HAWAI`I COMMUNITY COLLEGE
ANNUAL
INSTRUCTIONAL PROGRAM REVIEW
TEMPLATE

Agriculture

November 27, 2013

July 1, 2012 to June 30, 2013

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Program/Unit Review at Hawai'i Community College is a shared governance responsibility related to strategic planning and quality assurance. It is an important planning tool for the college budget process. Achievement of Program/Unit Outcomes is embedded in this ongoing systematic assessment. Reviewed by a college-wide process, the Program/Unit Reviews are available to the college and community at large to enhance communication and public accountability.

CERC Comments and Feedback (If you submitted a Comprehensive Program Review in 2011 or 2012, please complete this section)

CERC gave recommendations intended as suggestions for improvement. Provide a brief response to the suggestions made. i.e. Were suggestion(s) valid? Were change(s) made as a result of the suggestion(s)?
The CERC responded to the Ag Program Comprehensive Review in April 2013 with a very detailed 10 page memorandum. Much of the critique in that document had validity and was constructive. However, the program fervently disagrees with the CERC analysis that our PLOs do not align with those of the institution and that our goals have weak alignment. It is the hope of the program that the CERC conclusion was due to unfamiliarity with agriculture and an ineffective method of communicating this association within the review document. Program SLOs are:

Plan and manage projects and cultivate horticultural crops using legal; sustainable; safe; and ecologically, biologically, and technologically sound practices.

Design gardens that demonstrate the aesthetic principles of unity, repetition, balance, color, and texture congruent with the customers' desires.

Operate and maintain tools and equipment.

Set-up and manage a business enterprise.

Interact with customers and co-workers in ways that effectively support the work to be accomplished.

The Agriculture Program thoughtfully created its learning outcomes; within an agricultural context and framework, all outcomes align well with our institution. For example, design of gardens is a subtle but powerful form of communication which conveys symbolism and depth of meaning and generates emotional responses rivaling those conveyed through literature, dance, music and other fine arts (ILO1). Also, the research, synthesis of information, and problem solving required to master this outcome is certainly on par with those of the disciplines above (ILO2). Finally, design processes are easily framed to reflect our unique place and cultural mix as well as contribute to community through environmental enhancement, health, worker productivity and a myriad of other ways (ILO3). In context, all program outcomes have specific rationale and justification for their link to the institution. Additionally, program outcomes and curricula progressively reflect an awareness that future success of graduates will likely require greater dependance on creativity and qualities of holistic right-brain thinking in fields such as agriculture with historical emphasis on left-brain thinking. Daniel Pink is an example of one such proponent of this broader approach; in A Whole New Mind he describes such shifts and changes taking place in various professions.

Many of the CERC comments related to inadequate summary and ineffective, weak or incomplete presentation of information they were tasked with evaluating. These critiques have validity. This was the first time completing a comprehensive review for the program faculty member and unfamiliarity with the process contributed to some shortcomings. The CERC's wish to see additional analysis, reporting, summaries, details, and tables of information is a desire of the program as well. However, personnel of small or understaffed programs are often severely time constrained-especially in light of the date materials must be submitted annually. These constraints make it difficult to conduct a thorough analysis and draft a completely inclusive report. If CERC comments and suggestions are representative of an institutional need for higher-order, more thorough and refined analysis and reporting within these documents, then perhaps the college can develop supportive strategies for small programs to help reach these goals.

Collection and evaluation of sound data is an inextricable component of effective analysis and summary sought by the CERC. It is especially important considering resource and program implications result from conclusions. The Ag Program is seeking improvement in this area and is uncomfortable that sufficient information to identify trends or draw conclusions with statistical confidence or probability is not available. Moving forward the program will increase its own data collection and documentation efforts to better inform program strategies, decisions and plans of action. Future reports generated for CERC review will likely be more comprehensive and conclusive as a result of this strategy.

Since CERC comments and suggestions were received in April of 2013, they were still under review when this reporting period ended.

Program Description (Use the official description from catalog then give more in depth explanation of what the program does, who it serves and generally describe it's accomplishments)
 This program prepares students for employment in government service, agribusiness, horticulture, livestock, flowers and foliage, landscape, macadamia nuts, papaya, and coffee industries.

Today sustainable agriculture is not a luxury for our islands or the world. Collectively, we face tremendous challenges meeting the food and economic needs of an ever growing population. Over the past 40 years, tremendous advances in productivity have created productive but dysfunctional agricultural systems throughout the world. These systems have resulted in dwindling resources; stagnant productivity; resource extractive agriculture practices; loss of access to arable lands; and endemic poverty, hunger, and malnutrition. Currently there are more than 800 million people that lack adequate food while 170 million children suffer from malnutrition; ironically, there would be enough food for everyone if it were distributed according to need (Raman 2006). Sustainability, at a fundamental level connotes a balance of the resources of production with our need or demand for the food produced from those resources. One of the real challenges to this balance is that we are facing a future with mounting constraints to production while our needs are rapidly growing. It is estimated that we will require almost a doubling of food production within the century (Raman 2006). To date, technological advances have been able to pry more and more productivity from available natural resources; future gains from technology will likely be more

marginal and challenging. According to Saroja Raman in Agricultural Sustainability Principles, Processes, and Prospects:
Sustainability in the near future requires a paradigm shift from the reductionist, technology driven natural resource degrading agricultural growth pursued hitherto to an environmentally safe, natural-resource-conserving enterprise with food security and opportunities for minimum
development standards for all as its raison d'etre (Raman 2006).

HawCC's Agriculture Program serves a vital role in helping to prepare students to participate in this shift. We have embraced the four basic tenets of sustainable agriculture as core values within our program. They are ecological viability, productivity, economic viability, and social responsibility. The program is beginning to modify its curriculum and upgrade its facilities to better reflect and adopt these values and meet current and future needs for sustainable agriculture in Hawaii. As alluded above, the future of sustainable agricultural systems relies on a dynamic marriage of both technology and practices that preserve environmental quality and ecological security. There is a prevalent naiveté and romanticism for a return to subsistence agricultural practices as a path toward sustainability. It is imperative that students understand the importance that science and technology will play in conserving our resources while meeting food security needs. The educational material, equipment and facilities available for student learning are critical to help them gain that understanding.

Reference Cited
Raman, S. (2006). Agricultural Sustainability Principles, Processes, and Prospects. Binghampton, New York. Hawthorn Press Inc.

Part I: Quantitative Indicators
NO ENTRY

Part II: Analysis of the Program

Alignment with College Mission and ILOs

Write a brief narrative describing the program and how it supports the College's mission and Institutional Learning Outcomes (ILOs).

College's mission:
Hawai`i Community College (Hawai`iCC) promotes student learning by embracing our unique Hawai`i Island culture and inspiring growth in the spirit of "E `Imi Pono." Aligned with the UH Community Colleges system's mission, we are committed to serving all segments of our Hawai`i Island community.

Program Mission:

The mission of the Agriculture Program is to maximize the potential of individuals to fulfill their personal and career goals by providing curricula that prepare students for entrepreneurship or employment within the many fields of agriculture or landscaping. Our program provides course work and direct, hands-on learning experiences emphasizing current, environmentally and economically sound, and sustainable principles and practices that develop the skills, knowledge, and abilities vital for Hawaii's green industries as well as for a healthy, productive society.

Describe how this program supports the College's mission.
The Agriculture Program recognizes and embraces the uniqueness of Hawaiʻi island from both a cultural and environmental perspective. Sustainable production practices presented through the program draw from methods practiced throughout Polynesia as well as those practiced by other cultures that are relevant and appropriate. Natural environmental and ecosystem characteristics throughout the island are explored as they relate to agriculture. The program strives for excellence and is actively engaged in assessment, reflection and self improvement. These characteristics are instilled in students of the program as well. Finally, the program is proud of the diversity within its classroom. It exceeds Perkins nontraditional student participation indicators. There is a great diversity of ethnicities within the program and ages of students have ranged from 17- 58 years of age.

Describe how this program supports the College's Institutional Learning Outcomes below.

ILO 1: Our graduates will be able to communicate effectively in a variety of situations.
Describe how the Program supports ILO1:
Students in the program work closely with fellow classmates and through this learn communicative and collaborative skills. As they progress through the program, they learn to conduct literature searches and write reports. They also conduct and summarize scientific research. In the business component of the program they gain experience drafting resumes and business plans. Oral presentations are a part of nearly every class. Finally, students gain experience with computers and various forms of media development.

ILO 2: Our graduates will be able to gather, evaluate and analyze ideas and information to use in overcoming challenges, solving problems and making decisions.
Describe how this Program supports ILO 2:
Agriculture by its very nature relies very heavily on observation, analysis and decision making processes. Every crop cycle represents new opportunities for refinement of practices and also new challenges. Students gain experience in this area through a hands on real world learning environment.

ILO 3: Our graduates will develop the knowledge, skills and values to make contributions to our community in a manner that respects diversity and Hawaiian culture.
Describe how this Program supports ILO 3:
Agriculture and food security is foundational to any healthy community and society. Students learn and develop skills to provide healthy and wholesome food for their families and on a commercial scale. Sustainable methods of production include indigenous practices from Hawaii and other cultures.

Annual Report of Program Data (ARPD)

Based on the data from this Program's ARPD, analyze this program's strengths and weaknesses in terms of demand, efficiency, and effectiveness.
Overall Health-- Cautionary

Demand -- Unhealthy
The Agriculture program annually receives an unhealthy call in this area. Much of the reason for this determination is the large disparity of positions available as compared with students within the program. The estimations for new and replacement positions state- and county-wide are listed at 524 up from 172 the previous year. As mentioned in previous reports, new and replacement position numbers do not reflect estimation of entrepreneurial opportunities which many program students hope to pursue. The state's heavy reliance on imports of food and plant materials continues and future forecasts project little change in this area. Increased awareness of the importance of food security and community-sustainability and -food systems coupled with our islands' unique environments are indicators of demand for entrepreneurs beyond recognized state and county positions. Additionally, there is a growing awareness that as sustainable initiatives gain momentum there will be increased employment opportunities as unimagined jobs are created from within these new systems. Ironically, the program's unhealthy rating is a reflection of tremendous opportunities for program granduates.

Majors to FTE faculty is reported as 40.5 for the 12-13 year an increase from 35 the previous period. Since the program operates on a two year cycle, the disparity of seats available to declared majors represents a serious challenge to providing agricultural education and training to those seeking it. The program is currently evaluating the feasability of beginning a new cohort annually. This program development and adaptation will likely occur in fall 2014.

Efficency -- Healthy

The program continues to use the resources available to it incredibly efficiently. The cost per SSH is $167, a drop of $45 from the previous year. All classes exceed historical capacity. Again, it is ironic that a healthy call in this area reflects an underlying weakness of the program as identified by the CERC in april 2013:

The capacity enrollment is 35. If the college would like this program to grow, an additional instructor needs to be hired. What happens to the program if the single instructor should be unavailable due to illnes or personal leave?

As mentioned above the program is studying initiation of a cohort of students every year.

Effectiveness -- Unhealthy

This health call remains at unhealthy status; 4 degrees and 5 certificates were awarded with nearly 90% of students completing the courses for the reporting period. Several students exited the program with remaining general education and elective courses remaining. These students will likely be counted in a future review. One student tranfered, which is desirable. Overall, the indicators within this area have been stable (within apparent natural variation) over the last 3 years, and display no observable trends.

As mentioned in previous years, it is certainly a goal to achieve program retention and high numbers of degrees awarded. However, awarding of degrees is not the complete expression of effectiveness or success. The program provides a technical and hands-on learning environment that may not always necessitate awarding of a degree to meet our program mission. For example, there are several program students that have already begun their own businesses; should they enjoy success in their endeavors, it may naturally result in exiting early. In this example, they would not complete and may not be counted as placed.

The college has initiated an 'agree to degree' pledge and the Agriculture program is supporting this initiative. The program is also taking a more active role in encouraging student to apply for certificates they are eligible for as they progress through the program or when exiting early. It is important that future efforts to improve effectiveness indicators are harmonious with that mission and maintain program integrity and rigor.

Distance Education: Completely On-Line Classes

If applicable, based on the data on Distance Education (DE) from this Program's ARPD, analyze this program's strengths and weaknesses in terms of its DE offerings. Include future plans (i.e. will increase/decrease offerings; CARP 100 was not effective online, will try CARP 101 instead; increase professional development for faculty).

Not applicable to this program.

Perkins IV Core Indicators
If applicable, provide an analysis for any Perkin's Core Indicator for which this program did not meet the goal.

Historically, the Agriculture Program has been strong in this area. In the previous period, five of six indicators were met. This reporting period shows a preciptous decline in Perkin's indicators that were met. Only 5P1 was listed as met . However, 1P1, 3P1 and 4P1 were very close to meeting set goals. A root cause for this decline is not evident. Flawed data may also be contributing; in spring 2013 two females including a native Hawaiian graduated from the program. That data is absent from the table but shows up in performance funding. By program calculations female participation within classes for 2012-2013 ranged from 20-36.8% yet the system computed indicator lists 18.42. A single missed individual within a small program results in substantial inaccuracies. Also, this year's data may illustrate a danger of evaluating a small program on a single reporting period's indicators in the absence of historical context.

The program has begun fact finding and researching steps and processes applied at other institutions. A plan of action will be initiated next year if warranted. The national alliance for Partnership in Equity is an example resource site for the program. (http://www.napequity.org/nape-content/uploads/Guide-for-Program-Improvement-Perkins-IV.pdf).

Performance Funding
Briefly describe initiatives/strategies that this program has or will implement to increase any or all of the Performance Funding outcomes.

The Program has developed a stronger pathway with UHH to encourage students to transfer upon exiting the program. The number of courses that articulate have been increased to five from one historically. The program has identified three more courses with potential to transfer and will work with UHH to pursue that goal. Additionally, the program is supporting the campus Agree to Degree initiative as well as working more closely with its students to insure they are on track to meet education and career goals.

Previous Program Actions

From the Academic Master Plan (AMP), list the Program Actions for this program. Give a progress report for each Program Action, describe the degree of achievement. Indicate "Delete" if this Program Action will no longer be a priority Program Action

Program Actions	Progress Evaluation
Create curriculum to meet the	Pending with no progress in credit program. The college

identified agriculture related sustainability needs for Hawaiʻi Island based on the CEDS 2010 report	has invested much of its efforts in new agricultural curriculum to noncredit training and outreach. the Ag Program is supporting this effort; to date >140 hours of training has been or is in development. Classes begin summer 2013.
Develop an AS degree in Agriculture and/or modify the existing CA and AAS to correspond to community needs	AAS has been modified to conform to requirements of accreditors. AS is not currently a priority program action unless later it is found necessary to help create a stronger pathway with UHH.
Modify current program curriculum to create an AS Degree and a stronger pathway to UHH or other 4-year institutions.	A stronger pathway has been created with UHH. Five courses now articulate as compared with one previously. Three more courses have potential to articulate and are under review. Students with clear B.S. Degree intent are counseled to take specific courses and transfer early.
Improve learning environment through greater access to computers, software, tools and equipment	Improvements were made in this area. Solar equipment, postharvest processing equipment, basins, containers, salad spinner, cane juicer, essential oil extractor, bee keeping equipment and irrigation and hydroponic materials were obtained and integrated into program courses. Computers, software, tractors and other tools are expected in the next reporting period.
Increase the capacity of the program	This area is in planning and may begin in Fall 2014 to align best with course flow of program if demand remains strong. Curriculum and teaching materials will be refined and improved for a lecturer or lecturers that will be hired to teach additional program courses.

Significant Program Actions for 2012-2013. (include curriculum changes, new certificates, stopout, gain/loss of positions)

1. Curriculum adapted to meet acreditation requirements.
2. Five additional courses articulate with UHH
3. Learning environment was enhanced through addition of new equipment.

Analysis of Strengths and Weaknesses

Briefly describe this program's top 3 strengths and 3 weaknesses. Provide an explanation and supporting evidence for each strength and weakness (e.g. assessment results, data elements from ARPD, surveys, etc.)

Strengths	**Using supporting evidence, describe why this is a strength**

S1. Excellent and varied experiential learning environment for horticulture, landscape and agronomic production. The physical classroom and itssue culture laboratory are excellent. Much potential for increased effectiveness through enhancement of core facilities and purchase of new equipment.	Students are able to develop skills and proficiencies by engaging in real world activities. The horticulture and production laboratory includes a field area, two greenhouses, and a shade house. Since the last comprehensive review efforts have been made to improve these facilities to reflect best industry practices. Work continues in this area. Program students also complete a capstone landscaping project through participation in the HawCC Model Home Project. This is another excellent example of real-world learning opportunities within the program. Methods are being developed for quantitative evaluation of this strength.
S2. The program is effective, very efficient and is utilizing resources available effectively.	The program has a low cost per SSH, a capacity enrollment and a history of meeting or closely approaching Perkins Core Indicators.
S3. The program offers varied curriculum, which allows students to pursue specific areas of interest and leave at various levels of expertise to pursue their personal goals.	The program has a varied curriculum (14 different courses) and offers multiple certificates and an AAS degree. Enhancement of core facilities has led to increased experiential learning opportunities.

Weaknesses	Using supporting evidence, describe why this is a Weakness
W1. Enrollment and demand currently far exceed capacity of program especially as courses are offered only on a two-year cycle.	Recent lists of program students ranges from 45-58 students interested in Agriculture. This far exceeds even the most ambitious attempts to expand class capacities to accommodate more students. This area is especially important as the state is faced with a shortage of farmers and ranchers. This directly links with Hawcc's strategic goals A and B.
W2. The program is in need of equipment, supplies and maintenance support for its facilities.	Despite considerable progress through the infusion of resources and new equipment, needs remain in this area. The program is in need of new and additional equipment for its classroom, laboratory, and landscaping activities. With increased class size and enrollment demands, students do not get sufficient

	hands-on time to master use of production tools such as tillers sprayers and cultivators without multiple pieces of equipment. The program would like to adopt CAD based design software for irrigation and landscape design.
W3. The program is in need of a better pathway to 4 year institutions and greater alignment with other UH Community Colleges. Again efforts for improvement in this area relate to strategic goals A and B.	Historically one course articulated through the system despite shared or very similar courses. This relates directly to institution strategic goals. As of 2013, five courses now articulate with UHH. The program has identified three additional courses for articulation to improve the pathway to UHH. Additionally, the program currently has weak linkage and identification with UH Maui College shared courses. This can result in students repeating similar courses if transferring to that institution. The system is creating new agriculture programs and HawCC identify opportunities for student transfer to these new programs and ensure proper agreements are in place to create these pathways.

Trends and Other Factors

Describe trends including comparisons to any applicable standards, such as college, program, or national standards from accrediting associations, etc. Include, if relevant, a summary of Satisfaction Survey Results, special studies and/or instruments used, e.g., CCSSE, etc. Describe any external factors affecting this program or additional program changes not included elsewhere.

In 2012 the Journal of Career and Technical Education published a manuscript, Identifying Innovative Agricultural Programs (http://scholar.lib.vt.edu/ejournals/JCTE/v27n2/pdf/rayfield.pdf). In this publication the authors state:
The purpose of innovative programs in the future will be to utilize the current professional community to teach skills needed in a changing industry and to encourage students to "think outside the box" and challenge themselves. Innovative programs will be hands-on, include problem solving, and critical thinking.

The Agriculture Program has many of the desirable characteristics highlighted in this article and is searching for ways to incorporate more characteristics detailed in the study.

The term sustainability remains part of popular culture and interest in agriculture naturally arises from the favorable and of sustainability. Nationwide sustainable agriculture programs are seeing record increases in enrollment. Again HawCC is well positioned in this trend with heavy emphasis in sustainable practices.

Finally, students in and outside the program have consistently displayed favorable impressions of the program. The program has heard from numerous students attending UHH that they wished their courses provided some of the experiential learning opportunities that HawCC provides.

Part III: Action Plan

Goals and Planning

List additional Program Action(s), not included in the AMP to be implemented for program success. Identify the AMP Priorities, College's ILOs, Strategic Plan Action Strategies, and UH System collaboration (if applicable) to which these Program Action(s) align.

Program Action 1		ILO Alignment (select up to 3)	Strategic Plan Alignment (select best alignment; max 3)		UH System Collaboration
			Performance Measure	Action Strategy	
Greenhouse bee pollination- research, demonstration, and value-added project.	Workforce	ILO 1	A1.2	New Strategy	
	None	ILO 2	B.1	None	
	None	ILO 3	None	None	

Link to Hawaii Community College Institutional Learning Outcomes
Link to Hawaiʻi Community College Strategic Plan
Link to Hawaii Community College Academic Master Plan

Narrative of New Strategy for Strategic Plan:

1. HawCC Ag and UHH Adopt a Beehive Programs will collaborate to design, build and demonstrate greenhouse pollination of cucurbits. Both programs will use and contribute to the shared learning environment. It is expected that students of both campuses will interact directly as part of the learning activities. This project will expose students to a novel method of production as well as entrepreneurial opportunities that exist in the production of high-value melons and creation of value-added products. HawCC students will be exposed to educational opportunities available to them beyond HawCC. It is believed that familiarity with UHH programs and positive collaborative learning experiences that result from this project may increase student transfer to UHH.
2.
3.

Briefly explain how **Program Action 1** aligns to the College's AMP Priorities, ILOs, Strategic Plan, and UH System collaboration (if applicable):

This project is designed to build and demonstrate long-term effective system and program collaboration. Outcomes of this action may include increased student transfer to UHH (Globally Competitive Workforce B). It aligns with institutional outcomes. Students will enhance communication skills through cross-program discourse and sharing as well as results analysis and summary (ILO1). Additionally, students will need to adapt to and overcome many different challenges as this project is novel and will be designed with ttheir participation and input from the ground up (ILO 2). Finally, this project has the potential to positively impact the community positively by creation and demonstration of a viable entrepreneurial opportunities in small-scale, high-value, fruit production.

Calendar of planned activities for **Program Action 1** – In chronological order, briefly describe the procedures/activities planned to achieve **Program Action 1**

Activity(ies)	When will the activity take place
Example:	
Nursery design development	September 2014
Shade replacement	Fall 2014
Irrigation design and installation	Spring 2015
Build a pollination greenhouse	Fall 2013
Begin planting of cucurbits	Jan 2014
Begin apiculture component	Feb 2014
Collect data, analyze results and assessment	March-June 2014
Value-added component	March-May 2014

Program Action 2		ILO Alignment (select up to 3)	Strategic Plan Alignment (select best alignment; max 3)		UH System Collaboration
			Performance Measure	Action Strategy	
No further plans will be initiated this cycle. The program has substantial work remaining in three areas of the AMP above.	None	None	None	None	
	None	None	None	None	
	None	None	None	None	

Narrative of New Action Strategy for Strategic Plan:

1.
2.
3.

Briefly explain how **Program Action 2** aligns to the College's AMP Priorities, ILOs, Strategic Plan, and UH System collaboration (if applicable):

Calendar of planned activities for **Program Action 2** – In chronological order, briefly describe the procedures/activities planned to achieve **Program Action 2**

Activity	When will the activity take place

Program Action 3		**ILO Alignment** (select up to 3)	**Strategic Plan Alignment** (select best alignment; max 3)		**UH System Collaboration**
			Performance Measure	**Action Strategy**	
	Graduation	ILO 1	A1.1	New Strategy	
	Graduation	ILO 1	A1.1	New Strategy	
	Graduation	ILO 1	A1.1	New Strategy	

Narrative of New Strategy for Strategic Plan:

1.
2.
3.

Briefly explain how **Program Action 3** aligns to the College's AMP Priorities, ILOs, Strategic Plan, and UH System collaboration (if applicable):

Calendar of planned activities for **Program Action 3** – In chronological order, briefly describe the procedures/activities planned to achieve **Program Action 3**

Activity	When will the activity take place

List specific action plans for any Perkin's Core Indicator for which this program did not meet the goal.

Perkin's Indicator	**Action Plans**	**When will the activity take place**

1P1	As mentioned previously in this report, meeting Perkins Indicators has been a historical strength of the program and this years data is inaccurate and differs from internal program data. Background fact finding and analysis of initiatives and strategies of programs around the country will occur this year. If indicators are again low in the next period, the program will develop an action plan following successful models derived from the fact finding activities.	Fall 2013-Spring 2014
1P1		
1P1		
1P1		
1P1		
1P1		

Part IV: Resource Implications

List Top 3 Cost Items needed for program success. Identify alignment to the AMP Program Actions, Strategic Plan Action Strategies and/or Strengths and/or Weaknesses to address.

Cost Item 1	Type	Cost	Strategic Plan Alignment (select best alignment; max 3)		Academic Master Plan Alignment (select best alignment; max 3)	Strength	Weakness
				Action Strategy	Program Action from AMP (ie 4.3) or write "New Strategy"	From Part II above	From Part II above
Lecturer to begin fall 2014	Personnel	30,000	A2.4	None	3.6	None	W1
			B.1	None		None	None
			D.1	None		None	None

Link to Hawaii Community College Institutional Learning Outcomes
Link to Hawai'i Community College Strategic Plan
Link to Hawaii Community College Academic Master Plan

Briefly explain why **Cost Item 1** is necessary to meet priorities of program and/or to address strengths and/or weaknesses.

Personnel or lecturers must be hired to increase program capacity to meet job force needs and student demand.

Cost Item 2	Type	Cost	Strategic Plan Alignment (select best alignment; max 3)		Academic Master Plan Alignment (select best alignment; max 3)	Strength	Weakness
				Action Strategy	Program Action from AMP (ie 4.3) or write "New Strategy"	From Part II above	From Part II above
Plant Tissue and Sap Meters for Nutrient and Quality Analysis	Equipmen	$5000	A2.4	a.	3.5	S1	W2
			B.1	New Strategy		None	None
			None	New Strategy		None	None

Briefly explain why **Cost Item 2** is necessary to meet priorities of program and/or to address strengths and/or weaknesses.

Purchase of new equipment is required to enhance learning opportunities and adopt progressive industry methods of plant production and analysis. Real-time sap and quality analysis is critical for production diagnostics to ensure plant health. This purchase contributes to a program strength of a varied and experiential learning environment.

Cost Item 3	Type	Cost	Strategic Plan Alignment (select best alignment; max 3)		Academic Master Plan Alignment (select best alignment; max 3)	Strength	Weakness
				Action Strategy	Program Action from AMP (ie 4.3) or write "New Strategy"	From Part II above	From Part II above
Computers, Software and Computer Irrigation Control	Equipmen	15,000	A2.4	a.	3.5	S1	W2
			B.1	None		None	None
			None	None		None	None

Briefly explain why **Cost Item 3** is necessary to meet priorities of program and/or to address strengths and/or weaknesses.

In order to adopt current industry practices and ensure job readiness, computers and technology must be more fully integrated into the learning environment. Purchase of computers, CAD, LandFX , financial and irrigation software are needed to create an opportunity for students to master these tools and higher level (more valuable) skills. Many native Hawaiian and economically disadvantaged students lack proficiency in these areas. Without opportunities to

develop technological aptitude within the program, these disadvantages will likely continue beyond their studies and into the job market.

Part V: Program Student Learning Outcomes

List the Program Learning Outcomes and check mark those assessed for the 2012-2013 program year.

	Check mark if Assessed this year	Program Student Learning Outcomes
1	⊠	Plan and manage projects and cultivate horticultural crops using legal; sustainable; safe; and ecologically, biologically, and technologically sound practices.
2	⊠	Design gardens that demonstrate the aesthetic principles of unity, repetition, balance, color, and texture congruent with the customers' desires.
3	⊠	Operate and maintain tools and equipment.
4	⊠	Set-up and manage a business enterprise.
5	⊠	Interact with customers and co-workers in ways that effectively support the work to be accomplished.
6	☐	
7	☐	
8	☐	
9	☐	
10	☐	

A) **Evidence of Industry Validation for CTE Programs** – Provide documentation that the program has submitted evidence and achieved certification or accreditation from an organization granting certification in an industry or profession. If the program/degree/certificate does not have a certifying body, the recommendations for, approval of, and/or participation in, assessment by the program's advisory council can be submitted. – Describe the documentation; i.e. 9/27/2013 Minutes of ACC Advisory Council; Completed Rubrics by Advisory Council Members.

Ms. Erin Lee, Director of Landscaping at Hualalai Resort and Ag Program Advisor, visited the capstone project site to observe and interact with program students on the final day of the installation. She also looked at various hand drawn designs of students.

From that visit she commented that students possessed and demonstrated many of the skills sought by industry. For example, students demonstrated proper planting technique and relayed a basic understanding of design principles. She felt the quality of student-grown plants was good and given the limited budget the design was satisfactory.

She suggested that to improve the capstone project, soil or media should be trucked in to improve the site. Larger and more perennial industry standard plant material should be installed instead of mostly groundcovers.   An ideal budget would be $4000-5000.

Ms. Lee has very valid suggestions. The program may have difficulty fully adopting the recommendations. The landscape must mostly be installed after other trades have completed their work. This leaves very little time to complete the project and establish plants. Also, as this is an affordable home, the program is very cognizant of the cost to the owner.

B) **Expected Level of Achievement** – Describe the different levels of achievement for each characteristic of the learning outcome(s) that were assessed. What represented "excellent," "good," "fair," or "poor" performance using a defined rubric and what percentages were set as goals for student success; i.e. 85% of students will achieve good or excellent in the assessed activity."
Ag 230: It was expected that 80% of the students would meet or exceed expectations within the various elements evaluated.

Rubric for Elements of the Ag Business Plan

Mission and Goals

Exceeds Expectations
-Presents very complete, clear & specific mission and goals.
-Very organized and accurate.

Meets Expectations
-Presents complete, clear & specific mission and goals.
-Organized and accurate.

Approaching Expectations
-Somewhat incomplete and vague.
-Limited organization.

Does NOT Meet Expectations

-Incomplete and vague.
-Poorly organized.

Resume

Exceeds Expectations
-All required components of resume are present, organized and well written.
-Impeccable design, formatting, and style.
-No grammatical errors.

Meets Expectations
-Most of the components are present and well written; good organization, consistent formatting and style.
-Very few or slight grammatical errors.

Approaching Expectations
-Several components are missing
-Statements and writing are unclear.
-Formatting and style inconsistent or deviates slightly from accepted use.

Does Not Meet Expectations
-Incomplete and poorly written.
-Lacks formatting.
-Displays improper grammatical use and style.

Description of Product

Exceeds Expectations
-Thorough, accurate, well-composed, -researched, and -designed description is presented.
-Very well organized and properly cited as applicable.
-No grammatical errors.

Meets Expectations
-Accurate, well-composed and researched description is presented; resources utilized effectively
-Good organization and some use of citations if applicable.
-Very few or slight grammatical errors.

Approaching Expectations

HAWAI'I COMMUNITY COLLEGE
ANNUAL PROGRAM REVIEW TEMPLATE

-Somewhat incomplete and displays limited research or use of resources.
-Minor grammatical errors.

Does not Meet Expectations
-Incomplete, vague, poorly organized or incoherent.
-Limited evidence of use of resources
-Research lacking or plagiarized.
-Serious grammatical problems.

Description of the Enterprise

Exceeds Expectations
-Thorough, accurate, well-composed, -researched, and -designed description is presented.
-Very well organized and properly cited as applicable.
-No grammatical errors.

Meets Expectations
-Accurate, well-composed and -researched description is presented; resources utilized effectively.
-Good organization and some use of citations if applicable.
-Very few or slight grammatical errors.

Approaching Expectations
-Somewhat incomplete and displays limited research or use of resources.
-Minor grammatical errors.

Does Not Meet Expectations
-Incomplete, vague, poorly organized or incoherent.
-Limited evidence of use of resources.
-Research lacking or plagiarized.
-Serious grammatical problems.

Financial Information

Exceeds Expectations
-Material is thorough, accurate and complete.
-Information presented shows evidence of research and use of resources.
-Excellent organization and formatting.
-No grammatical or mathematical errors.

Meets Expectations
-Accurate and complete information is provided; evidence of some research or use of resources.
-Organized with few grammatical or mathematical errors.

Approaching Expectations
-Key components are complete
-Limited evidence of use of resources in development.
-Contains slight to moderate organizational, grammatical or mathematical errors.

Does Not Meet Expectations
-Incomplete and poorly organized; key components absent.
-Lacks evidence of use of resources.
-Numerous grammatical or mathematical errors.

Cash Flow Projection

Exceeds Expectations
-Material is thorough, accurate and complete.
-Information presented shows evidence of research and use of resources.
-Excellent organization and formatting.
-No grammatical or mathematical errors.
-Projection evolves and changes over forecast period.

Meets Expectations
-Accurate and complete information is provided; evidence of some research or use of resources.
-Organized with few grammatical or mathematical errors.
-Projection appropriate for forecast period.

Approaching Expectations
-Key components are complete.
-Limited evidence of use of resources in development.
-Contains slight to moderate organizational, grammatical or mathematical errors.
-Projection more or less static doesn't consider future change.

Does Not Meet Expectations
-Incomplete and poorly organized; key components absent.
-Lacks evidence of use of resources.
-Numerous grammatical or mathematical errors.

Ag 260: Students were split into two groups for the capstone project. It was expected that both groups would meet or exceed expectations in all element categories while working together to complete the project. In addition to group elements, the instructor observed individual 12

students for specific competencies and participation during the process. It was expected that 80% of the students would meet or exceed expectations for individual components.

Rubric Landscape Horticulture Model Home Capstone Project

Group Dynamics-Interaction, Effectiveness and Equity (SLO # 5)

Exceeds Expectations
-Very positive group interaction; actively engaged.
-Group offers meaningful and insightful comments and critiques of others ideas or work.
-Differing opinions are discussed in a positive manner

Meets Expectations
-Positive group interaction.
-Some meaningful and insightful comments and critiques of others ideas.
-Differing opinions are discussed in a positive manner.

Approaching expectations
-Mostly positive group interaction and planning.
-Group offers no meaningful comments or critiques of others' ideas or work.
-Occasional evidence of argumentative group dynamic.

Does Not Meet Expectations
-Little or no group discussion or interaction.
-Argumentative atmosphere.

Landscape Design (hand-drawn plan)(SLO # 2)

Exceeds Expectations
-Material is thorough, accurate and complete.
-Design presented shows evidence of research, comprehensive understanding of design principles and use of resources.
-Excellent organization and formatting.
-No grammatical or mathematical/scale errors.

Meets Expectations
-Accurate and complete material is provided; evidence of some research or use of resources.
-Organized with few grammatical or mathematical/scale errors.

Approaching Expectations
-Key components are complete.
-Limited evidence of use of resources in development of plan.
-Lacks understanding of design principles.
-Contains slight to moderate organizational, grammatical or mathematical/scale errors.   -

Does Not Meet Expectations
-Incomplete and poorly organized; key components absent.
-Lacks evidence of use of resources.
-No or limited evidence of application of design principles
-Numerous grammatical or mathematical/scale errors.

<center>Plant and Material List (SLO #s 1&4)</center>

Exceeds Expectations
-Thorough, appropriate, accurate, well-composed, -researched, and -designed list is presented.
-Very well organized and properly cited as applicable.
-No grammatical errors.

Meets Expectations
-Accurate, well-composed, appropriate and researched list is presented; resources utilized effectively
-Good organization and some use of citations if applicable.
-Very few or slight grammatical errors.

Approaching Expectations
-Somewhat incomplete and displays limited research or use of resources.
-Lacks some desired organizational qualities
-Minor grammatical errors.

Does not Meet Expectations
-Incomplete, vague, poorly organized or incoherent.
-Limited evidence of use of resources
-Research lacking or plagiarized.
-Serious grammatical problems.

<center>Budget (SLO # 4)</center>

Exceeds expectations
-Material and cost breakdown is thorough, accurate and complete.
-Information presented shows evidence of critical thought, recordkeeping and use of resources.
-Excellent organization and formatting.
-No grammatical or mathematical errors.

Meets Expectations
-Accurate and complete material and cost breakdown is provided; evidence of some critical thought, recordkeeping and use of resources. .
-Organized with few grammatical or mathematical errors.

Approaching Expectations

-Key components are complete
-Limited evidence of recordkeeping or use of resources in development.
-Contains slight to moderate organizational, grammatical or mathematical errors in material or cost analysis.

Does Not Meet Expectations
-Incomplete and poorly organized; key components absent.
-Lacks evidence of recordkeeping or use of resources.
-Numerous grammatical or mathematical errors.

Installation and Project Completion (SLO #s 1,2,3,4,5)

Exceeds Expectations
-All project elements thorough, accurate and complete by deadline.
-Information presented shows evidence of research and use of resources.
-Excellent use of design elements and plant material.
-Completed site is aesthetic, neat and orderly.

Meets Expectations
-Project elements mostly thorough, accurate and complete by deadline.
-Information presented shows some evidence of research and use of resources.
-Appropriate use of design elements and plant material.
-Completed site is aesthetic, neat and orderly.

Approaching Expectations
-Key elements are complete
-Information presented shows limited evidence of research and use of resources.
-Written materials incomplete by deadline.

Does Not Meet Expectations
-Evidence of incomplete understanding of application of design elements and plant material.
-Completed site lacking aesthetic, neat or orderly aspects.
-Incomplete and poorly organized; key components absent.
-Deadline not met.
-Lacks evidence of use of resources.
-Use of design elements absent.
-Completed site is disorganized and unappealing.

Individual Plant Culture Proficiency-Installation (SLO #s 1,2&3)

ExceedsExpectations
-Plants are centered as specified; root ball is prepared and planted at the correct depth.
-Finished planted area is very neat and uniform.

Meets expectations
-Plants are mostly centered as specified; root ball is prepared and most plants are at the correct depth.
-Finished planted area is very neat and uniform.

Approaching Expectations
-Plants are not centered as specified; root ball is prepared and planted at the correct depth.
-Finished planted area is disorganized.

Does Not Meet Expectations
-Planting practice is very disorganized and indicates a lack of understanding of the concept.

Participation and Collaboration- group visioning, planning and critique (SLO # 5)

Exceeds expectations
-Very positive contributions to group work; actively engaged.
-Offers meaningful and insightful comments and critiques of others work.

Meets Expectations
-Positive contributions to group work.
-Offers some meaningful and insightful comments and critiques of others work.

Approaching Expectations
-Some participation in group discussions and planning.
-Offers no meaningful critiques.

Does Not Meet Expectations
-Little or no participation in group discussions and planning.
-Offers no meaningful critiques.

C) **List Course(s) Assessed** – List the courses assessed during the reporting period.
Ag 230 & Ag 260

D) **Assessment Strategy/Instrument** – Describe what, why, where, when, and from whom assessment artifacts were collected.
Ag 230: Eleven business plans were selected at random from the total pool of student plans from Fall 2012. It was expected that 80% of the students would meet or exceed expectations within the various elements evaluated.

Ag 260: Students were split into two groups for the capstone project. Groups were responsible for working together to create a hand-drawn design plan for a portion of the landscape, develop a

plant and material list, create a budget and install the design. It was expected that both groups would meet or exceed expectations in all element categories while working together to complete the project.

In addition to group elements, the instructor observed 12 individual students for specific competencies and participation during the process. It was expected that 80% of the students would meet or exceed expectations for individual components.

E) **Results of Program Assessment** – The % of students who met the outcome(s) and at what level they met the outcome(s).

Ag 230 Business Plan

Element	Mean Rating + SD (3 meets expectations)	Meeting or Exceeding (%)
1. Mission and Goals	2.9 + 0.7	72.7
2. Resume	2.9 + 0.3	90
3. Description of Product	2.5 + 0.5	54.5
4. Description of the Business	2.7 + 0.5	72.7
5. Financial Information	2.7 + 0.6	63.6
6. Cash Flow Projection	2.7 + 0.6	63.6

Our goal of 80% of students' meeting or exceeding expectations was reached for the resume element. All other elements fell short of expectations. Generally product and business descriptions lacked sufficient content and specific detail to meet expectations of the assignment. Students continue to struggle with financial elements. The first area of weakness is in use of spreadsheets to present the information. Students generally lack the ability to layout the spreadsheet in a manner that information is easy to understand and follow through the three-year projection. They also struggle with tracking changes in cash flow and expenses on a monthly basis over time.

Ag 260 Capstone Landscape Project
Overall this was an extremely successful project. Students rose to the challenge and worked together effectively to complete their installation by the deadline. Members of the groups displayed strong interpersonal skills. Both groups met expectations in group dynamics, design, plant and material list, and budget elements. The installation and project completion element was an area of weakness. Although the project was installed and completed by the deadline both

Ag 260

1.	Based on suggestions provided by Ms. Erin Lee the program will begin growing larger plant material in other program courses.

2.	The program has used a group peer evaluation form in another class. It proved to be an effective tool and will be introduced into the capstone project as well.

3.	The program will explore ideas to increase length of time to work on site for the capstone project and ways to obtain materials.

4.	Greater emphasis will be placed on the need for students to complete not only installation but also all assignment components by the deadline.

5.	The program will obtain and use LandFX design software for irrigation and landscape design projects.