**Bakersfield College**

**Comprehensive Program Review**

**I. Program Information:**

Program Name: Plant Science Horticulture AA

Program Type:  Instructional  Student Affairs  Administrative Service

***Bakersfield College Mission****:* Bakersfield College provides opportunities for students from diverse economic, cultural, and educational backgrounds to attain Associate and Baccalaureate degrees and certificates, workplace skills, and preparation for transfer. Our rigorous and supportive learning environment fosters students’ abilities to think critically, communicate effectively, and demonstrate competencies and skills in order to engage productively in their communities and the world.

Describe how the program supports the Bakersfield College Mission: Ornamental Horticulture is a Career Technical Education (CTE) program. Therefore, our certificate programs align with one of the core missions of Bakersfield College, and that is to supply trained individuals to work in vocational jobs of regional agricultural businesses. Horticultural supervisory level jobs have increased about 4% in Kern County and in California. The horticulture industry is estimated to have a statewide economic activity well over $10 billion annually, with approximately 60% centered in Southern California. Services and uses account for slightly more than 50% of the total economic activity, production about 20%, and equipment and accessories about 30%.

All of our course offerings in Ornamental Horticulture are transferable to the CSU. This discipline can also lead to a four year degree or higher. Therefore, we also meet the third Budget Decision Criteria for transfer.

The closest competing school with a horticulture program is over 70 miles away at College of Sequoias (COS) in Visalia.

Program Mission Statement: The mission of the Bakersfield College Agriculture Department is to provide pertinent state-of-the-art education for vocational and transfer students in order to produce skilled Ornamental Horticulture professionals for the industry, both public and private. This is in accordance with the college mission to respond to student and community needs with efficiency and flexibility and with the BC institutional level learning outcomes, i.e. to demonstrate knowledge and abilities in a chosen area of study.

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| ***Instructional Programs only:***   1. List the degrees and Certificates of Achievement the program offers   AA Environmental Horticulture  AS Environmental Horticulture  CA Environmental Horticulture  AA Crops Horticulture  AS Crops Horticulture  CA Crops Horticulture   1. If your program offers both an A.A. and an A.S. degree in the same subject, please explain the rationale for offering both.   The AA is offered to students who wish to transfer to a 4 year university. This degree introduces the student to lower division courses in the discipline and prepares the student to complete their BS degree at the university.  The AS is offered to students who wish to enter into the industry directly after completion of this degree. These courses prepare the student with a comprehensive knowledge of the subject matter, which allows them to enter into the workforce. It also creates a better prepared employee who has reading, writing and math skills.  The Certificate program prepares the student who wishes to enter into the industry with the base knowledge that industry requires for entry level employees.  The Crops Horticulture degrees follow the same concepts as previously stated with the exception that the horticulture science aspect is emphasized in the educational courses for agricultural   1. If your program offers a local degree in addition to the ADT degree, please explain the rationale for offering both.   Our program is awaiting approval of a Plant Science AS-T. The AS-T mandated by state directed course requirements includes both plant science and Environmental Horticulture as the areas of discipline. |

**II. Progress on Program Goals, Future Goals, and Action Plans:**

1. List the program’s current goals. For each goal (minimum of 2 goals), discuss progress and changes. If the program is addressing more than two goals, please duplicate this section.

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| **Current Program Goals** | **Which institutional goals from the 2015-2018 Strategic Directions for Bakersfield College will be advanced upon completion of this goal? (select all that apply)** | **Progress on goal achievement**  **(choose one)** | **Comments** |
| 1. Facility Needs - Learning Environment   Poor Horticulture lab conditions combined with a lack of funding does not allow instructors to teach with the newest technology. A lack of classroom space and updated lab facilities does not allow the goal to teach the latest technology. | 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  Ongoing: 9/19/2016 (Date) | No Progress has been made. The horticulture lab has a space heater, evaporative cooler both with very noisy blowers when they are working. Neither heat nor cool efficiently. Toilets and wash sinks are on a septic tank system and need to be pumped multiple times per year. Labs are crowded and potentially dangerous working conditions. This is an area outside of the department’s ability to fund. A lack of classroom, lab and storage space will not allow the program to increase class size, work safely with larger enrollments and teach with present technology. Need lap tops, a lap top cart and wireless internet capabilities. |
| 2. Develop industry partners to increase internships and hands-on learning | 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  Ongoing: 9/19/2016 (Date) | Industry networking and partnership continues on an ongoing basis. Internship information is sent to the CTE internship personnel. The program has developed a relationship with the CLCA California Landscape Contractors Association. Their support has developed work projects with professional, presentations and donations for the program. I am also broadcasting with the Country Garden radio program on KERN radio which promotes and reaches out to potential donors. |
| |  |  |  |  | | --- | --- | --- | --- | | 3. Develop stackable  certificates recognized by  C-ID and industry partners to increase internships, employability and student completion. | 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  Ongoing: 9/19/2016 (Date) | Industry networking and partnership continues on an ongoing basis. Internship information is sent to the CTE internship personnel. The program has developed a relationship with the CLCA California Landscape Contractors Association. Their support has developed work projects with professional, presentations and donations for the program. I am also broadcasting with the Country Garden radio program on KERN radio which promotes and reaches out to potential donors. | | 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  Ongoing: 9/19/2016 (Date) | I have been working with the Agriculture, Water & Environmental Technology Central Valley Consortium and Mapping Upwards Program with the Center for Occupational Research and Development (CORD); a US Department of Education grant. This program is creating stackable certificates that will be recognized by the Chancellors Office, C-ID, colleges and industry organizations. The committee is composed of 7 community colleges and 2 industry organizations. |
| 4. A horticulture Lab with updated classroom, greenhouses, additional storage and shade house | 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  Ongoing: \_\_\_\_\_\_\_\_\_\_ (Date)  **Not Addressed** | Requesting a new classroom with air conditioning.  The evaporative cooler and separate space heater when in operation is very loud. A microphone system has been used in the past to overcome the noise. The amplification system is no longer available. The bathroom is on a septic system and needs to be placed on a sewer line Due to clogging of the septic tank.  Greenhouses need modern technology controls are needed to operate independently of the horticulture technician. They are in constant breakdown and being repaired on a regular basis. M&O has been called numerous times this summer and fall.  Storage building for donations and to house equipment securely. Equipment was stolen this summer amounting to over $1,000 in theft. Note: This is a different theft from previous years. The hand tools are housed in the greenhouse under work benches and being damaged by rust on some tools.  A shade house structure is not stable and is threatening to fall down in an upcoming storm. This is a safety hazard.  A lack of budgetary funding does not address the needs for the program. This program receives $1,000 for the year for 9 courses with labs. |
| 5. Replacement Horticulture Technician | 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Completed: \_\_\_\_\_\_\_\_\_\_ (Date)  Revised: \_\_\_\_\_\_\_\_\_\_ (Date)  Ongoing: 9/19/2016 (Date) | A replacement Horticulture Technician will be needed in the near future. The present technician is planning her retirement and will need to be replaced. Her position is very important for the program and the school’s outreach program called Garden Fest. As a one instructor program a technician is very important for the smooth operation of labs run through the horticulture lab. Her services are used by Agriculture, Ag Business, Crops, Forestry and Mechanized Agriculture lab classes at the horticulture facility. |

1. List the program’s goals for the next three years. Ensure that stated goals are specific and measurable. State how each program goal supports the College’s strategic goals. Each program must include an action plan.

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| **Future Goals** | **Which institutional goals from the 2015-2018 Strategic Directions for Bakersfield College will be advanced upon completion of this goal? (select all that apply)** | **Action Plan** | **Timeline for Completion** | **Lead person for this goal** |
| 1. Increase the program budget | 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Request more funding to pay for the lab supplies and replacement of tools. | ASAP | Lindsay Ono |
| 2. See sections 1 and 4 in section A, above. | 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Continue to place work orders and inform higher ups. | It has been years and nothing has been accomplished. | The District Office and M&O. |
| 3. Create job opportunities through certificate completions. | 1: Student Learning  2: Student Progression and Completion  3: Facilities  4: Oversight and Accountability  5: Leadership and Engagement | Complete the stackable certificate program and get it processed through C-ID and recognized by the horticulture industry. | Fall, 2017 | Lindsay Ono and the statewide horticulture educators. |

**III. Trend Data Analysis:**

Review the data provided by Institutional Research. Provide an analysis of program data throughout the last three years, including:

1. Changes in student demographics (gender, age and ethnicity).

Gender mirrors the institutional trend at 55% Female and 45% Male. The gender trend varies from year to year and shows no significant changes to be concerned about. The 19 and younger age bracket has shown an increase of 600% over the past 3 years. In 2015-2016 the 19 and younger age bracket composed 44% of the students compared to 9% and 14% of previous years. Hispanic students continued to increase to 68% of the student population in the program.

1. Changes in enrollment (headcount, sections, course enrollment, and productivity).

Headcount increased by 18% over the last 3 years. Course offerings increase by 23%. Subject productivity increased by 20.1%.

1. Changes in achievement gap and disproportionate impact.
2. Success and retention for face-to-face as well as online/distance courses.   
   Success and retention were at 76% and 87%.
3. Degrees and certificates awarded (three-year trend data for each degree and/or certificate awarded). See Chart below.
4. Other program-specific data (please specify or attach).
5. List degrees and certificates awarded (three-year trend data for each degree and certificate awarded). Include targets (goal numbers) for the next three years.

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| Full Name of Degree or Certificate | 2011- 2012 | 2012- 2013 | 2013- 2014 | 2014- 2015 | 2015- 2016 | 2016- 2017 |
| Associate of Arts Environmental Horticulture |  |  |  |  | 1 |  |
| Associate of Science Environmental Horticulture |  | 2 |  | 1 | 2 |  |
| Certificate of Achievement Environmental Horticulture | 1 | 2 | 2 | 1 | 1 |  |
| Associate of Arts Crops/Horticulture \* | 1 |  | 1 | 2 | 1 |  |
| Associate of Science Crops Horticulture\* |  | 2 | 5 | 6 | 4 |  |
| Certificate of Achievement Crops Horticulture\* |  | 3 | 2 | 1 |  |  |

\*Horticulture discipline not defined in statistics

**IV. Program Assessment:**

Use attached **Assessment Report Form Comprehensive Tab**

1. Discuss your program’s strengths.
2. Discuss your program’s weaknesses.
3. *If applicable,* describe any unplanned events that affected your program.

**V. Resource Analysis:** To request resources (staff, faculty, technology, equipment, budget, and facilities), please fill out the appropriate form. <https://committees.kccd.edu/bc/committee/programreview>

1. Human Resources and Professional Development:
2. If you are requesting any additional positions, explain briefly how the additional positions will contribute to increased student success. Include upcoming retirements or open positions that need to be filled.
3. Professional Development:
4. Describe briefly the effectiveness of the professional development your program has been engaged in (either providing or attending) during the last year, focusing on how it contributed to student success.
5. What professional development opportunities and contributions can your program make to the college in the future?
6. Facilities:
7. How have facilities’ maintenance, repair or updating affected your program in the past year as it relates to student success?
8. How will your Facilities Request for next year contribute to student success?

C. Technology and Equipment:

1. Understanding that some programs teach in multiple classrooms, how has new, repurposed or existing technology or equipment affected your program in the past year as it relates to student success?
2. How will your new or repurposed classroom, office technology and/or equipment request contribute to student success?
3. Discuss the effectiveness of technology used in your area to meet college strategic goals.

D. Budget: Explain how your budget justifications will contribute to increased student success for your program.

**VII. Faculty and Staff Engagement:**

1. Discuss how program members have engaged in institutional efforts such as college committees, presentations, and departmental activities.
2. Instruction Only: Discuss how adjunct faculty are included in departmental training, discussions and decision-making.

**VIII. Conclusions and Findings:**

Present any conclusions and findings about the program. This is an opportunity to provide a brief abstract/synopsis of your program’s current circumstances and needs.

**IX. Forms Checklist (place a checkmark beside the forms listed below that are submitted as part of the Annual Update):**

[Best Practices Form](http://committees.kccd.edu/bc/committee/programreview) **(Required)**

Curricular Review Form **(Instructional Programs Required)**

[Certificate Form](http://committees.kccd.edu/bc/committee/programreview) **(CTE Programs** **Required)**

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[Faculty Request Form](http://committees.kccd.edu/bc/committee/programreview)  [Classified Request Form](http://committees.kccd.edu/bc/committee/programreview)  [Budget Form](http://committees.kccd.edu/bc/committee/programreview)

Professional Development Form  [ISIT Form](http://committees.kccd.edu/bc/committee/programreview)  [Facilities Form](http://committees.kccd.edu/bc/committee/programreview) (Includes Equipment)

Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_