

# Bakersfield College 2018-2019 Comprehensive Program Review

Program Name: **Environmental Horticulture**

**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

**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.

**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.

## ***Instructional Programs only:***

- A. List the degrees and Certificates of Achievement the program offers:
  - AS Environmental Horticulture
  - CA Environmental Horticulture
- B. If your program offers both an A.A. and an A.S. degree in the same subject, please explain the rationale for offering both and the difference between the two.

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.
- C. If your program offers a local degree in addition to the ADT degree, please explain the rationale for offering both.

Our program offers a Plant Science AS-T. The AS-T mandated by state directed course requirements; this degree includes both plant science and Environmental Horticulture as the areas of the discipline degree.

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

A. 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 (2) goals, please duplicate this section. Please provide an action plan for each goal that gives the steps to completing the goal and the timeline.

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**1. Program Goal: Facility Needs – A Learning Environment**

Poor teaching conditions exist in the Horticulture Lab classroom. The room is cooled with an evaporative cooler which is noisy and inefficient to keep the occupants comfortable, especially on hot days. It does not cool when temperatures reach the high nineties and triple digits. When the cooler is set to high the noise drowns out the lecturer at the opposite end of the classroom, students cannot hear the speaker. The space heater also has the same effect, with the exception that the heater blower is above the instructors head. The bathroom is on a septic system and needs to be placed on a sewer line Due to clogging of the septic tank.

This has been a complaint for over a decade.

**List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?**

Student Learning, Student Progression and Completion, and Facilities

**Progress on goal achievement:**

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.

**Status Update – Action Plan and any link to Resource Requests:**

**No progress** has been made to improve the learning conditions. The evaporative cooler and the heater have been changed to be more energy efficient but they Do Not change the noise and efficiency conditions.

**2. Program Goal: Facility needs Computers**

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. I have classes that are not being taught to industry minimums due to a lack of technology. My Landscape design class could not taught properly because no computer labs or carts were available for use. Need lap tops, a lap top cart and wireless internet capabilities.

**List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?**

Student Learning, Student Progression and Completion, Leadership and Engagement

**Progress on goal achievement:** Wi-Fi has been installed in the classroom. **No other progress has been made.**

### **Status Update – Action Plan and link to Resource Requests**

- 3. Program Goal:** Develop stackable certificates recognized by C-ID and industry partners to increase internships, employability and student completion.

#### **List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?**

Student Learning, Student Progression and Completion

#### **Progress on goal achievement:**

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. The California State-wide Stackable Horticulture Certificates have been approved by the state. The certificate program was vetted by industry and state educators. The program was submitted and accepted and is now awaiting publication on the C-ID System. My program has begun a transition to adopt the certificate program and the 4 courses which were not offered at Bakersfield College have been submitted to the BC Curriculum committee. One course is currently being taught and the other 3 will be ready by summer 2019.

The Mapping Upward group was granted \$75,000 to promote and develop online classes and labs that can be used statewide. Bakersfield College will receive \$25,000 over a 3-year period to work on this project.

### **Status Update – Action Plan and link to Resource Requests**

- 4. Program Goal:** A horticulture Lab with updated greenhouses, additional storage and shade house.

#### **List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?**

Student Learning, Student Progression and Completion, Facilities

**Progress on goal achievement:** 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 is not available. 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, due to a lack of storage. 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. VTEA requests do not allow for facility purchases, such as a storage building or cabinet.

### **Status Update – Action Plan and link to Resource Requests**

Measure J may address this problem years down the road if the agriculture buildings get built. The building was supposed to have been in the second phase of construction and is now in the last.

- 5. Program Goal:** Replacement Laboratory Technician for Horticulture

#### **List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?**

Student Learning, Student Progression and Completion

**Progress on goal achievement:** A replacement Laboratory 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.

**Status Update – Action Plan and link to Resource Requests**

Classified request made.

**6. Program Goal:** New full time faculty position for Environmental Horticulture/Plant Science courses.

**List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?**

Student Learning, Student Progression and Completion

**Progress on goal achievement:** A new full time faculty position for Environmental Horticulture/Plant Science courses will be needed to fulfill increased course sections. Course offerings have increased from 9 to 18 sections in the last 3 years. Current faculty is on overload. We have been growing with the dual enrollment and will be increasing course offerings at dual enrollment sites. The new position will need to be from Bakersfield College. The new position will teach Crops and Ornamental Horticulture classes.

**Status Update – Action Plan and link to Resource Requests**

Faculty request made.

**B. 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.**

**Future Program Goal:** Improve the learning Environment. The horticulture classroom is a subpar teaching 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. I have classes that are not being taught to industry minimums due to a lack of technology. My Landscape design class could not taught properly because no computer labs or carts were available for use. Need lap tops, a lap top cart and wireless internet capabilities.

**List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?**

Student Learning, Student Progression and Completion, Facilities

**Action plan:** *Keep requesting improvements on the Annual Program Review.*

**Lead person for this goal:** Lindsay Ono

1. **Future Program Goal:** Develop stackable certificates recognized by C-ID and industry partners to increase internships, employability and student completion. Improve on industry partnerships.

**List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?**

Student Learning, Student Progression and Completion, Leadership and Engagement

**Action plan:** Continue working with the CORD Grant. Change the curriculum in the program.

**Lead person for this goal:** Lindsay Ono

2. **Future Program Goal:** Create a better pathway for completion.

**List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?**

Student Learning, Student Progression and Completion, Leadership and Engagement

**Action plan:** Continue working with the pathways committee for Agriculture, Culinary and Nutrition. Develop new outreach pathway materials and videos.

**Lead person for this goal:** Lindsay

3. **Future Program Goal:** Create job opportunities through certificate completions.

**List the institutional goals from the Bakersfield College Strategic Plan that will be advanced upon completion of this goal?**

Student Learning, Student Progression and Completion.

**Action plan:** Continue developing professional relationships with the green industry, by belonging to and participating in industry organization events – including association memberships, meeting participation, attending association trade shows and conventions.

**Lead person for this goal:** Lindsay Ono

**3 Year Program Analysis:** (All programs will answer the following questions unless otherwise indicated)

Take a look at your trend data. Provide an analysis of program data throughout the last three years (all programs should have some form of data that is used to look at changes over time) and report:

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

The gender trend varies from year to year and shows no significant changes to be concerned about. The females have increased from 55% to 64%. Males have decreased from 45% to 34%. The 19 and younger age bracket has shown an increase of 230% over the past 3 years. In 2017-2018 the 19 and younger age bracket composed 68% of the students compared to 62% and 44% of previous years. Hispanic students compose 63% of the student population in the program and whites 29%.

2. Changes in enrollment (headcount, sections, course enrollment, and productivity). *Instructional only*  
Headcount increased by 67% over the last 3 years from 137 to 203. Course offerings increase by 50% from 9 to 18. Subject productivity increased from 12.3 to 19.4
  
2. Changes in achievement gap and disproportionate impact. The ethnicity does not show significant differences between the program and college ethnicity.
  - o Please look for large differences, or gaps, between top performing groups and others. Consider how you could identify the reasons behind these gaps, and if there changes that could be made to reduce them. For in depth review of equity issues, and on changes that are being made campus-wide, please refer to the current [Bakersfield College Student Equity Plan](#).
  
3. Success and retention for face-to-face as well as online/distance courses. *Instructional only*  
Success and retention were above college levels at 82% and 90%.
  
4. Any unplanned events that affected your program/.  
Last year there were a few requests for lab materials that never arrived and this prevented some class lessons from being taught.
  
5. Degrees and certificates awarded (three-year trend data for each degree and/or certificate awarded). *Instructional only*  
*Over the last 3 years: AA – 3; AS – 6; CA – 4*
  
6. Reflect on any changes you would like to see in your program in the next 3 years.  
I would like to see more degrees and certificates get awarded. I will be adding stackable certificates to the program and I hope to change the course prefix to better attract more students. The current course numbering system is confusing.
  
7. The college has embarked on significant efforts such as **Guided Pathways, affinity groups** and **completion coaching communities** to improve the success and completion rates of our students. Please describe what your program/department/office is planning/doing to contribute to these efforts.  
We have reviewed our pathways for the Environmental Horticulture program and have published program sheets to better guide students to completion. We hope to give more opportunities for career employment with 2 new stackable certificates that will be recognized statewide.
  
8. Explain your role if you are involved in Dual Enrollment, Inmate Education, or Rural Initiatives.  
We have classes that are dual enrollment in the program, however, I only evaluate instructors.
  
9. List degrees and certificates awarded (three-year trend data for each degree and certificate awarded). Include targets (goal numbers) for the next three years. *Instructional only*

Full Name of Degree or Certificate	2015- 2016	2016- 2017	2017- 2018	2018- 2019	2019- 2020	2020- 2021
Environmental Horticulture Associate of Science Degree	3	3	0	2	2	2
Environmental Horticulture Certificate of Achievement	1	2	1	2	2	2
Environmental Horticulture Associate of Arts Degree (discontinued)	1	2	0	0	0	0

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**Analysis of Received Resources from Previous Cycle**

**Discuss the type of resources you received and their Impact on program effectiveness?**

**Facilities:** *None Received*

*If your program received a building remodel or renovation, additional furniture or beyond routine maintenance, please explain how this request or requests impacts your program and helps contribute to student success.*

- 1: Space Allocation
- 2: Renovation
- 3: Furniture
- 4: Other
- 5: Beyond Routine Maintenance

**Technology:**

*If your program received technology (audio/visual – projectors, TV’s, document cameras) and computers, how does the technology impact your program and help contribute to student success?*

- 1: Replacement Technology
- 2: New Technology                      The Horticulture lab received wireless internet accessibility.
- 3: Software                                We received a Landscape Design program. It arrived too late to be used in the appropriate class.
- 4: Other \_\_\_\_\_

**Other Equipment**

*If your program received equipment that is not considered audio/visual or computer equipment technology, please explain how these resources impact your program and help contribute to student success.*

**Conclusions:**

Present any conclusions and findings about the program. This is an opportunity to provide a brief abstract or synopsis of your program’s current circumstances and needs. Consider this a snapshot of your program, if someone were to only read this portion of your Comprehensive Review.

**The Environmental Horticulture Program**

The Environmental Horticulture Program has been having a successful year. Over the last 3 years, the Environmental horticulture program Headcount increased by 67% over the last 3 years from 137 to 203. Course offerings increased by 50% from 9 sections to 18 sections. Dual enrollment is gaining momentum with more high schools wanting to offer dual enrollment courses. Dual enrollment will only increase with the future planed offerings.

The program has been working on class offerings, certificates and the California State-wide Stackable Horticulture Certificates to improve career employability. 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). The California State-wide Stackable Horticulture Certificates have been approved by the state. The certificate program was vetted by industry and state educators. The program was submitted and accepted through the C-ID system and is now awaiting publication.

My program has begun a transition to adopt the certificate program and the 4 courses which were not previously offered at Bakersfield College. These courses have been submitted to the BC Curriculum committee; one course is currently being taught and the other 3 will be ready by summer 2019. The Mapping Upward group was granted \$75,000 to promote and develop online classes and labs that can be used statewide. Bakersfield College will receive \$25,000 over a 3-year period to work on this project.

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Our facility has poor teaching conditions in the Horticulture Lab classroom. The room is cooled with an evaporative cooler which is noisy and inefficient. It does not cool when temperatures reach the high nineties and triple digits. When the cooler is set to high the noise drowns out the lecturer at the opposite end of the classroom, students in the back of the classroom cannot hear the speaker. The space heater also has the same effect, with the exception that the heater blower is above the instructors head. Teaching students when they are uncomfortable is unacceptable. A central air conditioner would change the teaching environment significantly. The bathroom is on a septic system and needs to be placed on a sewer line, due to clogging of the septic tank. This is the only section of campus still on an antiquated system. These problems have been complained about for over a decade. No Progress has been made.