**Bakersfield College**

**Comprehensive Program Review**

**I. Program Information:**

Program Name: Environmental Horticulture

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   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.   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: \_\_\_\_\_\_\_\_\_\_ (Date)  **Not Addressed** | 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. |
| 1. 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: 9/18/15\_\_\_ (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. 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.  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. |

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 | Requested more funding every year. | ASAP | Lindsay Ono |
| 1. See problems 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. | Its been years and nothing has been accomplished. | The District office. |

**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).
2. Changes in enrollment (headcount, sections, course enrollment, and productivity).
3. Changes in achievement gap and disproportionate impact.
4. Success and retention for face-to-face as well as online/distance courses.
5. Degrees and certificates awarded (three-year trend data for each degree and/or certificate awarded).
6. Other program-specific data (please specify or attach).
7. 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 |  |  |  |  |  |  |
| Associate of Science Environmental Horticulture |  | 2 |  | 1 |  |  |
| Certificate of Achievement Environmental Horticulture | 1 | 2 | 2 | 1 |  |  |
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**IV. Program Assessment:**

1. List your Program Learning Outcomes (PLOs)/Administrative Unit Outcomes (AUOs).
   * Demonstrate managerial and leadership abilities in Ag classes for employment that will enhance opportunities and success in the agriculture industry in the 21st century.
   * Master skills needed for baccalaureate level education or obtain a certificate at B.C
   * Demonstrate specific skills within agriculture disciplines needed for employment.
2. How did your outcomes assessment results during the past three years inform your program planning? Use bullet points to organize your response.

* Management has been addressed in all of the classes with group exercises to train students to learn how to work with others.
* Skills are constantly being reviewed and industry trends are studied to update the courses. A drawback is that facility limitations hinder the ability to introduce new concepts.
* Working with our industry partners has allowed us to prepare students with skills requested by industry.

1. How did your outcomes assessment results during the past three years inform your resource requests? The results should support and justify resource requests for this year.

I have constantly requested repair, replacement or updated materials to improve the program. Success in the major has stayed consistent although a lack of facility updates has limited modernization of the program classes. Drought has also played a role in minimizing interest in the major reducing numbers due to reductions in industry jobs.

1. Describe how the program monitors and evaluates its effectiveness.

The program is evaluated in discussion at advisory board meetings and with a review of program data.

1. Describe how the program engages all unit members in the self-evaluation dialog and process.

As the primary instructor, I look at class success, completion and information taught. I am changing the methods of presentation of materials taught and updating information on a semester basis.

1. Provide recent data on the measurement of the PLOs/AUS., as well as a brief summary of findings.

Although the data shows very little degree and certificate completion, I learn that more students who take courses enter quickly into industry jobs. Our system does not have a way to track students who leave early for employment opportunities.

1. What have the program’s PLO’s/AUO’s revealed or confirmed in the past three years?

The program has a consistently high success and retention rate above the college rating. Students are learning the skills necessary for employment.

1. *If applicable,* list other information, data feedback or metrics to assess the program’s effectiveness (e.g., surveys, job placement, transfer rates, output measurements).
2. How do course level student learning outcomes align with program learning outcomes? Instructional programs can combine questions C and D for one response (SLO/PLO/ILO).

Course level student learning outcomes are aligned to follow the PLO’s for the program.

1. How do the program learning outcomes or Administrative Unit Outcomes align with Institutional Learning Outcomes? All Student Affairs and Administrative Services should respond.

The program learning outcomes are designed to follow the institutional Learning outcomes.

1. How did your program address Equity, specifically referencing the achievement gap and disproportionate impact, over this comprehensive cycle?

Although the need for equity is important, this program has a well-balanced of 46% Hispanic, 42% White, 6% African American; 1% American Indian and 5% mixed race. 57% Male to 43% female is the gender ratio this year. The gender ratio has been predominately female in previous years.

***Institutional Learning Outcomes***:

*Think: Think critically and evaluate sources and information for validity and usefulness.*

*Communicate: Communicate effectively in both written and oral forms.*

*Demonstrate: Demonstrate competency in a field of knowledge or with job-related skills.*

*Engage: Engage productively in all levels of society – interpersonal, community, the state and the nation, and the world.*

1. Discuss your program’s strengths.
2. The program is closely linked with industry which helps fund materials through donations. This has been a tremendous help due to a lack of institutional funding. The partnership with industry businesses has also been a source for industry field trips to highlight educational concepts that can’t be shown on campus. The program teaches with a hands-on learning lab component using donated materials to build lab projects such as the aquaponic system at the horticulture lab. I have learn to teach the basics with minimal supplies. The industry connection has also resulted in better student /employer contacts which creates jobs. The program has increased its community connection with the horticultural industry and the public through the Country Garden outreach radio program. Donations to the program also continue.
3. Discuss your program’s weaknesses.

* A lack of modern facilities has created a situation that does not allow a real world education with recent technology. The facility that I teach in has not changed since I came to this school and graduated in 1979.
* A swamp cooler and a space heater create a noisy and uncomfortable learning environment. Good classroom comfort will result in a better learning environment.
* The only difference is a computer in the classroom. More computers are needed.
* Bathroom facilities are ADA non compliate.
* The program lacks funding so the instructor must provide most materials out of pocket or find donations to fund the labs. For some labs students must fund their own lab materials.
* The program has had low degree completion; I believe that the industry downturn due to drought has resulted in reducing interest in the industry as a major.
* The industry connection has also resulted in a better student /employer contact environment which creates jobs with lower degree completion rates.

1. *If applicable,* describe any unplanned events that affected your program.

*A lack of funding can affect completion of a degree, Drought has also affected the industry and this 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.

We will be adding a new AS-T in Plant Science which also includes Environmental Horticulture. This program has a requirement for students to complete an Agriculture Business B2 (AGBS B2) class. With the Wonderful Career Prep Academy (formerly Paramount) our program will need to add an additional instructor to handle the work load that will be occurring in Delano, Wasco and Shafter. Our present instructor is overloaded and will not be able take on the additional classes. We also have an Agriculture Business AS-T program which will require our present instructor’s attention.

1. Professional Development:
2. 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.

Attendance at California Agriculture Teachers Association CATA conferences has resulted in unifying classes to develop curriculum to align with C-ID. In-service programs at the events also resulted in improving classroom management. The instructor was able to attend industry trade shows and conferences to stay current with industry trends. The instructor also attended an irrigation class at Cal Poly SLO to learn about teaching irrigation.

1. What professional development opportunities and contributions can your program make to the college in the future?

Continuing to work with the CATA and C-ID will allow this program to stay current with other California community colleges who teach horticulture classes. Professional development with industry events will allow this program to network and improve relationships for donations, internships and industry trends.

1. Facilities:
2. How have facilities’ maintenance, repair or updating affected your program in the past year as it relates to student success?

M&O has been able to keep the classroom operating. The system has not helped to improve the learning environment for the student or instructor.

1. How will your Facilities Request for next year contribute to student success?

I don’t know, their answer there are no funds available.

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?

The present classroom computer takes almost five minutes to boot up, it constantly stalls and does not always work.

1. How will your new or repurposed classroom, office technology and/or equipment request contribute to student success?

Many horticulture programs are internet and computer program interactive. These are the programs that industry is now turning to. Students will also be more employable.

1. Discuss the effectiveness of technology used in your area to meet college strategic goals.   
   I show powerpoints in class. I also show examples of industry interactive websites, students are presented the material but they cannot use it in class.
2. Budget: Explain how your budget justifications will contribute to increased student success for your program.

A higher budget will result in more interactive lab materials that teach real world concepts that the student can interact with. It can also result in a beautified campus.

**VII. Faculty and Staff Engagement:**

1. Discuss how program members have engaged in institutional efforts such as college committees, presentations, and departmental activities.

BC Curriculum member BC CTE committee member Urban Forest Summit Country Garden Radio Garden Fest

CATA CA Ag Teachers Assoc CATA Curriculum Coordinator

C-ID Faculty Discipline Review Group C-ID Certificate Program Committee

CLCA CA Landscape Contractors Assoc CLCA Kern County President

Kern Agriculture Foundation Board of Directors BC Rep

Tree Foundation of Kern Board of Directors Secretary

International Society of Arboriculture member

1. Instruction Only: Discuss how adjunct faculty are included in departmental training, discussions and decision-making.

No adjunct faculty in this discipline.

**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.

For a college and district that wants to be keeping with the latest trends, the agriculture department and horticulture program are decades behind the times. The facilities and technology need to be improved to teach about the latest trends. The facility is old without significant changes in decades. More computerization is used by industry and needed to teach with and teaching multiple labs on $1,000 per year. Which was spent this year in one nursery supply order. A larger budget is needed.

**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: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_