HAWAI'I COMMUNITY COLLEGE
ANNUAL PROGRAM REVIEW (APR)

INFORMATION TECHNOLOGY (IT)

Date: January 18, 2019

Review Period
July 1, 2017 to June 30, 2018

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

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

PART 1: PROGRAM DATA AND ACTIVITIES

Program Description (required by UH System)

Provide the short description as listed in the current catalog.	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 programs 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, or systems development in a business information technology system. The program focuses on computers and information technology as tools to solve business problems.

Comprehensive Review information (required by UH System)

Provide the year and URL for the location of this program's last Comprehensive Review on the HawCC Program/Unit Review website: http://hawaii.hawaii.edu/files/program-unit-review/	
Year	2015
URL	http://hawaii.hawaii.edu/files/program-unit-review/docs/2015_it_comprehensive_program_review.pdf
Provide a short summary of the CERC's evaluation and recommendations from the program's last Comprehensive Review.	● Recommend that you actively continue with your recruitment and retention efforts to support your student body and positively increase your graduating majors.

Discuss any significant changes to the program that were aligned with those recommendations but are not discussed elsewhere in this report.	The program coordinator during this time increased recruitment efforts at local high schools to increase enrollment. Enrollment for the first year, first semester cohort in Fall 2017 was at full capacity. We will continue to look at retention and implement tutoring for difficult classes. ● Consider if creating a pathway to the UH four-year degree program is worthwhile for the IT program. We will be looking at this in the future. Some jobs do require a bachelors' degree and having a pathway will be helpful.

ARPD Data: Analysis of Quantitative Indicators (required by UH System)
Program data can be found on the ARPD website: http://www.hawaii.edu/offices/cc/arpd/

<mark>**Please attach a copy of the program's data tables
and submit with this Annual Program Review (APR).**</mark>

Analyze the program's ARPD data for the review period.	
Describe, discuss, and provide context for the data, including the program's health scores in the following categories:	
Demand	This category is rated as Healthy due to there being enough new jobs available for the number of students graduating. There is only one occupational code examined in the report, but students are getting jobs in multiple areas, so this number could be higher. The job number does not include those students getting telecommuting jobs, contract jobs, or those going off-island for work.
Efficiency	The efficiency is rated as Cautionary due to an average class size of 12. We are hoping this number will go up due to offering online sections of ICS 101 to help balance the higher-level classes. The face-to-face number will never be very high due to the constraints of the number of computers and other equipment available for lab classes. While the report lists 0 FTE BOR Appointed Faculty, there was a new instructor for the year that started shortly after the beginning of the fall semester.
Effectiveness	This category is rated as Healthy due to the number of graduates completing the program. This shows the strength of the program even though, as an AS degree program, the courses are academically rigorous. We will continue to be

	effective while maintaining high standards to keep a good reputation for potential employers.
Overall Health	The overall health is rated as Healthy. We will continue to improve the overall health by working on retention and efficiency.
Distance Education	No distance education classes were offered for this report year. The program's first online course will be offered Fall 2018.
Perkins Core Indicators (if applicable)	This category was not met for 1P1, 3P1, and 4P1. No categories were met for the previous report year, but this year 2P1, 5P1, and 5P2 were met which is an improvement. More attention will be paid to what makes up the data for 1P1. While 3P1 and 4P1 were not met, they both increased over the previous report year.
Performance Funding Indicators (if applicable)	The number of degrees with certificates went down from the previous year but may have incorrect data because it only lists 11 but shows 25 unduplicated degrees awarded in the Effectiveness category.
What else is relevant to understanding the program's data? Describe any trends, internal/external factors, strengths and/or challenge that can help the reader understand the program's data but are not discussed above.	The program has been working on recruitment efforts, but there is a limit to the amount of recruiting that can be done due to only one full-time faculty member. Overall, enrollment at colleges is down due to a strong economy. There is a strong job market for program graduates, but it is not reflected completely in the Demand category due to the use of a single occupational code.

PROGRAM ACTIVITIES

Report and discuss all major actions and activities that occurred in the program during the review period, including the program's meaningful accomplishments and successes. Also discuss the challenges or obstacles the program faced in supporting student success and explain what the program did to address those challenges.

For example, discuss:

- Changes to the program's curriculum due to course additions, deletions, modifications (CRC, Fast Track, GE-designations), and re-sequencing;
- New certificates/degrees;
- Personnel and/or position additions and/or losses;
- Other changes to the program's operations or services to students.

The long-time program coordinator and sole full-time tenured faculty member retired at the end of the previous program year. The new faculty member/program coordinator is new to the school and the island.

Planning is ongoing for program updating.

PROGRAM WEBSITE

Has the program recently reviewed its website? Please check the box below that best applies and follow through as needed to keep the program's website up-to-date.

☑ Program faculty/staff have reviewed the website in the past six months, no changes needed.

☐ Program faculty/staff reviewed the website in the past six months and submitted a change request to the College's webmaster on _____ (date).

☐ Program faculty/staff recently reviewed the website as a part of the annual program review process, found that revisions are needed, and will submit a change request to College's webmaster in a timely manner.

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

PART 2: PROGRAM ACTION PLAN

AY18-19 ACTION PLAN

Provide a detailed narrative discussion of the program's overall action plan for AY18-19, based on analysis of the Program's AY17-18 data and the overall results of course learning outcomes assessments conducted during the AY17-18 review period. **This Action Plan should identify the program's specific goals and objectives for AY18-19 and must provide benchmarks or timelines for achieving each goal.**
Action Item 1: Increase average class size, major count, and number of graduates.   The efficiency for the program was rated as cautionary due to an average class size of 12, so we would like to increase this number. We would like to increase the major count to the number of slots available. We would also like to increase the number of graduates in the program.   **Action Item 2:** Obtain a second full time faculty member in the IT Program.   A second full time faculty member will increase the amount and type of classes offered. Another faculty member could also help with recruitment efforts to increase the number of majors from Action Item 1.   **Action Item 3:** Examine current course offerings to see if changes need to be made to the curriculum.   The IT industry is very diverse and constantly changing. New or revised courses may be necessary to meet job demands. Research will be done to look at expanding cybersecurity and programming courses such as website development and app development.

ACTION ITEMS TO ACCOMPLISH ACTION PLAN

For each Action Item below, describe the strategies, tactics, initiatives, innovations, activities, etc., that the program plans to implement in order to accomplish the goals described in the Action Plan above.

For each Action Item below, discuss how implementing this action will help lead to improvements in student learning and their attainment of the program's learning outcomes (PLOs).

Action Item 1:

Offering an online class during AY 18-19 may help the average class fill rating because more students can attend an online section compared to a face-to-face section. Increasing the number of students in the major will also help with this number. The program coordinator will be attending career fair and high school events to try to recruit new students.

Increasing the number of students in the major will make it possible to increase program offerings, allowing students more flexibility in attaining their academic goals. The expanded course offerings will enhance our ability to meet our PLOs, including: PLO 1, "Plan, develop and implement the hardware, software, and procedural components of a data processing system in a business environment"; PLO 2, "Plan, develop and implement the hardware, software, and procedural components of a data communication system in a business environment"; and PLO 3, "Plan, develop, implement, and document computer programs that meet the data processing requirements of a business organization."

Action Item 2:

This has been requested for many years. A second full time faculty member will increase the amount and type of classes offered. This would allow for expanded course offerings which would help us meet PLOs 1, 2, and 3 above. Another faculty member could also help with recruitment efforts to increase the number of majors.

Action Item 3:

The IT industry is very diverse and constantly changing. New or revised courses may be necessary to meet job demands. Research will be done to look at expanding cybersecurity and programming courses such as website development and app development. We also want to develop pathways to the UH systems and other 4-year institutions as many of the current courses do not currently transfer.

The new program coordinator is proposing curriculum changes during AY18-19.

RESOURCE IMPLICATIONS

> *NOTE: General "budget asks" are included in the 3-year Comprehensive Review. Budget asks for the following three categories only may be included in the APR: 1) health and safety needs, 2) emergency needs, and/or 3) necessary needs to become compliant with Federal/State laws/regulations.*

BUDGET ASKS

For budget ask in the allowed categories (see above):	
Describe the needed item(s) in detail.	N/A
Include estimated cost(s) and timeline(s) for procurement.	
Explain how the item(s) aligns with one or more of the strategic initiatives of 2015-2021 Strategic Directions: http://hawaii.hawaii.edu/sites/default/files/docs/strategic-plan/hawcc-strategic-directions-2015-2021.pdf	

PART 3: LEARNING OUTCOMES ASSESSMENTS

For all parts of this section, please provide information based on CLO (course learning outcomes) or PLO (program learning outcomes) assessments conducted in AY17-18.

Evidence of Industry Validation and Participation in Assessment (<mark>for CTE programs only</mark>)
Provide documentation that the program has submitted evidence and achieved certification or accreditation (if applicable) from an organization granting certification/accreditation in the program's industry/profession. If the program/degree/certificate does not have a certifying body, you must submit evidence of the program's advisory committee's/board's recommendations for, approval of, and/or participation in the program's assessment(s).
<mark>Please attach copy of industry validation for the year under review.</mark>

Courses Assessed

List all program courses assessed during AY17-18, including Initial and "Closing the Loop" assessments.			
Assessed Course Alpha, No., & Title	**Semester assessed**	**CLOs assessed (CLO#s)**	**PLO alignment (PLO#s)**
ICS 281 Ethical Hacking	Fall 2017	1, 2, 3	1, 2, 3, 4, 5, 6
ITS 103 Intro to Programming Process	Fall 2017	1,2,3,4,5,6,7,8,9	3,4,5,6
"Closing the Loop" Assessed Course Alpha, No., & Title	**Semester assessed**	**CLOs assessed (CLO#s)**	**PLO alignment (PLO#s)**
None			

Assessment Strategies

For each course assessed in AY17-18 listed above, provide a brief description of the assessment strategy, including:
- a description of the type of <u>student work or activity assessed</u> (e.g., research paper, lab report, hula performance, etc.);   - a description of <u>how student artefacts were selected for assessment</u> (e.g., the assessment included summative assignments from all students in the course, OR a sample of students'

| summative assignments was randomly selected for assessment based on a representative percentage of students in each section of the course); |
| • a brief discussion of the <u>assessment rubric/scoring guide</u> and the criteria/categories and standards used in the assessment. |

Course Alpha/#:

ICS 281 Ethical Hacking

This assessment was based on a comprehensive final exam. All students in the course were assessed and CLOs were considered met at 70%.

Course Alpha/#:

ICS 103

This assessment was based on a summative final project. All students in the course were assessed and CLOs were considered met at 70%.

Expected Levels of Achievement

> **For each course assessed in AY17-18 listed above, state the standard (benchmark, goal) for student success for each CLO assessed AND the percentage of students expected to meet that standard for each CLO.**
>
> *Example: "CLO#1: The standard for student success is that students will answer 80% of the questions on the final exam related to CLO#1 correctly. The expectation is that 85% of students will meet this standard for CLO#1."*
>
> *Example: "CLO#4: The standard for student success is that students will be able to perform skills associated with CLO#4 with 80% proficiency. The expectation is that 75% of students will meet this standard for CLO#4."*

Assessed Course Alpha, No., & Title	Assessed CLO#	Standard for Success	% of Students Expected to Meet Standard
ICS 281 Ethical Hacking	1	70% Proficiency	85%
ICS 281 Ethical Hacking	2	70% Proficiency	85%
ICS 281 Ethical Hacking	3	70% Proficiency	85%
ITS 103 Intro to Programming Process	1	70% Proficiency	85%
ITS 103 Intro to Programming Process	2	70% Proficiency	85%

ITS 103 Intro to Programming Process	3	70% Proficiency	85%
ITS 103 Intro to Programming Process	4	70% Proficiency	85%
ITS 103 Intro to Programming Process	5	70% Proficiency	85%
ITS 103 Intro to Programming Process	6	70% Proficiency	85%
ITS 103 Intro to Programming Process	7	70% Proficiency	85%
ITS 103 Intro to Programming Process	8	70% Proficiency	85%
ITS 103 Intro to Programming Process	9	70% Proficiency	85%

Results of Course Assessments

For each course assessed in AY17-18 listed above, provide: • **a statement of the quantitative results;** • **a brief narrative analysis of those results.**

Course Alpha/#: ICS 281

The majority of the students met or exceeded the objectives:

Exceeded	71.43%
Met	14.29%
Did Not Meet	14.29%

 One limitation was that the assessment results were not broken down by each CLO so that the results are the same for each one. In the future the testing instrument could be broken down into specific parts to match the CLOs.

Course Alpha/#: ITS 103

The majority of the students met or exceeded the objectives for the CLOs:

Assessed	Exceeded	Met	Did Not Meet
CLO1	90%	0%	10%
CLO2	90%	0%	10%
CLO3	85%	5%	10%

CLO4	80%	0%	20%
CLO5	75%	5%	20%
CLO6	30%	15%	55%
CLO7	35%	15%	50%
CLO8	75%	5%	20%
CLO9	70%	10%`	20%

CLO5 and CLO6 scored the lowest number of students meeting or exceeding the expectations. More time needs to be spent on these two CLOs.   With the proposed curriculum changes for AY19-20, this class will be replaced with ICS 111. Because there is some overlap between the two courses, the assessment results will be considered in the development of the course.

Other Comments

Include any additional information that will help clarify the program's course assessment results, successes and challenges.

N/A

Discuss, if relevant, a summary of student survey results, CCSSE, e-CAFE, graduate-leaver surveys, special evaluations, or other assessment instruments that are not discussed elsewhere in this report.

N/A

Next Steps – ASSESSMENT ACTION PLAN for AY18-19

Describe the program's intended next steps to improve student learning, based on the program's overall AY17-18 assessment results.
Include any specific strategies, tactics, activities or plans for improvement in program or course assessment practices, methods or tools, rubrics, schedules, etc.

Because of course changes due to adopting a TCZ approach for the program, a new assessment schedule will be developed for AY18-19. Some courses will be removed from the program and some will be added in AY18-19 and the schedule will be further refined.

PART 4: ADDITIONAL DATA

Cost Per SSH <mark>(to be provided by Admin)</mark>
Please provide the following values used to determine the total fund amount and the cost per SSH for your program:

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

External Data*

If your program utilizes external licensures, enter:

Number sitting for an exam   _____
Number passed   _____

<mark>*This section applies to NURS only.</mark>