

Bakersfield College

Program Review – Annual Update

Program Name:

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 Manufacturing Technology program at Bakersfield College provides training in the use of machine tools for production. Students learn the proper and safe use of lathes, milling machines, drilling machines, band saws, grinders, and measurement tools in cutting operations to produce precision parts from metal stock. Training is provided in the use of manually controlled machine tools as well as computer numerical control, or CNC, machine tools. The courses are designed to meet the training needs of local industry. The most significant local industries utilizing machinists include the petroleum, agriculture, and aerospace. Students enrolling in the Manufacturing Technology courses include students majoring in manufacturing, welding, electronics, and engineering. There are three course under the title "Manufacturing Technology": MFGT B1AB "Machine Tool Processes", MFGT B2 "CNC Lathe Programming", and MFGT B3 "CNC Milling Machine Programming". Student can find gainful employment after (or even while) taking any one of these courses, whether or not they complete the entire degree or certificate of achievement.

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.

Instructional Programs only:

- A. List the degrees and Certificates of Achievement the program offers
 - Industrial Technology Manufacturing Technology Option (AS)
 - Manufacturing Technology (CA)
 - Basic Machine Tool Operations-Lathe, Mill (JSC)
 - Computer Numerical Control Programming (JSC)
- 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.

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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. Please provide an action plan for each goal that gives the steps to completing the goal and the timeline.

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)	Status Update – Action Plan
1. Updating program outcomes to be specific and measurable to enable program planning based on assessment results.	<input checked="" 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 type="checkbox"/> 5: Leadership and Engagement	<input type="checkbox"/> Completed: _____ (Date) <input type="checkbox"/> Revised: _____ (Date) <input checked="" type="checkbox"/> Ongoing: _____ (Date)	A new instructor was hired who will help update the program level outcomes.
2. Develop additional, more advanced manufacturing courses in manual machining and CNC machining.	<input checked="" 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 type="checkbox"/> Completed: _____ (Date) <input type="checkbox"/> Revised: _____ (Date) <input checked="" type="checkbox"/> Ongoing: _____ (Date)	A new instructor was hired who will help update the curriculum.

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)	Status Update – Action Plan
Develop a new fabrication program integrate machining and welding technology	<input checked="" type="checkbox"/> 1: Student Learning <input type="checkbox"/> 2: Student Progression and Completion <input type="checkbox"/> 3: Facilities	

together to prepare students for careers in the food industry and technical entrepreneurship.	<input type="checkbox"/> 4: Oversight and Accountability <input type="checkbox"/> 5: Leadership and Engagement	
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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.

Program Analysis:

Take a look at your trend data (all programs should have some form of data that is used to look at changes over time).

1. Please report on any unexpected changes or challenges that your program encountered this cycle:

2. How does your trend data impact your decision making process for your program?
 The trend data show an increase in unduplicated headcount from 72 in 2013-14 to 130 in 2016-17. Many of these students have asked that more advanced classes be added to the catalog.
3. Were there any changes to student success and retention for face-to-face, as well as online/distance courses?
 The overall retention and success ratings were 86% and 74%, respectively. This exceeds the collegewide retention and success ratings were 87% and 69%.
4. Were there any changes to student demographics (age, gender, or ethnicity) for the past cycle?
 No significant changes.

Resource Request and Analysis:

Resource Request		If Fulfilled, Discuss How Previous Year's Requests Impact Program Effectiveness?
Positions: <i>Discuss the impact new and/or replacement faculty and/or staff had</i>	<input type="checkbox"/> 1: Classified Staff <input type="checkbox"/> 2: Faculty	

<p><i>on your program's effectiveness.</i></p>		
<p>Professional Development: <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 type="checkbox"/> 2: Attended Professional Development</p>	
<p>Facilities: <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 type="checkbox"/> 1: Space Allocation <input type="checkbox"/> 2: Renovation <input type="checkbox"/> 3: Furniture <input type="checkbox"/> 4: Other <input type="checkbox"/> 5: Beyond Routine Maintenance</p>	
<p>Technology: <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>	<p><input type="checkbox"/> 1: Replacement Technology <input type="checkbox"/> 2: New Technology <input type="checkbox"/> 3: Software <input type="checkbox"/> 4: Other _____</p>	
<p>Resource Request</p>	<p>Discuss How Effective Request is for Student Success?</p>	

<p>Other Equipment: <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>	<p><input checked="" type="checkbox"/> 1: Replacement <input type="checkbox"/> 2: New <input type="checkbox"/> 3: Other _____</p>	<p>A new CNC lathe and a new CNC milling machine will each increase our capacity to better prepare students for the equipment that they will encounter in the local industry. These machines will also give increased capacity to meet the needs of employers.</p>
<p>Budget: <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>		

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 annual program review.

The manufacturing technology has much potential for growth. The employment projections by EMSI show an increased demand for manual machinists, CNC machinists, and CNC machine operators. The attached EMSI Job Postings Analytics report shows some of the companies who are reporting the most hires. As a new advisory committee is formed, efforts will be made to reach out to these companies.

A new manufacturing/fabrication was hired in spring 2016 who will be responsible for curriculum change on two fronts. The manufacturing program will be updated and new, more advanced machining courses will be created to better prepare students for employment and better meet the needs of employers. The program update will have the goal of achieving status as a NIMS certification program. NIMS is the National Institute for Metalworking Skills and provides opportunities for students to earned industry certifications as manual machinists and CNC machinists.

This new instructor will also be responsible for developing a new program in fabrication. This program will include coursework in machining, welding, sheet metal, and industrial design. The aim of the program is to prepare students for careers in the fabrication of equipment and structures for the local food industry.

The manufacturing program needs two new pieces of equipment:

- Replacement of a CNC lathe that was purchased in 1981. This machine is functional, however, the technology is nearly 40 years old our students will likely not encounter this machine in local industry.
- Replacement of a CNC mill purchased in 2008. This machine is fully functional, but the controller (computer) is not in common use locally and is more advanced than what is conducive to good teaching.