

# Bakersfield College

## Comprehensive Program Review

### Program Information:

Program Name: Electronics Technology

Program Type:  Instructional  Student Affairs  Administrative Service  Other

**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:

**The Electronics Technology program at Bakersfield College provides training for electronics technicians, automation technicians, instrumentation technicians, consumer electronics technicians, maintenance mechanics, radio and telecommunications technicians, installation technicians, electronic systems fabrication technicians, operators, and other related occupations. In the near future, we will also provide classes for a new Engineering Technician Associates of Science degree.**

**Bakersfield College, as part of the California Community College system, provides CTE, transfer, and basic skills coursework. Additionally, our program provides a baccalaureate-level degree in Industrial Automation as a means of increasing baccalaureate degree attainment in our community. Our program successfully serves the CTE statewide goal for our discipline. In addition, we have participated in several of the strategic goals and initiatives of the college, including student success (though our participation in the C6 consortium and its activities), and fiscal sustainability (through our participation in the STEM program and through sizeable grants from Chevron and the Central California Section of the International Society of Automation. Our facilities and equipment are exemplary among similar programs in the State, and as such, they have contributed both to student success and a positive example of Bakersfield College's commitment to relevant technology and high-wage, high-growth occupations within our service area.**

Program Mission Statement:

**The EIT faculty and staff strive to offer effective, up to date and student-centered instruction, being sensitive to the diversity of our students, their educational needs, and their career goals. The Electronics Technology program is one of the EIT programs. We provide relevant course and lab work geared toward day and night students seeking careers in EIT related fields, also meeting the needs of students seeking training for career advancement or skills updating. We use a multi-dimensional approach in preparing our students not only for their specific career goals, but also provide activities that assist them with meeting their personal, academic, and intellectual goals. Our faculty actively pursues professional development, program/facilities improvement, and college/community involvement, seeking partnerships and collective efforts.**

**Our program, first and foremost, provides our diverse student population with the ability to earn a degree, a Certificate of Achievement, and four different Work Skills Certificates as evidence of their participation in this career and technical education program. Our rigorous and technically challenging program develops the skills and competencies in technical support fields within the various industry sectors for which we prepare students.**

**Instructional Programs only:**

- A. List the degrees and Certificates of Achievement the program offers  
**Industrial Technology, Electronics Technology Option AS Degree**  
**Electronics Technology Certificate of Achievement**
  
- 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.  
**We only offer an AS degree.**
  
- C. If your program offers a local degree in addition to the ADT degree, please explain the rationale for offering both.  
**No ADT degree is available in our discipline.**

**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 goals, please duplicate this section.

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. Utilize both the Electronics Technology Advisory Committee and the BS Industrial Automation Advisory Committee to refine the course content and goals/outcomes of the short-term certificate, two-year certificate/AS degree, and the BSIT educational levels to create a seamless pathway to employment within the industry sectors we serve.	<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: ___2017-18 (Date)	The BS Industrial Automation (INDA) Advisory Committee was created in 2015, and functions for both the lower division Electronics Technology (ELET) courses/program and the upper division INDA program. Lower-division courses were updated which will be reflected in COR changes this semester, the certificate requirements will change (including changing Job Skills Certificates to CA’s) to reflect both industry needs and to better facilitate the baccalaureate program, the initial baccalaureate courses and requirements were updated last year as a direct result of advisor, participating faculty, and current INDA students feedback and experiences. The course sequences will be streamlined once the new requirements are determined so that the certificates emphasize completion (both in number of time taken to complete), efficient student schedules, and to best utilize our feeder programs and Delano Center offerings.

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
2. Refine the curriculum and course delivery systems to provide the maximum flexibility for students to receive their educational levels of choice.	<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: __2017-18 (Date)	We have been able to convert most of our INDA upper-division courses into a hybrid or online format, either for their initial offering, or for current or future semesters. Several ELET courses have been re-written in a hybrid format, with a goal of half of the ELET courses being offered in hybrid format in the next several years.
3. Develop clear pathways for each possible career path within our area of “technical support systems for commercial and industrial sectors.	<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: __2017-18__ (Date)	We are in the process of converting some of our Job Skills Certificates into Certificates of Achievement. This goal should be met by the end of this school year. The new CA’s will be organized into specific career pathways (occupational titles within the industry sectors we support.)
5. Improve course outcomes, particularly in beginning-level courses, and those taught by more than one instructor.	<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: __2017-18_ (Date)	Increased coordination between instructors of ELET B1, targeted strategies for ELET B5 and ELET B70 students, as well as incorporating “Habits of Mind” strategies into beginning courses have been the steps we have been taking. We will compare class performance this and next year with the baseline of 2014-15 year to see if these strategies have been successful.

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 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
<p>1. Manage and support the various initiatives that target potential students, as well as students who are enrolled in related high school programs.</p>	<p><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</p>	<p>Particularly with both the launching of the Industrial Automation baccalaureate, as well as the dual-enrollment initiative and Chevron’s support of related Project Lead the Way (PLTW) courses at approximately five local high schools, the number of students potentially entering and completing our ELET program is steadily increasing. Through faculty liaisons for each “feeder” program, scheduling training and discussion sessions for dual-enrollment and PLTW teachers, and creating a method of identifying and then generating assessment data (SLO’s and success indicator data) for those students, we will be able to see if they are being adequately prepared for success in our college program.</p>	<p>Starting in 2017-18, and continuing for at least three years.</p>	<p>Sean Caras and ELET faculty members serving as the faculty liaisons for the various high school programs.</p>

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
<p>2. Support long-time and new ELET faculty with professional development opportunities and make full use of the skills and experience among faculty members to perform the needed tasks of our program.</p>	<p> <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 </p>	<p>With our ELET full-time faculty count doubling since August 2016, we need to adapt to this great opportunity by addressing these needs specific to program faculty responsibilities and professional development:</p> <p><b>1) Staff development:</b> We have strongly increased our focus on automation hardware and systems and have purchased more recent technology for many of our courses. Faculty members will need access to industry training in a more systematic way than in the past.</p> <p><b>2) Utilizing Expertise of Faculty Members:</b> We now have a wide skills and experience set among our program faculty, so we want to create opportunities for each faculty member to work on projects and program/college initiatives that utilize that wealth of experience.</p> <p><b>3) Transition from a program that used to have a small faculty base to one that now contains a baccalaureate program and is focused on rural program initiatives (particularly in implementing the program to a significant extent in Delano):</b> While the main tasks of keeping the program going and meeting institutional needs were once performed by just a few professors, we now have the opportunity to increase our inter-program communications, work towards goals that more encompass the whole program (rather than specifically on those tasks that are college-driven) and also to proactively manage the expansion of our feeder program, our certificate/degree options, and other long-range planning and program improvement efforts. This ultimately will result from efforts to develop our professional working relationships.</p>	<p>Starting in 2017-18, and continuing for at least two years (or until the basic needs identified in this goal have been met.)</p>	<p>Manny Fernandez (for the INDA faculty) and Roy Allard for the ELET-only faculty</p>

### **Best Practices:**

Programs often do something particularly well; usually they have learned through assessment – sometimes trial and error – what solves a problem or makes their programs work so well. These are often called Best Practices and can help others. Please share the practices your program has found to be effective.

This best practice is not new to the College, as other faculty members have been doing this for years. However, it has been new to our program and has been very successful for us. Our new faculty member, Thomas Rush, scheduled office hours as open lab times – on Fridays from the late afternoon into the early evening. Students could not only come in and get specific questions answered (or assistance on course work), but they could also work on their lab assignments – since his “office” at that time was the lab area. He had at least a dozen, and well over 30 students attending on some days – far more than the entire number of students utilizing the regular/traditional office hours during the semester. Students could get caught up from absences on lab times, but also are able to work on their lab assignments at their own pace, or could re-do lab procedures for a second or third time so they would really absorb the material. As a result, other ELET faculty members are considering working together to cover all our classes with open lab times periodically throughout the semester.

### **3 Year Program Analysis:**

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 number of students 19 and younger increased 7% last year after holding fairly steady in preceding years. Additionally, the number of female students increased from 4% in 2012-13 to 10% last year. Ethnicity held steady – and equal to or within only a few percent of the collegewide demographics. It will be interesting to see if the trend of enrollment increases in younger students continue in the future, and if so, how our program may need to alter instructional strategies and other factors to address student success. Our students in the 19 and younger age range have the lowest success rate among our program population, which is true collegewide. However, our students in that age range have a success rate 8% lower than the college average for that age range.**

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

**The program enrollment (unduplicated headcount) increased 41% over the past three years, with the number of sections in 2016-17 double the 2012-13 count. First day enrollment and census enrollment increased approximately 60% when compared to 2012-13. Productivity remained within 2 FTES/FTEF for the past three years. We are still below the collegewide productivity numbers, but as a specialized CTE program with labs, we are not exceptionally low. One of the challenges we have in our program is the impact of the baccalaureate program on the number of sections needed for the lower-division required and elective classes for the baccalaureate. We are in a position where fewer sections would exclude students due to waitlists, while current levels mean that our class sizes are below capacity in most sections other than the beginning course.**

3. Changes in achievement gap and disproportionate impact.

**Student success rates have remained consistent for the past few years, and are an improvement over five years ago. Student retention rates have increased several percent in the past three years. For the past three years, our success and retention rates were comparable to the collegewide rates. Based on the success and retention rates disaggregation comparing our program with the college as a whole, there were no significant differences (> 10%) that were identified by that data. We therefore conclude that our program does not show a disproportionate impact with regards to age, gender, and ethnicity.**

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

**We have addressed success and retention rates in our response to question #3 above. We do not offer online/distance education courses.**

5. Any unplanned events that affected your program?

**The major unplanned event that affected our program during the past three years is our program being chosen to offer a Bachelor's of Science in Industrial Automation, as one of the 15 pilot baccalaureate programs statewide. This affected program staffing, curriculum/course development, facilities needs, equipment needs, outreach efforts, student advising, in addition to our administrative structure (our Dean's position) and other college-wide adaptations/accommodations that were required to meet the requirements for the baccalaureate legislation and the accreditation process for the baccalaureate program. Enrollment in the program was already increasing prior to the baccalaureate launch, and that growth continues to increase as students enter the ELET program as a pathway into the baccalaureate.**

6. Degrees and certificates awarded (three-year trend data for each degree and/or certificate awarded).

**See the table below. Our interpretation of this data is that in terms of completion (specifically the number of CA's and AS degrees), we are not happy with the fact that the numbers fluctuate over the years, have not significantly improved (with the exception of the high number of Job Skills Certificates that we are awarding in recent years), and are not reflective of the number of students in our program each year. We speculate that the following issues impact our completion (CA's and AS degrees) rates:**

- **We are not sure if the challenge is that more students are close to meeting requirements, but lack only a few classes, or if they have met requirements but have not turned in the certificate or degree applications. Unfortunately, we know of no data or source of reports that give us an indication of how our enrolled students are progressing in meeting their requirements. We do have Degree Works, but program faculty are not aware of how we can get information on students in our classes so we can encourage them individually to complete the needed courses – particularly when they are close to meeting their requirements.**

- We have educational plans institutionalized to a much greater level than in the past, and we have also created suggested course sequences that students can follow for time-efficient completion. However, students still appear to lack direction on what classes to take the following semester, and exactly what they need to complete their degree and/or certificate requirements. We still end up talking to each of our advanced classes just before priority registration opens so we can help direct them to the best class choices for the upcoming semester. There does not yet seem to be a connection between the educational planning/course sequencing resources students have and their actual use of those resources.
- Our program had at one point 36 units in the major and for the Certificate of Achievement. We have slowly been changing the number of units in our courses and the total required units, with a goal of 27-30 for a CA and the major classes for the AS degree. We currently are at 32 units.
- INDT B10 (Occupational Readiness) is the recommended option for meeting the educational planning requirement for the CA and AS degree. Many of the students who have taken the class have said that it was beneficial to them, but there still are several challenges that need to be addressed. Only in the past two semesters have there been more than two sections of the course offered (even though we have well over a thousand students in the Industrial Technology disciplines at any given time). Additionally, older adults tend to think that they don't need the job search, resume writing, employment interviewing, life skills, and related topics since they already have enough experience in those things (in their own opinion). They can take the STDV B1 class, but will be short 2.5 units for their major or certificate. Knowing how many students fail to complete their degree and/or certificate by not meeting this requirement would be very helpful. Doubling or tripling the number of sections of INDT B10 each semester may also help.
- In recent semesters, the number of full-time students in not only our program but in our department as well has decreased. This will cause students to take longer to complete their goals, and make it more likely that they drop out.
- Despite the number of CTE academic advisors at the college, we have lack of a consistent student contact from an advisor to help them complete their applications and to help check their progress. This would be a time-consuming endeavor, and perhaps we do not have the resources available to make this happen.
- A culture of degree attainment is not reinforced by local employers. Job goals (a promotion, a better job, or greater pay) can be met without even completing a CA, much less an Associate's degree. The need for workers in our industry sectors is so great that employers are willing to hire a student before degree or even certificate completion. Once hired, students tend to work greater than a 40 hour work week just to meet the demands of the employers and the lack of available employees. In fact, an Associate's degree is not commonly a requirement for most every job title that we prepare students to fill. Until program completion and degree attainment are emphasized by employers, it will be difficult for students to justify spending additional time in college - especially the time needed to complete general education requirements. There is often no additional financial incentive offered by employers for completing an Associate's degree.



7. Reflect on any changes you would like to see in your program in the next 3 years.
- **Improved “pipeline” for students to enter the program:** Due to the emphasis on dual-enrollment classes, “Project Lead the Way” programs established in local high schools through a donation by Chevron, and interest by several community colleges and neighboring school districts to provide a pathway to our Industrial Automation baccalaureate degree, we have the opportunity to increase the number of students entering our program in a structured and purposeful way.
  - **Addition of new technology and equipment into the program:** As changes in and improvements to technology takes place in electronic and automation systems, we need to provide learning and lab experiences that incorporate as much of the newer technology as possible. We are very fortunate to have several available funding sources that are helping us reach that goal – at least during the next several years. It is important to note that compared to all CSU Industrial Technology programs (with perhaps the exception of the two Cal Poly campuses), both our available department and grant funding and our current equipment stock and facilities are exceptional to our CSU counterparts. We can be proud that our local baccalaureate program has been so highly supported.
  - **A student lab assistant position covered by a stable funding source:** In past years, we have been able to use a part-time student lab assistant that was funded through various means. We currently have a student lab assistant for up to 19 hours per week that is funded entirely by grants from Chevron and our local International Society for Automation chapter. With an investment of close to one-million dollars in equipment funding into our program for the past 15 years, it is important for us to maintain and service that equipment, as well as continue our practice of building specialized lab training equipment that benefits our classes as well as the “feeder” programs offered through dual-enrollment and rural initiatives. We have not submitted a position request at this point, since we are not looking at a classified position to meet this need, nor have we identified possible college funding sources. During this school year, we will explore possible options with our Dean of Student Learning.
  - **Successful expansion of program into Delano:** With the hiring of a new faculty member through the Strong Workforce grant specifically charged with expanding our program into the Delano area, we have the unique opportunity for both outreach to the northern Kern County area and to establish the physical presence in the area with possible Electronics lab facilities on the current Delano Center campus or the Randolph campus.
  - **Continuing education and industry training opportunities:** As our program resources and capacity have expanded in recent years, we are being asked to reach out to the industrial sectors to help support their technical staff. One such possible opportunity is for our program to become an approved training provider by the State Contractor’s Licensing Board, which will allow many of our current classes to be used as continuing education credits for licensed Electricians in the state. Additionally, we now accept four of the union Electrician’s apprenticeship classes as direct substitutions for classes in our program, allowing union Electricians the opportunity to take additional classes in our program that will lead to certificates and possibly a degree in addition to those available through their apprenticeship.

8. List degrees and certificates awarded (three-year trend data for each degree and certificate awarded). Include targets (goal numbers) for the next three years.

Full Name of Degree or Certificate	2015- 2016	2016- 2017	2017- 2018	2018- 2019	2019- 2020	2020- 2021
Electronics Technology Certificate of Achievement	10	9	(15)	(25) Note: we plan to move all JSC's to CA's by 2018-19. These projections cover all CA's that will exist then.	(30)	(35)
Industrial Technology, Electronics Technology option AS Degree	6	8	(10) Note: we plan on creating an AS degree for the Industrial Automation degree pathway, so these projections include the current and new AS degree)	(12)	(15)	(17)
Total Job Skills Certificates (combined)	51	42	(60)	(0) Assuming that JSC's will not be available after conversion to CA's	(0)	(0)

**Resource Request and Analysis:**

Resource Request		If Fulfilled, Discuss How Previous Year's Requests Impact Program Effectiveness?
<p><b>Positions:</b>  <i>Discuss the impact new and/or replacement faculty and/or staff had on your program's effectiveness.</i></p>	<p><input type="checkbox"/> 1: Classified Staff  <input checked="" type="checkbox"/> 2: Faculty</p>	<p>For 2016-17, we added a full-time faculty position to serve the baccalaureate degree classes. For 2017-18, we added another full-time faculty position for the baccalaureate, and one for the lower-division program that will focus on the Delano Center expansion. Without the baccalaureate faculty positions, we could not handle the junior-level courses, and especially multiple-year implementation of the baccalaureate, since our adjunct pool seriously lacks people with Master's degrees or higher. Additionally, expanding our Delano offerings with the previous staffing levels would mean cutting sections offered on the main campus.</p>
<p><b>Professional Development:</b>  <i>Describe briefly, the effectiveness of the professional development your program has been engaged in (either providing or attending) during the last cycle</i></p>	<p><input type="checkbox"/> 1: Provided Professional Development  <input checked="" type="checkbox"/> 2: Attended Professional Development</p>	<p>As we implement brand-new technical classes for our baccalaureate and using the new equipment and technology that has been infused in our program, our faculty members must increase their knowledge and skills to manage these curricular and technological changes. We have been able to attend industry-provided training sessions that were funded through various sources. Additionally, we have taken advantage of college-provided professional development options as well.</p>
<p><b>Facilities:</b>  <i>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.</i></p>	<p><input checked="" type="checkbox"/> 1: Space Allocation  <input checked="" type="checkbox"/> 2: Renovation  <input type="checkbox"/> 3: Furniture  <input type="checkbox"/> 4: Other  <input checked="" type="checkbox"/> 5: Beyond Routine Maintenance</p>	<p>In the past several years, we have been able to adapt and modernize SE 46 into a robotics/automation lab to serve our baccalaureate program. Without this new facility, we would not be able to offer several of our baccalaureate classes due to our existing facilities being at capacity with equipment.</p>

Resource Request		Discuss How Effective Request is for Student Success?
<p><b>Technology:</b>  <i>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?</i></p>	<input type="checkbox"/> 1: Replacement Technology <input checked="" type="checkbox"/> 2: New Technology <input type="checkbox"/> 3: Software <input type="checkbox"/> 4: Other _____	<p>Recently, we received new computers for our CIM Lab (INDT 7a) which allows us to use the latest version of the automation software in that lab. Without the periodic computer upgrades, our program would be stuck using non-supported older versions of the software, and our student experiences would be negatively impacted as a result.</p>
<p><b>Other Equipment:</b>  <i>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.</i></p>	<input type="checkbox"/> 1: Replacement <input checked="" type="checkbox"/> 2: New <input type="checkbox"/> 3: Other _____	<p>Through various funding sources, training equipment was purchased for ELET B4, B5, B55a, B56, B58, and B70, and for all baccalaureate classes that have a lab component to them. We were able to incorporate newer technology into our classes, decrease the students-per-trainer ratio, and offer students hands-on experience with skills and topics that were previously only covered in lecture. Employers who visit our labs always comment on the quality of experiences our students receive in lab, and how our labs are direct reflections of the technology and equipment they will encounter at work.</p>
<p><b>Budget:</b>  <i>Explain how your budget justifications will contribute to increased student success for your program. (Fiscal requests will be submitted by the faculty chair and/or area administrator.)</i></p>		<p>We do not request a program-specific budget increase. College (GU001) funding of our program is through the Engineering and Industrial Technology department budget. Without access to funds for materials purchases, repairs and upgrades, and other program expenses, our hands-on lab activities would be seriously curtailed or even eliminated.</p>

### **Conclusions & Snapshot:**

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 Electronics Technology program is a successful, industry-driven career and technical education program that is characterized by continual improvement of student learning outcomes, student experiences – both instructionally and through hands-on lab activities, and other success indicators. By several factors, such as program growth, staffing, and course offerings, our program ranks as the top among our Engineering and Industrial Technology department. In addition to a robust and diverse lower-division technical program, we also support the Industrial Automation Bachelor of Science degree – one of 15 pilot baccalaureate programs authorized among the California Community College system. We have been strongly supported by our administration and through significant grant and baccalaureate program implementation funding sources, which have contributed greatly to the success we have achieved in recent years. Our facilities and equipment stock is exceptional among not only other state community college programs, but also among most of the CSU Industrial Technology baccalaureate programs as well. Our institutional and vocational (“VTEA Core Indicators”) benchmarks – with only the exception of non-traditional student participation and completions – usually meet or exceed institutional averages and state-negotiated targets. Our local labor market data shows that our program trains students for high-wage, high-demand occupational titles, with expected job openings exceeding the number of students we prepare by a factor of at least 8. We have a strong industry-led advisory committee that has representatives from almost all of the eight different industry sectors our program serves. This committee has been very active in facilitating industry collaboration, validating course content and lab activities, and connecting our program with industry advocacy groups such as the International Society for Automation.**

**Within the past 15 years, we have tripled our number of full-time faculty members, added six new lower-division courses to our program, streamlined our course offerings, expanded our certificate options for students, and received around one million dollars of equipment and facilities improvements. Within the past three years, we have expanded our program's mission to include the baccalaureate degree, added over 15 new upper-division technical courses, assisted with the implementation of an Industrial Automation program at the Kern High School District Regional Occupational Center and are currently involved with expanding dual-enrollment classes at several local high schools with more participation to come in the near future.**

**For the next three years, we will focus on additional improvements to instruction, including expanding online and hybrid class offerings, incorporating innovative instructional methods beyond lecture, developing and streamlining SLO and PLO assessment methods that will give us more relevant feedback, and improving hands-on lab activities through the acquisition of newer technologies and additional physical resources for our program. We will expand the program to include at least one additional industry sector (Biomedical Electronics) and at least one additional means of supporting our local industrial workforce (such as becoming a recognized training provider by the State Contractor's Licensing Board).**