HAWAII COMMUNITY COLLEGE PROGRAM REVIEW REPORT

Electronics Technology

March 2, 2015

July 1, 2013 to June 30, 2014

Initiator: Joel Tanabe
Writer(s): Melanie Higa

Program/Unit Review at Hawaii Community College is a shared governance responsibility related to strategic planning and quality assurance. It is an important planning tool for the college budget process. Achievement of Program/Unit Outcomes is embedded in this ongoing systematic assessment. Reviewed by a college-wide process, the Program/Unit Reviews are available to the college and community at large to enhance communication and public accountability.

Program Review Outline

Cover Sheet

Outline Page

Program Description

3YR Review Report Summary

CERC Comments and Feedback

Part I: Quantitative/Qualitative Indicators

    A. Annual Report of Program Data (ARPD) Data Grid

    B. ARPD Data Analysis

    C. Trends & Other Factors

Part II: Analysis of the Program

    A. Alignment with Institutional Mission & Learning Outcomes (ILOs)

    B. Program Mission

    C. Strengths & Weaknesses

Part III: Course/Program Assessment

    A. Course(s) Assessed

    B. Expected Level of Achievement

    C. Assessment Strateg(y/ies) & Instrument(s)

    D. Results of Program Assessment

    E. Next Steps

    F. Evidence of Industry Validation for CTE Programs

Part IV: Action Plan

    A. 20% Course Review

    B. Previous Goals (Programs Actions) & Planning

    C. New Goals (Action Strategies) and Alignment

Part V: Resource Implications

    A. Cost Item 1

    B. Cost Item 2

    C. Cost Item 3

Part VI: Justification for Program Existence

Program Description

(Official Description from Catalog - then provide more in depth explanation of what this program does, who it serves and generally describe its accomplishments)

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.

3yr Review Report Summary – <mark>*If this Program is scheduled for Comprehensive Review, this section must be more robust and detailed*</mark> *explaining changes made to the program in the past 3 years; funding received since last 3 years and results from funding, etc.*

Added Math 100 and English 100 to curriculum

CERC Comments and Feedback --

CERC Comments as listed in most recent Comprehensive Review.

Part II. Analysis of the Program
A. Program Effectiveness

Table 1: Description and Alignment with Mission and ILOs
Recommendations/Comments:
o The program description included in the CERC Program Review is the description in the Hawaiʻi Community College catalog. This speaks to consistency. ET supports the institution's ILO of community as it "accepts all students from all segments of our Hawaiʻi Island community that meet the program's entry requirements…" The students learn to design solutions to problems and to methodically troubleshoot circuits and other electronic equipment. This aligns with the critical thinking element in ILO 2. These points were not clearly noted in the review, but implied.
o It is recommended that the writer state more explicitly the way the program aligns with the institution's ILOs and denote to which ILO it is aligned.

Table 2: Previous Goals
Overall Recommendations/Comments for Previous Goals:
o No previous goals were listed to evaluate. These goals need to be developed in the annual review since goals from the previous program was not used. The last comprehensive review was submitted in November 2007 with no goals listed. It is difficult to determine the quality and short term/long term planning of the program without this component.
o Leadership in this area needs to take place. It is highly recommended that a list of program goals be generated and reported in one year.

Table 3: Program Strengths and Weaknesses
Strength 1: The potential growth for the Electronics program looks very optimistic.
S1 & Evaluation of Data Elements - Recommendations/Comments:

o The potential for growth is based on a narrowly-defined project.
o The UH Manoa element gives optimism for students transferring to that institution.
o The description of the strength seems comingled with the evaluation and there are no data elements for reference, i.e., employment market forecasts (except for TMT) for Hawai'i Island.
o In the future, include data elements in statement of Strengths and Weaknesses. A definition of strength would be number of career opportunities, Hawai'i County CEDS Five -Year Report, U.S. Government jobs forecast. These elements would provide support as to why students would want to be part of this discipline.

Strength 2: The program currently has a full-time faculty instructor and a lot of support from administration.
S2 & Evaluation of Data Elements - Recommendations/Comments:
o The strength is that the technology industry is growing and the need is great, leading to optimism in the job market. This strength also folded into several challenges that include data, evaluation, and documentation of the Electronic Program goals prior to the current instructor hire. Hiring the new instructor is a strength, but it seems there was not enough data elements supplied to the instructor.
o Recommend the creation of a short-term program strategic plan, which would help in planning the future of the program.
o It may be helpful to seek extramural funds to "shore up" and "give support" to the program. A STEM grant from National Science Foundation's Tribal Colleges and Universities Program would serve two purposes: 1) Creation of a strong Electronics Technology Program and 2) Creation of a STEM (Science, Technology, Engineering and Mathematics) initiative at Hawai'i Community College.

Strength 3: In this field, it seems as if every day there's another unveiling or breakthrough being produced in this field of technology that supports the student learning.
S3 & Evaluation of Data Elements - Recommendations/Comments:
o The close partnership with the Advisory Committee and high tech astronomy community on Hawai'i Island. The support of curriculum review, job placement possibilities and equipment donation to the program demonstrates strength in this item.
o The strength is not completely clear and there is no reference to any data elements. Strength must be accompanied by evaluation and data elements for support. This element must be addressed with proper leadership.

Weakness 1: The facility's existing square footage does not provide for an efficient working space for students, especially in the non-air-conditioned lab. During the lab, the jalousies and the bay door are opened fully for maximum ventilation to dilute solder fumes and other odors but this also allows for the inducement into the lab, exhaust fumes from vehicles passing by the shop. The electronics lab has components that breakdown due to high humidity and extreme temperatures.
W1 & Evaluation of Data Elements - Recommendations/Comments:
o This is a very serious matter that needs and requires immediate attention and resolution. The article of student safety is of ultimate concern. There are no data elements provided for review. The committee's ultimate question is: "What are the current plans to remedy this situation?" Another consideration is: "What is the probable liability to the college?"
o Recommend that a plan to remedy this situation is considered. It is encouraged that this plan be reviewed by department leadership prior to Fall 2013, for the safety of faculty, students and staff.

Weakness 2: The electronics lab is not equipped with proper test equipment, fabrication tools, or laboratory benches.
W2 & Evaluation of Data Elements - Recommendations/Comments:
o There are no data elements for consideration, although the weakness is stated.
o The lack of appropriate equipment is stated in the cost items request and needs to be addressed very soon (within six months) of this review.
o Recommend that a complete inventory of tools and equipment, along with an evaluation, be submitted to appropriate leadership.

Weakness 3: The program has lost a lot of momentum during the past few years.
W3 & Evaluation of Data Elements - Recommendations/Comments:
o The weakness is listed: loss of momentum and not enough people interested.
o A plan for demand, efficiency and effectiveness would be very helpful. The plan would afford for effective strategic planning for the program.

Overall Recommendations/Comments for Strengths & Weaknesses:
o No evaluation was written for these weaknesses, causing a reduction in scoring. This section would have been more powerful to the reader if the strengths and weaknesses were summarized with titles or short statements and then

elaborated on in the evaluation section.
o Suggest devoting time to looking at data elements as these can become justification for the cost item requests.
o Gather data to evaluate pre- and post- changes since the new instructor was hired and document continual improvements in the Electronics Program through increased persistence and success of students in this program.

Table 4: Program Assessment Data
Program SLOs Assessed - Recommendations/Comments:
o Not all Program Learning Outcomes for the program are listed.
o Only two assessments are included in the report and do not reflect results for the entire five-year reporting period.
o Only one assessment includes the Expected Level of Achievement and neither includes the sections Results of Program Assessment or the Next Steps.
o By Fall of 2012, instructional programs were expected to be at the Proficiency Level and for subsequent years are required to be at the Sustainable Continuous Quality Improvement Level of Student Learning Outcome Implementation. This level includes providing evidence of how student learning outcome assessment is contributing to student learning as well as providing confirmation that the assessment process has closed the loop and developed a cycle of improvement.

Evidence of Industry Validation (CTE Programs) - Recommendation/Comments:
o No Industry Validation is indicated.
o Industry validation is so important to obtain! This is especially true with changing technology and with a program that is struggling.
o New assessments need to be made and the 6 SLOs need to be listed and linked to evidence from industry data.

Expected Level of Achievement - Recommendations/Comments:
o Unclear who is on the assessment team.
o The expected level was stated on PLO 1, but not on SLO 2.

Course(s) Assessed - Recommendations/Comments:
o ETRO 20/20L, ETRO 40/40L

Assessment Strategy/Instrument - Recommendation/Comments:
o Rubric attached.

Results of Program Assessment - Recommendations/Comments:
o No assessment results were provided.

Next Steps - Recommendations/Comments:
o Assessment should be done as soon as possible on selected ETRO courses.

Overall Recommendations/Comments for Program Assessment Data:
o Develop and/or review the program's five year assessment plan and include clear articulation of ILOs, PLOs, and CLOs alignment.
o Implement a comprehensive assessment plan that 1) authentically assesses student learning for each CLO and, 2) contributes to a comprehensive program assessment strategy for improving student learning. Through this process, work with the program's advisory committee and continue adapting the program to the community's needs to provide ongoing opportunities for graduates.

Learning Outcome Alignment Grid:
Overall Recommendations/Comments for Alignment Grid:
o The Program Outcomes and Courses Grid depicts a program where most courses contribute to most of the program's outcomes. It is not clear at which level course material is introduced, reinforced, or where students are capable of producing genuine evidence of their learning.
o To make this grid more meaningful for developing assessments and indicating student learning, the level at which each course contributes to the program outcome should be developed to assist in building an overall five year assessment strategy and annual assessment plans.
o There was no way for this committee to assess alignment due to insufficient information.
o PLOs should have been clearly identified.

Table 5: Other Considerations Affecting the Program
Recommendations/Comments for Other Considerations Affecting the Program:

o Nothing was indicated in this section.
o The program has been at a disadvantage without an instructor for the program and has been relying on the use of lecturers to run the program after the retirement of the former instructor. The new instructor is working to catch up on all of the program's needs.
o Committee recommends that the program and division leadership needs to create a strategic plan, with both short-term and long-term goals for this program. The use of the Advisory Committee and other industry shareholders would be helpful.

Part III Goals and Program Improvement
Table 6: Goals and Alignment
Goal 1: Acquire proper equipment and workbenches so students may run labs without having to deal with test equipment malfunctions.
Goal 1 Recommendations/Comments:
o No narrative is given for ILO alignment, UH Collaboration, or Innovation.
o 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 Hawai'i 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:
o No narrative is given for ILO alignment, UH Collaboration, or Innovation.
o Create a more complete narrative that explains how the goal aligns with the mission, ILOs, and UH Program counterparts.
o 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:
o No narrative is given for ILO alignment, UH Collaboration, or Innovation.
o Unclear how this goal aligns with ILO 1.
o The building of a strong advisory council team will demonstrate a stronger alignment to ILO 3.

Overall Recommendations/Comments for Goals and Alignment:
o 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.
o 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.
o 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.

Table 7: Prioritized Top 3 Cost Items- ("G" funded requests only)
Cost Item 1: Hire 1 FTE-Faculty.
Cost Item 1 - Comments:
o No alignment to Action Strategies were provided.
o There needs to be more discussion of the need to change from a two-year to a one-year cycle for the first and second year courses to promote persistence for students and efficiency of class filling and more students in the program who graduate.

Cost Item 2: Electronic workbenches.
Cost Item 2 - Comments:
o No alignment to Action Strategies were provided.
o Information and justification given earlier in the narrative.
Cost Item 3: Multisim (15 user license).
Cost Item 3 - Comments:
o No alignment to Action Strategies were provided.
o Software needs are not identified in Weakness 2.
o More information would be helpful to connect the need to a course and/or SLO as well as a weakness.

Overall Recommendations/Comments for Prioritized Top 3 Cost Items:
o No alignment with Action Strategies was provided. Define and clarify Action Strategies in order to bolster the need for

the cost items. Writer needs to state how each cost request best fits which Action Strategies in the Strategic Plan? If it does not match to any of the existing Action Strategies, a new action strategy can be recommended.

o Did not examine strengths and weaknesses, nor the data elements associated with the program. These could have been used to justify this position.

o No annual program review was attached, and it was difficult to view and understand the program's history. An annual program review is needed to create clarity of program development and strategy.

o It would be helpful for the writer of the review to go through a tutorial session. This is important for the CERC to truly understand present status, history, innovation, future implementation and assessment.

o Cost items seem to be insufficient to the success of the program. It seems that the person writing the report did not have the full information, but did a very good job of putting together and working with the information available.

o Equipment is a high priority! Student and faculty safety is imperative. Addressing the ventilation system in the laboratory is a high priority for student/faculty safety and the institution's liability. This was stated in both Weakness 1 & 2, but not prioritized as a cost item.

o **It is highly recommended that the program, in consultation and guidance with the Dean and the DC, resubmit its program review in November 2013. A stronger document would yield a higher score, which will give the priority budget items a better chance at being funded.**

Table 8: Staffing
Recommendations/Comments for Staffing:
o It will be a priority to increase the faculty to change the two-year to a one-year cycle of first and second year classes.

CERC provided recommendations intended as suggestions for improvement. Provide a brief response to the suggestions made. i.e., Were the suggestion(s) valid? What change(s) were made as a result of the suggestion(s)?, etc.

- *If no changes were made at all, write "None."*
- *If no changes were made during this review period but you plan to in future periods, write "None in 2013-2014 however changes will be made in (AYs) and will be reported in that review.*
- *If no changes were made during this review period but changes were made in previous review periods, write "None in 2013-2014; however changes were made in (AYs)."*

Part I: Quantitative/Qualitative Indicators

A. Annual Report of Program Data (ARPD) Data Grid

Look up ARPD data at:
http://www.hawaii.edu/offices/cc/arpd/instructional.php?year=2014&action=quantitativeindicators&college=HAW
Print for convenience since you will need to use information to discuss your Program's indicators.

B. ARPD Data Analysis

Based on the data from the ARPD, analyze the program's strengths and weaknesses in terms of demand, efficiency, and effectiveness.
If this Program is scheduled for Comprehensive Review, analyze program over 3 years.

Demand Health UNHEALTHY	Efficiency Health CAUTIONARY	Effectiveness Health CAUTIONARY
The Program rating of Unhealthy is due to the large number of students in the major and low number of New and Replacement Positions. This Unhealthy rating can be due to the CIP code designated for the program. The CIP code does not encompass all the new and replacement positions in the county that the students from this program are eligible to fill. Instead, the CIP code narrows the prospective jobs down to a single field which results in a low number for the new and replacement (county prorated) field. The Electronic Technology student at HawCC is trained to fill many types of technician positions such as service technician, entry-level information technologist, communication technician… etc. It is difficult to find one CIP code that is indicative of the programs job prospects especially in the Hilo County. The field is very broad and could fall under many CIP codes.	The program is given a Fill Rate of 42% which is an unhealthy level and the Majors to FTE BOR Appointed Faculty are 13 which is a cautionary level. The average of the two numbers put the program at a cautionary level. The low fill rate is due to the student enrollment being less than the maximum enrollment. Previous to the fall of 2012 the program had stopped taking new enrollment and started up again last fall 2012. In that first semester, the program enrollment was at 5 full-time students. In the fall of 2013 the enrollment increased by 4 for a total of 9 full-time students. The enrollment grew 80% in 1 year. If the upward trend continues, the fill rate level should become higher. The Majors to FTE BOR Appointed Faculty is a cautionary level but should also increase in to the upper end of the cautionary level as the enrollment numbers increase.	The effectiveness indicators are based upon the average category health score of two fields, the persistence from fall to spring and unduplicated degrees/certificates awarded. The persistence from fall spring was given a healthy rating with a 72.7% persistence rate. The program was given an unhealthy rating for unduplicated degrees/certificates awarded with a score of 5. The effectiveness indicator is the average of the two fields which resulted in a cautionary health indicator. The unhealthy rating is again dependent on the new and replacement positions for the county which is low due to the CIP code designated for the program. As mentioned previously, the CIP code does not encompass all the new and replacement positions in the county that the students from this program are eligible to fill.

Overall Health
CAUTIONARY

Distance Education: Completely Online Classes -- *List and provide an analysis of courses taught completely online. (i.e., compare success to face-to-face; action strategies implemented to increase success and completion rates, e.g., working with ITSO on strategies)*

The program does not offer distance education courses.

Perkins IV Core Indicators -- *Identify core indicators (1P1, 2P1, 3P1, 4P1, 5P1, 5P2) that were **not** met and specify action strategies.*

The program did not meet 2P1 and 3P1 Perkins Indicator. Electronics Technology is one of the more math rigorous programs. The first year is very math intensive and requires a high-level of critical thinking and problem-solving skills. Students that are not at the proper math level when they enter the program will struggle. Many of them end up dropping out after the first year. The current action is to raise the math level. This is the first year that students are required to test into math 100 or higher. In previous years, students were only required to test into math 66. With this new math requirement, incoming students will have the math background to successfully complete the degree program. This should help increase the number of students pursue their degree/credentials/certificate and student retention. Nontraditional participation (5P1) was below the performance goal. Our actual 5P1 indicator was 1.6% off the goal. We are currently looking into recruiting women into the field through a program called Women Tech Educators.

2P1   Electronics Technology is one of the more math rigorous programs. The first year is very math intensive and requires a high-level of critical thinking and problem-solving skills. Students that are not at the proper math level when they enter the program will struggle. Many of them end up dropping out after the first year. The current action is to raise the math level. This is the first year that students are required to test into math 100 or higher. In previous years, students were only required to test into math 66. With this new math requirement, incoming students will have the math background to successfully complete the degree program.
The activity is currently taking place.

3P1   Electronics Technology is one of the more math rigorous programs. The first year is very math intensive and requires a high-level of critical thinking and problem-solving skills. Students that are not at the proper math level when they enter the program will struggle. Many of them end up dropping out after the first year. The current action is to raise the math level. This is the first year that students are required to test into math 100 or higher. In previous years, students were only required to test into math 66. With this new math requirement, incoming students will have the math background to successfully complete the degree program.
The activity is currently taking place

5P1   The nontraditional participation is 1.6% off the goal. We are currently looking into recruiting women into the field through a program called Women Tech Educators.
There is no exact date set at this time

Performance Funding (**Graduation, Native Hawaiian, STEM, Transfer, Degree**) **--** *Describe how your program contributed to performance funding in these areas? If not, why and how do you plan to contribute in the future?*

C. Trends & Other Factors --
Describe trends including comparisons to any applicable standards, such as college, program, or national standards from accrediting associations, etc. Include, if relevant, a summary of Satisfaction Survey Results, special studies and/or instruments used, e.g., CCSSE, etc. Describe any external factors affecting this program or additional program changes not included elsewhere.

Describe trends including comparisons to any applicable standards, such as college, program, or national standards from accrediting associations, etc. Include, if relevant, a summary of Satisfaction Survey Results, special studies and/or instruments used, e.g., CCSSE, etc. Describe any external factors affecting this program or additional program changes not included elsewhere.

Nothing to report at this time.

Part II: Analysis of the Program

A. Alignment with Institutional Mission & Learning Outcomes (ILOs)

1) College Mission Alignment

> *Hawai`i Community College (HawCC) promotes student learning by embracing our unique Hawai`i Island culture and inspiring growth in the spirit of "E `Imi Pono." Aligned with the UH Community Colleges system's mission, we are committed to serving all segments of our Hawai`i Island community.*

Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports the College's Mission. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports.

> *Example: The SUBS program's faculty and staff fosters excellence in education, workforce development, academic advising and co-curricular activities that focus on engaging, challenging and transforming students to strive for academic excellence, personal growth, contributing members of the Hawai`i Island Community.*

2) ILO Alignment

a) ILO1: *Our graduates will be able to communicate effectively in a variety of situations.*

Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports this ILO. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports. If Program doesn't support this ILO, write "No alignment to ILO1"

> *Example: The SUBS program's curriculum prepares our graduates to communicate effectively by requiring the students to participate in: 1) small and large group discussions, both online and face-to-face; 2) individual and group presentations; 3) role play of interviewing and counseling skills; 3) fieldwork at practicum sites; 4) service learning activities on campus and in the greater community.*

> *Last Modified on: 10-14-2013*
> The program requires students to learn different software and drafting techniques that are utilized as vehicles to communicate technical information. They are required to know schematic symbols of many of the common electronics components. A schematic diagram drawn by students here in Hawai'i can be read and understood by an engineer or electronic technician from Japan or Australia. It is a universal language and a means for communicating technical information.
>
> In addition, many of the labs and projects require students to work in a group. In order for their group to function properly and complete projects in a timely fashion, students must be able to effectively communicate with each other. By requiring students to change lab partners, they also learn to adapt their communication according to how their partners process information.
>
> In the electronics technology program, students develop their technical communication through schematics drawings and their interpersonal communication through group work. A graduate of the program will essentially be a well-rounded communicator.

b) ILO2: *Our graduates will be able to gather, evaluate and analyze ideas and information to use in overcoming challenges, solving problems and making decisions.*

Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports this ILO. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports. If Program doesn't support this ILO, write "No alignment to ILO2"

Last Modified on: 10-14-2013

The Electronic student learns to design solutions to problems and methodically troubleshoot circuits and other electronic equipment. The art of troubleshooting requires students to be investigative and resourceful. Students have to gather information such as the make and model of the broken equipment or how the equipment was being used when it broke. They need to know what the exact symptoms are and whether it occurs consistently or if it is an intermittent problem. Then they can use resources like the manual or the internet to gather more information. From their investigation, they must decide whether the equipment is worth fixing or not. If the cost of fixing the equipment is more than purchasing new equipment, then the decision is easy but many times the solution is not obvious and more information and investigation must occur. In trying to fix equipment, students are constantly developing their problem solving skills and decision making skills through hands-on work. Electronics Technology is a very analytical field and this is one of many examples of students overcoming challenges, solving problems and making decisions.

---

c) ILO3: *Our graduates will develop the knowledge, skills and values to make contributions to our community in a manner that respects diversity and Hawaiian culture.*

Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports this ILO. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports. If Program doesn't support this ILO, write "No alignment to ILO3"

Last Modified on: 10-14-2013

In the program, students come from different backgrounds and cultures. Through team projects and taking courses together, many of the students form close bonds to each other. The students often share with each other their cultural backgrounds, through stories they tell each other, food they bring and share or even the way they speak. There is always a few students
Although many of the students come from very diverse backgrounds, they all tend to pull together as one unit when the rigors of school work start to bog them down.

B. Program Mission – *Write Official Program Mission*

The Electronics Technology program, in alignment with HawCC's mission, accepts students from all segments of our Hawai'i 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.

C. Strengths and Weaknesses

1) Strengths (Top 3 defined)

State Strength	Using supporting evidence, describe why this is a strength
Example: *Program Curriculum*	*Example:* *1) Approved by the State Department of Health as meeting the addictions requirements for Certified Substance Abuse Counseling, and Certified Prevention Specialist educational requirements.*

	2) STEM Courses - SUBS 132, 268, 270 *3) Contains sufficient SUBS core requirement courses to develop an AA Degree in SUBS* *4) Indigenous course - SUBS 141 Ho`oponopono*
S1. Optimistic job market	The 2010 Comprehensive Economic Development Strategy (CEDS) states that one of the strengths of the science and technology field in Hawai'i is that Numerous technology companies have recently been established including and not limited to Liquid Robotics, Inc. (Wave Glider CO2 and Ocean Acidification Observation Program) and Big Island Carbon (production of premium grade, granular activated carbon from macadamia nut shells). In addition the 2010 CEDS listed the entire priority projects list for science and technology from 2010-2013. Project ID number SC106 is a small business program which support science and technology businesses in Hawai'i County. Also a relevant to our program is the long-term projects SC108 and SC109. SC108 is a project to improve existing and install new infrastructure to support astronomy/observatory industry on Mauna Kea. SC109 is a project island-wider project to plan, design and implement broadband capabilities. This particular project is estimated to have a budget of $80,000,000. All of these projects is indicative of a growing industry and leads to an optimistic job market for graduates of the program whether they decide to start their own business or seek employment from private or public sector.
S2. Growing interest in STEM fields	Electronics Technology is in the category of Science Technology Engineering and Mathematics (STEM). The interest in STEM fields such as electronics technology has gained momentum over the past few years and this is exemplified in our youth with the growing interest in robotics at the local high schools. In addition, the electronics program has grown 80% since the fall 2012 to the fall 2013. Many of the students currently interested in the program either come from other trades programs or have in interest in fixing their own devices. The students that come from other trades find electronic useful because all the machines and tools they use integrate some sort of electronics in them. This makes the courses more relevant to their trade. The up and coming youth are showing much interest in STEM programs such as electronics which is a strength all fields in STEM areas.
S3. Engineering Consortium meetings	Over the past few years, there have been several Engineering consortium meetings with the 4 year colleges and the community colleges from the neighbor islands. The progress is slow but there is still talk of how we can align our programs. The consortium meetings also focus in on underrepresented students and how to gain their interest in technology fields.

2) Weaknesses (Top 3 defined)

State Weakness	Using supporting evidence, describe why this is a Weakness	Proposed solution
Example: *Lacks 2-year Degree Program*	*Example:* *Does not meet HawCC AMP Priorities (pp 5-10): Increasing Graduates in Science, Technology,*	*Example:* *Proposal being made for New AMP Action Strategies that would allow and support the*

	Engineering and Math (STEM).	*addition of a 2-yr Degree Program for SUBS.*
W1. Insufficient Ventilation	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.	
W2. Finding Qualified Instructors	The program is taking in new students every fall. It is not possible for one instructor to manage first and second year students. We rely heavily on lecturers to help teach some of the courses. The task of recruiting qualified lecturers is not a trivial task. There are very few applicants in the lecturer pool. Every semester, it is a constant struggle to find people qualified to teach courses. We have reached out to the UH campus lecturers, math department at HCC and also connecting with people in the industry. People working full-time jobs are often reluctant to lecture part-time.	
W3. Classroom is not able to accommodate the maximum enrollment	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. 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.	

Part III: Course/Program Assessment

A. Course(s) Assessed -- *List the course(s) (Alpha/#) assessed during this reporting period.*

Example:
Courses: SUBS 140, 245, 268
PLO#1: Satisfy the addiction studies educational requirements for Hawaii State Department of Health Alcohol and Drug Division's (ADAD) Certification:
Embedded in PLO#1 are PLO's 2, 3, 4, & 5

ETRO 122L

B. Expected Level of Achievement -- *Describe the different levels of achievement for each characteristic of the learning outcome(s) that were assessed. That represented "excellent," "good," "fair," or "poor" performance using a defined rubric and what percentages were set as goals for student success; i.e. 85% of students will achieve good or excellent in the assessed activity."*

N/A

C. Assessment Strateg(y/ies) & Instrument(s) -- *Describe what, why, where, when, and from whom assessment artifacts were collected.*

Example:
SAMPLING: College records for seven (all) 2009 program graduates

Assessment of SLO 1 was done through testing. An example of the test question is provided below:

Circuit Design (10pts)

Note: Specification sheet shown in problem could not be imported to this document.

You are asked to design a simple series LED circuit. The specification sheet for the LED is shown above. In order for the LED to run at its most optimal conditions, we want it to run in forward voltage. We will be using a 9V battery as the power source. Draw the schematic design of the circuit with all components properly labeled with values. Show all your work for partial credit.

Assessment of SLO 2 was administered through a team assignment. Their assignment was to develop a bicycle light that automatically turns on at night. The students turned in a final report as well as a final product. The project is also an assessment of SLO 1 because the assignment involved a photoresistor and an LED which are both optoelectronic devices.

Strategy/Instrument 4:

D. Results of Course Assessment - *Provide a summary of assessment results.*

Example:
RESULTS: 86% (6/7) program graduates met or exceeded expectations: completed SUBS 140,245, 268 with a "C" grade or better. 1/7 students received an incomplete grade.

Results of SLO 1 are shown below
_____

	Student 1	Student 2	Student 3	Student 4	Student 5	TOTALS
RAW SCORE	9.00	8.00	7.50	6.50	7.00	7.60
PERCENTAGE	90.00%	80.00%	75.00%	65.00%	70.00%	76.00%

Results of SLO 2 were assessed using a rubric. The students all assessed their teammates and that score was averaged into the instructor assessment of the team. The average grade was 85%. The Rubric can be provided upon request.

For SLO 1 were slightly below our goal of 85% and for SLO 2 we just met our goal.

Changes Implemented as a result of Assessment	**Evaluation of the changes that were implemented**
Change 1:	*Evaluation of Change 1:*
Change 2:	*Evaluation of Change 2:*

E. Next Steps -- *Based on your experience with Assessment so far, what do you plan to do in the future? Include any changes that are planned for the Program as a result of course assessments. For example, changes to rubrics, changes to level of expectation, any Program and/or curriculum modifications, etc.*

The program will work on developing students ability to properly read specification sheets and interpret what their reading. This is where most of the students had trouble. They may have had the ability to answer the question but they did not possess the ability to interpret the specification sheet.
The teamwork skills met our goals but this may not be the case for larger classes. Our data is based on 5 students which is not a very large sample set. New data drawn from larger classes may result in lower percentages. We will re-assess this SLO within the next five years.

F. Evidence of Industry Validation for CTE Programs -- *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, the recommendations for, approval of, and/or participation in, assessment by the program's advisory council can be submitted. Describe the documentation; i.e. 9/27/2013 Minutes of ACC Advisory Council; Completed Rubrics by Advisory Council Members.*

N/A

Part IV Action Plan

A. 20% Course Review

a) Courses Reviewed -- *List the Course Alpha/Number and Course Title of courses that were reviewed in AY 2013-2014.*

Course Alpha Number	Course Title
ETRO 11	ELECTONICS, ASSEMBLING AND PACKAGING
ETRO 120	ELECTRONICS I
ETRO 120L	ELECTRONICS I LAB
ETRO 121	ELECTRONICS FABRICATION AND ASSEMBLY
ETRO 121L	ELECTRONICS FAB AND ASSEMB LAB
ETRO 122	ELECTRONICS II
ETRO 122L	ELECTRONICS II LAB
ETRO 143	DIGITAL ELECTRONICS
ETRO 143L	DIGITAL ELECTRONICS LAB
ETRO 160	LASER SAFETY AND APPLICATIONS
ETRO 161	INTRODUCTION TO OPTICS AND PHOTONICS
ETRO 166	INTRODUCTION TO FIBER OPTICS
ETRO 257	RF COMMUNICATIONS
ETRO 280	MICROPROCESS ARCHITECTURE, PROGRAMMING, AND INTERFACING
ETRO 287	COMPUTER SYSTEMS & NETWORKING
ETRO 287L	COMPUTER SYSTEMS & NETWORKING LAB

b) 20% Course Review Schedule

Input the Program's 20% Course Review Schedule for the next 5 years. If a schedule cannot be located, refer to HAW 5.250 Course Review Policy (http://hawaii.hawaii.edu/ovcadmin/admin-manual/haw5-250.pdf) to create a new schedule.

Course Alpha Number	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
PROGRAM STOPPED OUT INDEFINITELY					
ETRO 11 - ELECTONICS, ASSEMBLING AND PACKAGING					
ETRO 120 - ELECTRONICS I					
ETRO 120L - ELECTRONICS I LAB					

ETRO 121 - ELECTRONICS FABRICATION AND ASSEMBLY					
ETRO 121L - ELECTRONICS FAB AND ASSEMB LAB					
ETRO 122 - ELECTRONICS II					
ETRO 122L - ELECTRONICS II LAB					
ETRO 143 - DIGITAL ELECTRONICS					
ETRO 143L - DIGITAL ELECTRONICS LAB					
ETRO 160 - LASER SAFETY AND APPLICATIONS					
ETRO 161 - INTRODUCTION TO OPTICS AND PHOTONICS					
ETRO 166 - INTRODUCTION TO FIBER OPTICS					
ETRO 257 - RF COMMUNICATIONS					
ETRO 280 - MICROPROCESS ARCHITECTURE, PROGRAMMING, AND INTERFACING					
ETRO 287 - COMPUTER SYSTEMS & NETWORKING					
ETRO 287L - COMPUTER SYSTEMS & NETWORKING LAB					

B. Previous Goals (Program Actions) & Planning

All previous goals from last year's report are used to update the program actions in the Academic Master Plan (AMP) Appendix.

- *List and discuss all program actions listed for your program in the AMP Appendix, not including crossed out items.*
  (http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf)
- *Review and specify which program actions were addressed or completed during Review Period AY 2013-2014.*
- *Give a progress report for each program action that is not yet address/completed and describe the degree to which the goal was achieved over the review period.*
- *Specify program actions that are no longer being pursued by the program and should be deleted from the AMP.*

AMP Program Actions	Progress Evaluation & Evidence of Achievement
Example: *26.1 2009-2010: Recruit and Hire New SUBS -- FTE BOR Appointed Faculty*	*Example:* *The CERC and HawCC administration approved new faculty position for program, which was submitted to UH system. However, this writer was informed that the position request got "lost" in the UH system, and therefore never forwarded to the State legislature for approval.*
Acquire proper equipment and workbenches so students may run labs without having to deal with test	Developing the Electronics Technology program required proper test equipment and workbenches. We have

equipment malfunctions	acquired enough test equipment to perform labs with up to 15 students. The workbenches are not electronics workbenches, they are workbenches from RAC they will suffice for the time being but we need to supply proper lighting for the benches.
Align program to mirror UH Maui's AS program to facilitate student transfer into UH Maui's BAS program	Delete. UHMCC has a terminal Computer technology BAS program. It is a terminal degree because the program is not an engineering accredited program.
Build a strong advisory council team that can help guide the program in a direction that will fulfill community needs	The advisory council has been updated. We now have a representative from West Hawai'i and also from HELCO and

C. New Goals (Action Strategies) and Alignment – *Describe New Goals, if any*

Define Goal (Action Strategy) 1

Example: Establish AA Degree in SUBS
Modify program so that it is relevant to community needs

Alignment of Goal 1 to ILO(s)

Explain how Goal 1 aligns with ILO(s) and provide supporting rationale
Example: Goal 1 aligns with ILO2 (Critical Thinking) by … Goal 1 aligns with ILO3 (Community contribution) by ...
ILO 1
ILO 2

Alignment of Goal 1 to Strategic Plan (SP)

http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf

Explain how Goal 1 aligns with an Action Strategy in the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale. If Goal 1 does not align with a listed strategy, explain how it aligns to a SP Performance measure. Then, propose a new action strategy in the next field.
Examples: *Goal 1 aligns with SP Action Strategy A1.1.c Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved) by ...* *Goal 1 does not align to a listed strategy, but aligns with SP Performance Measure A1.1 (Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved) by ...*
A1.1 Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved.

B1.a Use enrollment data to focus on strategic recruitment, retention, graduation and transfer

Proposed New SP Action Strategy/Strategies (if applicable) – *If Goal 1 does not align with a listed HawCC Action Strategy, indicate above how it aligns with a Performance Measure, and then use the field below to propose a new Action Strategy to be added to the HawCC Strategic Plan. New action strategies should be written in generalized terms so that other Programs and Units could also align their goals to them in the future.*

1. One of the challenging tasks of running a program such as electronics is staying up to date and keeping the program relevant to the Hawai'i Community. The program needs to focus on strategic recruitment. Student that attend trade schools are generally interested in learning a trade and then working in the field. They often inquire about the type of work available to them when they graduate. The observatories are an obvious candidate but there are also places such as AT&T, Time Warner Oceanic and various other small businesses. The new strategic plan is not a task that can be carried out in one year but it is an ongoing process. The field changes so rapidly that the survival of the program is dependent on staying up to date and relevant to the community needs. Data will have to be collected from various companies and employers to define their needs and how our students can fill that need.

Alignment of Goal 1 to Academic Master Plan (AMP)

Academic Master Plan: http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf

AMP Appendix: http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf

Indicate which Academic Master Plan (AMP) Action Priorities Goal 1 aligns with and provide supporting reasoning.						
	STEM	Graduation Remediation Workforce	Student Transfer	Underserved Populations	Green Curricula	Program Development
Example: Establishing an AA Degree in SUBS will increase the number of STEM Degree programs at HawCC and meet the Workforce push for more STEM graduates.	**X**	**X**				**X**
Modify program so that it is relevant to community needs		**X**				**X**

UH System Collaboration (if applicable)
- *Include collaboration efforts w/other campuses.*
- *Include alignment with the UHCC Initiatives http://uhcc.hawaii.edu/OVPCC/ (listed on the left of John Morton's picture).*

Example: There is dialogue among MauiCC, KauaiCC, and HawaiiCC to establish a common AA Degree in SUBS.

Calendar of planned activities for Goal 1 -- *In chronological order, briefly describe the procedures/activities planned to achieve Goal 1*

Activity	When will the activity take place
Example: *Collaborating with other CCs complete SUBS AA Degree Authorization to Plan (AtP)*	*Example:* *Fall 2015*
Meet with Advisory Council	February 13, 2014
make changes to curriculum	May 2014

Try to establish contacts from other industries (Sears repair, Time Warner Oceanic, AT&T…etc.)	on going

****

Define Goal (Action Strategy) 2

Alignment of Goal 2 to ILO(s)

Alignment of Goal 2 to Strategic Plan (SP)

http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf

Explain how Goal 2 aligns with an Action Strategy in the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale. If Goal 2 does not align with a listed strategy, explain how it aligns to a SP Performance measure. Then, propose a new action strategy in the next field.

Proposed New SP Action Strategy/Strategies (if applicable) – *If Goal 2 does not align with a listed HawCC Action Strategy, indicate above how it aligns with a Performance Measure, and then use the field below to propose a new Action Strategy to be added to the HawCC Strategic Plan. New action strategies should be written in generalized terms so that other Programs and Units could also align their goals to them in the future.*

Alignment of Goal 2 to Academic Master Plan (AMP)

Academic Master Plan: http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf
AMP Appendix: http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf

Indicate which Academic Master Plan (AMP) Action Priorities Goal 2 aligns with and provide supporting reasoning.						
	STEM	Graduation Remediation Workforce	Student Transfer	Underserved Populations	Green Curricula	Program Development

UH System Collaboration (if applicable) –   ● *Include collaboration efforts w/other campuses.*   ● *Include alignment with the UHCC Initiatives http://uhcc.hawaii.edu/OVPCC/ (listed on the left of John Morton's picture).*

Calendar of planned activities for Goal 2 -- *In chronological order, briefly describe the procedures/activities planned to achieve Goal 2*

Activity	When will the activity take place

****

Define Goal (Action Strategy) 3

Alignment of Goal 3 to ILO(s)

Alignment of Goal 3 to Strategic Plan (SP)

http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf

Explain how Goal 3 aligns with an Action Strategy in the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale. If Goal 3 does not align with a listed strategy, explain how it aligns to a SP Performance measure. Then, propose a new action strategy in the next field.

Proposed New SP Action Strategy/Strategies (if applicable) – *If Goal 3 does not align with a listed HawCC Action Strategy, indicate above how it aligns with a Performance Measure, and then use the field below to propose a new Action Strategy to be added to the HawCC Strategic Plan. New action strategies should be written in generalized terms so that other Programs and Units could also align their goals to them in the future.*

Alignment of Goal 3 to Academic Master Plan (AMP)

Indicate which Academic Master Plan (AMP) Action Priorities Goal 3 aligns with and provide supporting reasoning.						
	STEM	Graduation Remediation Workforce	Student Transfer	Underserved Populations	Green Curricula	Program Development

UH System Collaboration (if applicable) – ● *Include collaboration efforts w/other campuses.* ● *Include alignment with the UHCC Initiatives http://uhcc.hawaii.edu/OVPCC/ (listed on the left of John Morton's picture).*

Calendar of planned activities for Goal 3 - In chronological order, briefly describe the procedures/activities planned to achieve Goal 3

Activity	When will the activity take place

Part V: Resource Implications

A. Cost Item 1

Description	Type ● Personnel ● Facilities ● Equipment ● Health/Safety ● Others (Define)	Estimated Cost
Proper cooling/ventilation in the lab.	Equipment	$50k

Alignment of Cost Item 1 to Strategic Plan (SP)

Explain how Cost Item 1 aligns with the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale
Example: Cost Item 1 aligns with SP A1.1 (Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved.) by ...
A1.1 Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved. New Strategy

E1.b Incorporate R/M schedule and equipment needs into planning for West Hawaiʻi campus. Utilize funding to plan, design, & begin construction of East Hawaiʻi/Manono campus; master plan should be based on needs assessment to include but not be limited to: instruction, student, staff, facilities, technology and parking for capacity of 5,000 headcount by 2015

Alignment of Cost Item 1 to Academic Master Plan (AMP)

Explain how Cost Item 1 aligns with the Academic Master Plan (AMP) Action Priorities.
Example: Cost Item 1 aligns with Action Priority STEM because an instructor is necessary to develop the program.
AMP 14.1 Acquire proper equipment and workbenches so students may run labs without having to deal with test equipment malfunctions

Alignment of Cost Item 1 to Strength(s)

Explain how Cost Item 1 aligns with program Strength (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."
Example: No Alignment
S1. Optimistic job market

Alignment of Cost Item 1 to Weaknesses(s)

Explain how Cost Item 1 aligns with Weakness (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."

W1. Insufficient Ventilation

The laboratory space for electronics should have proper ventilation and temperature control. The electronic components need to be kept in a temperature controlled space so that they do not break down over time as quickly over time. Also, the solder stations should have better ventilation so students are not breathing in the fumes. We use lead free solder but there should still be proper ventilation.
We also need proper ventilation for solder iron fumes. 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.

****

B. Cost Item 2

Description	Type - Personnel - Facilities - Equipment - Health/Safety - Others (Define)	Estimated Cost
Laboratory benches	Equipment	$20k

Alignment of Cost Item 2 to Strategic Plan (SP)

Explain how Cost Item 2 aligns with the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale

A1.1 Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved.
New Strategy

E1.a Develop branch campus in West Hawai'i by 2015 to include 2 buildings (40,000 square feet) at Palamanui site

Alignment of Cost Item 2 to Academic Master Plan (AMP)

Explain how Cost Item 2 aligns with the Academic Master Plan (AMP) Action Priorities.

AMP 14.1 Acquire proper equipment and workbenches so students may run labs without having to deal with test equipment malfunctions

Alignment of Cost Item 2 to Strength(s)

Explain how Cost Item 2 aligns with program Strength (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."

S1. Optimistic job market

Alignment of Cost Item 2 to Weaknesses(s)

Explain how Cost Item 2 aligns with Weakness (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."

W1. Insufficient Ventilation

W3. Classroom is not able to accommodate the maximum enrollment
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. 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 then necessary.

****

C. Cost Item 3

Description	Type - Personnel - Facilities - Equipment - Health/Safety - Others (Define)	Estimated Cost
Classroom supplies: Printer, projector, projector screen, white boards, smart boards	Equipment	$5k

Alignment of Cost Item 3 to Strategic Plan (SP)

Explain how Cost Item 3 aligns with the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale
A1.1 Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved. New Strategy

E1.a Develop branch campus in West Hawai'i by 2015 to include 2 buildings (40,000 square feet) at Palamanui site

Alignment of Cost Item 3 to Academic Master Plan (AMP)

Explain how Cost Item 3 aligns with the Academic Master Plan (AMP) Action Priorities.
AMP 14.1 Acquire proper equipment and workbenches so students may run labs without having to deal with test equipment malfunctions

Alignment of Cost Item 3 to Strength(s)

Explain how Cost Item 3 aligns with program Strength (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."
S1. Optimistic job market

Alignment of Cost Item 3 to Weaknesses(s)

Explain how Cost Item 3 aligns with Weakness (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."

W1. Insufficient Ventilation

W3. Classroom is not able to accommodate the maximum enrollment

The classroom needs an equipment update. The printer in the classroom works intermittently and the TV screens used for powerpoint lessons are slowing dying. The program should replace these items before they do not work at all. With the new students cycling in every fall, equipment has more and more wear and tear.

Part VI: Justification for Program Existence

Write a brief statement describing the value of this Program to the College. Is your Program sustainable? If so, briefly state why. If not, briefly state why the College should continue to keep your Program open.
(Sources include Industry Validation, ARPD Data Validation, Trends and Other Factors.)