

HAWAII COMMUNITY COLLEGE PROGRAM REVIEW REPORT

Information Technology

March 2, 2015

July 1, 2013 to June 30, 2014

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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.

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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)

The Information Technology program is a career-laddered, competency-based program that provides training in the use and support of business-related computer systems, data communication networks (including local area networks), and the development of business computer information systems using procedural, event-driven and object-oriented programming techniques.

The program includes a combination of business, computer, and information technology courses. Campus-based computer and networking projects, faculty supervised laboratories, and workplace internships provide hands-on experience designed to prepare students for positions in computer support, programming, network administration, and/or system development in a business information technology system. The program focuses on computers and information technology as tools to solve business problems.

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

The HawCC IT Program has achieved “Healthy” status, through a sustained trend in program growth, both in numbers of majors and numbers of graduates. The program continues to have strengths in finding jobs for its graduates in the IT field, in having graduates transition to baccalaureate programs, and in maintaining rigorous standards for its STEM students.

CERC Comments and Feedback --

CERC Comments as listed in most recent Comprehensive Review.

Please use the following links.

http://hawaii.hawaii.edu/program-unit-review/docs/2010_it_comprehensive_response.pdf

http://hawaii.hawaii.edu/program-unit-review/docs/2010_it_comprehensive_summary.pdf

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).”*

None in 2013-2014. Changes were made in AY 2011-12 and AY 2012-2013.

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	Efficiency Health	Effectiveness Health
This year marks the move of the program from "cautionary" to "healthy," resulting from a long-standing trend for an increase in number of majors, number of students in classes, and SSH in all IT classes.	As in the past, the IT program is rated as "cautionary" in efficiency, but the program has continued a steady trend for increased fill rate, majors per FTE faculty, and average class size. The cost per FTE has gone up somewhat over past years, in part due to the increase in ICS 101 sections to provide computer literacy and technology skills for non-IT majors for the college.	The effectiveness of the program remains "healthy," with a continued increase in the percentage of successful completion and a large increase in the number of unduplicated degrees/certificates awarded.

Overall Health

After several years of a steady increase in student numbers, class size, degrees/certificates awarded, and percentage of students successfully completing the program, the overall health of the program has been designated as "healthy." This represents a major achievement based on years of recruitment and retention efforts, while maintaining high program quality that allows IT graduates to have great success in finding jobs in the IT field and/or continuing their education in baccalaureate programs in computer science.

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)

N/A

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

The IT Program met four of the six Perkins Indicators. The optimistic goal of 91% for 1P1, Technical Skills Attainment, was not met (actual was 83.33%); this may have been due to the small sample size from which this indicator was computed. The vast majority of students did obtain a high level of technical skills. The other indicator not met was 4P1 Student Placement. This could be the direct result of the struggling US economy in the past few years. It is projected that as the US economy regains its momentum, businesses will again begin their hiring. Another factor could be that as more and more workers reach retirement age, our students will be ready to fill the vacancies.

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?

The IT Program is a high quality program, with great success rates for its graduates in obtaining high level positions in the workforce. Students learn numerous technical skills and also learn how to perform professionally in a business environment, how to work successfully in teams, and how to learn on their own to update their skills in the rapidly advancing field of IT. Our graduates have had great success in finding good jobs after completing their degrees, and the number of new positions projected within the county suggests strong demand in the field. The Program's weaknesses have been a difficulty in recruiting large numbers of students who are prepared for the intensive nature of the program, and a difficulty in graduating majors within a 2-3 year period, particularly given the need for many students to work while doing their studies. The past few years have shown healthy growth in the program, reflecting improved recruitment. Many of the students receive employment in the IT field while working their way through school, and thus provide for themselves while gaining valuable experience. Also, the program's requirement for an internship class further provides experience for the students, and often provides connections for full time employment upon graduation.

A concern raised in the previous reviews was a need to increase our number of majors. As a result, the mathematics prerequisite of our introduction course (ICS101) was changed, from Math 25 or Math 26 or placement in Math 100 to completion of Math 24, or placement in Math 26 effective beginning in Fall 2011. There has been a steady increase in the number of majors over the past several years, with a 30.0% increase in the past two years; some of the increase may be due to the changed math requirement. Thus, a strong trend of growth in majors has occurred. In order to service more students in HawCC, the mathematics prerequisite of ICS100 was changed, from Math 50 or Math 24 or placement in Math 26 to "C" or better in Math 1ABCD or placement in Math 50 or Math 22 beginning in Fall 2011. The program has also seen a general increase in SSH over the past several years. It is projected that beginning in Fall 2015 ICS 101 will become GE designated, meeting the technology GELO, and therefore it is very likely that the IT program's SSHs will further increase. At present, ICS 101 is fully articulated with all UH system campuses with the same SLO, description and contents. Hawaii CC and the IT program participated in the ICS System Articulation in fall 2014, agreeing to facilitate the ease of transfer to courses among the campuses and thus speed up the matriculation process for our students. Starting spring 2013, Hawaii CC's ITS 121D (Alice Programming) became articulated with UHHilo's ICS 135 and ICS110. Also, HawCC's ITS 118 became articulated with ICS 110.

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.

The planned Thirty Meter Telescope to be built on Mauna Kea is likely to have positions for several graduates in the IT Program. The continued improvement in the economy is also likely to lead to more job opportunities for IT graduates. According to the IT Advisory Council (spring 2015 meeting), there will be a need for our IT graduates to fill quite a few of the positions vacated by retirement. Nationally, according to the Bureau of Labor Statistics (Jan 2014) in IT positions requiring an AS degree, median income is \$62,500 for web developers with a 20% projected growth rate (faster than average), and \$48,900 for computer support specialists with a 17% projected growth in jobs (faster than average). <http://www.bls.gov/ooh/computer-and-information-technology/home.htm>

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.

College's mission:

Hawai`i Community College (Hawai`iCC) 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.

The IT program directly supports these college imperatives: workforce development, community development, cultural competency, environment, healthy communities, and technology. The program provides students with the skills necessary for success in the business environment, the ability to work with others and to use teamwork in achieving workplace and community goals. The IT program focuses on teaching technological skills, enabling students to find jobs and advance the general ability level of the Hawaii workforce to handle the ever-changing environment caused by technological advances.

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.

ILO 1: Our graduates will be able to communicate effectively in a variety of situations.

Describe how the Program supports ILO1:

Productivity: Work independently and cooperatively to deliver reports, programs, projects, and other deliverables that document a business organization's information technology requirements.

All courses in the IT Program require students to communicate both verbally and in writing, including explaining the reasoning behind programming, using computer software as tools to communicate ideas both in English and computer languages, and communicating with team members in doing group projects.

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"

ILO 2: Our graduates will be able to gather, evaluate and analyze ideas and information to use in overcoming challenges, solving problems and making decisions.

Describe how this Program supports ILO 2:

Information Systems: Plan, develop, and implement the hardware, software, and procedural components of a data processing system in a business environment.

Networking: Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment.

Programming: Plan, develop, implement, and document computer programs that meet the data processing requirements of a business organization.

Legal/Ethical/Professional: Base decisions and actions on the legal, ethical, and professional guidelines and practices of the information technology field.

Explore: Demonstrate the ability to search, analyze, and synthesize current information and solutions in the rapidly changing information technology profession.

IT graduates have all demonstrated the ability to gather information needed to solve problems faced in the computer industry, and they apply the information to real life concerns. Examples include diagnosing and fixing computer problems faced by clients, evaluating alternate solutions to difficulties and choosing one that is appropriate to the circumstances, and deciding what software to use to meet specific requirements of their clients.

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"

ILO 3: Our graduates will develop the knowledge, skills and values to make contributions to our community in a manner that respects diversity and Hawaiian culture.

Describe how this Program supports ILO 3:

IT graduates have learned skills and knowledge that permit them to contribute to the ability of all

members of our community to utilize the ever-changing technology that has become such a major part of modern lives. IT technology has, for instance, been used to promote Hawaiian language education, and making such education widely available. Our graduates all receive instruction in the ethical concerns of our field, including providing clients with high quality work while maintaining their confidentiality and treating them with honesty and fairness.

B. Program Mission – Write Official Program Mission

Program Mission:
 The Information Technology (IT) Program’s Mission is to assist students to learn and develop skills, competencies, and values required by employers that are necessary to become contributing members of a technological society.

C. Strengths and Weaknesses

1) Strengths (Top 3 defined)

State Strength	Using supporting evidence, describe why this is a strength
<p><i>Example:</i> Program Curriculum</p>	<p><i>Example:</i> 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</p>
<p>S1. High success rate of graduates in workforce.</p>	<p>Our graduates continue to thrive in their IT positions and provide invaluable services to their employers. Most of them are staying with their company and/or have moved to a higher position in another organization as reported in last year’s report. These include the IT Manager of Cellana, LLC of Kona, Hawaii (who has moved to be the IT Coodinator for Parker School in Waimea). Specialist in charge of the network and computer systems for the County of Hawaii, and IT employee at the Imiloa Observatory, Hospice of Hilo, Hawaii Electric Light Company, KTA Superstores, and Development Director of Aha Punana Leo to name a few. These graduates are involved in government, private industry, and in community groups including those dedicated to education of Native Hawaiians. The four students in the past two years who have gone on to four year programs, are continuing their pursuit of the Computer Science degree. One graduate is enrolled in the College of Engineering at UH-Manoa. A program graduate has graduated from Hawaii Pacific University majoring in Computer Information Systems and returned to Hilo being offered an IT Specialist position in the UH-Hilo School of Pharmacy (s2015). Other recent updates: The IT graduate (Kirk W.Y – May 2010) who enrolled in Portland Community College majoring in Network Security and Administration while obtaining certificates in Networking and Unix Systems completed his second AS degree and 6 other IT security and IT</p>

	<p>forensic certificates . He is now promoted from a Network Specialist in the US Bank to a Information Security Specialist and will be graduating with a CS degree in Computer Forensics and Digital Investigations from Champlain College in May 2015. He expressed that he would like to return to Hilo and open his own consulting business while working for US Bank. Another graduate from the IT AS degree (John E. - May 2011) transferred to UH-Hilo in August 2012, and will be graduating May 2015 with a computer science degree. Meanwhile, he is being pursued by a recruiter from the mainland for a big data company. He is trying to negotiate with this company to be stationed in Hilo while working for them. The accomplishments of these students fit the ultimate goal of our college which is to train local students to fill high tech positions while staying in Hilo. This is one way of bringing high tech to Hilo.</p>
<p>S2. Great satisfaction with student interns by local businesses.</p>	<p>Feedback from supervisors of students in ITS 293 who serve as interns in local businesses has been very laudatory. Also, many of the students have received full time job offers from their internship positions. On January 22, 2014 the program received an email from Jack Little of Keonepoko High School titled "looking for another graduate of your program". In May 2013 ,Mr. Little retained and converted Kamalani K.'s position to a full time permanent position. *Attached are the supervisors' reviews of the IT interns from the IT program capstone course (ITS 293) in spring 2014 showing their satisfaction with their job performance. In May 2014, Christopher J.'s position with Gemini Observatory was converted to full time. In the spring of 2014, the County of Hawaii contacted our program to provide them with immediate help for the upgrading of their computer system. Don Jacobs (COH IT Coordinator) said that the COH will take any students that we trained. This shows the high level of confident and satisfaction of our program. In the summer of 2014, the COH hired 5 of our students for their projects and as of today, four students returned to their studies and one is continuing on. Meanwhile, Donald N. a May 2013 graduate successfully worked his way up the COH from working there as an IT intern (spring 2013) to a paid IT tech contractor to a permanent, full time Information Systems Analysts I in April 2014.</p>
<p>S3. Provides critical computer skills classes for HawCC and the community.</p>	<p>The IT Program offers a broad array of classes in computer software usage, programming, computer maintenance, web page design. ICS 101 should be GE designated in Technology Competency in F2015, allowing more non-majors to be served by the program.</p>

2) Weaknesses (Top 3 defined)

State Weakness	Using supporting evidence, describe why this is a Weakness	Proposed solution
<p><i>Example: Lacks 2-year Degree Program</i></p>	<p><i>Example: Does not meet HawCC AMP Priorities (pp 5-10): Increasing Graduates in Science, Technology, Engineering and Math (STEM).</i></p>	<p><i>Example: Proposal being made for New AMP Action Strategies that would allow and support the addition of a 2-yr Degree Program for SUBS.</i></p>

<p>W1. Low, but rising, graduation numbers. As noted above, there has been a steady increase in the number of majors in the IT Program over the past several years.</p>	<p>Incoming students are often not prepared for the intensive nature of the program, thus the difficulty in graduating majors within a 2-3 year period, particularly given the need for many students to work while doing their duties.</p>	<p>Graduation numbers have increased in recent years, given great retention efforts and the institution of certificate programs which allow students without the opportunity to complete an AS degree to obtain certification for IT coursework.</p>
<p>W2. Relatively small class sizes for some courses.</p>	<p>There are still some classes with somewhat low enrollment, although the increased number of majors and general trend for increased enrollment in IT courses from non-majors has reduced the number of these low enrolled classes. There is some limitation based on the number of computers available for student use in the classrooms used by the IT Program.</p>	<p>Continued efforts in recruitment and retention are likely to continue the steady increase in average class size. Faculty will continue to attend the annual Credit-By-Articulation meeting with the various local high schools to provide a smoother pathway for the high school students to enroll in the IT program. Faculty will continue to participate in the HawCC Open House event to promote the IT program and in any HawCC organized promotion program. Faculty will continue to monitor students' retention rate for each course and will participate in the early alert system for students.</p>
<p>W3. Lack of sufficient number of faculty to appropriately cover all of the program's courses.</p>	<p>A full time faculty is 27 credits for a school year. That leaves 15 credits unaccounted for. With 45.5 majors, we are not able to sustain the program with only one full time faculty. Also, the steadily increasing SSHs provided by the IT Program have led to an increasing difficulty in staffing needed courses. The continued growth of the program only makes the challenge of meeting student needs greater.</p>	<p>Continual efforts will be made to request an additional full-time member of the IT Program, replacing the faculty member who retired over five years ago. As part of the C3T4 community college consortium, the IT program is planning on massaging the IT curriculum to create pathways for the IT students to obtain a Cybersecurity certificate and/or degree. One of the goals is to prepare our students to continue their IT course work on the other campuses. Long term goal for them will be a Bachelor's degree, and the short term goal will be to complete the cyber security certificates through the other Hawaii campus. With only one faculty member who has to take care of 45.5 majors and all aspects of the program, the one full time faculty is close to the breaking point.</p>

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

Courses:

ITS 151 Applied Database Programming in an Object Oriented Environment

PLO #3: Plan, develop, implement, and document computer programs that meet the data processing requirements of a business organization.

ITS 104 Computer Hardware Support

PLO #4: Work independently and cooperatively to deliver reports, programs, projects, and other deliverables that document a business organization's information technology requirements.

Please refer to the Improvement Strategies and Recommendations Report (Closing the Loop) submitted for AY 2013-2014 and PLO 3 and 4 ITS 151 and ITS 104 2nd cycle report #2 2013-2014

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."

Evaluators were given an evaluation sheet with three scales: Exceeds Expectations (Level 3), Meets Expectations (Level 2), and Does not Meet Expectations (Level 1). There were four characteristics, namely: "Specifications," Design, "Readability," and "Documentation." In ITS 151. ITS 104 had three graded characteristics namely: "Specifications," "Readability," and Documentation."

The data presented here cover both first year and second year students from two different courses one in the programming sequence and one in computer hardware support, and thus are an adequate sampling of the IT program's student body. We had raised our goal for having met or exceeded expectations on evaluations from 80% to 85% in the 2012-2013 assessment. In fact, we surpassed our goal with 96.25% of evaluations having met or exceeded expectations. The data suggest that the program is meeting its goals of learning outcomes.

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

Strategy/Instrument 2: Selected assignments – one from each 1/ 2 of the semester were collected from the students enrolled in ITS 151 "Database Programming in an Object Oriented Environment" and ITS 104 "Computer Hardware Support"

Strategy/Instrument 3: Evaluators were given three assignments randomly selected from each course for evaluation. Each evaluator received a packet of twelve random assignments each.

Strategy/Instrument 4: Two student assignments from each course, one from early in the semester and one from late in the semester, were distributed randomly to the five evaluators

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.

The data presented here cover both first year and second year students from two different courses one in the programming sequence and one in computer hardware support, and thus are an adequate sampling of the IT program's student body. We had raised our goal for having met or exceeded expectations on evaluations from 80% to 85% in the 2012-2013 assessment. In fact, we surpassed our goal with 96.25% of evaluations having met or exceeded expectations. The data suggest that the program is meeting its goals of learning outcomes.

Changes Implemented as a result of Assessment	Evaluation of the changes that were implemented
<p><i>Change 1:</i></p> <p>The program will attempt to improve the percentage of students receiving scores of “exceeding expectations” (level 1) in the second half of the year to higher than 19% in ITS 151 and above 26% in ITS 104.</p> <p>For ITS 151: Better student preparation is needed. We will need to reexamine ITS 103 and ITS 118 (the prerequisites to this course). We also need to help students to improve their writing skills.</p> <p>ITS 104: There is a big disparity among students’ computer background. We will need to reexamine our group work strategies so that students with higher computer skills can mentor and help out students with less skills.</p>	<p><i>Evaluation of Change 1:</i></p> <p>ITS 151 and ITS 104 are offered once a year. We will wait till the courses are offered again to test our new strategies.</p>
<p><i>Change 2:</i></p>	<p><i>Evaluation of Change 2:</i></p>

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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.*

For each course, the assignments were generally more difficult in the second half of the semester, but the students had developed during the course, so the relatively similar results from early to late in the semester were expected. It is of importance that the students in ITS 151 were evaluated higher than those in ITS 104, thus showing professional improvement over two semesters in the IT Program. The evaluations showed a normal mix of students in each course with some students needing more help and some with excellent understanding of the course work.

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.*

Please refer to the attached IT Advisory Meeting Report April 2014.

To quote from the report... "Again, committee members stressed that other important outcomes desired for the students include: teamwork, resourcefulness, ability to find information on their own, ability to learn how to learn, communication skills and problem solving skills. It was determined that our program contributes to the building of these skills and outcomes.

The committee concurred with our program learning outcomes and again emphasized the importance of our program to provide competent, quality workers who are problem solvers and are able to follow instructions. They are very happy with the program."

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
ICS 100	Computing Literacy and Applications
ITS 121	Computing Topics
ITS 118	Visual Programming for Business Applications

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
Please note that all IT courses were reviewed and submitted via BEaT division chair (signed June 2012). The IT program will conduct a thorough review of all IT courses in a five year cycle. However, individual course will be updated whenever it is deemed necessary. The IT program reviews and/or updates its two topics courses (ITS 121 and ITS 221) every other year in order to keep the program up-to-date.					

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
<i>Example:</i> 26.1 2009-2010: Recruit and Hire New SUBS -- FTE BOR Appointed Faculty	<i>Example:</i> 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.
Increase scholarships and other special opportunities for students (e.g., Akamai)	Akamai scholarships continue to be offered. The Program Coordinator has begun to meet regularly with students to alert them to scholarship or other special opportunities, and to encourage them to apply.
Assist students with preparation of resumes and job applications.	2 of 6 students who have completed the IT program in Spring 2014 have obtained jobs related to IT. (Christopher J.- Gemini Observatory, Kelsey Y. – County of Hawaii).
Encourage students to further their education and training.	The first female IT graduate of Hawaiian ancestry was accepted and transferred to UH-Hilo computer science program in Fall 2014. (Lindsey H.)
Fill the retired full time IT faculty position	This is an ongoing goal.

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

Define Goal (Action Strategy) 1

<i>Example: Establish AA Degree in SUBS</i>
Increase full time faculty from 1 to 2 positions.

Alignment of Goal 1 to ILO(s)

Explain how Goal 1 aligns with ILO(s) and provide supporting rationale

Goal 1 aligns with ILO1 (communication) by permitting more extensive writing requirements in courses.

Goal 1 aligns with ILO2 (problem solving) by allowing offering additional courses that focus on solving problems related to IT operations.

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 ...

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 allowing additional courses to be offered and expanding the overall student numbers in the program. Also, the coordinator will have some more time to recruit students of Native Hawaiian ancestry.
 This goal also aligns with SP Action Strategy B.1 (Increase degrees in fields where there is a demonstrated Hawaii state shortage) by allowing more students to be recruited and be accommodated in the program.

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.

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
<i>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.</i>	X	X				X
Increasing faculty in IT Program	X	X	X	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.

Hawaii CC – IT program is part of the C3T4 community college consortium. If the grant is awarded, we will be working with the other UH community colleges to work on a common cyber security degree. Note: the grant was awarded and is currently being implemented.

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
<i>Example: Collaborating with other CCs complete SUBS AA Degree Authorization to Plan (AtP)</i>	<i>Example: Fall 2015</i>
Request second faculty position in the IT Program with HawCC administration	Since spring 2011 and on going
Establish search committee and write advertisement for position	Fall 2015
Position begins	Spring 2016 if possible

Define Goal (Action Strategy) 2

Establish a separate IT lab for hands-on exercises. At present, our IT classroom is divided into three sections for three different hands-on courses. Very often we have three groups of students working in the classroom at the same time.

Alignment of Goal 2 to ILO(s)

Goal 2 aligns with 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) by allowing skill development on improved computers, and expanding the “academic community” formed in classes by expanding class size.

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.

Goal 2 aligns with SP Action Strategy A1.1.c (Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved) by allowing additional students to take courses. This goal also aligns with SP Action Strategy B.1 (increase degrees in fields where there is a demonstrated Hawaii state shortage) by allowing more students to be recruited and be accommodated in the program’s classes.

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.

N/A

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
Established an IT computer lab	X			X		
Established pathway for Cyber Security degree	X			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).

See Goal 1.

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
Request and set up computers in IT laboratory	Fall 2015
Computers used in IT classes	Spring 2016

Define Goal (Action Strategy) 3

Engage with other UH units in C3T4 grant for cyber security education.

Alignment of Goal 3 to ILO(s)

Goal 3 aligns with ILO2 (problem solving) by, allowing the offering of additional courses that focus on solving

problems related to IT operations.

Goal 3 aligns with 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) by allowing skill development in new courses focused on computer security issues.

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.

Goal 3 aligns with SP Action Strategy B.1 (increase degrees in fields where there is a demonstrated Hawaii state shortage) by allowing more students to be recruited and be accommodated in the program.

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)

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 3 aligns with and provide supporting reasoning.

	STEM	Graduation Remediation Workforce	Student Transfer	Underserved Populations	Green Curricula	Program Development
Grant participation in computer security	X		X	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).

Collaborate with C3T4 system grant on cyber security.

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
Plan courses on cyber security	Summer 2015
Work with other campuses on curricula related to cyber security	Spring 2015 and ongoing

Part V: Resource Implications

A. Cost Item 1

Description	Type <ul style="list-style-type: none">● Personnel● Facilities● Equipment● Health/Safety● Others (Define)	Estimated Cost
Faculty member	Personnel	\$60,000/yr

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 ...
Hiring a new faculty member will permit expansion of curriculum and allow more students into the program. This aligns with SP A1.1.c (Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved) by allowing additional students to take courses. This goal also aligns with SP Action Strategy B.1 (increase degrees in fields where there is a demonstrated Hawaii state shortage) by allowing more students to be recruited and be accommodated in the program's classes and expanding the curriculum into the critical area of computer security.

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.
Cost item 1 aligns with Action-Priority STEM because it permits expansion of HawCC's STEM curriculum and the number of students served in the STEM field of IT.

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
This will expand our ability to train students to obtain IT positions by providing instruction in the fast-expanding field of computer security, and also allow the flexibility to create new curricula in the fast-changing IT field.

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."

Cost Item 1 will allow expansion of opportunities for students to take coursework, allowing further program expansion.

B. Cost Item 2

Description	Type <ul style="list-style-type: none"> ● Personnel ● Facilities ● Equipment ● Health/Safety ● Others (Define) 	Estimated Cost
Purchase of new computers and setup computer laboratory	Equipment, tables, chairs etc.	\$18,000

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

Purchase of additional computers for the laboratory and in preparation of the cyber security courses will allow students to work efficiently in the hands-on courses and in pursuing a new certificate/degree. This aligns with SP A1.1.c (Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved) by allowing additional students to take courses. This goal also aligns with SP Action Strategy B.1 (increase degrees in fields where there is a demonstrated Hawaii state shortage) by allowing more students to be recruited and be accommodated in the program’s classes.

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

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

Cost item 1 aligns with Action-Priority STEM because it permits expansion of the number of students served in the STEM field of IT.

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.”

Aligns with the strength: Provides critical computer skills classes for HawCC and the community by allowing expansion of class size.

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.”

Cost item #2 will help with the weakness of desiring program growth in number of students who successfully complete the program.

C. Cost Item 3

Description	Type <ul style="list-style-type: none"> ● Personnel ● Facilities ● Equipment ● Health/Safety ● Others (Define) 	Estimated Cost
Work on system grant on computer security	personnel	0 (paid by grant)

Alignment of Cost Item 3 to Strategic Plan (SP)

<p>Explain how Cost Item 3 aligns with the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale</p>
<p>This goal aligns with SP Action Strategy B.1 (increase degrees in fields where there is a demonstrated Hawaii state shortage) by allowing more students to be recruited and be accommodated in the program’s classes.</p>

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

<p>Explain how Cost Item 3 aligns with the Academic Master Plan (AMP) Action Priorities.</p>
<p>This cost item will allow expansion of the STEM curriculum to include courses in computer security.</p>

Alignment of Cost Item 3 to Strength(s)

<p>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.”</p>
<p>Aligns with the strength: Provides critical computer skills classes for HawCC and the community by allowing expansion of the IT program’s curriculum.</p>

Alignment of Cost Item 3 to Weaknesses(s)

<p>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.”</p>
<p>Cost item #3 will help with the weakness of desiring program growth in number of students who successfully complete the program by providing coursework in an area that we currently cannot cover.</p>

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.)

One cannot imagine the world without computers. The Information Age has led to increased use of computers, and more complex uses for which computers are employed. The need for basic education in computer use has never been greater, and this need will only grow in the coming years. The IT Program at HawCC provides education in the basics of computer use for all HawCC students, and also provides in depth education for its majors that permits them to find high paying employment in the expanding computer field. The IT Program has been steadily growing over the last few years, even as overall enrollment in higher education has declined. The program has been designated as "healthy" overall, and these designations have steadily improved over the past years. The program is sustainable, but future growth will require hiring another faculty member. This will enable continued growth in number of students, but will also allow the faculty to be more flexible in creating new curricula to keep up with the fast-changing field of computers, and also permit more grant activity, bringing new resources to the college. The emphasis globally on computer security provides new opportunities for program expansion, permitting students on island to get the training necessary for obtaining the positions that are opening in the various new subfields.