

Kapiolani Community College

2012 Annual Report of Instructional Program Data

Information Technology

The last comprehensive review for this program was on **2009**, and can be viewed at:

http://ofie.kapiolani.hawaii.edu/wp-content/uploads/2013/01/3_Yr_2006_to_2009_Comp_Prog_Rev_IT.pdf

Program Description

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What is information technology?

Information technology services (ITS) is anything that deals with computer management and information sharing. The field of ITS is varied and professionals work with computer software and hardware. People in the ITS field work as computer support specialists, programmers, network administrators, database developers, technicians, and consultants. Nearly any career that has the management of computers and information sharing may be considered part of ITS.

The information technology program

The information technology program offers an associate in science (AS) degree and five certificates; including an advanced professional certificate. The purpose of the program is to prepare students for a career in the field of information technology. The program covers programming fundamentals, hardware maintenance, networking, database design and administration, and web development. Students also take selected business and general education courses to gain a perspective of ITS in business organizations.

Transfer option

The AS degree in information technology articulates to the **University of Hawai'i-West Oahu** toward a bachelor of applied science with a concentration in information technology. An **advisor** may provide detailed information about the courses required or recommended for articulation.

Program Mission Statement

The primary mission of the Information Technology (IT) program is to prepare students for careers in Information Technology with three major emphases:

- ensuring that our graduates possess the necessary skills and knowledge to enter the workforce upon graduation,
- preparing students and graduates to move seamlessly and successfully to University of Hawai'i at Manoa, UH-West O'ahu, and other four-year institutions, and
- providing lifelong learning opportunities for Hawai'i's workforce that are designed to improve workforce skills and career progression and in a manner that is convenient to the incumbent workforce.

The current A.S. program follows three out of the five pillars in the Association of Computing Machinery (ACM) IT curriculum: Database Development, Programming, and Networking. We chose only three because we have striven to work within the traditional 60 credit A.S. format. We chose these three to develop more fully as they are the oldest and cornerstones of a foundation in IT. Our new Advanced Professional Certificate, consisting of six 300-level IT courses, more fully fleshes out the Web Applications pillar of the ACM IT curriculum. Coupled with minor adjustments to many of our 100- and 200-level courses to include more human-computer interface concepts, we have more fully included all five pillars of the ACM IT curriculum.

Part I. Quantitative Indicators

Overall Program Health: **Cautionary**

Majors Included: DBA,IT,PROG

Demand Indicators		Program Year			Demand Health Call
		09-10	10-11	11-12	
1	New & Replacement Positions (State)	48	45	182	Cautionary
2	*New & Replacement Positions (County Prorated)	17	39	93	
3	*Number of Majors	105	138	153	
4	SSH Program Majors in Program Classes	723	1,374	1,488	
5	SSH Non-Majors in Program Classes	381	3,414	3,201	
6	SSH in All Program Classes	1,104	4,788	4,689	
7	FTE Enrollment in Program Classes	37	160	156	
8	Total Number of Classes Taught	20	78	77	

Efficiency Indicators		Program Year			Efficiency Health Call
		09-10	10-11	11-12	
9	Average Class Size	18.4	20.5	20.3	Healthy
10	*Fill Rate	87%	93%	90%	
11	FTE BOR Appointed Faculty	6	5	5	
12	*Majors to FTE BOR Appointed Faculty	15	27.6	30.5	
13	Majors to Analytic FTE Faculty	49.7	16.2	17.9	
13a	Analytic FTE Faculty	2.1	8.5	8.5	
14	Overall Program Budget Allocation	\$556,872	\$566,763	\$618,179	
14a	General Funded Budget Allocation	\$556,872	\$566,763	\$598,980	
14b	Special/Federal Budget Allocation	\$0	\$0	\$0	
14c	Tuition and Fees	Not Reported	Not Reported	\$19,199	
15	Cost per SSH	\$504	\$118	\$132	
16	Number of Low-Enrolled (<10) Classes	2	3	0	

Effectiveness Indicators		Program Year			Effectiveness Health Call
		09-10	10-11	11-12	
17	Successful Completion (Equivalent C or Higher)	83%	72%	75%	Cautionary
18	Withdrawals (Grade = W)	20	168	110	
19	*Persistence (Fall to Spring)	71%	76%	73%	
20	*Unduplicated Degrees/Certificates Awarded	14	41	61	
20a	Degrees Awarded	14	16	25	
20b	Certificates of Achievement Awarded	1	2	10	
20c	Advanced Professional Certificates Awarded	0	0	4	
20d	Other Certificates Awarded	0	60	96	
21	External Licensing Exams Passed	Not Reported	Not Reported	Not Reported	
22	Transfers to UH 4-yr	1	7	9	
22a	Transfers with credential from program	1	3	3	
22b	Transfers without credential from program	0	4	6	

Distance Education: Completely On-line Classes		Program Year		
		09-10	10-11	11-12
23	Number of Distance Education Classes Taught	0	13	16
24	Enrollment Distance Education Classes	0	301	350
25	Fill Rate	0%	93%	88%
26	Successful Completion (Equivalent C or Higher)	0%	62%	66%
27	Withdrawals (Grade = W)	0	48	33
28	Persistence (Fall to Spring Not Limited to Distance Education)	0%	68%	58%

Perkins IV Core Indicators 2010-2011		Goal	Actual	Met
29	1P1 Technical Skills Attainment	90.10	82.50	Not Met
30	2P1 Completion	45.00	40.00	Not Met
31	3P1 Student Retention or Transfer	56.00	80.41	Met
32	4P1 Student Placement	51.00	25.00	Not Met
33	5P1 Nontraditional Participation	N/A	N/A	N/A
34	5P2 Nontraditional Completion	N/A	N/A	N/A

Last Updated: August 6th, 2012

[Glossary](#) | [Health Call Scoring Rubric](#)

Part II. Analysis of the Program

The health of the Information Technology Program at Kapiolani Community College is rated "Cautionary" overall. The program's efficiency is rated as "Healthy," while program demand and effectiveness are rated as "Cautionary."

Demand

Demand Indicators for the Information Technology (IT) Program are cautionary. This is in direct response to one factor: The number of New and Replacement Positions for both the county and state have increased dramatically as a result of UHCC changing the coding system it uses to identify and count positions in vocational fields. The basis for estimating demand changed from Standard Occupational Classification (SOC) code of 11-3021, (Computer and Information Systems Managers) to a CIP (Classification of Instructional Programs) code of 11.0103, (Information Technology), which is a much more general category. Changing to a more general occupational code significantly increases the size of the occupational field. This change makes program analysis and year-to-year comparisons difficult until the program can absorb the impact of the change.

The program has grown dramatically, with 2011-12 enrollment up 45.7% over 2009-10; however this dramatic increase in enrollment is overshadowed in this analysis by the tenfold increase in new and replacement jobs caused by the change in codes.

Efficiency

The program is rated "Healthy" in terms of efficiency. The program's classes enjoy a 90% fill rate, showing that it has been successful in matching the number of courses and sections offered to the true demand for those classes. Counselors and faculty have worked cooperatively to both recruit students and match them with appropriate courses. The reported FTE faculty (5) includes four who teach ITS and one who teaches only ICS courses. If only the IT faculty were counted the ratio would be a little higher than that reflected in the data.

Effectiveness

Effectiveness indicators, while mixed, are certainly suggested areas in which the program can improve. The Successful Completion rate of 75% reflects an increase from the year before; however, some students are still not adequately prepared for the rigors of the IT field. In response, the program will continue efforts to provide tutoring services.

The decrease in withdrawals is most likely a reflection of the effectiveness of our tutoring services. ICS 100 and ICS 101 are now all included in these numbers though not all students in these courses will be IT majors; and these courses have historically been labeled as "Gatekeeper" courses as success rates for these students often fall below the 70% mark. However, the number of certificates, degrees awarded, and transfers have improved nicely, reflecting increased enrollment, increased number of certificates offered (new Advanced Professional Certificate), and new pathways for transfer (UHWO articulation). Our first effectiveness indicator regarding the ratio of degrees and certificates to number of majors is 40%, double that needed to be considered Healthy. The second indicator, the ratio of degrees and certificates to positions is at "0.25", which is clearly "Cautionary." However, this too is in response to the change from SOC to CIP codes that dramatically increased the number of positions counted. The third indicator on persistence is 73%, 2% less than that needed to be considered healthy, and is an area that we will address through continued tutoring services.

Distance Education

The Distance Education section reflects courses in both the ICS and ITS alphas. The program typically offers three to four ICS 100 and ICS 101 courses per semester as well as one ITS course per semester by distance. The demand for these online courses is high; however, their level of difficulty is also high. Studying technology-heavy courses using technology at a lower-division level can be extremely challenging.

Perkins

The program did not meet three of the four Perkins goals. Although 1P1 and 2P1 goals were not met, these are well within reach and will be addressed by action plans. Technical skills attainment and completion rates are high for a technical program, but just not enough to reach goals. Student placement remains an area for continued focus and serious improvement. Having someone either within the college or department who focused on placement would help immensely.

Part III. Action Plan

Action plans include:

- Renovation of the Department's computer lab in the Kopiko building (currently underway) to provide opportunities to enhance technology applications and collaborative work spaces to improve student engagement and learning.
 - The design of the computer lab is consistent with statements in the College's Strategic Plan that both describe where the IT program currently is and would like it to be. From the "Functional Statement": The College offers 21st century career programs in business and information technology, culinary arts, hospitality, legal education, nursing and health sciences, including emergency medical services. The college is developing emerging technology programs in new media arts, exercise and sports science, biotechnology, eBusiness and information technology.
- Continued partnership with UHWO to fully implement the recently approved articulation agreement that will provide a career ladder for students.
 - Collaboration and articulation with UHWO is consistent with Goal 3 and selected Objectives (3 and 4) of the Strategic Plan: **Goal 3 To Build A Learning, Partnering, and Service Network for Workforce and Economic Development**
- Collaboration with other IT programs to incorporate institutional best practices. the program will continue to strengthen regional ties through organizations such as MPICT (Mid Pacific Information and Communications Technology initiative).
- Continued recruitment efforts through a reach down into our service courses (ICS) as well as through other means.
- Faculty and counselors will continue efforts to improve retention/persistence through tutoring, counseling and other interventions so that more of our students are able to realize their goals of working in the IT industry.
- Collaboration with the IT Industry Advisory Council and a review of occupational codes related to this area of specialty to the program will ensure that its offerings accurately reflect the current industry requirements.

Part IV. Resource Implications

The program will seek funding to continue to expand tutoring for both IT classes and in the Kopiko 101 open computer lab. The estimated amount for this is \$12,000-15,000. Renewing memberships to MSDNAA and ORACLE Academies will allow for the use of current cutting edge software development tools in the classroom and by the students. The software is free for students because of the memberships. The cost for both memberships is \$2,000. Microsoft Office upgrades for all classrooms, lab, and instructor workstations is necessary to continue to provide training in current business applications: cost is approximately \$65 per license. The program requires approximately 165 units for all classrooms, labs, and instructor workstations. Total cost for Microsoft Office upgrade is \$10,725 every two to three years. Instructor training to use Oracle specific tools is done every other year and training is required this year for about \$4,000. The currency of computer equipment is critical for the IT Program. The upgrade scheduled this year for one lab is \$32,000. The IT program will seek funding for these initiatives through a combination of campus budgets and external sources (such as Perkins grants).

The program is pursuing other funding opportunities to create a smooth IT vendor certification process that would easily allow highly qualified students in our program to additionally acquire valuable IT vendor (e.g., Microsoft, Oracle, CompTIA) certifications that would enhance their employability. In addition, we are looking at alternative ways to acquire high-end equipment that would give students exposure to emerging technologies in our new lab.

Program Student Learning Outcomes

For the 2011-2012 program year, some or all of the following P-SLOs were reviewed by the program:

Assessed this year?	Program Student Learning Outcomes
1 No	1. Design and develop software solutions for contemporary business environments by employing appropriate problem solving strategies.
2 No	2. Configure and administer database servers to support contemporary business environments.
3 No	3. Comprehend and resolve common desktop and network issues.
4 No	4. Analyze common business functions and identify, design, and develop appropriate information technology solutions(in web, desktop, network, and/or database applications)
5 Yes	5. Learn future technologies through acquired foundational skills and knowledge and employ them in new business environments.
6 Yes	6. Practice communication, problem solving and decision-making skills through the use of appropriate technology and with the understanding of the business environment

A) Evidence of Industry Validation

IT Advisory Board Meeting, Feb, 2009

B) Expected Level Achievement

70%

C) Courses Assessed

BUS 120--Spring 2012

ITS 324, ITS 328, and ITS 347--Fall 2011

D) Assessment Strategy/Instrument

Program SLO 5: Class level assessments for three 300 level courses: ITS 324, ITS 328, and ITS 347.

Program SLO 6: Publisher Business Simulations and Quizzes used in BUS 120

E) Results of Program Assessment

Program SLO 5: Review of contributing class level assessment indicates that courses are successful in preparing students to learn future technologies.

Program SLO 6. All students (100%) either Met Expectation or Exceeded Expectation

F) Other Comments

No content.

G) Next Steps

Spring 2012: Continue using online Critical Thinking Decision Making Business Simulations in Information Technology and Accounting Program required courses.

Fall 2013: (See Results above for specifics) Keep teaching courses in the APC. Create new "Topics" courses as appropriate.