

ANNUAL

REPORT OF PROGRAM DATA

2023

A photograph of a campus landscape featuring a winding paved path, green grass, and modern buildings in the background. The image is overlaid with a semi-transparent purple filter and a white geometric design consisting of several intersecting lines forming a diamond-like shape.

UNIVERSITY of HAWAI'I
HAWAI'I
COMMUNITY COLLEGE

July 1, 2022 through June 30, 2023

Information Technology

1. Program or Unit Mission

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.

The program targets undergraduates seeking individual courses, certificates, and two-year degrees.

2. Program Student Learning Outcomes or Unit/Service Outcomes

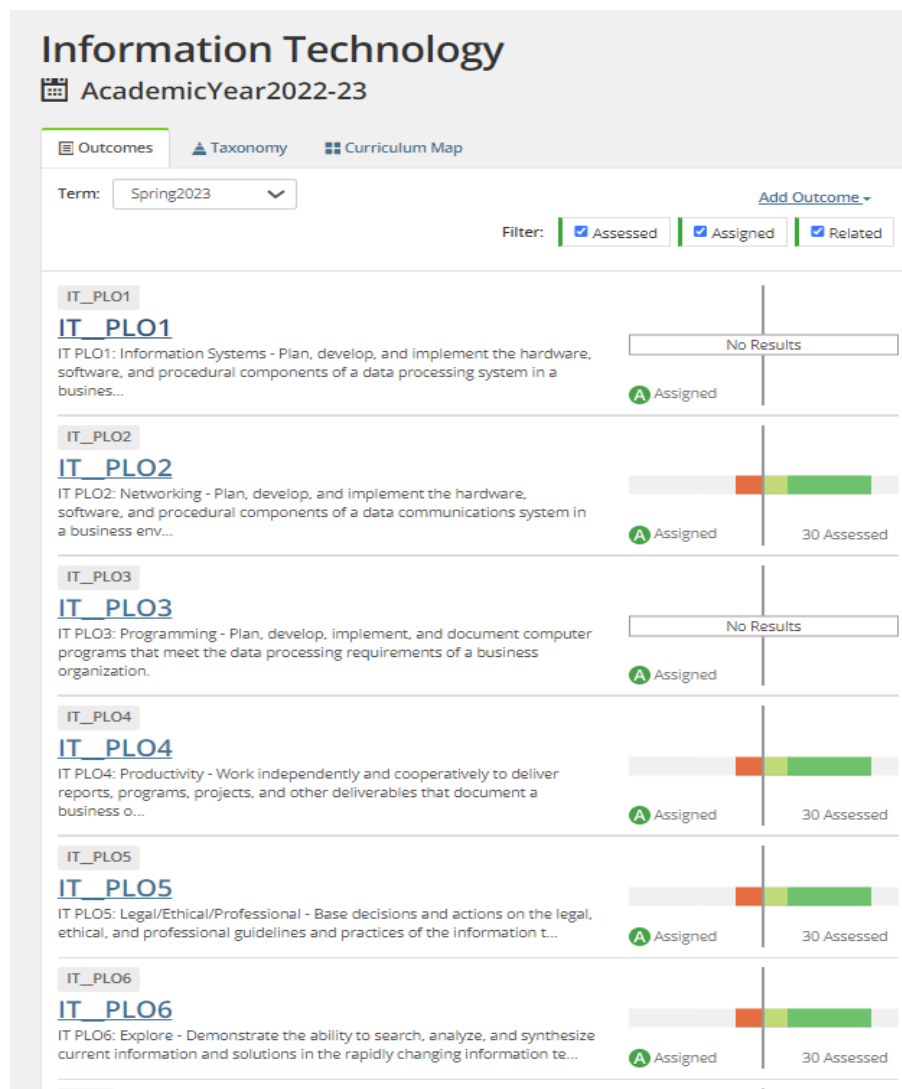
Course	CLO	Assigned PLO	Assessment Results
ITS 124-CTL Final Exam	CLO 1: List and describe the basic elements of computer networking.	PLO 2: Networking - Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment.	All outcomes were assessed together using a final exam that is proprietary to the Cisco Introduction to Networks CCNA 1 course. The exam cannot be shared due to being part of the Cisco course, but it is robust and covers all six of the course learning outcomes and the subsequent program learning outcomes. This course was offered as two sections that were combined into one Laulima shell. The students participated in online discussions together and had the same assignments. One section was face-to-face, and one was asynchronous online. All students were assessed.
	CLO 2: List and describe common network services with their associated functions and other aspects.	PLO 2: Networking - Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment. PLO 6: Explore - Demonstrate the ability to search, analyze, and synthesize current information and solutions in the rapidly changing information technology profession.	
	CLO 3: Evaluate implementation of	PLO 2: Networking - Plan, develop, and implement the	

	<p>five common network services according to a given organizational scenario.</p>	<p>hardware, software, and procedural components of a data communications system in a business environment.</p> <p>PLO 5: Legal/Ethical/Professional - Base decisions and actions on the legal, ethical, and professional guidelines and practices of the information technology field.</p> <p>PLO 6: Explore - Demonstrate the ability to search, analyze, and synthesize current information and solutions in the rapidly changing information technology profession.</p>	<p>Most students (80%) met or exceeded the requirements of the exam (see diagram below). The course does a good job of preparing the students for the exam, and the exam is a good tool to assess the objectives.</p> <p>For the academic year 2023-2024, a change will be made to use the CompTIA Network+ industry certification as the final assessment, rather than the Cisco curriculum final exam. The Network+ exam also covers the CLOs and PLOs, but in addition will be something the students can add to their resume and will make them more employable. The course will be modified, and the next assessment cycle will use these changes and the new final exam.</p>
	<p>CLO 4: Identify and describe common cable and wireless transmission media with their associated cost, ease of installation, capacity, attenuation, and immunity from interference characteristics.</p>	<p>PLO 2: Networking - Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment.</p> <p>PLO 4: Productivity - Work independently and cooperatively to deliver reports, programs, projects, and other deliverables that document a business organization's information technology requirements.</p> <p>PLO 5: Legal/Ethical/Professional - Base decisions and actions on the legal, ethical, and professional guidelines and practices of the information technology field.</p> <p>PLO 6: Explore - Demonstrate the ability to search, analyze, and</p>	

		synthesize current information and solutions in the rapidly changing information technology profession.	
	CLO 5: Evaluate implementation of common network and internetwork connectivity devices according to a given organizational scenario.	PLO 2: Networking - Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment. PLO 4: Productivity - Work independently and cooperatively to deliver reports, programs, projects, and other deliverables that document a business organization's information technology requirements. PLO 5: Legal/Ethical/Professional - Base decisions and actions on the legal, ethical, and professional guidelines and practices of the information technology field. PLO 6: Explore - Demonstrate the ability to search, analyze, and synthesize current information and solutions in the rapidly changing information technology profession.	
	CLO 6: Categorize numerous networking topics and methods using the OSI Reference Model as a conceptual framework.	PLO 2: Networking - Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment. PLO 4: Productivity - Work independently and cooperatively to deliver	

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		reports, programs, projects, and other deliverables that document a business organization's information technology requirements. PLO 6: Explore - Demonstrate the ability to search, analyze, and synthesize current information and solutions in the rapidly changing information technology profession.	
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3. Analysis of the Program/Unit

[UHCC Annual Report of Program Data \(ARPD\)](#)

The demand for new jobs stayed about the same as the previous year. The demand is expected to remain strong for IT jobs around the country, and students can find remote jobs anywhere in addition to in-person jobs around the state.

For efficiency, the fill rate went up from the previous year. The IT courses for the 2022-2023 academic year were offered as both in-person and asynchronous online to reach the most students. To avoid low enrolled courses, the in-person and asynchronous sections were combined as one for the faculty. Most courses are only offered once per year to maximize the number of students per class. Two new courses were added to the IT program, ICS 281 and ICS 281. These courses were optional for students in this academic year and so were low enrolled. These will be required for the students in 2023-2024, and so should be at a higher level. While there is only one full-time faculty, the data shows support for three analytic FTE faculty.

For effectiveness, both the persistence fall to spring and unduplicated degrees/certificates awarded increased.

All Perkins performance indicators were met.

The program started a new program with IT Reuse Hawai'i to refurbish e-waste laptops from Mr. K's Recycling Center and donate to people who do not have computers at home in partnership with Hawaii First Federal Credit Union. The laptops were configured for the users and training was also given. This program will continue in the 2023-2024 academic year.

Students also met in a Cyber club for training and took part in the National Cyber League competition in the spring semester. The students that participated enjoyed the competition, learning new skills, and interacting with people around the country virtually.

4. Action Plan

The program identified two action items to focus on during the last Comprehensive Review:

Action Item 1: Marketing and Recruitment: This aligns with the Hawai'i Graduation Initiative Strategy 1 to "Strengthen the pipeline from K-12 to the university to improve college readiness and increase college attendance."

- Attend career fairs
- Start using social media to promote program
- Interface with local schools to increase awareness of our program and to find pathways

In the 2022-2023 academic year, the IT Program attended events such as the Hilo Career Expo, Hilo High School Career Fair, Kea'au Middle School Career Day, Kea'au Career Fair, and the Hawai'i CC Day. These events enable us to connect with middle school students, high school students, and the community.

The program has been working on a website for the program to help provide information and recruit potential students. More work still needs to be done using social media, but some information was shared this way.

The IT program also has an early college course at Waiakea High School, and will continue to offer courses in the next academic year. This will help strengthen the pipeline with Waiakea High School and will help recruit students for the IT program.

The program will continue to find ways to meet this goal. The program plans to apply for the National Security Agency (NSA)/Department of Homeland Security (DHS) Center of Academic Excellence Cyber Defense (CAE-CD) designation in the next academic year. This designation will help with recruitment for new students as well as provide opportunities such as additional scholarships.

Action Item 2: Retention: This aligns with the Hawai'i Graduation Initiative Strategy 2 to "Implement structural improvements that promote persistence to attain a degree and timely completion."

- Balance the need of having online classes to increase class size with the need for some students wanting in-person classes
- Flexible scheduling so that more people in different situations can still attend class
- Form better relationships between students and faculty and students with students to build community and increase retention

Our island is very spread out, and it is difficult to schedule classes for everyone to attend in person. We want to offer online classes for people that are working, live far away from Hilo, or do not have babysitters or transportation. In addition, we want to offer in person classes for those that need the personal interaction or need to meet requirements for in person attendance, such as veterans and international students. We do not have enough faculty or potentially enough students to offer separate sections for each class, so in Fall 2022 and Spring 2023 we offered classes as jointly in-person and online asynchronous. This has seemed to work well and we will continue this in the next academic year.

To help achieve the goal of relationship building, the program participated in a Laptop Refurbishment program and a Cybersecurity club. The students repaired computers that were designated for the landfill and distributed to recipients that did not have computers at home. The club engaged in a cybersecurity competition with the National Cyber League. This allowed students and faculty to work together outside of class. A school club helps students feel more involved with the school and with the program. While the club was informal, we will seek out the

process for a formal club in the next academic year. We will continue to find ways to form these relationships and to increase retention.

The CAE-CD designation that the program will apply for, as mentioned in the first action plan item, will also help with retention because of the available resources that will be provided to us from the CAE program.

5. Resource Implications

Special Resource Requests **not included in operating "B" budget** *

☐ I am NOT requesting additional resources for my program/unit.

☒ I AM requesting additional resource(s) for my program/unit.

Total number of items being requested: 4 (4 items max.)

✓ **Item Description:**

✓ **Justification:**

✓ **Priority Criteria** (must meet at least one of the following):

1. Ensure compliance with mandates and requirements such as laws and regulations, executive orders, board mandates, agreements and contracts and accreditation requirements.
2. Address and/or mitigate issues of liability, including ensuring the health, safety and security of our Kauhale.
3. Expand our commitment to serving all segments of our Hawaii Island community through Pāalamanui and satellite centers
4. Address aging infrastructure.
5. Continue efforts to promote integrated student support in closing educational gaps.
6. Leverage resources, investments with returns, or scaling opportunities
7. Promote professional development.

CATEGORY	Category-Specific Information Needed			
Equipment	Estimated Date Needed	Quantity / Number of Units; Cost per Unit	Total Cost (with S&H, tax)	On Inventory List (Y/N); Decal #, Reason replacing
Facilities Modification	Estimated Date Needed	Total Cost	Monthly/Yearly Recurring Costs	Utilities Required
Personnel Resource	Estimated Date Needed	FTE; Position Type; Position Title	Estimated Salary	Was an Existing Position Abolished? (Y/N); Position #