Bakersfield College
Program Review – Annual Update

Attachments (place a checkmark beside the forms listed below that are attached):

☐ Faculty Request Form ☐ Classified Request Form ☒ Budget Change Request Form
☐ ISIT Form ☐ M & O Form ☒ Best Practices Form **(Required)**
☐ Other: _____

I. Program Information:

Program Name: **Industrial Technology (Engineering and Industrial Technology Department)**

Program Type: ☒ Instructional ☐ Non-Instructional

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. 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.

Program Description: Describe how the program supports the mission of Bakersfield College

There are several Industrial Technology courses, along with a number of Associate of Science degrees with options within the disciplines that comprise the Industrial Technology area. The current courses that are identified as Industrial Technology (INDT) include: INDT B10 (Occupational Readiness), INDT B275 (Special Problems in Automotive), and INDT B271 (Special Problems in Welding). The Occupational Readiness course meets the educational planning requirements for certificates and degrees, as well as providing skill areas such as measurement, job seeking skills, portfolio creation, industry awareness, math review, and other topics. The course uses a text called "High Performance Manufacturing", which is well-suited for our Industrial Technology students, and was created by MSSC, a highly regarded industry advocacy group. Our Special Problems courses provide an opportunity for students to pursue advanced-level experiences in the discipline, as well as organizing and managing projects, teaching and assisting other students in the discipline, and performing lab activities that the coursework does not have time to cover. These Special Problems courses are offered as no-load for the faculty that offer them, providing benefit to students at no direct cost to the College.

Unlike other colleges that have technical coursework included in Industrial Technology, such as Industrial Maintenance at Porterville College, our discipline areas at Bakersfield College are well-developed, which allows technical coursework to be offered in the individual disciplines. However, the INDT B10 course was created to serve all Industrial Technology disciplines, without requiring each discipline to offer similar courses. This has proved cost-effective to the College, as the INDT B10 sections are always fully-enrolled.

Since CTE is an essential part of the Community College mission, and since student success, retention, completion, and placement are all vital components of the College mission as well, our Industrial Technology (INDT) courses are designed to advise students and develop skills for success among the students enrolled in these courses.

Degrees and Certificates: List the degrees and/or Certificates of Achievement awarded by the program, if applicable.

Associate of Science, Industrial Technology, Automotive Technology Option
Associate of Science, Industrial Technology, Construction Technology Option
Associate of Science, Industrial Technology, Electronics Technology Option
Associate of Science, Industrial Technology, Industrial Drawing Option
Associate of Science, Industrial Technology, Manufacturing Technology Option
Associate of Science, Industrial Technology, Welding Option
Associate of Science, Industrial Technology, Woodworking and Cabinetmaking Option
Associate of Science, Industrial Technology, General

II. Program Assessment:

a. How did your outcomes assessment results inform your program planning?
   In performing approximately 33 different PLO assessments last year, we realized that there could be a way to offer one AS degree in Industrial Technology (rather than eight), while still retaining the discipline-specific nature of the degree. We will investigate the possibility of designing the Industrial Technology AS degree in a way that will allow students to pursue this degree through courses in their chosen discipline. We feel the certificates students earn will allow them to highlight the actual discipline they have pursued, so that the Industrial Technology AS degree does not have to be identified with the "option" they have chosen.

   We also realize that our INDT B10 course can actually be offered as a hybrid, with an online and in-class component. This will allow the number of units to be decreased to 2, and more students can take this course each semester. Although we have thousands of students in our department each year, we can only accommodate 120 – 150 students per year in INDT B10 due to staffing shortages.

   In addition, due to the college scorecard recognizing only degrees and Certificate of Achievements, we will need to investigate the amount of work needed to turn some of our Job Skills Certificates into Certificates of Achievement in order to increase our department's completion rates for the scorecard indicators.

b. How did your outcomes assessment results inform your resource requests this year?
   Indirectly, our outcomes assessments were used to reinforce the fact that our lab activities, facilities, and maintenance of our equipment are all components of a successful program. We recognize that the costs associated with all of these items increase yearly due to inflation and higher material costs. Therefore, we have requested an increase in a number of budget categories.

   In addition, a safety audit of our labs by SISC last year has identified some deficiencies and needs. Many of those have been addressed in the discipline APR's, and others will be pursued through College and District channels, since they require funding and resources well above our department budget allocation.

c. Note any significant changes in your program's strengths since last year.
As a department, Engineering and Industrial Technology has seen significant improvements, including the replacement of a retiring faculty member and the addition of a new faculty member (expansion) in another program. Individual changes among the disciplines are addressed in their APR's.

We also received significant improvement in support when our former Department Chair was promoted to Interim Dean of Instruction, and our department was re-assigned so that all STEM areas are under her supervision. This has resulted in integration between Engineering and Industrial Technology and the other STEM areas that was not possible before. It is our unanimous opinion as a department that this interim leadership structure and the assignment of our Interim Dean should be made a permanent part of the College organizational structure.

d. Note any significant changes in your program's weaknesses since last year.
We continue to have, as a department, the same challenges with resources, staffing, equipment updating/replacement, the level of student academic preparation, and the effect of the cyclical nature of the economy on our funding and enrollment. However, we have improved in several ways, including addressing some equipment/technology issues through C6, STEM, and Chevron grant funding, embedded remediation/basic skills instruction through the C6 grant, and other initiatives on the campus, including the Critical Academic Skills workshops.

We have also benefited from an improved economy, particularly in the construction and technical/mechanical services areas.

An area of concern is the District's insistence that VTEA funding is directed to personnel, and equipment funding that is viable to maintaining current industry expectations is no longer supported through VTEA funding. We believe that continuing on this path will not provide the core indicator improvements that are needed to justify the level of VTEA funding we currently receive.

e. If applicable, describe any unplanned events that impacted your program.
The process of determining "program viability" that occurred last year has created some negative and lingering effects within our department. Some of those effects have been reduced or eliminated due to the support for CTE programs shown by our new College President.

III. Technology and Facilities Analysis
a. Has your program received new or repurposed technology in this cycle?
    i. If yes, how have you assessed the outcome of the use of that technology and its effectiveness as it relates to student outcomes?
        Technology and Facilities improvements were addressed in the individual disciplines within Industrial Technology. We do not have a stand-alone Industrial Technology lab or area, other than the computer lab in IT205. A request for technology updating in that lab was included in another APR.

    ii. If no, what technology could play a contributing factor in future student success and outcomes for your program? How would you evaluate the use of this technology?

iii.   How might other areas use this technology?

(NOTE: Technology requests can be made by filling out the [ISIT Request form](#).)

b. Has your area received any facilities maintenance, repair or updating in this cycle? If yes, how has the outcome contributed to student success?
This will be addressed through other program APR's in our department.

 (NOTE: Facilities and M&O requests can be submitted by completing the [M&O request form](#))

IV. Trend Data Analysis:

Discuss any significant changes in data trends over the last year using data provided by Institutional Research. Metrics may include the following:
a. Changes in student demographics (gender, age and ethnicity)
b. Changes in enrollment (headcount, sections, course enrollment and productivity)
c. Success and retention for face-to-face, as well as online/distance courses
d. Degrees and certificates awarded (five-year trend data for each degree and/or certificate awarded)
e. Other program-specific data *(please specify or attach)*

The program data supplied to us for Industrial Technology only shows the enrollment in the three INDT courses, not the total enrollment in the 09 TOP code. Therefore, less than 200 students in our department were examined by the data. This is not a large enough representative sample for which to determine trends and performance.

However, the individual disciplines within Industrial Technology have performed their trend data analysis.

In the future, we will be looking at those individual analyses and determining the implications on our department as a whole.

V. Progress on Program Goals:

List the program's goals from the previous Program Review. For each goal, please discuss progress and changes. If the program is addressing more than two (2) goals, please duplicate this section.

Previously Established Goal 1: *(state goal)*

Continue to coordinate with local industry through the work of advisory boards and other collaborative efforts. [Continued goal from last year. Changes in curriculum were either made or proposed in response to feedback by advisors. Evaluation of the change will take place over the next several years]

Progress on Goal:

☐ Completed: _____ (Date)   ☐ Revised: _____ (Date)

Comments on Goal 1:

This is an ongoing process. All Industrial Technology disciplines use an Advisory Committee structure to help them determine equipment needs, curriculum changes, student placement, and other important issues.

Individual program responses to this goal were addressed on those program's APR's.

Previously Established Goal 2: *(state goal)*

Continue to address gaps in core indicators. [This is continued from last year – especially in terms of non-traditional student (female) enrollment.

Progress on Goal:

☐ Completed: _____ (Date)   ☐ Revised: _____ (Date)

Comments on Goal 2:

Individual program responses to this goal were addressed on those program's APR's.

VI. Curricular Review (Instructional Programs only):

a. List each of the courses offered within the discipline's academic program in the first column, using one row per course. Place an **X** in the appropriate column to indicate when the course is scheduled for review.

Course	2013-2014 (2019-2020)	2014-2015 (2020-2021)	2015-2016 (2021-2022)	2016-2017 (2022-2023)	2017-2018 (2023-2024)	2018-2019 (2024-2025)
INDT B10 5/2011	X		X		X	
INDT B271 9/2013			X		X	
INDT B275 9/2013			X		X	
INDT B277 (deleted)						

b. List courses that are proposed for *addition*.
   As a department, we are looking into changes/updating for INDT B10

c. List courses that are proposed for *deletion*.
   None

d. List any changes the program has made to online/hybrid/distance education courses.
Changes were reflected on individual program APR's.

e. Provide an update on the program's transition to adopting a [Transfer Model Curriculum](#) (AA-T or AS-T), if applicable.
Not Applicable

VII. Conclusions and Findings:

Present any conclusions and findings about the program.

1. **Industrial Technology as a "program" is very limited because we only provide three courses and one degree (Industrial Technology, General). However, Industrial Technology includes the following disciplines: Automotive, Construction, Electronics, Industrial Drawing, Manufacturing, Welding, and Woodworking. Each of these disciplines is a strong and fully-functional program.**

2. **We need to bring back the Water Technology (Water and Wastewater Treatment) program. This program was discontinued several years ago due to budget cuts, but is highly needed by industry. It is also a cost-effective program in terms on generating FTES. The adjunct instructors that teach the courses are currently working on Curricunet updating of course outlines.**

3. **INDT B10, Occupational Readiness, needs to be re-tooled so more students can participate in the course even though the faculty resources are limited. We will work on this challenge during this school year.**

4. **The eight Industrial Technology degrees need to be restructured in a way that addresses these needs:**
   a. **There are not common core classes throughout the disciplines, so each discipline needs to maintain the same course requirements as are currently defined.**
   b. **The name of the degree (AS, Industrial Technology) can be the same regardless of the Industrial Technology discipline pursued by the student (eliminate the "option" from the name). This would combine the number of awards in each discipline into one quantity.**
   c. **We would need to have a way of allowing students to pursue multiple disciplines through a "general" option of possible courses.**

5. **Institutional Research should prepare a report that combines all 09 TOP codes, which will allow us to look at Industrial Technology trends and outcomes together.**

6. **It would be beneficial to train all Engineering and Industrial Technology faculty and adjuncts on the "best practices" developed and used in the various grants and initiatives.**