

Bakersfield College

Program Review – Annual Update

I. Program Information:

Program Name: Bachelor of Science, Industrial Automation

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: This is the first baccalaureate degree offered by the college and will provide preparation for employment in technical fields utilizing Industrial Automation. Upper division coursework will emphasize critical thinking, research, communication skills, and project based learning.

Program Mission Statement: To prepare individuals for technical management careers in industries which utilize automation, including the petroleum, manufacturing, logistics and agriculture industry sectors, in order to improve the regional economy.

II. Progress on Program Goals:

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.

Program Goal	Which institutional goals from the Bakersfield College Strategic Plan will be advanced upon completion of this goal? (select all that apply)	Progress on goal achievement (choose one)	Comments
1. Develop the curriculum outlines for 17 technical and 3 general education upper division courses and the program outline for Curriculum Committee approval.	<input checked="" type="checkbox"/> 1: Student Learning <input checked="" type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input type="checkbox"/> 5: Leadership and Engagement	<input checked="" type="checkbox"/> Completed: <u> May, 2016 </u> (Date) <input type="checkbox"/> Revised: <u> </u> (Date) <input type="checkbox"/> Ongoing: <u> </u> (Date)	Approved by CCCCO June 1, 2016

Program Goal	Which institutional goals from the Bakersfield College Strategic Plan will be advanced upon completion of this goal? (select all that apply)	Progress on goal achievement (choose one)	Comments
2. Submit Substantive Change to ACCJC.	<input type="checkbox"/> 1: Student Learning <input type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities <input checked="" type="checkbox"/> 4: Oversight and Accountability <input type="checkbox"/> 5: Leadership and Engagement	<input checked="" type="checkbox"/> Completed: <u>_9/29/2015_</u> (Date) <input type="checkbox"/> Revised: _____ (Date) <input type="checkbox"/> Ongoing: _____ (Date)	Approved by ACCJC on December 10, 2015
3. Complete full curricular development of all upper division courses.	<input checked="" type="checkbox"/> 1: Student Learning <input checked="" type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input type="checkbox"/> 5: Leadership and Engagement	<input type="checkbox"/> Completed: _____ (Date) <input type="checkbox"/> Revised: _____ (Date) <input checked="" type="checkbox"/> Ongoing: Exp completion 12/17_ (Date)	Curricular development of five courses was completed in August, 2016; development of five additional courses is taking place Fall 2016, five in Spring 2017, and five in Summer/Fall 2017
4. Remodel SE-46 for new automation lab.	<input type="checkbox"/> 1: Student Learning <input type="checkbox"/> 2: Student Progression and Completion <input checked="" type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input type="checkbox"/> 5: Leadership and Engagement	<input checked="" type="checkbox"/> Completed: <u>_8/1/16__</u> (Date) <input type="checkbox"/> Revised: _____ (Date) <input type="checkbox"/> Ongoing: _____ (Date)	
5. Identify and purchase automation equipment and supplies. Complete training on equipment.	<input type="checkbox"/> 1: Student Learning <input type="checkbox"/> 2: Student Progression and Completion <input checked="" type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input checked="" type="checkbox"/> 5: Leadership and Engagement	<input type="checkbox"/> Completed: _____ (Date) <input type="checkbox"/> Revised: _____ (Date) <input checked="" type="checkbox"/> Ongoing: Exp completion 5/17, but new technologies will require future acquisitions (Date)	Most equipment has been purchased and training is still occurring for this equipment.
6. Develop admission and student services support processes.	<input type="checkbox"/> 1: Student Learning <input checked="" type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input type="checkbox"/> 5: Leadership and Engagement	<input type="checkbox"/> Completed: _____ (Date) <input type="checkbox"/> Revised: _____ (Date) <input checked="" type="checkbox"/> Ongoing: _____ (Date)	Application process completed, admitted first upper division and lower division cohorts. Developed educational planning guides, held 6 orientation meetings, and students have met with BDP Counselor. However, still working on tutoring support and transcribing issues.

B. List new or revised goals (if applicable)

New/Replacement Program Goal	Which institutional goals will be advanced upon completion of this goal? (select all that apply)	Anticipated Results
1. Develop a website and marketing plan.	<input type="checkbox"/> 1: Student Learning <input type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input checked="" type="checkbox"/> 5: Leadership and Engagement	Increased communication and recruitment for the BS degree.
2. Develop an internship program.	<input type="checkbox"/> 1: Student Learning <input checked="" type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities <input type="checkbox"/> 4: Oversight and Accountability <input checked="" type="checkbox"/> 5: Leadership and Engagement	Workforce development with local industries and increased student persistence, retention, and success.
3. Prepare for ACCJC Accreditation Site Visit.	<input type="checkbox"/> 1: Student Learning <input type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities <input checked="" type="checkbox"/> 4: Oversight and Accountability <input type="checkbox"/> 5: Leadership and Engagement	Favorable report from ACCJC.

III. Trend Data Analysis: N/A – Data will be available next year

Demographics of students enrolled Fall, 2016:

Gender	#	%
M	11	79%
F	3	21%

Age	#	%
19 & Younger	0	0%
20-29	9	64%
30-39	2	14%
40 & Older	3	21%

Ethnicity	#	%
African American	0	0%
American Indian	0	0%
Asian/Filipino/Pac. Islander	0	0%
Hispanic/Latino	10	71%
White	4	29%
Two or More Races	0	0%

Highlight **any significant changes** in the following metrics and discuss what such changes mean to your program. **N/A – First semester program**

- Changes in student demographics (gender, age and ethnicity).
- Changes in enrollment (headcount, sections, course enrollment and productivity).
- Success and retention for face-to-face, as well as online/distance courses.
- Other program-specific data that reflects significant changes (*please specify or attach*). All Student Affairs and Administrative Services should respond.

IV. Program Assessment (focus on most recent year):

Use attached **Assessment Report Form AU Tab N/A – new program, courses not taught last year.**

A. Describe *any significant changes* in your program's strengths since last year.

Development of this program included strong strategic planning built upon a successful lower division feeder program, Electronics Technology. There is a tenacious commitment from the faculty and administration to support a successful baccalaureate program. There has truly been a sacrificial effort from the faculty in developing curriculum, determining equipment needs, and preparing lab facilities for this program.

Currently, there are four faculty teaching the five sections of upper division courses with plans to include two additional faculty in the spring semester. A definite strength of the program is the availability of a pool of diverse faculty expertise.

B. Describe *any significant changes* in your program's weaknesses since last year.

As with the development of any new program, the amount of work required and the division of responsibilities has been a challenge for which we might have been better prepared. In addition, it has been difficult to maneuver the fledgling infrastructure at the state level, resulting in unclear expectations of and less than adequate guidance for the pilot program colleges.

Because the Industrial Automation program is highly technical with cutting edge equipment, the resulting enormous workload to implement new technologies has fallen on the faculty with no technician support (i.e., automation/electrical technician support).

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

Confusion regarding minimum qualifications of upper division faculty caused by the difference in ACCJC standards and the CCCCO Baccalaureate Degree Program Handbook resulted in the exclusion of our primary instructor to teach in the program. Fortunately, we were able to hire a new Electronics Technology faculty meeting the minimum qualifications for upper division instruction set forth by ACCJC. In addition, we reassigned a current Electronics Technology faculty to be the upper division faculty lead. All faculty teaching upper division courses for the baccalaureate program possess masters degrees.

Enrollment was lower than expected primarily due to bottlenecks that prevented lower division students from completing the math and physics prerequisite courses.

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

A. Human Resources and Professional Development:

1. 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.

Need to hire an additional faculty to support offering junior AND senior level classes next year. This position is critical for the college to successfully award baccalaureate degrees that align with the college mission and our Student Learning and Student Progression and Completion strategic directions.

Without an additional faculty member, we will not be able to offer both junior and senior level classes in 2017-18 and thus will not meet the goals of the Baccalaureate Degree Pilot Program.

2. Professional Development:

- a. 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.

Over the last year the program faculty, designated Baccalaureate Degree Program (BDP) counselor, and administrators have attended the BDP Student Services Meeting, and two BDP Summits. In addition, the BDP Dean and the Delano Union School District Superintendent presented their BDP pathway collaboration at the 2016 International Community College Baccalaureate Association conference.

Two program faculty attended a week long training on maintenance and troubleshooting of new automation equipment purchased for the program. Multiple program faculty attended Canvas training provided by the campus.

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

Trained program faculty do plan on providing training on equipment and software interfaces for other faculty teaching in the program. In addition, our newly hired Electronics Technology faculty member, who also teaches in the upper division sequence, is proving to be a Canvas expert. He could provide assistance in Canvas training of other faculty. Faculty are also serving as mentors to the high school faculty teaching dual enrolled lower division courses feeding into the BDP.

B. Facilities:

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

A former classroom (SE-46) was renovated to be a new automation lab for the upper division courses. To support new lab activities in the lower division courses feeding into the BDP, INDT 6 and INDT 7A were reconfigured, efficiently utilizing wall space.

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

N/A

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? **N/A – New Program**
2. How will your new or repurposed classroom, office technology and/or equipment request contribute to student success?

The BDP program requires new technologies. For students to be successful in their Industrial Automation careers, it is imperative they are exposed to the standard equipment in the industry.

3. Discuss the effectiveness of technology used in your area to meet college strategic goals.

Technologies utilized in the BDP primarily include electro-mechanical interfaces. This supports the Facilities Strategic Direction by providing a safe and state-of-the-art learning environment.

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

The budget request for this program primarily includes funding for completion of curriculum development for the senior level courses, professional development for faculty and staff to participate in the significant collaborative meetings with the other fourteen colleges participating in the pilot program, and supplies and capital outlay equipment to support the technical needs of the program. Students will have access to state-of-the-art equipment, well prepared curricular resources, diverse learning modalities, and well informed faculty and staff to guide them through this program to graduation with a Bachelor of Science degree in Industrial Automation.

VI. 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.

Bakersfield College is committed to the success of the BDP and that has been reflected in the resource allocation to the program. BDP faculty, including the discipline faculty, dedicated counselor, and general education faculty have spent an incredible amount of time and effort to prepare for this initial year. Although we realize this is a season of an enormous amount of work, we also recognize that the level of work output is not sustainable without increased resource allocation in the years to come.

In particular, we are extremely proud of the body of work that has been accomplished in a short period of time:

- Course Outlines of Records developed and approved for 20 courses. Curriculum development, including significant online support, for five of these courses.
- Implementation of new equipment in the newly renovated automation lab. This is no small feat requiring numerous hours of training and experimentation with software and mechanical interfaces.
- Development of the administrative infrastructure to provide orientations, educational planning, financial aid assistance, application processes, and student database development.
- Coordination of a baccalaureate level Advisory Board with strong participation from business partners.

We look forward to graduating our first class in May, 2018.