HAWAI'I COMMUNITY COLLEGE
PROGRAM ANNUAL REVIEW REPORT

ELECTRONICS TECHNOLOGY

Date 25 November 2015

Review Period
July 1, 2014 to June 30, 2015

Initiator: Joel Tanabe

Writer(s): Bernard Michels

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 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/program-unit-review/

Program Description

 Please provide a brief description of your Program. Include your Program Mission statement.

Program Description

This program prepares students for employment in telecommunications, medical electronics, computers, and consumer electronics. The electronic technician fabricates, installs, maintains, and repairs electronic equipment.
The program courses cover basic DC and AC component theory and circuit analysis, digital systems, optics and computers and networking. Students applying to the electronics program should have two years of high school math including geometry or algebra, and two years of high school science including chemistry or physics.
Upon completion of the program students will be able to apply to entry-level electronic technician positions as well as entry-level Information Technology positions.

Part I. Review of Program Data

Go to the Annual Reports for Program Data (ARPD) website linked below and review the data for your program.

http://www.hawaii.edu/offices/cc/arpd/

College: Hawaii Community College
Program: Electronics Technology

Part I: Program Quantitative Indicators

Overall Program Health: Cautionary

Majors Included: ET   Program CIP: 15.0303

Demand Indicators	Program Year			Demand Health Call
	12-13	13-14	14-15	
1 New & Replacement Positions (State)	11	13	13	
2 *New & Replacement Positions (County Prorated)	1	1	1	
3 *Number of Majors	13	19	10	
3a Number of Majors Native Hawaiian	7	5	3	**Unhealthy**
3b Fall Full-Time	64%	58%	82%	
3c Fall Part-Time	36%	42%	18%	
3d Fall Part-Time who are Full-Time in System	0%	0%	0%	

		58%	68%	88%	
3e	Spring Full-Time	58%	68%	88%	
3f	Spring Part-Time	42%	32%	13%	
3g	Spring Part-Time who are Full-Time in System	0%	5%	0%	
4	SSH Program Majors in Program Classes	160	328	151	
5	SSH Non-Majors in Program Classes	1	51	49	
6	SSH in All Program Classes	161	379	200	
7	FTE Enrollment in Program Classes	5	13	7	
8	Total Number of Classes Taught	10	18	10	

Efficiency Indicators		Program Year			Efficiency Health Call
		12-13	13-14	14-15	
9	Average Class Size	6.3	7.6	7.8	
10	*Fill Rate	42%	51.1%	56.5%	
11	FTE BOR Appointed Faculty	1	1	0	
12	*Majors to FTE BOR Appointed Faculty	13	19	0	
13	Majors to Analytic FTE Faculty	13.5	10.5	10.3	
13a	Analytic FTE Faculty	1.0	1.8	0.9	
14	Overall Program Budget Allocation	$80,024	$198,738	Not Yet Reported	Unhealthy
14a	General Funded Budget Allocation	$50,490	$61,486	Not Yet Reported	
14b	Special/Federal Budget Allocation	$3,758	$82,089	Not Yet Reported	
14c	Tuition and Fees	$25,518	$55,071	Not Yet Reported	

15	Cost per SSH	$497	$524	Not Yet Reported	
16	Number of Low-Enrolled (<10) Classes	10	16	8	

*Data element used in health call calculation   **Last Updated: October 7, 2015**

Effectiveness Indicators		**Program Year**			**Effectiveness Health Call**
		12-13	**13-14**	**14-15**	
17	Successful Completion (Equivalent C or Higher)	86%	90%	95%	
18	Withdrawals (Grade = W)	0	6	0	
19	*Persistence Fall to Spring	72.7%	89.4%	63.6%	
19a	Persistence Fall to Fall	54.5%	38.8%	28.5%	
20	*Unduplicated Degrees/Certificates Awarded	5	2	9	
20a	Degrees Awarded	5	2	5	**Healthy**
20b	Certificates of Achievement Awarded	0	0	0	
20c	Advanced Professional Certificates Awarded	0	0	0	
20d	Other Certificates Awarded	0	0	14	
21	External Licensing Exams Passed	Not Reported	Not Reported	N/A	
22	Transfers to UH 4-yr	0	1	1	
22a	Transfers with credential from program	0	1	0	
22b	Transfers without credential from program	0	0	1	

Distance Education:	**Program Year**	

Completely On-line Classes	12-13	13-14	14-15	
23	Number of Distance Education Classes Taught	0	0	0	
24	Enrollments Distance Education Classes	N/A	N/A	N/A	
25	Fill Rate	N/A	N/A	N/A	
26	Successful Completion (Equivalent C or Higher)	N/A	N/A	N/A	
27	Withdrawals (Grade = W)	N/A	N/A	N/A	
28	Persistence (Fall to Spring Not Limited to Distance Education)	N/A	N/A	N/A	

Perkins IV Core Indicators 2013-2014	Goal	Actual	Met	
29	1P1 Technical Skills Attainment	91.00	100.00	Met	
30	2P1 Completion	47.00	16.67	Not Met	
31	3P1 Student Retention or Transfer	75.21	66.67	Not Met	
32	4P1 Student Placement	68.92	60.00	Not Met	
33	5P1 Nontraditional Participation	17.50	17.65	Met	
34	5P2 Nontraditional Completion	16.00	0.00	Not Met	

Performance Funding	Program Year		
	12-13	13-14	14-15

35	Number of Degrees and Certificates	5	2	5	
36	Number of Degrees and Certificates Native Hawaiian	3	1	2	
37	Number of Degrees and Certificates STEM	5	2	5	
38	Number of Pell Recipients	10	9	3	
39	Number of Transfers to UH 4-yr	0	1	1	

*Data element used in health call calculation   **Last Updated: October 7, 2015**

Glossary | **Health Call Scoring Rubric**

Part II. Analysis of the Program

Based on the ARPD data in Part 1, analyze the Program in terms of Demand, Efficiency, and Effectiveness. Include significant Program actions (e.g., new certificates, stop out, gain/loss of positions) and results of prior year's action plan. Include analysis of any Perkin's Core Indicator(s) for which the Program's goal was not met. Also discuss any trends or other factors (internal/external) affecting the Program and analyze other Program changes or information not included elsewhere.

The number for the County Prorated "Jobs" is totally unrealistic. This course could combine a total of 6 CIP descriptors (15.0303, 15.0304, 15.0305, 15.0403, 15.0404, and 15.0405). The availability of jobs in this County by far exceeds 1. Based on personal experience, I can attest to the fact if these numbers were accurate I would not been able to make a living as an electronic technician. The data is lacking. The number of student enrollment has been reduced considerably due to the lack of an instructor. The program was in jeopardy of collapse and no potential student wants to sign up for a class that might not be there.

Perkin's Core IV Indicators: The challenge to meet all indicators were difficult due to the hiring of a new instructor in 2012, who started to update the curriculum; left in 2014; replaced with lecturers for one year; and now has a new instructor from Fall 2015. The changes were abrupt and counterproductive, thus performance of the program suffered, including the Perkins numbers.

Previous Goals:
Overall Recommendations/Comments for Previous Goals:

Goal 1: Acquire proper equipment and workbenches so students may run labs without having to deal with test equipment malfunctions.
Goal 1 Recommendations/Comments:
* No narrative is given for ILO alignment, UH Collaboration, or Innovation.
* It would be helpful to describe how the goals might improve the program and student learning. This narrative would be helpful in an in-depth discussion that includes: 1) UH collaborations, 2) innovations, 3) benefit of program

contributing to the workforce on Hawaiʻi Island, and 4) acquisition of equipment and creation of a useful

workplace for students.
Goal 2: Align program to mirror MCC's AS program to facilitate student transfer into MCC's BAS program.
Goal 2 Recommendations/Comments:
* No narrative is given for ILO alignment, UH Collaboration, or Innovation.
* Create a more complete narrative that explains how the goal aligns with the mission, ILOs, and UH Program counterparts.
* State the collaboration with UHMC and innovation demonstrated or intended.
Goal 3: Build a strong advisory council team that can help guide the program in a direction that will fulfill community needs.
Goal 3 Recommendations/Comments:
* No narrative is given for ILO alignment, UH Collaboration, or Innovation.
* Unclear how this goal aligns with ILO 1.
* The building of a strong advisory council team will demonstrate a stronger alignment to ILO 3.
Overall Recommendations/Comments for Goals and Alignment:
* It is essential to explain how the goals align with the mission, ILOs, UH Program counterpart (if applicable). These items should be elaborated on in future program reviews.
* Elaborate on how one or more of the ILOs aligns with each stated goal. A clearer description would create a better understanding of the program intention.
* Devote more time to this area by developing and articulating UH collaborations and discuss improvements expected in both the short-term (1-2 years) and long-term (5-10 years). Set a time table with leadership guidance.

Part III. Action Plan

Describe in detail the Program's overall action plan for the current/next academic year. Discuss how these actions support the College's Mission and can lead to improvement(s) in student learning. Include specific action plans to address any ARPD Health Call scores of "Cautionary" or "Unhealthy," and any Perkin's Core Indicator(s) for which the Program's Goal was not met.

The "Demand Indicator" section does not give an accurate view of potential job opportunities that exist in the field locally or state wide. Proving that expanding the advisory committee will be needed.
The "Efficiency Indicator" section will be corrected by using recruiting. The goal here is to canvas as many potential schools as possible and demonstrate the opportunities here at HCC.

Program Growth Plan
Strength : The potential growth for the Electronics program looks very optimistic.

*The potential for growth is based on a broader base of employers that have been over looked.
* The UH Manoa element gives optimism for students transferring to that institution.
* The description of the strength seems comingled with the evaluation and there are no data elements for reference,

for employment market forecasts for Hawaiʻi Island.

*The lack of recruiting has taking its toll on the program and is being rectified.

*Expansion of recruiting area needs to be considered such as Oahu and Maui

*A realignment of the ILO,PLO, and CLO is in process to update the needed update of newer technologies.

*An effort to recruit starting from the middle school has been suggested by other instructors who have

had great success.

*STEM camps and projects will aid in generating interest in our program.

*Building a broad based advisory board is very important to the success of our students. The goal is to

include utility, county, state, and local employer representatives.

*Updating the current tech based curriculum is significant. Currently it is about 30 years behind.

Part IV. Resource Implications

Please provide a brief statement about any implications of current operating resources for the Program.
Budget asks are included in the 3-year Comprehensive Review, except for the following that may be included here: health and safety needs, emergency needs, and/or necessary needs to become compliant with Federal/State laws/regulations. Describe the needed item(s) in detail, including cost(s) and timeline(s). Explain how the item(s) aligns with one or more of the Strategic Initiatives of the Hawaiʻi Community College 2015-2021 Strategic Plan. Identify and discuss how the item(s) aligns with the Initiative's Goal, Action Strategy, and Tactic.
. HAWCC Strategic Plan

The Electronics Technology program, in alignment with HawCC's mission, accepts students from all segments of our Hawaiʻi Island community. Without bias or prejudice, each student is expected to think critically and solve problems logically and methodically. In the process of thinking critically and solving problems, students are constantly evaluating themselves and their abilities and always striving for excellence.

Health and Safety:
1. Health and Safety:

The facility's existing square footage does not provide for an efficient working space for students, especially in the non-air-conditioned lab. During lab, the jalousies and the bay door are opened fully for maximum ventilation to dilute solder fumes from vehicles passing by the shop. The electronics lab has components that breakdown due to high humidity and extreme temperatures.

2.

 The classroom does not have enough desk space to accommodate the maximum number of students. Currently, we are able to seat 8 students comfortably and 10 when we use a folding table. The maximum enrollment for the program is 10 students at best. The best way to mitigate this classroom space issue is to reduce the computer lab area. The lab area uses desktop computers which require more space than necessary.

3.

The addition of an industrial control lab. I believe the Perkins grant is a possibility.

These items as listed will provide an environment that promotes concentration on the labs and not how bad it smells or how hot it is in the area. We need to convert more area to expand beyond 10 students. The industrial lab would open up more opportunities for more industries in the local area.

Part V. Comprehensive Review Information

Please provide a short summary 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.

Two major goals were 1) Acquire proper equipment and work stations so students may run labs without having to deal with faulty test equipment. 2) Modify program so that it is relevant to community needs.

The most significant achievement has been finding a full time instructor. The lab tables have been updated as much as the budget could afford. The Learning Objectives are being addressed and augmented. The ILO's, CLO's , and PLO's all are being realigned.

Required for ARPD Web Submission: Provide the URL to the specific location of this Unit's last Comprehensive Review on the HawCC Program/Unit Review website (see link on page 1):

http://www.hawaii.edu/offices/cc/arpd/instructional.php?year=2014&action=quantitativeindicators&college=HAW

Part VI. Program Student Learning Outcomes

For all parts of this section, please provide information based on the PLOs (P-SLOs) that were assessed through PLO-aligned course assessments in AY 2014-15.

All LO's are being reassessed and near completion for approval. The most common denominator is updating the curriculum.

A) Evidence of Industry Validation (CTE Programs)

[General Pre-Professional Programs can skip industry validation.]

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).

Electronics (ETRO) Program
Advisory Council Meeting
Feb 19, 2015
Meeting began at 4pm

Present: Joel Tanabe, Divison Chair for Applied Technical Education Division,
Bernard "Chip" Michels III, Kent Tsutsui, Chester Lowry, Jason Santos.
Recorder: Karen Crowell (CTE Counselor).

I. Intro
Chip worked in industry as a Journeyman Electronics Tech, he worked for Gemini,
was an Electrician for residential sites and is now working in electronics again. He is
a lecturer at Hawaii CC and also works for the Water Dept.
Kent has been working on telescopes for a long time including Gemini, as well as
working as an instructor for Hawaii CC approx. 10 years ago and is now working for
the County of Hawaii in the Traffic department.
Chester is an ETRO lecturer.
Jason teaches CISCO as a lecturer as well as working as a Database Administrator for
Hawaii Community College.

II. ETRO Past Present and Future
Past: Basic principles of Electronics are universal although applications change over
time.

Present: Basic Principles of Economics.

We are asking for help from our advisory board to evaluate the ETRO program and
discuss whether the program is viable in Hawaii Country, in the state of Hawaii and
nationally. We will be discussing what updates are necessary to improve the
program and looking at the ETRO course content and delivery.

Chip has 6 students currently taking ETRO classes who have a wide range of
academic abilities.
He recommends closer ties with the high schools to

IV. Program Sustainability.

All members agree that there is a demand for the program and further discussion will be undertaken to problem solve and make recommendations and suggest improvements.

The council members will look at the curriculum and course descriptions and give feedback to Joel Tanabe via email.

Math 100 was determined to be appropriate for the associate degree and the prerequisites for the program are seen to be appropriate.

The process for developing an advisory council is formal and is for a two year period. The council is a sounding board for the program and is very important.

The meeting was adjourned at 6pm.

Meeting minutes respectfully submitted by Karen Crowell

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Chip has 6 students currently taking ETRO classes who have a wide range of academic abilities.
He recommends closer ties with the high schools to outreach to robotics clubs and make the ETRO program more widely known in the community.

Ill . Local Industry Needs vs ETRO Instructions.

County hiring is very limited at this time.
The astronomy community would have options to hire once funding is available. Waste water, utilities, traffic. biofuel, hotels industries have possibilities for employment.
Much of the electronics field is now interfacing with computer technology.

Future: Chester recommended 1ess focus on basic circuits and more on computer systems. Also more applied elements.

W. **Program Sustainability.**

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B) Expected Level of Achievement

For each Course assessed in AY 2014-15: Discuss the rubric(s) standards and the benchmark goal(s) for student success (e.g., "85% of students will achieve Excellent or Good ratings in the assessed activity" or "90% of students will score Meets or Exceeds Standards on the assessment rubric").

This year's level of achievement should be very high. I have only 2 students and both are meeting my expectations of 90%+ success.

C) Courses Assessed

List all Program Courses assessed during AY 2014-15. Also list Program Courses for which a follow-up "Closing the Loop" assessment was implemented in AY 2014-15.

Assessed Course Alpha, No., & Title	Semester assessed	PLO-aligned CLOs that were assessed
There were no courses assessed in the2014-2015.		
During that time there was no instructor.		
"Closing the Loop" Assessments Alpha, No., & Title	**Semester assessed**	**PLO-aligned CLOs that were assessed**

D) Assessment Strategy/Instrument

For each Course assessed in AY 2014-15, provide a brief description of the assessment strategy, including the type of student work or activity assessed how and when the assessment was conducted, how and why assessed artefacts were selected, and how the artefacts were analyzed.

None were completed due to lack of instructor. There will be multiple artifacts developed to make future assessment possible.

E) Results of Program Assessment

For each Course assessed in AY 2014-15, provide a summative description of the assessment results. Discuss how these results collectively demonstrate achievement of the Program's Learning Outcomes and support the College's Mission.

None were completed due to lack of instructor.

F) Other Comments

Include any additional information that will help clarify the assessment results. Include comparisons to any applicable College or Program standards, or to any national standards from industry, professional organizations, or accrediting associations. Include, if relevant, a summary of student survey results, CCSSE, e-CAFE, graduate-leaver surveys, special studies, or other assessment instruments used.

G) Next Steps

Based on the Program's overall AY 2014-15 assessment results, describe the Program's intended next steps to enhance instruction in order to improve student learning. Instructional changes may include, for example, revision to curriculum, teaching methods, learning outcome statements, student support, and other options. Please note here if proposed changes will involve Program and/or Course modifications requiring approval.

Although there has been no assessments a significant amount of work has already been done on the updating the core curriculum and realignment of the learning objectives. Working on funding will have to become a priority to enable a successful program. An assessment plan will need to be discussed with the assessment coordinator to present a meaning understanding of the process and expectations. This is planned to happen in Spring 2016.

Part VII. Cost Per SSH

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

General Funds   = $_____
Federal Funds   = $_____
Other Funds   = $_____
Tuition and Fees   = $_____

Part VIII. External Data

If your program utilizes external licensures, enter:

Number sitting for an exam   _____
Number passed   _____

[If your program does not utilize external licensures, skip Part IX.]