HAWAII COMMUNITY COLLEGE
PROGRAM REVIEW REPORT

Agriculture

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Program/Unit Review at Hawaii 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.

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Program Description

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.

3yr Review Report Summary – <mark>*If this Program is scheduled for Comprehensive Review, this section must be more robust and detailed*</mark> *explaining changes made to the program in the past 3 years; funding received since last 3 years and results from funding, etc.*

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

CERC Comments and Feedback --

CERC Comments (April 2013):

A. Program Effectiveness

Table 1: Description and Alignment with Mission and ILOs

Recommendations/Comments:

o Program has made an important move towards more sustainable, environmentally friendly agricultural practices and pedagogy, which benefits students, the college, and community.

o Integration of much of the narrative into the tables provided would allow for a more efficient and integrative evaluation, as well as a better flow for readers.

o More information would be helpful about successful collaborations with other HawCC programs, including the Model Home Project, which was mentioned in the narrative.

o Program offers students opportunities to learn and apply their knowledge of the course materials in multiple ways through visual, aural, oral, kinesthetic and written methods, which greatly enhances a deeper understanding of the material.

o Connections with the college's ILOs-- critical thinking, communication and community-- are implied, but not explicitly stated. One may surmise that community is strong, but only in the understanding that there are community gardens and many people are engaged in agriculture with neighbors. The alignment with the college's mission and ILOs could have included more details, such as examples of class projects, etc.

Table 2: Previous Goals

Goal 1: SLO and PLO Completion.

Goal 1 Narrative & Evaluation - Recommendations/Comments:

o There is concern that this Goal was not accomplished because PLOs are NOT in alignment with ILOs. Also, PLOs and SLOs are the same.

o Suggest including the actual SLOs and PLOs to help support the evaluation.

o This is the first program review for the current instructor.

Goal 2: Recruit more active advisory committee members.

Goal 2 Narrative & Evaluation - Recommendations/Comments:

o Mentioned that there is a new advisory board, but there is no discussion about any activities or how they are doing. The names and titles of the advisory committee members should be included to establish their professional expertise.

o It was mentioned in the narrative that collaboration with UH Hilo is ongoing. A report on what has been accomplished thus far would be beneficial.

Goal 3: Create a recruiting plan to increase enrollment.

Goal 3 Narrative & Evaluation - Recommendations/Comments:

o Committee commends this program on the dramatic increase in enrollment.

o No mention is made of what new recruitment efforts or strategies were implemented during the reporting period. What changes were made to the recruiting plan that may have helped increase enrollment? Provide evidence that recruitment plan was a causal factor in increased enrollments, and provide a percentage of the increase. o It is difficult to determine all causes for the increase in program enrollment. There are other factors to take into consideration that aren't mentioned in the evaluation, such as the state of the economy.

o Since program is currently at capacity, an additional instructor needs to be hired in order to effectively increase the enrollment further. This is a limiting factor and should have been mentioned in the narrative.

Overall Recommendations/Comments for Previous Goals:

o The current instructor has been active in addressing the previous goals.

o Narrative indicated that the previous goals were met, but did not indicate what the goals were, how they were met, and how the program might have been modified because of any assessments that might have been done that

are relevant to the goals.

o Committee recommends that, in the future, the writer expands on the narrative and evaluation of each of the goals. Providing more evidence, data, and supportive information would greatly enhance the review, and allow readers to better determine whether goals were adequately met.

Table 3: Program Strengths and Weaknesses
Strength 1: Excellent and varied experiential learning environment for horticulture, landscape and agronomic production. The physical classroom and tissue culture laboratory are excellent. Much potential for increased effectiveness through enhancement of core facilities.
S1 & Evaluation of Data Elements - Recommendations/Comments:
o Evaluation could have been enhanced by providing descriptions of activities related to the strength. A discussion of the data elements would have strengthened this strength.

o A greater focus on entrepreneurial opportunities attempts to address changes in demand for jobs in agriculture and landscaping. Efficiency has improved through an increase in the number of students enrolled in classes (from an average of 14.2 to 17.2) and maintaining a $212 program cost per student.

o The instructor has used grant funds to make a number of improvements to program resources in the classroom and the students have participated in shade house and greenhouse upgrades, thereby increasing effectiveness. Effectiveness is also addressed by the multiple teaching methods used, especially hands on opportunities and the incorporation of technology with culturally appropriate farming methods.

o Program's participation in the model home supports the program's PLO and SLO's in all areas. It is also in alignment with the mission and ILOs.

o There are no data elements in the evaluation of the S1 - Excellent and varied experiential learning environment for horticulture, landscape and agronomic production. How many students participated in how many activities? What percentage of the student's class time is spent on experiential activities in the last year; has that increased over 5 years?

Strength 2: The program is very efficient and is utilizing resources available effectively.
S2 & Evaluation of Data Elements - Recommendations/Comments:
o Evaluation was not sufficient to support the strength. There was no analysis of data elements; this type of discussion would greatly improve the review.

o This information relates to improvements in class size, cost per student and a significant increase in Perkins Indicators met (from 3 out of 6 at the last review to 5 out of 6 presently) which relates to program efficiency as more nontraditional students participate and program effectiveness is also improved by student diversity, which is a microcosm of the community.

o The author indicates that the program has a low cost per SSH but the cost doubled between 10/11 and 11/12 from $102 to $212. 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 illness or personal leave?

Strength 3: 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.
S3 & Evaluation of Data Elements - Recommendations/Comments:
o The evaluation of this goal could have been drastically improved through inclusion and analysis of applicable data. More data needs to be provided to show specifics of the certificates and the AAS degree and include a discussion of the planned improvements. Perhaps a student survey would provide needed data for this strength.

Weakness 1: Enrollment and demand currently far exceed capacity of program especially as courses are offered only on a two-year cycle.
W1 & Evaluation of Data Elements - Recommendations/Comments:
o This weakness is evident and the analysis was more thorough than what was provided for the strengths. There is only one instructor and 58 students interested in Agriculture. The maximum capacity of 35 majors are enrolled. In order to expand, the program needs a commitment for at least one more instructor or lecturer.

o   This relates to the need to respond to increasing demands for program courses and the related need to increase capacity to transport students to the farm, in order to increase program efficiency for student success for students declared as AG majors, and increase program effectiveness but supporting an increase in graduation with an AAS degree and greater certificate attainment.

Weakness 2: The program is in need of equipment, supplies and maintenance support for its facilities.
W2 & Evaluation of Data Elements - Recommendations/Comments:
o   It would have been helpful to word this more like a weakness. There is no data to substantiate the need for equipment, supplies, and maintenance support. The author should provide information regarding a) the amount of funding currently being provided for equipment, supplies and maintenance support, b) the inventory of current equipment including the age of any substantial equipment like vans, tractors, tiller, etc .
o   Discussion on the lack of instructional staff would have been more appropriate as its own weakness or combined with Weakness 1.
o   The narrative describes a number of grants, which have supported an increase in program efficiency and allowed for better use of current resources such as the tissue culture lab and to allow for student transport to the farm. This will ultimately allow for increased class capacities, which will improve the time to graduation.
o   The narrative describes the need for an increase in staff to offer first year classes, so that courses can be offered yearly instead of on alternate years. Additional staff could also assist with the maintenance and development of crops and resources

Weakness 3: Although the foundational design and flow of the program curriculum is strong, there are some weaknesses to address.
W3 & Evaluation of Data Elements - Recommendations/Comments:
o   Very weak evaluation; needed to include data elements and provide more thorough explanation and examples. Suggest to include current data related to certificates and the AAS degree and integrate the information from the table shown after the strengths and weaknesses into the review template narrative to enhance readability.
o   Perhaps the A.A.S. degree currently being offered by Agriculture does not provide the learner with the basic educational package needed to become an independent farmer. Therefore, there is a need to restructure the degree program to offer an AS in Agriculture. There is no data to substantiate this, however.
o   The narrative discussed the need to develop 100 level coursework for the AAS and AS degrees. This would assist with a more seamless transition to UH Hilo. This would be strengthened by providing more data in regards to degrees, certificates, and transfers.
Overall Recommendations/Comments for Strengths & Weaknesses:
o   Detailed examination of program is an excellent addition, however it was difficult to read. Suggest lining up headings (i.e. Action, Outlook/Priority) to more easily compare.
o   Devote more time to this section as evaluation can include justification for program's cost items.
o   Evaluation of weaknesses was better supported and more thorough than evaluation of strengths.
o   Incorporating the data into the tables will greatly improve the committees ability to efficiently evaluate the programs strengths and weaknesses.
o   There are general statements about the need for equipment, computers, etc. but no actual data elements. These would be helpful in understanding the strengths and weaknesses.
o   The table after the strengths and weaknesses was interesting, but challenging to read. Had the information been incorporated into the narrative template, the information would have been more meaningful.

Table 4: Program Assessment Data
Program SLOs Assessed - Recommendations/Comments:
o   It is unclear if there are 7 or 5 PLOs. Also, PLOs do not seem to align with ILOs, and the PLOs and SLOs are the same-- they should be different.
o   The narrative identified how the scientific method was used to sample and analyse students' work, and to evaluate how students are assessed for learning and the application of knowledge. Useful findings showed how assessment could be improved. This was very comprehensive and included an SLO assessment plan.
o   PLO #6 Set-up and manage a business enterprise. The results of this assessment seem to indicate that the PLO

assessment design is too ambitious. Perhaps the program should assess one of the 7 elements instead of all seven. The SLOs for the AG 230 class should be limited to 3 instead of 7. The analysis of the assessment results is appropriate.

Evidence of Industry Validation (CTE Programs) - Recommendation/Comments:
o States "No content." under Part IV. A. in Annual Review.
o Suggest including advisory board members or others from industry in the evaluation of the assessment instrument.

Expected Level of Achievement - Recommendations/Comments:
o This assessment did not include the expected level of achievement except that the author indicated that aggregate scores of <3 indicated students weaknesses in acquiring the necessary outcomes for the class.
o This was hard to interpret due to the presentation of the material.

Course(s) Assessed - Recommendations/Comments:
o Ag 230- Agriculture Business Management and AG54B-Tropical Ag Production were assessed.
o A positive outcome was the realization that the assessment methodology needs revision and this will help future assessment.

Assessment Strategy/Instrument - Recommendation/Comments:
o Hands on demonstration and a quiz during the demonstration revealed the need to evaluate smaller groups of students.
o Assessment showed more opportunities are needed for hands-on practice and to explain processes and reasoning verbally and in writing is needed, which are important observations.
o The assessment instrument was not shown. There was a table with headings and mean scores, but there was no description of the areas assessed and the instrument was not included. If these items were included, the overall results would make more sense from a reader's perspective.

Results of Program Assessment - Recommendations/Comments:
o There was no real review or analysis of assessment results.
o Strengths and weaknesses were useful and relevant.
o Course of Action Using Assessment Results was detailed and analyzed.

Next Steps - Recommendations/Comments:
o A good evaluation of small changes that can make a significant difference to student engagement and successful course completion. Course of action was detailed for improvement in each course.

Overall Recommendations/Comments for Program Assessment Data:
o Spend more time on this section and provide more detail and analysis.
o Suggest having the data in alignment with the format of the evaluation tool.

o Not sure if the program was required to provide two PLO assessments.

Learning Outcome Alignment Grid:
Overall Recommendations/Comments for Alignment Grid:
o When multiple PLOs are being addressed on the same assessment form, it is unclear whether all PLOs are being evaluated.
o Will eventually need to develop course SLOs that are different than the PLOs
o Nice presentation of SLO matrix. The table shows whether there is a basic, intermediate or advanced mastery of the SLO, which is interesting.

Table 5: Other Considerations Affecting the Program
Recommendations/Comments for Other Considerations Affecting the Program:

o Recognizes that the poor economy might have contributed to increased enrollments. Campus enrollment itself almost doubled at one point. Need to watch enrollment over a longer period of time. Longer term trends might not support additional positions.
o The chart showing ongoing assessment of the SLOs over time is informative and will be helpful for the next program review.
o It is also interesting to note that non-credit Ag-related programs could have an impact on the for- credit AG program.
o Green sustainable agriculture is becoming a popular and necessary trend.

Part III. Goals for Program Improvement
Table 6: Goals and Alignment
Goal 1: Modify current program curriculum to create an AS Degree and a stronger pathway to UHH or other 4-year institutions.
Goal 1 Recommendations/Comments:
o Did not describe improvements. Give examples of what is expected if this strategy is implemented. Among other examples, could have said something like "this will facilitate recruitment efforts and graduation and transfer rates."
o The collaboration with U.H. Hilo and U.H. Maui will strengthen this goal.
o Elevate degree to AS and develop pathway to UHH.

Goal 2: Improve learning environment through greater access to computers, software, tools and equipment.
Goal 2 Recommendations/Comments:
o Weak ILO alignment. In the future, provide specific support for how the goal aligns with one or all ILOs.
o In other areas of the narrative it was noted that grant funding allowed for increased and improved access to computer hardware and software to improve effectiveness and efficiency for program courses, which support student engagement and success. A more thorough discussion in this area would have strengthened the goal.

Goal 3: Increase the capacity of the program.
Goal 3 Recommendations/Comments:
o Weak ILO alignment. In the future, provide specific support for how the goal aligns with one or all ILOs.
o Goal is confusing – not well defined. Explain what is meant by increase the capacity of the program. Must provide more detail and supportive evidence, such as the program has grown beyond capacity and students have to wait a year or more to enter beginning coursework.
o Suggest making the goal quantitative - increase by what percentage?
o This is under developed, but mentioned in other areas of the narrative.
o Increase capacity means hire an instructor to allow for increased capacity.

Overall Recommendations/Comments for Goals and Alignment:
o Suggest substantiating goals and statements with more thorough details and examples.
o Develop SLOs that are different than the PLOs.
o Excellent idea to modify program curriculum and build it to an AS. This will really help develop and build the demand for the program.
o The formatting of this AG comprehensive review makes it hard to prevent repetition of information by the author and difficulty in accessing information in the narrative to align with key areas in the evaluation tool for the evaluator. The goals are appropriate and relate to the data in the review.

Table 7: Prioritized Top 3 Cost Items- ("G" funded requests only)
Cost Item 1: Purchase classroom computers and related software and/or landscaping tools and equipment and/or laboratory equipment for disease and genetic diagnostics.
Cost Item 1 - Comments:
o Statements were made in the review about the program needing new equipment, computers, software, and tools, but very little was said to justify this, such as the current condition of existing computers and equipment.

o The table is hard to read.
o May need grant funding if unable to acquire through general funds.

Cost Item 2: Hire 1 FTE faculty or APT.
Cost Item 2 - Comments:
o With only one faculty, this is a high priority.
o There was some justification throughout the document for an additional faculty to provide instruction and program support. This needs to be balanced by the demand and other health indicators, such as degree attainment and transfer of AG majors.
o A new position will support a one-year rather than a two-year cycle, will support efficiency and effectiveness by increasing course availability, will reduce the time to graduation and will increase graduation rates and certificate achievement. This would really make a difference.
o Cannot grow the program without adding to the teaching capacity.

Cost Item 3: Purchase van for carrying students to farm laboratory.
Cost Item 3 - Comments:
o The need for a van to transport students was not mentioned elsewhere in the review and no reference to the condition and capacity of the current van(s) was made to help justify this request.
o This will support an increase in class size due to the need to transport students to the farm and will support less time to graduation.

Overall Recommendations/Comments for Prioritized Top 3 Cost Items:
o In future documents, be sure to provide ample justification throughout the document to point at the need or to provide justification for respective requests. Use the data elements to justify the need for budget request items.
o Prioritization seemed appropriate as adding an instructor would open up additional possibilities and resources seem to be a programmatic necessity.
o It seems the department is understaffed as there is only one faculty teaching all of the curriculum. At least one more instructor needs to be employed in the discipline to give diversity in approach. Chris does a great job, but a greater flavor and perspective would be a healthy addition.
o Items 1 and 3 may be priorities. Can a lecturer be hired for #2? This program will not grow without adding teaching capacity. There is a demand (based on 58 majors reported).

Table 8: Staffing
Recommendations/Comments for Staffing:
o There is only one faculty member for all of classes and students.
o Might need to watch enrollment over a longer period of time. Enrollments have grown in all programs because the campus enrollment itself almost doubled at one point. Longer term trends might not support additional positions, though adding another staff member is well supported throughout the narrative.
o Recommend a lecturer for increasing teaching capacity and a student helper to assist with program needs.

All Programs and Units are required to be at the sustainable continuous quality improvement level for Program/Unit Review and Planning, and the proficiency level for Student Learning Outcomes. To be effective, student learning/unit outcomes assessment must contribute directly to students. Moreover, assessment for improvement is most effective when it is embedded within the unit and the services it provides and also has a direct connection to students. It is through the process of ongoing assessment of student learning outcomes that you can improve the quality of your program and demonstrate the level of quality to others. CERC recommends that this feedback is shared with all members of the program/unit.

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 dependence 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.

Part I: Quantitative/Qualitative Indicators

A. Annual Report of Program Data (ARPD) Data Grid

Look up ARPD data at:
http://www.hawaii.edu/offices/cc/arpd/instructional.php?year=2014&action=quantitativeindicators&college=HAW
Print for convenience since you will need to use information to discuss your Program's indicators.

B. ARPD Data Analysis

Based on the data from the ARPD, analyze the program's strengths and weaknesses in terms of demand, efficiency, and effectiveness.
If this Program is scheduled for Comprehensive Review, analyze program over 3 years.

Demand Health UNHEALTHY	Efficiency Health HEALTHY	Effectiveness Health 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 graduates. 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	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 illness or personal leave? As mentioned above the program is studying initiation of a cohort of students every year.	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 transferred, 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

to declared majors represents a serious challenge to providing agricultural education and training to those seeking it. The program is currently evaluating the feasibility of beginning a new cohort annually. This program development and adaptation will likely occur in fall 2014.		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.

Overall Health
CAUTIONARY

Distance Education: Completely Online Classes -- *List and provide an analysis of courses taught completely online. (i.e., compare success to face-to-face; action strategies implemented to increase success and completion rates, e.g., working with ITSO on strategies)*

Not applicable to this program.

Perkins IV Core Indicators -- *Identify core indicators (1P1, 2P1, 3P1, 4P1, 5P1, 5P2) that were __not__ met and specify action strategies.*

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 precipitous 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).

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

Performance Funding (**Graduation, Native Hawaiian, STEM, Transfer, Degree**) **--** *Describe how your program contributed to performance funding in these areas? If not, why and how do you plan to contribute in the future?*

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.

C. Trends & 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 II: Analysis of the Program

A. Alignment with Institutional Mission & Learning Outcomes (ILOs)

1) College Mission Alignment

> *Hawai`i Community College (HawCC) 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.*

Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports the College's Mission. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports.

Example: The SUBS program's faculty and staff fosters excellence in education, workforce development, academic advising and co-curricular activities that focus on engaging, challenging and transforming students to strive for academic excellence, personal growth, contributing members of the Hawai`i Island Community.
Information modified since previous 3 yr review

2) ILO Alignment

    a) ILO1: *Our graduates will be able to communicate effectively in a variety of situations.*

Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports this ILO. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports. If Program doesn't support this ILO, write "No alignment to ILO1"

Example: The SUBS program's curriculum prepares our graduates to communicate effectively by requiring the students to participate in: 1) small and large group discussions, both online and face-to-face; 2) individual and group presentations; 3) role play of interviewing and counseling skills; 3) fieldwork at practicum sites; 4) service learning activities on campus and in the greater community.
Information modified since previous 3 yr review 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.

    b) ILO2: *Our graduates will be able to gather, evaluate and analyze ideas and information to use in overcoming challenges, solving problems and making decisions.*

Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports this ILO. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports. If Program doesn't support this ILO, write "No alignment to ILO2"

Information modified since previous 3 yr review 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.

c) **ILO3:** *Our graduates will develop the knowledge, skills and values to make contributions to our community in a manner that respects diversity and Hawaiian culture.*

Copy/Paste from your 2012-2013 Program Review, your description of how this Program supports this ILO. Review and revise as you feel necessary. The description you finalize in the field below will be input into PATH for future reports. If Program doesn't support this ILO, write "No alignment to ILO3"

Information modified since previous 3 yr review

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.

B. Program Mission – *Write Official 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.

C. Strengths and Weaknesses

1) Strengths (Top 3 defined)

State Strength	Using supporting evidence, describe why this is a strength
Example: *Program Curriculum*	*Example:* *1) Approved by the State Department of Health as meeting the addictions requirements for Certified Substance Abuse Counseling, and Certified Prevention Specialist educational requirements.* *2) STEM Courses - SUBS 132, 268, 270* *3) Contains sufficient SUBS core requirement courses to develop an AA Degree in SUBS* *4) Indigenous course - SUBS 141 Ho`oponopono*
S1. Excellent and varied experiential learning environment for horticulture, landscape and agronomic production. The physical classroom and tissue 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.

2) Weaknesses (Top 3 defined)

State Weakness	Using supporting evidence, describe why this is a Weakness	Proposed solution
Example: *Lacks 2-year Degree Program*	*Example:* *Does not meet HawCC AMP Priorities (pp 5-10): Increasing Graduates in Science, Technology, Engineering and Math (STEM).*	*Example:* *Proposal being made for New AMP Action Strategies that would allow and support the addition of a 2-yr Degree Program for SUBS.*
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.	

Part III: Course/Program Assessment

A. Course(s) Assessed -- *List the course(s) (Alpha/#) assessed during this reporting period.*

Example:
Courses: SUBS 140, 245, 268
PLO#1: Satisfy the addiction studies educational requirements for Hawaii State Department of Health Alcohol and Drug Division's (ADAD) Certification:
Embedded in PLO#1 are PLO's 2, 3, 4, & 5

Ag 230 & Ag 260

B. Expected Level of Achievement -- *Describe the different levels of achievement for each characteristic of the learning outcome(s) that were assessed. That 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.

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.

C. Assessment Strateg(y/ies) & Instrument(s) -- *Describe what, why, where, when, and from whom assessment artifacts were collected.*

Example:
SAMPLING: College records for seven (all) 2009 program graduates

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.

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
-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. 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.

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.

Plant and Material List (SLO #s 1&4)
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.

Budget (SLO # 4)
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)
Exceeds Expectations
-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.

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.

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
-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.

D. Results of Course Assessment - *Provide a summary of assessment results.*

Example:
RESULTS: 86% (6/7) program graduates met or exceeded expectations: completed SUBS 140,245, 268 with a "C" grade or better.
1/7 students received an incomplete grade.

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 groups failed to meet expectations fully. Neither group provided all of the written materials of the assignment by the deadline.

For the elements assessed with individuals, 75% of students met or exceeded the plant culture proficiency installation element. Students that did not meet expectations had only very minor problems with the demonstration activity. All students evaluated met or exceeded expectations for the participation and collaboration component. This success is attributed to the engaging nature of the capstone project and the fact that students were excited about the project from initiation. They also seemed to truly appreciate the independence and responsibility for the project outcome.

Changes Implemented as a result of Assessment	Evaluation of the changes that were implemented
Change 1:	*Evaluation of Change 1:*
Change 2:	*Evaluation of Change 2:*

E. Next Steps -- *Based on your experience with Assessment so far, what do you plan to do in the future? Include any changes that are planned for the Program as a result of course assessments. For example, changes to rubrics, changes to level of expectation, any Program and/or curriculum modifications, etc.*

Goal: The program will obtain 12 computers and software for classroom use by spring 2014.
Specific steps to address weaknesses within elements of the assessments (goal above directly links to Ag 230#s 2&4 and Ag 260#5):
Ag 230
1. Less class time will be devoted to marginal analysis and input output relationships allowing more time for instruction on the elements of the business plan. At this educational level a mastery of the business plan is a greater priority. Also, very little data exists detailing input output relationships for crops in Hawaii. As a result this lacks real world relevance or application for the students.
2. Students will use Agplan.com, developed by U of Minn, as the template to draft their plans. Class time will be spent having students navigate the site and gain confidence with its use. This online resource allows instructor monitoring and tracking of students' progress during plan development. This will allow better oversight and the ability of the instructor to adjust teaching based on observations.
3. Additional emphasis will be placed on instructing students in the degree of detail expected in a business plan. Time will be spent introducing students the use of spreadsheets to present financial information.
4. Excel and Quickbooks will be used in the classroom exercises to help students understand and track month-to-month changes in expenses and cash flow.

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.

F. 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.

Part IV Action Plan

A. 20% Course Review

a) Courses Reviewed -- *List the Course Alpha/Number and Course Title of courses that were reviewed in AY 2013-2014.*

Course Alpha Number	Course Title
AG 31	FARM EQUIPMENT, MACHINERY, & POWER
AG 33	GREENHOUSE CONSTRUCTION
AG 40	PLANT IDENTIFICATION
AG 46	LANDSCAPE MAINTENANCE
AG 54A	TROPICAL AGRICULTURE PRODUCTION I
AG 54B	TROPICAL AGRICULTURE PRODUCTION II
AG 64	LIVESTOCK PRODUCTION I
AG 82	TURFGRASS MANAGEMENT
AG 122	SOIL TECHNOLOGY
AG 141	INTEGRATED PEST MANAGEMENT
AG 157	MARKETING OF AG PRODUCTS
AG 193V	COOP VOC ED
AG 200	PRINCIPLES OF HORTICULTURE
AG 230	AGRICULTURE BUSINESS MANAGEMENT
AG 250	SUSTAINABLE CROP PRODUCTION
AG 250L	SUSTAINABLE CROP PRODUCTION LAB
AG 260	TROPICAL LANDSCAPE HORTICULTURE

b) 20% Course Review Schedule

Input the Program's 20% Course Review Schedule for the next 5 years. If a schedule cannot be located, refer to HAW 5.250 Course Review Policy (http://hawaii.hawaii.edu/ovcadmin/admin-manual/haw5-250.pdf) to create a new schedule.

Course Alpha Number	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
AG 31 - FARM EQUIPMENT, MACHINERY, & POWER					
AG 33 - GREENHOUSE CONSTRUCTION		X			
AG 40 - PLANT IDENTIFICATION				X	

Course					
AG 46 - LANDSCAPE MAINTENANCE				X	
AG 54A - TROPICAL AGRICULTURE PRODUCTION I					
AG 54B - TROPICAL AGRICULTURE PRODUCTION II		X			
AG 64 - LIVESTOCK PRODUCTION I					
AG 82 - TURFGRASS MANAGEMENT					
AG 122 - SOIL TECHNOLOGY	FALL				
AG 141 - INTEGRATED PEST MANAGEMENT	SPRING				
AG 157 - MARKETING OF AG PRODUCTS					
AG 200 - PRINCIPLES OF HORTICULTURE			X		
AG 230 - AGRICULTURE BUSINESS MANAGEMENT					X
AG 250 - SUSTAINABLE CROP PRODUCTION					X
AG 250L - SUSTAINABLE CROP PRODUCTION LAB					X
AG 260 - TROPICAL LANDSCAPE HORTICULTURE			X		

B. Previous Goals (Program Actions) & Planning

All previous goals from last year's report are used to update the program actions in the Academic Master Plan (AMP) Appendix.

- *List and discuss all program actions listed for your program in the AMP Appendix, not including crossed out items. (http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf)*
- *Review and specify which program actions were addressed or completed during Review Period AY 2013-2014.*
- *Give a progress report for each program action that is not yet address/completed and describe the degree to which the goal was achieved over the review period.*
- *Specify program actions that are no longer being pursued by the program and should be deleted from the AMP.*

AMP Program Actions	Progress Evaluation & Evidence of Achievement
Example: *26.1 2009-2010: Recruit and Hire New SUBS -- FTE BOR Appointed Faculty*	*Example:* *The CERC and HawCC administration approved new faculty position for program, which was submitted to UH system. However, this writer was informed that the position request got "lost" in the UH system, and therefore never forwarded to the State legislature for approval.*
Create curriculum to meet the identified agriculture related sustainability needs for Hawaiʻi Island based on the CEDS 2010 report	Pending with no progress in credit program. The college 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.

C. New Goals (Action Strategies) and Alignment – *Describe New Goals, if any*

Define Goal (Action Strategy) 1

Example: Establish AA Degree in SUBS
Greenhouse bee pollination- research, demonstration, and value-added project.

Alignment of Goal 1 to ILO(s)

Explain how Goal 1 aligns with ILO(s) and provide supporting rationale
Example: Goal 1 aligns with ILO2 (Critical Thinking) by … Goal 1 aligns with ILO3 (Community contribution) by ...
ILO1
ILO2
ILO3

Alignment of Goal 1 to Strategic Plan (SP)

Explain how Goal 1 aligns with an Action Strategy in the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale. If Goal 1 does not align with a listed strategy, explain how it aligns to a SP Performance measure. Then, propose a new action strategy in the next field.

Examples:
Goal 1 <u>aligns</u> with SP Action Strategy A1.1.c Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved) by ...
Goal 1 <u>does not align</u> to a listed strategy, but aligns with SP Performance Measure A1.1 (Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved) by ...

A1.2 Increase enrollment by 2015, particularly in regions and with groups who are Underserved (as identified in the UH Second Decade Project)

B1. Increase the number of degrees awarded, and/or transfers to UH baccalaureate programs that lead to occupations where there is a demonstrated state of Hawai'i shortage of qualified workers, or where the average annual wage is at or above the U.S. average (2006=$38,651).

Proposed New SP Action Strategy/Strategies (if applicable) – *If Goal 1 does not align with a listed HawCC Action Strategy, indicate above how it aligns with a Performance Measure, and then use the field below to propose a new Action Strategy to be added to the HawCC Strategic Plan. New action strategies should be written in generalized terms so that other Programs and Units could also align their goals to them in the future.*

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.

Alignment of Goal 1 to Academic Master Plan (AMP)

Academic Master Plan: http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf
AMP Appendix: http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf

Indicate which Academic Master Plan (AMP) Action Priorities Goal 1 aligns with and provide supporting reasoning.

	STEM	Graduation Remediation Workforce	Student Transfer	Underserved Populations	Green Curricula	Program Development
Example: Establishing an AA Degree in SUBS will increase the number of STEM Degree programs at HawCC and meet the Workforce push for more STEM graduates.	**X**	**X**				**X**
Greenhouse bee pollination- research, demonstration, and value-added project.		**X**				

UH System Collaboration (if applicable)
- *Include collaboration efforts w/other campuses.*

Example: There is dialogue among MauiCC, KauaiCC, and HawaiiCC to establish a common AA Degree in SUBS.

Calendar of planned activities for Goal 1 -- *In chronological order, briefly describe the procedures/activities* planned to achieve Goal 1

Activity	When will the activity take place
Example: *Collaborating with other CCs complete SUBS AA Degree Authorization to Plan (AtP)*	*Example:* *Fall 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

****

Define Goal (Action Strategy) 2

No further plans will be initiated this cycle. The program has substantial work remaining in three areas of the AMP above.

Alignment of Goal 2 to ILO(s)

Alignment of Goal 2 to Strategic Plan (SP)

http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf

Explain how Goal 2 aligns with an Action Strategy in the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale. If Goal 2 does not align with a listed strategy, explain how it aligns to a SP Performance measure. Then, propose a new action strategy in the next field.

Proposed New SP Action Strategy/Strategies (if applicable) – *If Goal 2 does not align with a listed HawCC Action Strategy, indicate above how it aligns with a Performance Measure, and then use the field below to propose a new Action Strategy*

to be added to the HawCC Strategic Plan. New action strategies should be written in generalized terms so that other Programs and Units could also align their goals to them in the future.

Alignment of Goal 2 to Academic Master Plan (AMP)

Academic Master Plan: http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf
AMP Appendix: http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf

Indicate which Academic Master Plan (AMP) Action Priorities Goal 2 aligns with and provide supporting reasoning.						
	STEM	Graduation Remediation Workforce	Student Transfer	Underserved Populations	Green Curricula	Program Development

UH System Collaboration (if applicable) –
- *Include collaboration efforts w/other campuses.*
- *Include alignment with the UHCC Initiatives http://uhcc.hawaii.edu/OVPCC/ (listed on the left of John Morton's picture).*

Calendar of planned activities for Goal 2 -- *In chronological order, briefly describe the procedures/activities planned to achieve Goal 2*

Activity	When will the activity take place

****

Define Goal (Action Strategy) 3

Alignment of Goal 3 to ILO(s)

Alignment of Goal 3 to Strategic Plan (SP)

http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf

Explain how Goal 3 aligns with an Action Strategy in the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale. If Goal 3 does not align with a listed strategy, explain how it aligns to a SP Performance measure. Then, propose a new action strategy in the next field.

Proposed New SP Action Strategy/Strategies (if applicable) – *If Goal 3 does not align with a listed HawCC Action Strategy, indicate above how it aligns with a Performance Measure, and then use the field below to propose a new Action Strategy to be added to the HawCC Strategic Plan. New action strategies should be written in generalized terms so that other Programs and Units could also align their goals to them in the future.*

Alignment of Goal 3 to Academic Master Plan (AMP)

Academic Master Plan: http://hawaii.hawaii.edu/docs/HawCCStrategicPlan_2008-2015_10-29-09.pdf
AMP Appendix: http://hawaii.hawaii.edu/docs/academic-master-plan-appendix-priority-actions.pdf

Indicate which Academic Master Plan (AMP) Action Priorities Goal 3 aligns with and provide supporting reasoning.						
	STEM	Graduation Remediation Workforce	Student Transfer	Underserved Populations	Green Curricula	Program Development

UH System Collaboration (if applicable) –   ● *Include collaboration efforts w/other campuses.*   ● *Include alignment with the UHCC Initiatives http://uhcc.hawaii.edu/OVPCC/ (listed on the left of John Morton's picture).*

Calendar of planned activities for Goal 3 - In chronological order, briefly describe the procedures/activities planned to achieve Goal 3

Activity	When will the activity take place

Part V: Resource Implications

A. Cost Item 1

Description	Type ● Personnel ● Facilities ● Equipment ● Health/Safety ● Others (Define)	Estimated Cost
Lecturer to begin fall 2014	Personnel	$30,000

Alignment of Cost Item 1 to Strategic Plan (SP)

Explain how Cost Item 1 aligns with the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale
Example: Cost Item 1 aligns with SP A1.1 (Increase Native Hawaiian enrollment by 3% per year particularly in regions that are underserved.) by ...
A2.4 Increase the number of students who successfully progress and graduate, or transfer to baccalaureate institutions, while maintaining the percentage of transfers who achieve a first year GPA of 2.0 or higher at the transfer institution. Successful completion and transfer requires that students persist from one term to the next. In order to make progress towards graduation, students need to make progress in each academic year. Entering full time students should successfully complete at least 20 credits within the first year; part time students should complete at least 12.
B1. Increase the number of degrees awarded, and/or transfers to UH baccalaureate programs that lead to occupations where there is a demonstrated state of Hawai'i shortage of qualified workers, or where the average annual wage is at or above the U.S. average (2006=$38,651).
D1. Recruit, renew and retain a qualified, effective, and diverse faculty, staff, and leadership.

Alignment of Cost Item 1 to Academic Master Plan (AMP)

Explain how Cost Item 1 aligns with the Academic Master Plan (AMP) Action Priorities.
Example: Cost Item 1 aligns with Action Priority STEM because an instructor is necessary to develop the program.
3.6 Increase the capacity of the program.

Alignment of Cost Item 1 to Strength(s)

Explain how Cost Item 1 aligns with program Strength (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."
Example: No Alignment
None

Alignment of Cost Item 1 to Weaknesses(s)

Explain how Cost Item 1 aligns with Weakness (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."
W1. Enrollment and demand currently far exceed capacity of program especially as courses are offered only on a two-year cycle. Personnel or lecturers must be hired to increase program capacity to meet job force needs and student demand.

****

B. Cost Item 2

Description	**Type** ● Personnel ● Facilities ● Equipment ● Health/Safety ● Others (Define)	**Estimated Cost**
Plant Tissue and Sap Meters for Nutrient and Quality Analysis	Equipment	$5,000

Alignment of Cost Item 2 to Strategic Plan (SP)

Explain how Cost Item 2 aligns with the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale
A2.4a Provide tutoring options for students in courses with low success rates
B1. Increase the number of degrees awarded, and/or transfers to UH baccalaureate programs that lead to occupations where there is a demonstrated state of Hawaiʻi shortage of qualified workers, or where the average annual wage is at or above the U.S. average (2006=$38,651).

Alignment of Cost Item 2 to Academic Master Plan (AMP)

Explain how Cost Item 2 aligns with the Academic Master Plan (AMP) Action Priorities.
3.5 Improve learning environment through greater access to computers, software, tools and equipment.

Alignment of Cost Item 2 to Strength(s)

Explain how Cost Item 2 aligns with program Strength (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."
S1. Excellent and varied experiential learning environment for horticulture, landscape and agronomic production. The physical classroom and tissue culture laboratory are excellent. Much potential for increased effectiveness through enhancement of core facilities and purchase of new equipment.

Alignment of Cost Item 2 to Weaknesses(s)

Explain how Cost Item 2 aligns with Weakness (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."

W2. The program is in need of equipment, supplies and maintenance support for its facilities.

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.

****

C. Cost Item 3

Description	Type ● Personnel ● Facilities ● Equipment ● Health/Safety ● Others (Define)	Estimated Cost
Computers, Software and Computer Irrigation Control	Equipment	$15,000

Alignment of Cost Item 3 to Strategic Plan (SP)

Explain how Cost Item 3 aligns with the Strategic Plan (SP). Include SP Reference(s) and provide supporting rationale
A2.4a Provide tutoring options for students in courses with low success rates
B1. Increase the number of degrees awarded, and/or transfers to UH baccalaureate programs that lead to occupations where there is a demonstrated state of Hawai'i shortage of qualified workers, or where the average annual wage is at or above the U.S. average (2006=$38,651).

Alignment of Cost Item 3 to Academic Master Plan (AMP)

Explain how Cost Item 3 aligns with the Academic Master Plan (AMP) Action Priorities.
3.5 Improve learning environment through greater access to computers, software, tools and equipment.

Alignment of Cost Item 3 to Strength(s)

Explain how Cost Item 3 aligns with program Strength (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."
S1. Excellent and varied experiential learning environment for horticulture, landscape and agronomic production. The physical classroom and tissue culture laboratory are excellent. Much potential for increased effectiveness through enhancement of core facilities and purchase of new equipment.

Alignment of Cost Item 3 to Weaknesses(s)

Explain how Cost Item 3 aligns with Weakness (From Part II. Section C). Address and provide supporting rationale. If there's no alignment, write "No Alignment."
W2. The program is in need of equipment, supplies and maintenance support for its facilities.

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 VI: Justification for Program Existence

Write a brief statement describing the value of this Program to the College. Is your Program sustainable? If so, briefly state why. If not, briefly state why the College should continue to keep your Program open.
(Sources include Industry Validation, ARPD Data Validation, Trends and Other Factors.)