEC Faculty will meet with Faculty of other ATE programs to discuss the outcomes which they would want their students acquire upon completion of the blueprint reading courses</p>
<p>Proposals for program modifications may include, for example, re-sequencing courses across semesters, or re-distribution of teaching resources, etc.</p>	<p>AEC has had to adjust the semester sequence in which Blueprinting courses were being offered due to curriculum changes made by the MWIM and EIMT Programs. The AEC program has revised curriculum with new and modified courses and will consider changes after current curriculum has been carried out for a couple of academic years along with feedback from Advisors as well as students.</p>
<p>Revisions to assessment strategies or practices may include, for example, revisions to learning outcome statements (CLOs and/or PLOs), department or course assessment rubrics (criteria and/or standards), development of multi-</p>	<p>Due to curriculum changes recently implemented AEC will revise PLO’s to become more relevant to courses now being offered. AEC will try to revise current rubric patterns used for assessment which will be more specific to each CLO being assessed.</p>

section/course summative assignments or exams, etc.	
Student support and outreach initiatives may include, for example, wrap-around student services, targeted tutoring and/or mentoring, etc.	The AEC students are in need of support with targeted tutoring. This became obvious when the Rural Hawaii Grant initiated the creation of the additional coursework and certificate offerings. At that time they also supported the students by providing an on-call tutor. This new tutor was requested regularly by the students taking the geomatics courses. It would be a positive addition to reincorporate this specialized support for the students, who still need quite a bit of help taking these courses. This would improve the persistence rate in the Effectiveness Indicators.

Part VI. Cost Per SSH

Please provide the following values used to determine the total fund amount and the cost per SSH for your program:

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General Funds = \$ _____

Federal Funds = \$ _____

Other Funds = \$ _____

Tuition and Fees = \$ _____

Part VII. External Data

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If your program utilizes external licensures, enter:

Number sitting for an exam N/A

Number passed