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

Electronics Technology Program

Introduction:

Program Mission

The mission of the Electronics Technology Program is to provide students with an opportunity to practice the technical skills necessary to install, operate, and repair electronic systems and the interpersonal skills required to be a valued employee and contributing member of the community.

Program History

The Electronics program opened with an initial class of eighteen students fall 1966 under the auspices of Hawaii Community College's predecessor, The Hawai`i Vocational School. The program's credential was a Certificate of Achievement consisting of 64 credits. Three years later, in 1969, when Hawai'i Technical School became a part of the University of Hawai'i Community College system, an Associate in Science Degree in Electronics Technology was added. This was later changed to an Associates in Applied Science Degree. Curriculum changes have occurred over the years in response to industry demand and input by the program's advisory council. The most major change is the fall 2007 modification of the program that will go into effect fall 2008. This change results in core electronics courses being at the transfer level, making articulation with Maui and Kauai CC electronics programs a near reality.

Program Student Learning Outcomes

1. The student will be able to specify, design, build, install, program, operate, troubleshoot, analyze, and modify electronic systems, automated test, and manufacturing control systems.
2. The student will be able to specify, install, program, operate, troubleshoot, and modify computer systems.
3. The student will have effective written, interpersonal, presentation, and team building skills.
4. The student will have the necessary leadership and management skills to effectively complete a project.
5. The student will have a well-developed sense of work ethics and personal discipline to succeed in their chosen profession.
6. The student will have attitudes, abilities, and skills required to adopt to rapidly changing technologies and a desire for life-long learning.

Part I. Quantitative Indicators for Program Review

	AY 04-05	AY 05-06	AY 06-07
ET			
1. Annual new and replacement positions in the State	942	942	942
2. Annual new and replacement positions in the County	-7	-7	-7
3. Number of majors	41	36	19

4. Student Semester Hours for program majors in all program classes	366	261	120
5. Student Semester Hours for Non-program majors in all program classes	0	0	0
6. Student Semester Hours all program classes	366	261	120
7. FTE Program enrollment	24.4	17.4	8
8. Number of classes taught	8	8	8
9. Determination of program's health based on demand (Health, Cautionary, or Unhealthy)	Healthy	Cautionary	Unhealthy
10. Average Class Size	15.5	10.88	5
11. Class fill rate	77.5%	54.38%	25%
12. FTE of BOR appointed program faculty	1	1	1
13. Student/Faculty ratio	41:1	36:1	19:1
14. Number of Majors per FTE faculty	25.63	22.5	11.88
15. Program Budget Allocation (Personnel, supplies and services, equipment)	$81,494.00	$80,294.00	$79,168.00
16. Cost Per Student Semester Hour	$222.66	$307.64	$659.73
17. Number of classes that enroll less than ten students	0	0	8
18. Determination of program's health based on Efficiency (Healthy, Cautionary, or Unhealthy)	Cautionary	Unhealthy	Unhealthy
19. Persistence of majors fall to spring	80.49%	72.22%	78.95%
20. Number of degrees earned (annual)	5	13	7
21. Number of certificates earned (annual)	0	0	0
22. Number of students transferred (enrolled) to a four-year institution in UH	0	0	0
23. Perkins core indicator: Academic Attainment(1P1)	85.71%	75.00%	93.33%
24. Perkins core indicator: Technical Skill Attainment (1P2)	88.89%	90.00%	88.89%
25. Perkins core indicator: Completion Rate (2P1)	22.22%	50.00%	55.56%
26. Perkins core indicator: Placement in Employment Education, and Military (3P1)	66.67%	100.00%	80.00%
27. Perkins core indicator: Retention in Employment (3P2)	100.00%	100.00%	100.00%
28. Perkins core indicator: Non Traditional Participation (4P1)	5.88%	5.56%	12.12%
29. Perkins core indicator: Non Traditional Completion (4P2)	.00%	.00%	.00%
30. Determination of program's health based on effectiveness (Healthy, Cautionary, Or Unhealthy)	Cautionary	Healthy	Healthy
31. Determination of program's overall health (Healthy, Cautionary, or Unhealthy)	Cautionary	Cautionary	Cautionary
32. Number of FTE Faculty	1.6	1.6	1.6

Part II. Analysis of the Program

Average class size of 5 and a 25% fill rate coupled with reported *annual new and replacement positions in the county* of negative seven (-7) compared to 942 for the state indicate unhealthy demand and efficiency. These unfavorable statistics are in stark contrast to the favorable statistics reporting on the effectiveness of the program. Industry support also indicates a greater demand for qualified electronics technicians than the number reported for annual new and replacement positions in the county. The overall program health is deemed cautionary. Modifications made to curriculum as well as the use of distance education to connect with Maui and Kauai electronics programs have been implemented to improve efficiency and increase student demand.

Significant Program Actions (new certificates, stop-out; gain/loss of positions, results of prior year's action plan)

Plan of Action 2006-2007	Status
1. Course upgrades and additions will be submitted to the curriculum committee fall 2008. As part of this process, curriculum will be aligned with Maui CC and Kauai CC.	Program changes were submitted and approved. Curriculum changes for only the first semester courses and new course offerings were submitted. Curriculum changes for the remainder of the courses are included in the Plan of Action 2007-08.
2. The lead instructor will complete requirements for the laser safety officer certification.	Certification was received by Harvey Motomura.
3. The program will receive an adaptive optics (AO) demonstrator from UCSC to facilitate classroom instruction in AO.	The demonstrator was received for UCSC Center for Adaptive Optics and is in use.
4. The program will purchase fiber optics splicing equipment.	Equipment was purchased.
5. The program will develop and implement a recruitment strategy to increase overall enrollment as well as nontraditional participation.	This is in development. It is included in the Plan of Action 2007-08.
6. The program will review and develop where appropriate student learning outcomes at the course level.	This is partially complete. It is being done as courses are modified.
7. The program will develop assessment strategies for the program student learning outcomes.	This is partially complete. It is included in the Plan of Action 2007-08.
8. The program will explore distance learning strategies with Maui CC and Kauai CC in an effort to improve efficiency ratios.	This is in progress. Perkins Program improvement funds have been tentatively approved to purchase distance learning equipment for Maui and Hawaii CC. Kauai CC already has.
9. Equipment and other budget needs not covered by the normal program budget include the following: (1)Video conferencing capabilities for the lab to transmit and receive classes from Kauai CC and Maui CC $10,000 and (2) Photonics equipment for classroom $9,000	The video conferencing equipment will be purchased by June 30, 2008 using Perkins Program Improvement funds. The Photonics equipment was purchased.

Part III. Action plan

1. Assessment strategies for student learning outcomes will be documented.
2. Curriculum changes for courses proposed in the Program changes go into effect fall 2008 that have not been submitted, will be completed.
3. Recruitment strategies will be developed, documented, and implemented.

4. A sustainability plan for the program will be developed in anticipation of the sole faculty's planned retirement in 2010 and should provide for a comfortable timetable for the proper up-grade training and certification for the new tenure-track faculty if not necessary.
5. Faculty will explore the feasibility of integrating fuel cell and hydrogen technology into the curriculum.
6. The seven credit Certificate of Competence Optics Technology will be offered and marketed to former students.
7. Distance learning equipment will be purchased and installed with the first distance course offering scheduled for fall 2008.
8. Continue discussion with Maui and Kauai CCs in offering a Bachelors of Science Degree in Electronics Technology.

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

1. The program currently has two BOR approved positions. Only one of these positions has been filled. The other was transferred to another program since current enrollment does not justify hiring another full-time faculty. All second year courses are currently taught by a lecturer which requires constant overseeing by the tenured faculty.
2. With the anticipated implementation of the laser and optics technologies, the existing facility is not conducive to the highly temperature-sensitive equipment especially in the non-air conditioned lab. The present air-conditioned room where the laser and optics technologies are housed is of insufficient square footage and does not provide for an efficient working environment for students.
3. The fiber-optics installer certification project requires additional acquisition of equipment valued ~ $70K.