

**HAWAII COMMUNITY COLLEGE
ANNUAL INSTRUCTIONAL
PROGRAM REVIEW**

Agriculture

APRIL 2, 2007

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ANNUAL INSTRUCTIONAL PROGRAM REVIEW
Agriculture
April 2, 2007

I. Narrative and Analysis of Data

a. Statement on the mission or purpose of the program, including the target student population;

The Agriculture program (AG) offers two one-year Certificates of Completion for Landscape Worker and Farm Worker, a one-year Certificate of Achievement and a two-year Associate in Applied Science degree. This program prepares students for employment and self-employment in agri-business, horticulture, flowers and foliage, landscape maintenance and design, vegetable crops, and tropical fruit crop production industries.

The certificates of completion and certificate of achievement, with no required prerequisites, target students with interested in agriculture even if they have low Compass placement scores. The AAS degree requires two semesters of 100 and 200 level courses so targets students who possess higher level skills.

b. Information on external factors affecting the program;

Competing programs within the college and a general lack of interest in agriculture at the high school level do little to improve enrollment figures. The majority of agriculture related jobs being located on the west side of the island and the fact that many west side employers will hire “any warm body” also have a negative effect on enrollment numbers.

c. Attach PHI Report (CTE Programs only) See attached.

d. Required external measures, if applicable (e.g.) Nursing Cert. None.

e. Analysis of Data

Number of majors: The program has 15 unduplicated majors for the academic year which is about twice the number of FTE students based on student semester hours. The FTE student majors totaled 4.73 for the year and there were two graduates.

Average class fit & student-faculty ratio: Ag classes are capped at 14. The program average class fit was 34.5% for the year and the average class size was 4.83. The student-faculty ratio was extremely low at 1.93.

FTE faculty: The BOR appointed program faculty of 1 is adequate based on the 1.14 calculated FTE faculty required using 21 contact hours for the academic year. Unfortunately a one faculty program has its drawbacks. Faculty cannot cancel classes to attend recruitment events and spends time when there are no classes maintaining facilities and completing faculty specific tasks and responsibilities.

GPA and credits earned: The program paid course (PPC) GPA is 2.38 for the academic year which is untraditionally lower than the non-PPC GPA of 2.59. The credits earned ratio is 62% for PPC and 69% for non-PPC. The small number of students (4.83 average) and classes (3 average) however should be taken into account when looking at the figures since one student has a material effect on outcomes.

II. Update or Create Your Action Plan including Budget Request with Justification, if needed.

Program goals for the next reporting period include:

1. Development of course level student learning outcomes that complement the already developed program level outcomes.
2. Development and documentation of assessment strategies for the student learning outcomes will be started.
3. The program will complete a comprehensive review fall 2007.
4. The program will develop a written plan for recruiting students (versus just saying “we need to recruit”.)
5. The program will identify a solution for storage needs. Equipment at the farm is poorly protected and not secure. A container has been discussed and would be ideal.
6. The program will recruit additional members for the advisory council. Currently only two members are active.
7. The program’s only significant equipment need at this time is a solution for its storage problem. It’s biggest obstacle is being a one faculty program.

Budget needs: Equipment storage solution.

Data Chart

QUANTITATIVE TREND DATA CHART

Program Name: Agriculture

	Fall 2005	Spring 2006	AY
#1 Number of Unduplicated Majors	11	9	15
#2 Total Student Semester Hours	69	73	142
#3 FTE Student Majors	4.60	4.87	4.73
#4 Number of Graduates	-	-	2
#5 Number of classes	3	3	6
#6 Avg Class size	6.33	3.33	4.83
#7 Avg Class fit	45.2%	23.8%	34.5%
#8 FTE of BOR Appointed Program Faculty	-	-	1
#9 Number of FTE Faculty	-	-	1.14
#10 Student semester hours for all PPC class enrollments	30	36	66
#11 Student-Faculty Ratio	-	-	1.93
#12 PPC Credits Earned Ratio	.35	.89	.62
#13 Non-PPC Credits Earned Ratio	.65	.73	.69
#14 PPC Avg GPA	1.89	2.88	2.38
#15 Non-PPC Avg GPA	2.84	2.34	2.59
#16 Budget	-	-	2988.00
#17 Program Cost per SSH***	-	-	609.28

*** - calculated using rank 4 rate per credit hour of instruction

The Program Health Indicators Review provides a comprehensive, empirically based review of academic programs. Major sections of the report provide descriptive information about the development and history of a program, goals, faculty and advisory committees, admission and degree requirements, and graphic representation of the program’s standing. The major clusters of program health indicators are program demand, program efficiency and program outcomes. Hawai‘i Community College uses five data elements to develop these clusters: number of applicants and majors (program demand), class fit and average class size (program efficiencies) and graduates (program outcomes).

Chancellor : Rockne Freitas
Vice Chancellor for Academic Affairs: Doug Dykstra
Department Chair: Clyde Kojiro

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PROGRAM DESCRIPTION

The Agriculture program is placed in the Applied Technical Education Division's Construction Trades Department of Hawai'i Community College. Other programs within this department include: Carpentry, Drafting & Engineering Aide, and Electrical Installation & Maintenance.

The program offers two one-year Certificates of Completion for Landscape Worker and Farm Worker, a one-year Certificate of Achievement and a two-year Associate in Applied Science degree. This program prepares students for employment and self-employment in agri-business, horticulture, flowers and foliage, landscape maintenance and design, vegetable crops, and tropical fruit crop production industries.

PROGRAM GOALS

The primary goals of the Agriculture Program are as follows:

1. To prepare individuals with agricultural competencies for employment and/or self-employment in the following agricultural related industries:
 - Horticultural industry including vegetable, nursery, fruits and nuts production, landscape maintenance, and landscape horticulture, and
 - To prepare individuals with basic agri-business competencies.
2. To stress the importance of a broad general education. This objective is expected to equip students with the following competencies:
 - Knowledge and skills that will enable them to understand and appreciate their heritage and to be aware of the contributions of different cultures,
 - The ability to exercise good judgements as citizens, and
 - The desire for lifelong learning that will enable them to respond to changing technology.

PROGRAM HEALTH INDICATORS

INDICES	MINIMUM LEVEL	ACTUAL LEVEL	SATISFACTORY LEVEL
PROGRAM DEMAND/CENTRALITY: Fall 2006			
Number of Applicants	12	16	24
Number of Majors	12	11	14
Student Semester Hours	230	61	345
Class Credit Hours	12	10	12
Number of Classes Taught	3	3	3
PROGRAM EFFICIENCY: Fall 2006			
Average Class Size	10	6	12
Student Semester Hours per FTE Faculty	116	61	60
Equiv. Class Credit Hours per FTE Faculty	12	10	12
Percentage of Small Classes	50%	67%	0%
PROGRAM OUTCOMES: (See Perkins III Core Indicators on Page 5)			
Credits Earned Ratio – General Education		71.43%	
Credits Earned Ratio – Vocational Education		90%	
Degrees and Certificates Awarded – AY 2001-2002		40%	
Placement into Further Education, Employ, Military		50%	
Program Retention – Fall to Spring		100%	
Retention in Employment		100%	
Non-Traditional Participation – Females		4.76%	
Non-Traditional Completion – AY 2001-2002		00%	

2005-2006 PERKINS III CORE INDICATORS

Core Indicators	# in Denominator	# in Numerator	Adjusted Level	Actual Level
Academic Achievement	2	2	81.92%	100.00%
Vocational Skills	2	2	90.00%	100.00%
Degrees & Certificates	2	1	37.33%	50.00%
Placement/Employment	1	1	71.72%	100.00%
Retention/Employment	1	1	92.00%	100.00%
Nontraditional Participation	8	3	14.60%	37.50%
Nontraditional Completion	1	1	12.73%	100.00%

OCCUPATIONAL DEMAND
Hawai'i County - 1998-2011

Occupational Title	State 2005	Hawaii County 2005	Hawaii County New 2005-2011	State Replacement 2005-2011	Hawaii County Replacement 2005-2011
Farming, fishing, & forestry	962	581	48	102	61
Entrepreneurship	4526	301	71	454	30
Plant landscaping	9934	1931	278	1257	250
TOTAL	15422	2813	397	1813	341
Total demand 2005-2011 = 738					

Source: EMSI Table for Hawaii County

ANALYSIS OF THE PROGRAM

Program Demand/Centrality

The program's number of applicants and classes taught are equal to or above the minimum in the demand category. All other areas are below the minimum. The robust economy undoubtedly has some effect on the enrollment counts; traditionally when the county has low unemployment enrollment goes down. EMIS indicators project high occupational demand (528 jobs) in the landscape area which is one reason the program created the Certificate of Completion for landscape workers. Enrollment may also be affected by competing program within the college – Hawaiian Studies and Forest TEAM offer programs involving agriculture.

Program Efficiency

All areas within the program efficiency category are below the minimum level. This is a result of a low number of students entering the program. One strategy employed to help in this area was the creation of two certificates of completion. These were first placed in the catalog fall 2006 so there has been insufficient time to see the effect of this change. However, agriculture does not seem to be the program of choice for most high school students.

Another factor affecting efficiency is the program's admitting new students every other year. With only one faculty, required courses must be spread out over a two year period. Consequently, graduates only occur every other year unless they have fallen behind and need to make up a class from an earlier semester.

Program Outcomes

The program exceeds the adjusted level for all Perkins core indicators.

Plan of Action 2005-2006

1. Marketing the Agriculture Program: The need to continue marketing efforts must be kept in place. There needs to be more professional help and release time to make any effort more fruitful.
2. Additional help: A request for more lecturers and another instructor will again be made to allow the primary instructor to participate in more recruitment visitations.
3. Articulation Efforts: The efforts to articulate with Maui Community College and the University of Hawaii at Hilo College of Agriculture, Forestry, and Natural Resources Management have met with some success. This effort will continue.

Report on Plan of Action

The program's sole faculty was not able to actively recruit because his time must be spent teaching classes and maintaining facilities. The program has 9,000 sq ft of greenhouse, 12,000 sq ft of shade house and a $\frac{3}{4}$ acre garden plot located approximately 5 miles from campus on the jointly shared UH Hilo/Hawaii CC farm in Panaewa. The program also has a tissue culture laboratory that must be tended to. During the summer there is no one taking care of these areas so when fall semester starts there is plenty of catch up work to do.

A lecturer was hired to teach 3 credits fall 2005 while the full time faculty member taught 9 credits fall 2005 and 12 credits spring 2006.

One class (AG 200 – Principles of Horticulture) was articulated with all UH Colleges.

Plan of Action 2006-2007

8. Student learning outcomes have been developed for the program. Course level outcomes will be developed.
9. Assessment strategies for the student learning outcomes will be started.
10. The program will complete a comprehensive review fall 2007.
11. The program will develop a written plan for recruiting students (versus just saying we need to recruit)
12. The program will identify a solution for storage needs. Equipment at the farm is poorly protected and not secure. A container has been discussed and would be ideal.
13. The program will recruit additional members for the advisory council. Currently only two members are active.
14. The program has no significant equipment replacement or acquisition needs at this time. Its biggest obstacle is being a one faculty program.

Appendix A: History and Admission Requirements

Program History

Hawai'i Community College began offering agriculture courses in September 1971. The initial objective of the program was to prepare individuals for employment and/or self-employment in sugar, horticultural enterprises, and livestock. In addition, the program strived to prepare individuals with agri-business and mid-management competencies for the agricultural spectrum.

The Agricultural program was initially housed in an old barrack with screening for ventilation, and no windows. The fieldwork was done at sites located at the southern portion of the Manono Campus. Students were expected to perform "hands-on" activities in the real sense.

Today, the agricultural program's objectives are similar to those, which it held initially. The major changes are in the areas of emphasis. Sugar is no longer emphasized, and livestock production offerings have been scaled back. Diversified agriculture, including food production, nursery, and landscaping are the present areas of emphasis. The objective to prepare individuals with agri-business mid-management competencies still persists.

The lecture classes are now housed on the Manono Campus. The classes are conducted in a modern classroom with a wide range of capabilities. Field classes are now taught at the University of Hawai'i at Hilo Agricultural farm in the Panaewa forest. The farm facilities give the program the ability to teach classes ranging from food production to landscape and nursery operations.

Program Admission Requirements

The Agricultural program's admission policy is the same as the College's. The program is open to any high school graduate or person eighteen years of age or older who is able to profit from the instruction. Entry into the second-year classes, however, has more stringent pre-requisites: completion of Eng 22 or placement in Eng 100 and completion of Math 22 or placement in Math 24X or higher.

Appendix B: Degree Requirements

The Curriculum revisions are near completion.

First Semester			CC	CC	CA
AAS				Farm	Landscape
6	Ag 54A	Tropical Agriculture Production I	6		6
3	Ag 40	Plant Identification		3	3
3	Ag 31	Farm Equip.Mach/Power	3	3	3
3	** Eng	Eng 22 or ESL 15 or higher			3
TOTAL			9	6	15
15					
Second Semester					
3	Ag 33	Greenhouse Construction	3	3	3
6	Ag 54B	Tropical Agriculture Production II	6		6
3	Ag 46	Landscape Maintenance		3	3
3	Math	Math 50 or higher			3
	Math	Math 24X or higher			
TOTAL			9	6	15
15					
Third Semester					
3	Ag 230	Agriculture Business Management			
4	Ag 200	Principles of Horticulture			
3	Ag122	Soil Technology			
6	Elective	Social, Natural, & Cultural Env.			
TOTAL					
16					
Fourth Semester					
3	Ag 250	Sustainable Crop Production			
1	Ag 250L	Sustainable Crop Production Lab			
3	Ag 260	Tropical Landscape Horticulture			

3	Ag 157	Marketing of Agriculture Products			
3	Ag 141	Integrated Pest Management			
3	Elective	Social, Natural, & Cultural Env.			
16		TOTAL			
62		TOTAL	18	12	30

Appendix C: Faculty

Regular Faculty

<u>Name</u>	<u>Tenure Status and date</u>	<u>Degrees Held</u>	<u>Rank</u>
David Ikeda	Tenured, 1975	B.S., M.S., M.B.A.	C-5

Part-time Faculty

<u>Name</u>	<u>Tenure Status and date</u>	<u>Degrees Held</u>	<u>Rank</u>
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Appendix D: Advisory Committee

Greg Branco, Nursery Supervisor, County of Hawai'i

Linda Burnham-Larish, Entomologist Hawaii State Department of Health

Appendix E: Definitions of Data Elements (All data includes West Hawai'i)

A. Program Demand/Centrality:

1. Number of Applications: Total number of applications received complete and incomplete.
2. Number of Majors: Major declared/on file during the semester.
3. Student Semester Hours: Total number of semester hours based upon class credits and student enrollment. Sum of all class credits multiplied by the enrollment for each class. Includes practica and other classes where 5 students = 1 semester (credit) hour. Excludes cancelled, 99V, 199V, 299V, and all CVE classes.
4. Class Credit Hours: Sum of credits of all classes offered within the program/with the program/major code/alpha. Includes practica and other classes where 5 students = 1 semester (credit) hour. Excludes cancelled, 99V, 199V, 299V, and all CVE classes.
5. Number of Classes Taught: Total number of classes conducted/run within the program/with the program/major code/alpha. Includes practica and other classes where 5 students = 1 semester (credit) hour. Excludes 99V, 1 99V, 299V, and all CVE classes.

B. Program Efficiency:

1. Average Class Size: Average class size of all classes conducted/run within the program/with the program/major code/alpha. Includes practica and other classes where 5 students = 1 semester (credit) hour. Excludes 99V, 199V, 299V, and all CVE courses. Total enrollment in each class excludes students with "DR" and/or "W" grades.
2. Student Semester Hours per FTE Faculty: Total student semester hours from A.3. divided by analytical FTE Faculty.
 - a. Analytical FTE Faculty: Teaching based upon a full load (15 or 12 credits depending upon the contact hours.) Division Chairpersons are assigned an analytical FTE Faculty equivalent of 0.70 FTE.
 - b. Each full-time faculty within a program is considered to be 1FTE. FTE based upon lecturers are calculated by the number of credits each are assigned to teach.
 - c. Assigned time is to be extracted from FTE calculations similar to calculating the FTE for a Division Chair. For example, if a Full-time faculty received 3 credits assigned time (out of a regular 15-credit load) it would be considered a .8 FTE rather than 1.

3. Equivalent Class Credit Hours per FTE Faculty: Total class credit hours from A.4. divided by total analytical FTE Faculty.
4. Percentage of Small Classes: Percent of classes within the program/with the program/major code/alpha that had less than 10 students. Includes practica and other classes where 5 students = 1 semester (credit) hour; however, these classes are considered to be Low-enrolled only if there are less than 5 students or between 6 and 9 students. Excludes 99V, 199V, 299V, and all CVE classes.

C. Program Outcomes:

1. Credits Earned Ratio (Remedial/Developmental): Percentage of program majors enrolled in ESL 9, ESL 13, ENG 20R, ENG 20W, ENG 51, LSK 51, MATH 22, and MATH 50 who passed with a grade of A, B, C, D or CR.
2. Credits Earned Ratio (General Education): Percentage of program majors enrolled in all LBART courses (excluding those in C.1.) who passed with a grade of A, B, C, D or CR. Includes practica and other classes where 5 students = 1 semester (credit) hour. Excludes 99V, 199V, 299V, and all CVE courses.
3. Credits Earned Ratio (Vocational Education): Percentage of students enrolled in vocational courses who passed with a grade of A, B, C, D or CR. Includes practica and other classes where 5 students = 1 semester (credit) hour. Excludes 99V, 199V, 299V, and all CVE courses.
4. Credits Earned Ratio (Overall): Combination of C.1., C.2., and C.3. above.
5. Graduate Placement Rate: Students who graduated with a certificate/degree in the PAST academic year and found work in that field.
6. Degrees Awarded: The number of certificates and degrees awarded during the PAST academic year.
7. Retention Rate: New students within a program/major continuing or retained in that program/major from the past two or more terms. (Students registered in Fall 2000 who started in Spring 2000 or Fall 1999. Students registered in Fall 2001 who started in Spring 2001 or Fall 2000.)