HAWAI`I COMMUNITY COLLEGE
ANNUAL
PROGRAM REVIEW REPORT

Information Technology (IT)

December 3, 2009

(Assessment Period: 2008-2009)

Initiator: James Yoshida
Writer(s): Annie Brown

UNIVERSITY OF HAWAI`I COMMUNITY COLLEGES
ANNUAL INSTRUCTIONAL PROGRAM REVIEW
PROCEDURES, COMPONENTS, AND MEASURES

College: Hawaii Community College

Program: Information Technology Fall 2009

Check All Credentials Offered	**AA**	**AS**	**ATS**	**AAS**	**CA**	**CC**	**COM**	**ASC**	**APC**
		x			**x**	**x**			

Introduction:

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

Student Learning Outcomes (program level)

1. **Information Systems**: Plan, develop, and implement the hardware, software, and procedural components of a data processing system in a business environment.
2. **Networking**: Plan, develop, and implement the hardware, software, and procedural components of a data communications system in a business environment.
3. **Programming**: Plan, develop, implement, and document computer programs that meet the data processing requirements of a business organization.
4. **Productivity**: Work independently and cooperatively to deliver reports, programs, projects, and other deliverables that document a business organization's information technology requirements.
5. **Legal/Ethical/Professional**: Base decisions and actions on the legal, ethical, and professional guidelines and practices of the information technology field.
6. **Explore**: Demonstrate the ability to search, analyze, and synthesize current information and solutions in the rapidly changing information technology profession.

Part I. Quantitative Indicators for Program Review

Annual Report of Program Data for Information Technology
HAW CC Program Major(s): IT

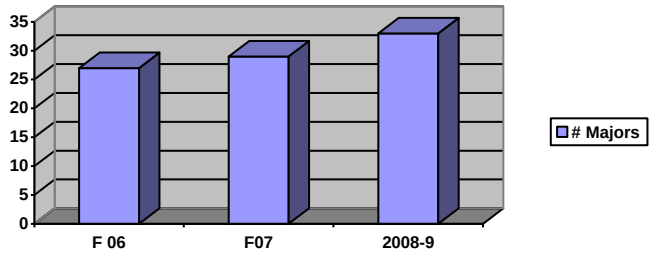
Demand Indicators		Fall of Year			
		2006	2007	2008-09	
1	New & Replacement Positions (State)	68	79	182	
2	New & Replacement Positions (County)	6	6	7	
3	Number of Majors	27	29	33	
					Demand Health Cautionary
4	SSH Program Majors in Program Classes	94	131	341	
5	SSH Non-Majors in Program Classes	96	63	83	
6	SSH in All Program Classes	190	194	424	
7	FTE Enrollment in Program Classes	13	13	14	
8	Number of Sections Taught	6	6	13	

Efficiency Indicators		Fall of Year			
		2006	2007	2008-09	
9	Average Class Size	8.0	8.3	8.9	
10	Fill Rate	40%	42%	45%	
11	FTE BOR Appointed Faculty	2.0	0.0	2.0	
12	Majors / FTE BOR Appointed Faculty	13.5	0.0	16.5	Efficiency Health Unhealthy
13	Majors / Analytic FTE Faculty	17.7	19.0	20.3	
13a	Analytic FTE Faculty	1.6	1.6	1.6	
14	Overall Program Budget Allocation	$72,230.90	$76,102.00	$83,019	
14a	General Funded Budget Allocation	n/a	n/a	$83,019	
14b	Special/Federal Budget Allocation	n/a	n/a	$0	
15	Cost per SSH	$380.16	$392.28	$195.80	
16	Number of Low-Enrolled (<10) Sections	4	4	8	

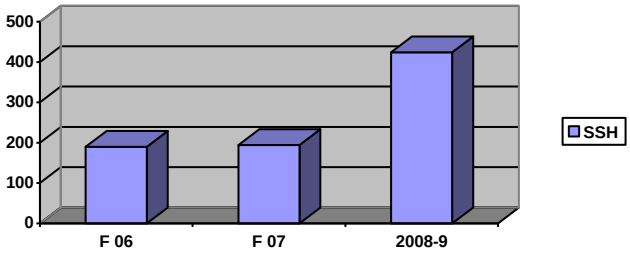
Effectiveness Indicators		Fall of Year			
		2006	2007	2008-09	
17	Successful Completion (Equivalent C or Higher)	n/a	n/a	72%	
18	Withdrawals (Grade = W)	n/a	n/a	7	
19	Persistence (Fall to Spring)	70%	72%	74%	
20	Unduplicated Degrees/Certificates Awarded	n/a	n/a	8	
20a	Number of Degrees Awarded	3	6	8	Effectiveness Health Healthy
20b	Certificates of Achievement Awarded	0	0	0	
20c	Academic Subject Certificates Awarded	n/a	n/a	0	
20d	Other Certificates Awarded	n/a	n/a	0	
21	Transfers to UH 4-yr	1	2	0	
21a	Transfers with degree from program	n/a	n/a	0	
21b	Transfers without degree from program	n/a	n/a	0	

	Distance Education Completely On-Line Classes	Fall of Year			
		2006	2007	2008-09	
22	Number of Distance Education Classes Taught	n/a	n/a	0	
23	Enrollment Distance Education Classes	n/a	n/a	0	
24	Fill Rate	n/a	n/a	0%	
25	Successful Completion (Equivalent C or Higher)	n/a	n/a	0	
26	Withdrawals (Grade = W)	n/a	n/a	0	
27	Persistence (Fall to Spring Not Limited to Distance Education)	n/a	n/a	0%	
	Perkins IV Core Indicators				
	Perkins IV Measures 2007-08	**Goal**	**Actual**	**Met**	
28	1P1 Technical Skills Attainment	90.00	93.33	Met	
29	2P1 Completion	44.00	53.33	Met	
30	3P1 Student Retention or Transfer	55.00	60	Met	
31	4P1 Student Placement	50.00	66.67	Met	
32	5P1 Nontraditional Participation	25.00	n/a	n/a	
33	5P2 Nontraditional Completion	25.00	n/a	n/a	

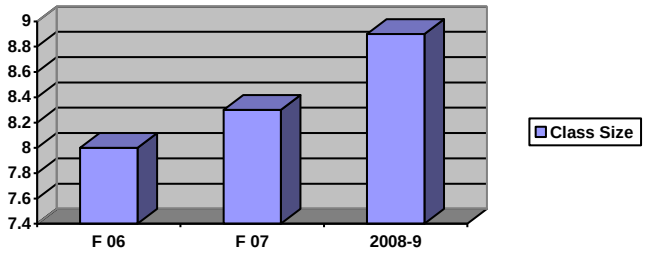
Information Technology Majors



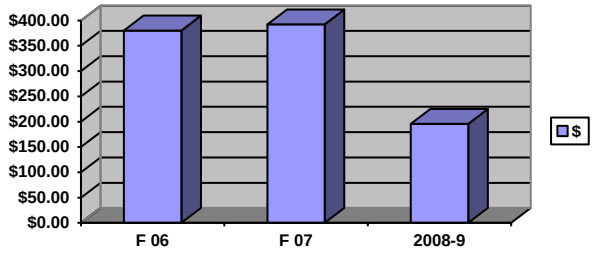
Student Semester Hours



Average Class Size



Cost per Student Semester Hour



Part II. Analysis of the Program

The data above indicate a cautionary overall program health with weaknesses in demand and efficiency. Student majors have increased at a slow but steady rate with a total of 33 declared IT majors for fall 2009. Given the recognized demand for IT jobs, the number of majors is anticipated to continue to grow. According to CareerBuilder.com "based on salary, industry employment and projected job growth" two of the ten "best jobs for workers with two-year degrees" are "#1 Computer specialists and #10 Computer support specialists." Preparation for both of these positions is provided by the IT program. (The complete article is included at the end of this program review.) This is also shown by the growth in new and replacement positions in the state and county.

The career for IT and Computer Support Specialists is also recognized as one of the top five careers with high-tech positions perfect for seasoned employees ready for a change. Again this is exactly the mission of the IT program. The entire article is appended to this report. Also**,** it is reported that there were 5372 general computer/information science jobs in the state, and there are expected to be 6,362 such positions in 2016 (State of Hawaii STEM Programs, October 2009). Similarly there were 4,253 IT jobs in the state, and there are expected to be 5,261 in 2016. This does not include many other jobs listed for other computer-related fields.

The IT program courses have been offered on a Fall/Spring rotation to maximize class enrollment and distribute course assignments between the (previously) two IT faculty members. The recent retirement of one of the two faculty members has placed a strain on the ability to cycle courses adequately for student needs. There are no courses that have multiple sections and faculty members usually have three or four course preparations each semester. Every effort is being made to maximize the efficiency of offering the program courses.

The most significant gains in program demand and efficiency will come with an increase in the number of prepared, motivated, conscientious, and persistent majors. The IT program faculty continues to look at the content and packaging of program courses in an effort to attract and retain more students. As indicated, the program effectiveness is rated as healthy. Once we are able to get students into the program, the majority of them progress, graduate, and find gainful employment. Our major challenge is the recent retirement of one of the two full time faculty members in the program. A permanent replacement needs to be hired in the near future to sustain program viability.

Current IT students are able to compete with students nation-wide for scholarship and internship positions. For the past two of three years, students from our program were selected to represent Hawaii CC to participate in the Akamai Workforce Initiative. This past summer (2009) Kirk Wah Yick and Jermaine Vitales competed successfully against more than 80 applicants from two year and four year colleges throughout the country. They were chosen to intern from June to August 2009 at the Institute for Astronomy.

Our IT graduates continue to strive after graduation. At least five out of eight graduates in May 2009 are employed in the IT field. Naveen Thapa Saru (see attached email from him) is working for Kilauea Market and Dr. Allan Wang's office as a Network Administrator/Administrative Assistant/IT Officer; Ward Oshiro is a computer operator in KTA Superstores; Makanalani Carvalho works as a Media Specialist for Hawaii CC, and Scott Okuna is a part-time programmer for Mauna Kea Support Services. Stephen Bauer works as a computer technician for the County of Hawaii while Leila Wakida works at the Department of Water Supply. Many of our graduates are occupying major positions in our community.

The following significant program actions from the past two year's action plan have been completed.

Action Plan Tasks	Year	Responsible Party
Investigate the establishment of possible certificates of completion in Information Technology.	2007	Annie Brown / Kent Killam
A new certificate of completion in Computer Support was submitted and approved effective fall 2008. There are no other certificates under consideration at this time while we await data on the effectiveness of this certificate.		

Comment [JO1]: This was from 2007. So was the first one but effective fall 2008 so left it in.

Part III. Action plan

The following action plan tasks are continued from the previous IT program review.

Action Plan Tasks	Year	Responsible Party
Explore possibility of offering more college information technology service courses including the requirement of an information retrieval/computing literacy course for the AA liberal art students.	2009-2010	Annie Brown
Ongoing - Initial efforts to have ICS 101 satisfy a Social Science General Education requirement for the AA liberal arts degree have begun with the review of CCCM #6004. Efforts are underway to identify the course content which aligns with and supports the Social Science requirements of the degree. Ongoing - ICS 100 was modified to satisfy a Social Science General Education requirement in fall 2007 for the Trades and Industry students. However, student enrollment was not satisfactory and therefore the course will be eliminated in 2011.		
Participate in a review of the similarities and differences between technical programs on campus to strengthen complementary requirements and reduce duplication.	2009-2010	Annie Brown / Other individuals as assigned by the VCAA.
Ongoing - More courses are being developed in the Media Art Certificate of Achievement and if a degree granting program should be developed, this is one area in which IT can complement another program.		
Investigate and participate in a campus supported pilot program for electronic portfolios.	2009-2010	Annie Brown / Other individuals as assigned by the VCAA.
Ongoing – no action to date. Continuing evaluation and dialog with the Electronics Program is ongoing since the Electronics program has recently changed its curriculum to include four CISCO networking courses. We need to wait and see how successful this new curriculum will be, and if it increases their student count.		
Continue to Equip and outfit the IT lab in Room 140.	2008/2009	Annie Brown

Action Plan Tasks	Year	Responsible Party
Ongoing - Due to funding constraints, we were not able to acquire the computers planned for the rest of the hands-on lab. Our ongoing plan is to request the funding required to establish a formal hands-on lab in Room 140 and to establish a more robust Linux operating system/networking lab for HawCC students. A new topics course, ITS 121 Introduction to Unix/Linux was scheduled and offered in spring 2009. Our continuing plan is to request the funding required to establish a formal hands-on lab in Room 140 and to establish a more robust Linux operating system/networking lab for HawCC students. Meanwhile, our program had requested and was granted by the former VCAA the use of ten replaced classroom computers to start the IT hardware lab. We plan to continue our efforts to acquire more up-to-date equipment and peripherals. See below narrative regarding current changes in physical and human factors that negatively impact the development of the IT program.		
Re-establish a needed IT Lab	2009-2010	Annie Brown
In the Fall of 2009, our IT lab in Room 140 was converted into an administrative staff office. Both our hardware support (ITS 104), software support (ITS 108), and network courses (ITS 215 & ITS 284) are greatly affected. We will need to look into re-establishing an IT lab so that there will be adequate space for students to build and to perform hardware/software/ network setup and maintenance with computers.	2009-2010	Annie Brown/Other individual as assigned by the VCAA
Hire a permanent replacement for the retired IT faculty	2009-2010	Chancellor/VCAA
As our number of majors are steadily increasing, a full time faculty member must be hired to replace the retired faculty member in order to provide adequate course coverage and expertise to assure that students can meet the learning objectives of the program.	2009-2010	Chancellor/VCAA

Part IV. Resource Implications (physical, human, financial)

Recurring Instructional Costs	
MSDN Academic Alliance Program	$415 per year
The Business Education and Technology Division participates in the Microsoft Development Network Academic Alliance Program. This program is designed specifically for academic labs, faculty, and students in curriculum areas of Computer Science, Engineering, and Information Systems to make it easier and less expensive to get Microsoft developer tools, platforms, and servers for instructional and research purposes. Annual membership currently costs $415 and is a significantly reduced cost for Microsoft products used in instruction.	

Budget Requests	
Equipment for hardware/software	$5,000 – 7,000
Up-to-date computer systems are needed for instruction and extensive hands-on activities for students. It is required that equipment be updated regularly in the IT lab to enable students to receive instruction relevant to the current state of the computer field. It is estimated that this will require approximately $5000 to $7000.	

Physical resource Requests	
Search for a new location for the IT lab	Beginning 2010
While conceptual work is important to the understanding of the IT curriculum, hands-on experience is extremely essential to the IT curriculum as well. In order to provide optimal training for our students and to prepare them for the workforce, we must provide them with lab space to learn and practice their skill at the college with supervision.	

Human Requests	
Immediate plan to hire a permanent faculty to replace the retired faculty	$50,000 -
Our IT faculty members usually each have four to five course preparations each semester. With a steady increase in enrollment (we have 33 majors as of 08-09) and only one full time faculty member in the program, it is almost impossible for one person to build, to provide both quality education and services to our students. Therefore, it is imperative that a permanent IT faculty member is hired as soon as possible.	

10 Best Jobs Requiring Two-Year Degrees

By Anthony Balderrama, CareerBuilder.com writer

To continue school or not continue school? That is the question for many high school graduates.

Although college can improve your career opportunities and increase your lifetime earnings, it also takes four years (or more) of your life and a lot of money. Plus, few majors can guarantee a financial return that will offset the financial debt many students will accumulate during college.

Two-year degrees, of which an associate degree is the most common, provide training and education for a variety of fields in approximately half the time as a bachelor's degree. Plus, you can earn an associate degree from a local community college for a fraction of the cost of a four-year degree at a university. Also, for most areas of study, an associate degree puts you halfway toward a four-year degree should you decide to pursue later.

Perhaps more important to students wondering about their educational future, workers with associate degrees on average earn more money than their counterparts with high school diplomas. According to the U.S. Census Bureau, over a 40-year period, high school graduates will earn a total of $1.2 million, while workers with associate degrees will earn $1.6 million.

Is it any surprise two-year degrees are becoming an increasingly attractive option for many people?

Based on salary, industry employment and projected job growth, here are 10 of the best jobs for workers with two-year degrees:

1. Computer specialists

Median annual wage: $71,510*

Current Employment: 136,000

Projected 2016 employment increase: 15 percent

2. Dental hygienists

Median annual wage: $64,740

Current Employment: 167,000

Projected 2016 employment increase: 30 percent

3. Fashion designers

Median annual wage: $62,810

Current Employment: 20,000

Projected 2016 employment increase: 5 percent

4. Registered nurses

Median annual wage: $60,010

Current Employment: 2.5 million

Projected 2016 employment increase: 23 percent

5. Environmental engineering technicians

Median annual wage: $ 40,560

Current Employment: 21,000

Projected 2016 employment increase: 25 percent

6. Radiologic technologists and technicians

Median annual wage: $50,260

Current Employment: 196,000

Projected 2016 employment increase: 15 percent

7. Industrial engineering technicians

Median annual wage: $47,490

Current Employment: 75,000

Projected 2016 employment increase: 10 percent

8. Paralegals and legal assistants

Median annual wage: $44,990

Current Employment: 238,000

Projected 2016 employment increase: 22 percent

9. Occupational therapist assistants

Median annual wage: $45,050

Current Employment: 25,000

Projected 2016 employment increase: 25 percent

10. Computer support specialists

Median annual wage: $42,400

Current Employment: 552,000

Projected 2016 employment increase: 13 percent

*Salary and employment data based on Bureau of Labor Statistics information.

Anthony Balderrama is a writer and blogger for CareerBuilder.com. He researches and writes about job search strategy, career management, hiring trends and workplace issues.

Story Filed Tuesday, July 01, 2008 - 6:09 PM

5 Tech Jobs for Career Changers

Stable, Well-Paying Options for Quick Transitions

by Christina Couch, ClassesUSA.com

Those seeking second "encore" careers can look no further than their computer screen. Check out these high-tech positions perfect for seasoned employees ready for a change:

Microsoft Certified Desktop Support Technician (MCDST)

Kick your current job to the curb and get ready to break out the bubbly. Those with even cursory computer knowledge can be just two online exams away from a decent-paying position. According to Payscale.com, MCDSTs with anywhere from one to four years of experience command a median salary of approximately $41,000. The double good news is that you won't blow your future salary on pricey training courses, either. Those looking to become MCDSTs can either enroll in a preparation course or through an online university or can prepare for the exams on their own. The live exam costs $125 each; trainees are welcome to take extra tests in areas like Windows Vista or Hardware Certification to beef up their resume.

Computer-Aided Drafting Specialist

Job market trends may change, but one thing will always stay the same -- design concepts have to go from human to computer somehow. Dedicated to turning engineering concepts into three-dimensional computer models, CAD Specialists find work in a wide array of engineering and architectural firms. With short training programs -- community and junior colleges through the nation offer one-year CAD certificates -- and a median salary of nearly $40,000 according to Salary.com, computer-aided drafting is an ideal field for employees looking to make a high-tech switch.

Geographic Information Systems Analyst

Welcome to cartography 2.0. Specializing in the creation and maintenance of computerized geography data -- think gathering and organizing maps and statistics in areas like socio-economic trends, political boundaries, and environmental changes -- GIS pros find work on the federal, state, and private levels. Listed as a new and emerging occupation by the Bureau of Labor Statistics, GIS analysts can get their start by enrolling in a one to two-year GIS certification program at their local community college or online university; part-time options are available for working adults. Once they're certified, GIS analysts can expect to earn approximately $37,000 on average, according to Salary.com.

Environmental Science and Protection Technicians

Listed as one of the 30 fastest-growing occupations in the nation, the Bureau of Labor Statistics estimates that the field will grow nearly 30% between now and 2016, leaving plenty of

opportunities for job changers to snag a lucrative position. Splitting their time between the lab and the field, ESPTs collect and organize data related to environmental changes, the effects of pollution, toxicity levels of hazardous materials, and a regulation of waste products. A two-year associate degree from an accredited community, technical, or junior college is required to break into the field, which boasts a starting salary that ranges from $30,630 to $46,300 (on average).

IT and Computer Support Specialists

Large, small, federal, private, for- or non-profit -- every organization needs them, and we can't seem to get enough of them. The Bureau of Labor Statistics estimates that in the next eight years, the U.S. will add approximately 60,720 new jobs in the field at companies ranging from Fortune 500 firms to mom-and-pop shops. Perfect for career changers armed with a lifetime of work experience, computer support newbies can break into the field with a computer-related associate degree or by passing certification tests through private computer training centers. Once trained, those in the field earn an average of $43,000 per year according to the BLS and can find work in nearly every corner of the country.

http://hotjobs.yahoo.com/career-articles-5_tech_jobs_for_career_changers-549

Annual Report Program Data and analysis located on college website at:

AY 2009 Completed Annual Program-Unit Reviews