

# Bakersfield College 2018-2019 Comprehensive Program Review

Program Name: [Computer Science \(AS-T\)](#)

**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 Associate in Science in Computer Science for Transfer degree (AS-T in Computer Science) is designed to provide students a clear transfer pathway to the CSU computer science major and completion of the computer science baccalaureate degree, to grant guaranteed admission to a CSU to a similar major, with junior standing, and the ability to complete their remaining requirements within 60 semester or 90 quarter units. Students will take courses in computer science and related fields that will provide the theoretical and practical knowledge necessary to work in a variety of computer related fields such as Software Engineering, Computer Engineering, Computer Systems Analysis, Network Engineering, Cloud Computing, Mobile Application Development, Computer Support, Computer Information Systems, Database Administration, Network Security, and Web Development.

## **Describe how the program supports the Bakersfield College Mission:**

The [Computer Science \(AS-T\)](#) Program, as an integral part of Bakersfield College, supports the mission, core values and vision of the College by providing high quality education to our socially and ethnically diverse students. The [Computer Science \(AS-T\)](#) Program meets the College's core mission areas by providing career and technical education and transfer courses. The program supports career and technical education by offering courses, and providing training, that are highly sought after by employers. By design, the AS-T degree allows students to seamlessly transfer to a CSU Computer Science program without the need to take additional lower division courses.

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

- A. List the degrees and Certificates of Achievement the program offers [AS-T](#)
- 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.
- C. If your program offers a local degree in addition to the ADT degree, please explain the rationale for offering both.

## **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.

### **1. Program Goal:**

[Want to ensure that students who graduate from the Computer Science \(AS-T\) program can really be accepted into the local CSU, as advertised.](#)

**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, Leadership and Engagement) [Student Progression and Completion](#)

**Progress on goal achievement:** Still working on this. A recent email from Khushnur Z. Dadabhoy contained two lists: a [Finish In 4 Pathways](#) list and a list of ADT's deemed similar at CSUB. Our Computer Science ADT is listed on neither one.

**Status Update – Action Plan and any link to Resource Requests:** I have emailed Khushnur Z. Dadabhoy and Janet Fulks asking why the Computer Science ADT is not included in either of the aforementioned lists. I plan to pursue this.

**2. Program Goal:**

For COMP B13, need to change "[Recommended: Successful completion of COMP B11](#)" to "[Required: Successful completion of COMP B11](#)"

**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, Leadership and Engagement)      [Oversight and Accountability](#)

**Progress on goal achievement:** Still not done.

**Status Update – Action Plan and link to Resource Requests** Now that eLumen is available, should be able to get this done.

**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.

**1. Future Program Goal:**

[Want to ensure that students who graduate from the Computer Science \(AS-T\) program can really be accepted into the local CSU, as advertised. This goal is carried over from last year.](#)

**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, Leadership and Engagement)      [Student Progression and Completion](#)

**Action plan:** I plan to get our dean involved in this discussion.

**Lead person for this goal:** [Hal Mendoza](#)

**2. Future Program Goal:**

[Want to involve all the programming instructors in developing common assessments.](#)

**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, Leadership and Engagement)

**Action plan:** Need to call a meeting with Hal Mendoza, Phil Whitney, Richard Miles, Eddie Rangel, and possibly Creighton Magers (Dept Chair)

**Lead person for this goal:** [Hal Mendoza](#)

**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).

No demographic data breakdown has been provided for the AS-T program. Note that half of the classes required for the AD-T are not in the Computer Science department. Students in other programs also take these courses, so no definitive answer to this question is possible, given the available data.

2. Changes in enrollment (headcount, sections, course enrollment, and productivity). *Instructional only*

The number of Computer Science majors has increased significantly as shown in this table:

Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2016	5-year average
255	266	348	466	513	370
From <a href="https://ir.kccd.edu/program-review/bc/subject/2018-19_APR_BC_COMP_Subject.pdf">https://ir.kccd.edu/program-review/bc/subject/2018-19_APR_BC_COMP_Subject.pdf</a>					

3. Changes in achievement gap and disproportionate impact. *See answer to #1*

- 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](#).

4. Success and retention for face-to-face as well as online/distance courses. *Instructional only*

The following table shows year-year changes in the number of sections, the retention rate, and the success rate. As the table shows, Most of the rates went up, which I believe is due to having a different instructors.

		Sections			Retention Rate			Success Rate		
		2015-16	2016-17	2017-18	2015-16	2016-17	2016-17	2015-16	2016-17	2016-17
<b>COMPB10</b>	Intro to Progrm Method/Python	3	4	4	76.4%	73.3%	81.7%	40.4%	42.5%	51.3%
<b>COMPB11</b>	Progrmming Concepts & Method I	7	9	9	82.4%	81.7%	83.9%	57.7%	55.9%	67.0%
<b>COMPB12</b>	Programming Concppts & Methd II	1	5	5	75.0%	92.7%	91.3%	55.0%	81.0%	72.1%
<b>COMPB13</b>	Computer Architecture & Organi	2	2	4	73.2%	66.7%	84.7%	53.6%	43.8%	69.4%
<b>COMPB14</b>	Discrete Structures	1	2	2	92.6%	96.2%	100.0%	85.2%	96.2%	98.1%
Data from <a href="https://www.kccd.edu/sites/kccd.edu/files/ir_reports/1718_Coursebook_BC_Course_Dixon.pdf">https://www.kccd.edu/sites/kccd.edu/files/ir_reports/1718_Coursebook_BC_Course_Dixon.pdf</a>										

5. Any unplanned events that affected your program/. *None that I am aware of.*

6. Degrees and certificates awarded (three-year trend data for each degree and/or certificate awarded). *Instructional only* *See question 10.*

7. Reflect on any changes you would like to see in your program in the next 3 years. *I would like to see more consistency in assessments. I also would like to get buy-in from CSUB concerning our ADT.*

8. 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.

9. Explain your role if you are involved in Dual Enrollment, Inmate Education, or Rural Initiatives. *N/A*

10. 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
Computer Science AS-T	2	9	15	>15	>15	>15

Data from [https://ir.kccd.edu/program-review/bc/subject/2018-19\\_APR\\_BC\\_COMP\\_Subject.pdf](https://ir.kccd.edu/program-review/bc/subject/2018-19_APR_BC_COMP_Subject.pdf)

### **Analysis of Received Resources from Previous Cycle**

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

#### **Facilities:**

*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
- 3: Software
- 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.

We are working hard to increase student awareness of our program and how it can lead to rewarding careers. As discussed under the section entitled *3 Year Program Analysis*, the number of students who have chosen the Computer Science major has increased significantly. We are also working hard to maximize student success in our program. The number of students graduating in our young program has increased dramatically (1 in 2015, 2 in 2016, and 9 in 2017, and 15 in 2018). Of course, I don't expect this (almost geometric) progression to continue, but we hope to have steadily-increasing numbers for some time.