

Maui Community College 2005 Annual Assessment Report

AGRICULTURAL & NATURAL RESOURCES PROGRAM

A.A.S Horticulture and Landscape Maintenance

A.A.S. Sustainable Tropical Crop Management

Maui Community College Mission Statement

Maui Community College is a learning-centered institution that provides affordable, high quality credit and non-credit educational opportunities to a diverse community of lifelong learners.

Agriculture Program Mission & Vision Statement

We envision a program that will provide high quality instruction in agriculture, horticulture and natural resource management with an emphasis on sustainability.

Part I. Quantitative Indicators for Program Review

1. Predicted Annual Job openings in Maui County: *102*
2. Predicted Annual Job openings in the State: *216*
3. Number of Applicants: *Not Applicable*
4. Number of Majors: *12*
5. Student Semester hours for program majors in all program classes: *Data not available at this time.*
6. Student Semester hours for all program classes: *Data not available at this time.*
7. FTE program enrollement: *Data not available at this time.*
8. Number of classes taught: *Fall 04: 3 Spring 05: 3*
9. Average Class size: *14.7*
10. Class Fill Rate: *61%*
11. FTE of BOR appointed faculty: *Data not available at this time.*
12. Semester credits taught by lecturers: *0*
13. Percent of classes taught by lecturers: *0%*
14. FTE workload: *81%*
15. Major per FTE faculty: *12/1*
16. Number of Degree/Certificates awarded in previous year by major: *Data not available at this time. However graduation rate was 35%.*
17. Cost of Program per student major: *Data not available at this time.*
18. Cost per SSH: *Data not available at this time.*

19. Determination of program's health:

- a. Overall Program Status: *Healthy*
- b. Overall Program Demand: *Cautionary*
- c. Overall Program Efficiency: *Cautionary*

Outcomes

1. Attainment of Student Educational Goals: *100%*
2. Persistence of majors Fall to Spring: *Data not available at this time.*
3. Graduation Rate: *35%*
4. Transfer Rates: *Data not available at this time.*
5. Success at other UH campuses: *Data not available at this time.*
6. Licensure information: *Not applicable.*
7. Perkins Core Indicators: (Maui & Molokai) baseline in ()

1P1: Academic Achievement: <i>80.00%</i>	(81.56%)
1P2: Vocational Skills: <i>100%</i>	(91.53%)
2P1: Diploma/Equivalent/Degree/Credential: <i>27.27%</i>	(35.70%)
3P1: Placement Employment: <i>100%</i>	(70.52%)
3P2: Retention Employment: <i>100%</i>	(90.13%)
4P1: Nontraditional Participation: <i>37.50%</i>	(15.94%)
4P2 : Nontraditional Completion : <i>33.33%</i>	(14.34%)
8. Determination of a Program's Health Based on Outcomes :
 - a. Overall Program Outcome: *Healthy*

Part II. Assessment Results for Program SLO's.

Appropriate assessment tools have not yet been developed for the Ag Program SLO's, therefore no data is available at this time. As a first step, a grid for the current Program SLO's was recently developed. See Appendix A.

Part III. Curriculum Revision

Articulation between MCC, HCC, WCC, UHM and UHH was begun for one course (AG 200, Introduction to Horticulture at MCC) in May 2005. The agreement document was completed on September 9, 2005 and is currently gathering all appropriate signatures for final approval. The group was able to work together to find common ground and developed three overarching Student Learner Outcomes for all the courses:

1. Describe and explain general plant structure and function in relation to growth and development.
2. Demonstrate knowledge of horticultural principles in cultivation of plants.
3. Examine commercial agricultural enterprises.

By developing these SLO's and examining each other's respective courses, each of us has made changes to not only align our respective courses but strengthen them. For example, I have adopted most of the UHM TPSS 200 writing intensive requirements for the student crop term paper. In addition, my students give an oral presentation to the class. This will help strengthen our program COWIQ's.

Course SLO's are completed. As a course is taught (most courses are on a 2 year cycle), the syllabi are being updated to reflect the activities that are tied to each course SLO.

Agriculture is part of the DOE Natural Resources Career Pathway. As the career pathways are geared for P-20, the agriculture program wants to make sure we align with this Pathway. Natural resource management is also part of this career pathway and we already have components of Natural resource management in our current agriculture program. The name change from Agriculture Careers to Agriculture and Natural Resources reflects this. There are quite a few positions in Maui County in the field of Natural Resource Management and related fields. In addition, as a campus, we need to attract more local students and particularly Native Hawaiians into STEM related courses and careers. In response to these factors, the process of investigating an A.A.S. degree in Natural Resource Management was started. I have teamed up with the Hawaiian Studies department to try to create a culturally based resource management degree. A preliminary coursework map is attached in Appendix C. A USDA grant to get this process to completion was applied for but denied. The grant will be attempted for next year. This degree may be suitable for the SLIM model (see below).

SLIM (Sustainable Living Institute of Maui) has been explored and developed by a SLIM committee. See www.sustainablemaui.com for the description of SLIM. This institute may have significant impact on curriculum in the future.

Part IV. Analysis of Data

Alignment with Mission

The Maui Community College Agriculture program strives to keep our courses rigorous and relevant. This is supported by our recent articulation with UHH and UHM of our introductory course AG 200. We are working to incorporate sustainability issues and solutions into all of our classes. We look to our participation in SLIM and working with partners such as EARTH University to help us continue to improve our curriculum in the area of sustainability. The methods for eco-effective landscaping needs to be further explored, taught and demonstrated.

Strengths

The data supports the continued demand for trained people in agriculture including landscape and horticulture in the State and Maui County. Projections of 4000 new housing units on Maui by 2007 can only mean an increase in demand for landscape services and nursery support. High-end real estate also tends to have higher demands for

these kinds of services; therefore one could predict an increase in demand for people trained in the areas of landscape horticulture on Maui. Production agriculture could have great potential but factors such as high land and labor prices leave the future of production agriculture much harder to predict. However, Maui Land & Pineapple does suggest that growers will be needed in the future to provide a diverse array of homegrown products. An area that also employs agriculture students that is not included in the labor statistics is in the natural resources management fields.

Perkins Data indicate high levels of skill attainment, employment placement and retention as well as non-traditional student participation. Students are satisfied with the attainment of their educational goals.

Fortunately, the MCC agriculture program has been able to generate income. The past ten years or more we have funded almost 100% of our supplies via our own revolving or foundation funds. Our plant sales generate enough income to pay for not only the supplies needed to run our labs, but also things like books and videos. Our Foundation funds, generated by donations and donations for our work at the “Ulupalakua Thing” have allowed for professional development activities, student book awards, and the collaboration with High School agriculture programs to produce the Agriculture Awareness days.

The Ag curriculum is diverse. A variety of courses are offered that encompasses very different types of knowledge and expertise. The program offers evening classes to facilitate in-service training. Most courses (exceptions are those requiring daylight for field work) are offered at night at least every two years, so that people working full-time can access training and/or a degree.

Weaknesses

Enrollment has been steady but more students in the program would be beneficial. Number of majors is not the only indicator of persons taking agriculture as non-majors and life-long learners also take classes.

The low graduation rate is a reflection of many students who are attending to upgrade their knowledge in specific areas and do not intend to pursue a degree. It also is due to the very low rate of full-time students. Most students work full-time and take one or two courses per semester, so it takes many years for them to acquire a degree.

Only one full-time instructor teaches many of the courses. With such a wide array of fields and disciplines covered by the courses in the Agriculture program it is difficult for one person to stay “up-to-date” with all of these areas. The lack of support for lecturers is part of this issue as well.

Evidence of Quality

The agriculture classes are above 100 level. We have an articulation agreement with UHH so that most of our classes are directly articulated. Students that do transfer have

been successful. The agriculture department gets many requests for students for employment and offers of partnerships to do projects. Unfortunately since we are so small we can only occasionally fill those requests. The employment rate and employment retention rates noted on Perkins data, support the quality of our program and students.

Evidence of student learning

Valid assessment tools need to be developed.

Resource sufficiency

A laboratory based program like agriculture is expensive and consumes quite a bit of supplies and requires expensive equipment. As mentioned, the agriculture program has been fairly self-sufficient in earning supply money. The department has tried very hard to use its funds judiciously. The department has also made an effort to acquire equipment that, as a small program, was unlikely to get from the campus budget such as a laptop computer, digital camera, and LCD projector so that teaching methods could be updated, with funds the department generated rather than relying on G-funds. This of course helps support other programs by not utilizing any of the supply or equipment funds from the science or vo-tech departments. Another example, our current goal is to upgrade staff and student computers so we are trying to sell more plants in our sales.

Fortunately we have some of our large equipment like a tractor from the past. Turf equipment has been problematic. It is very expensive (\$30,000 +) but without it we cannot properly maintain our turf area. The turf area has duly suffered. There are other areas such as the greenhouse and grounds that could use more attention. The need for student help money is ongoing and a challenge.

Another goal is tissue culture – this requires a lab. We do have a USDA grant (\$19,000+) to pursue this area. Time of the only instructor/program coordinator/ SLIM committee member has been the stumbling block. If there are specific educational projects, there does seem to be some grant money available for agriculture programs.

Recommendations for improving outcomes

A high quality brochure for programs including agriculture for recruitment purposes is essential to increase enrollments in programs. Without enrollments we can't have outcomes.

Continue updating course contents and to keep them relevant to the students and potential jobs. Need to increase recruitment and connections with high schools and industry.

More time in the classroom improving teaching and teaching methods. Support for curriculum improvement. Time of a small staff is the major issue here. Developing valid assessment and carrying out assessment in a "feedback loop" is made difficult by

the various demands on time and distractions of purpose. Despite many workshops on this issue, the coordinator of this program still is not completely clear on what is valid assessment and how to carry it out properly.

Action Plan

1. Hold another Agriculture and National Resources Awareness Day in cooperation with high schools for recruitment and promotion of careers and education, in Spring 2006.
2. Investigate the creation of a tissue-culture lab, in conjunction with a USDA grant. The lab could be used by Biotech instructors as well and community partners such as CTHAR and Maui Nui Botanical Garden to tie in campus labs with industry and strengthen community ties.
3. Continue working with Lau'ulu, the MCC Hawaiian faculty and staff hui, towards development of natural resource interdisciplinary degrees at the College. The Coordinator has created a preliminary curriculum and has shared that with SLIM members.
4. Continue to work as a member of SLIM. Exploration of curriculum development is currently in progress. This could have major implications for the agriculture program and curriculum.
5. Maintain rigid 2-year cycle for course offerings. This helps students plan and seems to help course enrollment figures.
7. Review Program SLO's. Fall '05 the PCC will be getting together to continue formal articulation with UHH and I have requested that we look for common Program SLO's. Therefore I expect my current program SLO's to change and improve.
8. Develop assessment of graduates based on updated program SLO's. Explore other ag program's methods. Course projects evaluated by outside evaluators may be a method to create some valid assessment data. Much work remains to be done in this action area.

Budget Implications

Release time, lecturer funds and student help funds would seem to be the most immediate funding needs in order to accomplish the action plans above. Equipment needs are always there but are less pressing at this time.

R-funds and foundation funds will continue to be tapped and developed for "day-to-day" expenses. This is one of our ways we try to contribute to the college.

