

Assessment, Improvement, Measurement (AIM) Report: 03/12/2015**Reporting Years:** 2011-2016**Program:** Biotechnology**Coordinator(s):** Deborah Sullivan-Davis, Karman Wheeler, Keith Allen**Program Quality and Student Success****External awards or other recognitions of students, faculty, and/or program.**

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Students			See Supporting Documentation		
Faculty			See Supporting Documentation		
Program (include accreditation if applicable)					

Average actual time and credits to degree completion.

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
General Education Credit Hours			16-17		
Technical Credit Hours			44-47		
Total Credit Hours			60-64		
Number of Graduates	0	3 AD (2011-12)	8 AD (2012-13)		
Average Actual Time to Degree	n/a	5.7 years	4.0 years		
Average Actual Credits to Degree	n/a	112	103		

Employer and student satisfaction.

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Employer Satisfaction Survey Results	n/a	no data	no data	50% (1/2)	
Graduate/student satisfaction		100% (7/7) 2010-11 grads	100% (17/17) 2011-12 grads	100% (7/7) 2012-13 grads	
Advisory Board/Employer Recommendations for Improvement					

Job placement data for program graduates.

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Number of graduates	n/a	2 surveyed (2010-11 grads)	18 surveyed (2011-12 grads)	7 surveyed (2012-13 grads)	
Number of graduates gaining employment		1	14 employed; 6 in field	4 employed; 2 in field. 2 joined military.	
Percentage of graduates gaining employment		50%	78%; 33% in field	57%; 29% in field	
KY Unemployment Insurance job data		n/a; <10 matches	n/a; <10 matches	n/a	

Pass rates on licensure/certification exams (if applicable).

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Total # graduates attempting					
Total # passing on first attempt					
Total # passing after multiple attempts					
Pass rate of all attempting					

Productivity and Funding

Student measures.

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Enrollment (Academic Year)	0	16 (2011-12)	46		
Fall Enrollment	0	21 (Fall 2011)	42 (Fall 2012)	45 (Fall 2013)	
Credentials Conferred	0	3 AD; 19 certs (2011-12)	8 AD; 15 certs (2012-13)	7 AAS; 16 certs (2013-14)	
Credit hour production	611	759	181 (Fall 2012)		

Student credit hour per instructional faculty FTE.

	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Student credit hour per instructional faculty FTE.	235 (CPE)	307.7 (CPE)	226.18 (CPE)		

Extramural funding.

Source of Funding	2011-2012
No funding sources	

Source of Funding	2012-2013
2011-12 Perkins - instructional specialist	\$36,700.00

Source of Funding	2013-2014
2012-13 Perkins - biotech instructional specialist	\$35,500.00

Source of Funding	2014-2015
No funding sources	

Source of Funding	2015-2016
No funding sources	

Comments (2012-2013)

Roles	Comments
Coordinator	
1. Strengths of the Program	a. Faculty and staff members understand the importance of being part of team. The team understands the collaborative effort involved with creating and sustaining a specialized technical program. b. Students are strongly encouraged to support each other as "peer buddies" or "peer mentors," which helps increase success in the program as well as increase retention beyond the first few weeks of class. c. Industry partners in the central Kentucky region increasingly recognize the quality of BCTC's biotechnology students.
2. Items Requiring Continued Attention	a. The laboratory notebook still gives students problems. The biotechnology team will develop a plan to increase student's documentation skills. b. Grant funding is in the final year. Continued funding will depend largely on filling the position of college grant writer, which is currently vacant.
3. Document and provide evidence indicating how last year's program review resulted in improvements in the program.	Findings: A new procedure for laboratory notebooks was initiated fall 2013. Rather than having students turn in their laboratory notebook at the end of the semester, each lab activity was assessed individually. Lab reports were completed in three separate parts: written pre-lab, documentation of work completed, and post-lab conclusion. By receiving periodic feedback, students recognized strengths and weaknesses of their documentation skills. Improvement in preparation and maintenance was noted, and students appeared more diligent in keeping good records. The current NSF ATE grant (#1003499) was approved for a no-cost extension until June 2014. Still, many funding opportunities were lost because of the vacant grant-writing position. In addition, the college has not been able to provide an ongoing operating budget, so the program continues to rely on available non-recurring funds.
Assistant Dean	The Biotech team under the leadership of Dr. Davis continues to work tirelessly to provide a skilled biotech workforce in the bluegrass region. The continued success of the program is contingent upon additional grant funding and student recruitment. Soft skills and laboratory notebooks continue to be expressed as a need for improvement by advisory board members and local businesses. Additional exercises and courses are being developed to meet that need. We are in talks to promote biotech (bridge to biotech and biotechnician) through Opportunity College for fall 2013.
Dean	The program is progressing nicely and providing good training for students and opportunities in the workplace for graduates.
Vice President	Biotechnology is an excellent program meeting critical industry needs. Deborah, Tammy, and Sandy provide strong and visionary leadership. They are to be applauded for having the ratio of full-time-equivalent students to full-time-

equivalent faculty increase from 5.7 to 9.2 over the past year.

Comments (2013-2014)

Roles	Comments
Coordinator	
1. Strengths of the Program	Faculty and staff realize the importance of creating partnerships and collaborations with other colleges for information exchange in an effort to ensure the program is relevant and current. We aggressively pursue professional development opportunities to keep abreast of industry trends. We are often asked to serve as subject matter experts regarding emerging technician education and training. Biotechnology courses are evaluated each semester and updated as needed. Faculty have excellent working relationships with local biotech companies.
2. Items Requiring Continued Attention	The Biotechnology Program does not have a recurring operating budget, or a permanent staff position. Therefore we rely on non-recurring funds for necessary supplies, and funding for the instructional specialist.
3. Document and provide evidence indicating how last year's program review resulted in improvements in the program.	A new procedure for laboratory notebooks was initiated fall 2013. Rather than having students turn in their laboratory notebook at the end of the semester, each lab activity was assessed individually. Lab reports were completed in three separate parts: written pre-lab, documentation of work completed, and post-lab conclusion. By receiving periodic feedback, students recognized strengths and weaknesses of their documentation skills. Improvement in preparation and maintenance was noted, and students appeared more diligent in keeping good records. The current NSF ATE grant (#1003499) was approved for a no-cost extension until June 2014. Still, many funding opportunities were lost because of the vacant grant-writing position. In addition, the college has not been able to provide an ongoing operating budget, so the program continues to rely on available non-recurring funds.
Assistant Dean	I have reviewed the data and comments made by the coordinator and support the conclusions made. The Biotechnology program faculty and students are beginning to be recognized at a national level. Although the program has been supported by non-recurring funds from academics since implementation, there seems to be a true commitment by the college to ensure success of the program.
Dean	I agree with all comments and suggestions.
Vice President	While I agree with Assistant Dean and Dean comments, the college's fiscal realities will necessitate a close look at this program to determine how we can effectively and efficiently meet student and industry needs.

Comments (2014-2015)

Roles	Comments
Coordinator	
1. Strengths of the Program	Faculty and staff realize the importance of creating partnerships and collaborations with other colleges for information exchange in an effort to ensure the program is relevant and current. We aggressively pursue professional development and federal funding through grant opportunities to keep abreast of industry trends. We are often asked to serve as subject matter experts regarding emerging technician education and training. Biotechnology courses are evaluated each semester and updated as needed. The faculty have excellent working relationships with local biotech companies.
2. Items Requiring Continued Attention	The Biotechnology Program does not have a recurring operating budget. Therefore we rely on non-recurring funds for necessary supplies.
3. Document and provide evidence indicating	A new procedure for laboratory notebooks was initiated fall 2013 and continued through fall of 2014 with some

<p>how last year's program review resulted in improvements in the program.</p>	<p>major improvement. Rather than having students turn in their laboratory notebook at the end of the semester, each lab activity was assessed individually. Lab reports were completed in three separate parts: written pre-lab, documentation of work completed, and post-lab conclusion. By receiving periodic feedback, students recognized strengths and weaknesses of their documentation skills. Improvement in preparation and maintenance was noted, and students appeared more diligent in keeping good records. The biotechnology program has required students to maintain a normalized dress code and the establishment of a student organization Beta Tau Nu, in order to encourage a professional attitude and self confidence.</p>
<p>Assistant Dean</p>	<p>Biotechnology continues to be a strong program and has the support of local businesses. A recurring budget was established by reallocating biology funds, however, the budget is extremely small (\$5000) for such a lab intensive program. I applaud the faculty for their initiatives of uniform dress code and establishment of a student organization.</p>
<p>Dean</p>	<p>Concur with comments from coordinator and AD. Need to assess program needs and modify as warranted to strengthen program and fill community needs.</p>
<p>Vice President</p>	<p>I concur with Assistant Dean and Dean comments. The faculty have been remarkable in creating and growing this program! Like with all other technical programs, I encourage the program to consider additional apprenticeship and other industry sponsorship opportunities.</p>