FOOTHILL COLLEGE
Program Planning and Review
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Program: Biotechnology

* Please note that sections IV and X have changed from the 09-10 version. All programs are required to update these sections and may roll other sections forward if updates are not necessary.

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I. Department/Program Mission	
1. State the department name and everyone who participated in creating the comprehensive program plan.	Biotechnology Department Amy Edwards, Biotechnology Director Karen Erickson, Faculty in Biology and Biotechnology
2. State the program's mission. If you don't have one, create one.	The Biotechnology Department will prepare students for entry-level jobs in research and manufacturing by educating them in the fundamental concepts and training them in the basic laboratory techniques required by the biotechnology industry.
3. Explain how the program/department mission is aligned with the college mission?	The mission of the Biotechnology Department aligns with the college mission of providing educational opportunities that lead to career preparation.

II. Department and Program Description & Data

1. What are your hours of operation?	Our offices open at: BHS Division Office/7:30 a.m. (approx) Closed for Lunch: No ☒ or Yes ☐ If yes, when: Our offices closed at: BHS Division Office/4:00 p.m. (approx)			
2. What types of classes do you offer, at what locations, and at what times?	Times offered: ☒Morning (6AM-12PM) ☒Afternoon (12PM-4PM) ☒Evening (4PM-10PM)	Locations offered: ☒FH Main Campus ☐Middlefield ☐Off campus	Types Offered: ☒In Person ☐Hybrid ☐Distance	Status Offered: ☒Credit ☐Non-credit

3. List current positions and descriptions for all personnel in your area on the chart below (include position titles only, not individual names).

Faculty Positions by Discipline	**Full-time Headcount**	**Part-time Headcount**	**Brief Description of duties**
Biotechnology Director/ Faculty Member	1	0	Classroom teaching and other contractual obligations as outlined in the *FA Agreement*. Receives 0.25 reassign time for Director duties including curriculum and scheduling.
Biotechnology Instructor	1	9	Classroom teaching, and other contractual obligations as outlined in the *FA Agreement*. One full time instructor is shared between Biotechnology and Biology.
Management and Classified Positions	**Full-time Headcount**	**Part-time Headcount**	**Brief Description of duties**
Student Worker Positions	**Hours per Week**	**Months per Year**	**Brief Description of duties**

4. Given the data, describe the trends in enrollment, FTES, and Average Class size. What are the implications for your department?	Enrollment data over the past five years shows an average FTES of 46. The Biotechnology Laboratory Technician Training Program ("Biotech Program"), as it stood during those years, had a maximum capacity of 24 students per year. The increased number reflects students who were not officially enrolled in the Biotech Program, but who were interested in career enhancement courses offered by the department. At this time, there is no Biotech Program, so all students enrolled in department courses in 09-10 and 10-11 are doing so for their own knowledge and skill enhancement.
5. Student Achievement: Given the data, describe the trends in overall success rates, retention rates, and degrees and certificates awarded. What are the implications for your department?	The three-year success rates in biotechnology averaged 87%. The retention rates averaged 94%. These numbers are comparable to those for the BHS Division and Foothill College. Since 2001, 16 A.S. Degrees and 26 Certificates have been awarded. This is a relatively low number and can be explained by the desire by most students to find jobs – not necessarily to receive a formal document of completion. Most of the Biotech Program students already have B.S. degrees and are returning to school for knowledge and skill enhancement. One possible obstacle that many students have faced in completing the degree or certificate is the inability to complete the required externship hours in the specified time frame. The department has now removed this requirement/obstacle along with others in order to allow more students to achieve their goal of degree or certificate completion. The department has also added three smaller certificates of specialization to help meet the needs of more students. These changes all take effect in Fall 2011.
6. Student Equity: Given the data, describe the trends with respect to underrepresented students. How will your program address the needs/challenges indicated by the data?	The two student groups with lower than college average success rates are Hispanic and white students. Another interesting trend is that the success rates for younger students are below that of the college and for older students are higher than that of the college. This makes sense knowing that most students in the Biotech Program do have a college degree already (so they are a little older than the average college

	student) and the content knowledge of the training program courses is rigorous – prior experience and education are distinct benefits.	
7. Given the data, discuss how the FTEF trends and FTEF/FTES ratio will impact your program. Include any need for increasing or reducing your program faculty. What are the implications for your department?	The five-year data show that the FTEF has hovered between 4.5 and 6. FTES has averaged 46. The department now has one full time director and faculty member. PT faculty covers the remaining FTES.	
8. Given the data for distance learning, describe the trends related to success, retention, and student satisfaction. Discuss solutions to ensure that rates match or exceed those of comparable traditional format courses.	No distance learning in Biotechnology.	
9. Optional: Provide any additional data relevant to your program. (Indicate the source of the data).		
10. Are you seeing trends that are not reflected in the data cited above? If yes, please explain.		

Summary of Planning Goals & Action Plans				
11. Identify 3-6 operational goals and link them to one or more college strategic initiatives or to your operations.				
Department Operational Goals	**College Strategic Initiatives**			
Identify 3-6 operational goals	Building a Community of Scholars	Putting Access into Action	Promoting a Collaborative Decision-making Environment	Operations Planning
Coordinate with 4-year institutions to create articulation pathways for students wishing to pursue B.S. degree.	☒	☐	☐	☐
Continue to update curriculum to benefit students and the industry	☒	☐	☐	☐

12. What is your plan for accomplishing your goals?

Department Operational Goals	Activities	
Articulation	Meet again with articulation officer at Foothill.	
	Review corresponding programs at area 4-year institutions.	
	Continue process of articulation of some individual classes.	
	Create articulation agreements.	
Curriculum Revision/Updating	Meet with PT faculty and industry advisors to review curriculum	
	Make changes, including writing new courses, to meet standards of currency.	

13. Are additional resources needed to accomplish your department operational goals? If yes, identify the resource, as well as the purpose and rationale for each resource.

Identified Resource	Purpose	If requesting funding, provide a rationale of how each request **supports one or more college strategic initiative and/or supports student learning.**

III. Curriculum	
Curriculum Overview	
1. How does your curriculum address the needs of diverse learners?	The curriculum in the Biotechnology Department reflects content knowledge and skills acquisition applicable to the biotechnology industry. Students who succeed in the program have a high level of intellect, creative and critical thinking abilities, and manual dexterity.
2. How does your curriculum respond to changing community, student, and employer needs?	The aim of the department is to retain currency and relevancy in the curriculum. To do so, the new Biotech Director has revised existing curriculum to reflect changes in industry needs as well as added smaller certificates and removed some courses that were obstacles to certificate completion to help meet student needs.
3. How does your curriculum support the needs of other certificates or majors?	N/A
4. Do your courses for the major align with transfer institutions?	Not usually. This is a career program, with upper division level coursework being part of the curriculum. The department is working to get some courses to articulate with four-year universities.
5. Do your courses have appropriate and necessary prerequisites? Identify any challenges and plans to address the challenges.	Over the years, the prerequisites have changed for the core courses in the curriculum. The department is still struggling with finding a balance between too few and too many. Student success is definitely related to prior coursework in chemistry, math, and biology. Too many barriers prevent many students from entering the program. The program needs to maintain its standards of rigor, however, for the industry to continue to support it with advisors and job opportunities. For that reason, the department has now changed the prerequisites to be slightly higher-level English and Math courses (which most students meet ahead of time), but now require only one quarter instead of two of Chemistry.

6. Review the attached curriculum report for currency. What is your plan to address the deficiencies? (Consider: Title V, course deactivation, updated prerequisites, cross-listed courses, measuring student learning outcomes, curriculum sheets, certificates and degrees).	The new BTEC Director has updated all core courses in the curriculum and many of the elective courses. The entire curriculum sheet has been redone to include new certificates and remove outdated coursework.	
7. Does your program offer distance education courses?	No	
8. If you offer distance education courses, list one or two short examples of how your distance education courses provide for effective interaction between students and faculty.	N/A	
9. If you offer distance education courses, list one or two short examples of how your distance education courses provide for effective interaction among students.	N/A	
College Skills (Pre-collegiate) Overview (Data Available Fall 2009-filling out this section is optional)		
10. What college skills should a student have before entering your program?		
11. Given the data, comment on the effectiveness of the assessment and placement of college skills students into your program. (For MATH, ENGL and ESL only).		
12. In what ways are you addressing the needs of the college skills students in your program?		
13. How are faculty in your program collaborating with other disciplines and services to meet the needs of college skills students?		
Program Mapping		
14. If applicable, identify any sequence of courses that are part of your program. List in the order that they should be taken by students.	The Biotech program has a set of core courses that students wanting to complete the Certificate of Achievement could complete within 9 mos. There are also now 3 smaller certificates that take about 6 months to complete in which some courses need to be taken before others.	

15. For your courses that are part of a sequence – are the student learning outcomes well aligned with the next course in the sequence? Please work with the college researcher to answer this question - once your sequence of courses is identified.	Yes. SLOs are aligned.	
16. If applicable, describe any capstone course, signature assignment (project, service learning, portfolio), or exam that demonstrates knowledge, skills, and abilities, indicating successful program completion?	N/A	
Course Scheduling & Consistency		
17. Given available data, describe the trends in the scheduling of morning, afternoon, and evening classes, as well as Friday, Weekend, and distance education classes. Comment on the feasibility of offering classes at non-standard times.	For the past five years, the Biotech Program was a full-time program with a prescribed schedule. Students entered in the fall and completed courses as a cohort in spring. All courses in the Biotech Program were scheduled for this group of students. Outside of the required Biotech Program courses, evening skills courses are scheduled for the greater community – including those already working in the biotechnology industry that wish to improve their skill set. There was some flexibility for individual students who would need to complete the Biotech Program on a part-time basis, so the schedule was written also to accommodate this group. These trends will continue for Fall 2011.	
18. Are required courses scheduled in appropriate sequence to permit students to complete the program in the prescribed length of time? If yes, describe the rationale upon which the sequence is based. If no, what is the plan to change the scheduling pattern? What are the barriers that prohibit implementation of the changes? Explain.	The restructured curriculum sheet has indeed addressed many of the problems in this area that were preventing students from completing certificates. The Certificate of Achievement has been reduced from 60 units down to just over 40 to remove the barriers to completing the program. The smaller certificates range from 12-17 units and could be completed in one or two quarters.	
19. How does the department determine that classes are taught consistently with the course outline of record?	All instructors have access to the COR. Faculty, full- and part-time, are evaluated as outlined in Articles 6, 6A, 7 and Appendix J1 of the *FA Agreement*.	
Summary of Planning Goals and Action Plans		

20. What are your goals with respect to curriculum and how will those goals be measured?		Determine if restructured curriculum will truly result in higher completion rate by assessing number of degrees and certificates awarded.	
21. Are additional resources needed to accomplish your curriculum goals? If yes, identify the resource, as well as the purpose and rationale for each resource.			
Identified Resource	Purpose	If requesting funding, provide a rationale for how each request **supports one or more college strategic initiative and/or supports student learning.**	

IV. Learning Outcomes

Student Learning Outcome and Program Learning Outcomes Assessment

1. Be sure and complete your **course-level student learning outcomes** assessment for each course through the C3MS system.
2. **Program Learning Outcomes** in this section will be updated annually and posted on the Learning Outcomes webpage.

• **Intended Program Outcome 1**: *What will the student think, feel, know or be able to do as a result of this educational experience.*
Upon successful completion of the biotechnology program the students will demonstrate an understanding of cellular, molecular and immunological techniques used in the biotechnology industry and demonstrate proficiency and safety in performing these techniques.

This Program Learning Outcome meets the Core College Mission of:	Basic Skills ☐	Transfer ☐	Workforce ☒
Relationship to Institutional Learning Outcomes • *Communication* • *Computation* • *Critical Thinking* • *Global Awareness*	Means of Assessment/Criteria for Success *What are the criteria for success? What tools will be used to establish and measure success?*	Summary of Data: October 2011 *Summarize the findings. How close were the results to the criteria for success?*	Use of Results: October 2011 *What do the data tell us about our process? What, if anything, do we need to do to our program or department to improve? What resources are necessary?*
Communication, Computation and Critical Thinking			Once the program is up and running again (2011-2012), we will assess the success of students entering the workforce through surveys, etc.

• **Intended Program Outcome 2**: *What will the student think, feel, know or be able to do as a result of this educational experience.*
Upon successful completion of the biotechnology program the students will design experiments, maintain an industry-standard laboratory notebook documenting procedures and protocols, interpret and trouble-shoot laboratory results, and critically analyze data.

This Program Learning Outcome meets the Core College Mission of:	Basic Skills ☐	Transfer ☐	Workforce ☒	
Relationship to Institutional Learning Outcomes • *Communication* • *Computation* • *Critical Thinking*	Means of Assessment/Criteria for Success *What are the criteria for success? What tools will be used to establish and measure success?*	Summary of Data: October 2011 *Summarize the findings. How close were the results to the criteria for success?*	Use of Results: October 2011 *What do the data tell us about our process? What, if anything, do we need to do to our program or department to improve? What resources are necessary?*	
Communication, computation, critical thinking			To be determined once the program is running again starting in 2011-12**.**	

V. Departmental Engagement		
1. What standing committees, if any, does your department maintain? What are the committee charges and membership?	None	
2. What interdepartmental collaboration beyond college skills has your department been involved in during the past 4 years?	The department consists of one full time faculty member and this faculty member collaborates with the Biology department on many issues that we have in common.	
3. What has your department done since its last program review to establish connections with schools, institutions, organizations, businesses, and corporations in the community?	The department is assembling a new advisory board consisting of local industry representatives that will meet semi-annually. The department is also working toward articulation of some of its courses to the 4-year institutions.	
4. In what ways if any, are you or have you worked with area high schools to align curriculum from the high school to your course?	Mountain View High School has an articulation agreement with the Biotech Program.	
5. In what ways if any, are you working with CSUs, UCs, private, or out-of-state institutions to align courses and develop articulation agreements?	The department is working with the college's articulation officer to devise articulation agreements with 4-year institutions.	
Summary of Planning Goals and Action Plans		
6. What are your goals with respect to departmental engagement and how will those goals be measured?	Create articulation agreements with 4-year institutions	
7. Are additional resources needed to accomplish departmental engagement goals? If yes, identify the resource, as well as the purpose and rationale for each resource.		
Identified Resource	Purpose	If requesting funding, provide a rationale for how each request **supports one or more college strategic initiative and/or supports student learning.**

VI. Professional Development		
1. List a sampling of professional development activities that faculty and staff have engaged in during the last two years.		Professional growth, achievement, and development are outlined in the *FA Agreement*. All faculty in the Biotechnology Department participate in these activities as required.
2. What opportunities does your department take to share professional development experiences with colleagues?		Since our department consists of two full time faculty (both shared with Biology) and many part time faculty, professional development experiences are discussed when practical.
3. In what ways have faculty shared, discussed, and used professional development activities to improve program effectiveness?		The Biotech Director has attended two valuable Biotech teaching conferences in the past 6 months at which there was much discussion of how to best increase enrollment, update curriculum and design certificates for student success. The Director is in the process of implementing many of these changes to increase program effectiveness.
4. In what ways have staff shared, discussed, and used professional development activities to improve program effectiveness? What professional development needs do you have in the coming years?		The department is comprised of all faculty, no staff.
5. Are there unmet or upcoming professional development needs among faculty in this program? If yes, then please explain a proposed plan of action for addressing this need and any necessary resources.		There are many conferences that faculty may want to attend throughout the year. The Director will apply for Perkins funding which, if granted, would help offset these costs.
Summary of Planning Goals and Action Plans		
6. What are your goals with respect to professional development and how will those goals be measured?		To continue attending conferences and meetings that will improve the program in a variety of ways. This will be measured by seeing student completion rates once the program is running again.
7. Are additional resources needed to accomplish professional development goals? If yes, identify the resource, as well as the purpose and rationale for each resource.		
Identified Resource	Purpose	If requesting funding, provide a rationale for how each request **supports one or more college strategic initiative and/or supports student learning.**

VII. Support Services

Support Services

Consider the support services needed by your program when reflecting over the following questions		Comments or explanations of barriers and solutions.
1. Is there adequate clerical or administrative support for this program?	**Yes** | No	
2. Are there sufficient college and departmental computer labs available to support this program?	Yes | **No**	Two computers were stolen from the Biotech laboratory classroom and need to be replaced.
3. Are the library and media resources provided by the college sufficient to support up-to-date program instruction?	**Yes** | No	
4. Are adequate services provided in compliance with program needs for meeting health and safety guidelines?	Yes | **No**	We need another part time lab technician to help cover all hours that there are classes being run in the science building. Currently, we share one FT lab technician with Biology, but there are times when classes are in session and the technician is not here due to the hours worked.
5. Are the custodial services to this program in compliance with program needs for meeting health and safety guidelines?	**Yes** | No	
6. Are accommodations for students with disabilities adequate, including alternative media, testing, and tutorial?	**Yes** | No	
7. Are general tutorial services adequate?	Yes | **No**	No specific Biotechnology tutors.
8. Are academic counseling and advising services available and/or adequate to support students enrolled in the program?	Yes | **No**	Counselors seem unaware of the existence, purpose, and requirements of the Biotech Program. Our department and the Biological and Health Sciences Division as a whole would greatly benefit from an evaluator. This person would help students determine when they have completed necessary requirements, are ready to graduate, etc.
9. Do students have access to and can they effectively use appropriate information resources?	**Yes** | No	

10. Specifically related to distance learning, do you have appropriate faculty support services and/or effective training for faculty teaching online?	**Yes** | No	
Marketing & Outreach		
11. What impact do you feel the college catalog, class schedule, and online schedule of classes have on marketing your program? Does the marketing accurately reflect your program, requirements, and services available?	None – these documents serve only to guide students who are already aware, or part of, the Biotech Program.	
12. What impact does the college or departmental website have on marketing your program?	The Biotech Program website is very important as the main place students go to get information. The Program Director has recently updated the website and continues to do so as changes are made to the program.	
13. Is there any additional assistance from marketing that would benefit your program? If yes, explain.	Yes. This program needs lots of marketing and it has always fallen on the shoulders of the program director to handle this. The Biotech Program needs to be understood and appropriate measures taken to advertise it. Repeated attempts in the previous years to discuss with marketing the needs of the program have been met with suggestions that the Director do a variety of things, but without much new input from the Marketing Department. Articles regularly appear in the *Heights*, but this doesn't seem to be the most effective method of advertising. We rely on the expertise of the Marketing Department to help with these concerns.	
14. If you were to collaborate with the Outreach staff, what activities would be beneficial in reaching new students?	Students who are interested in pursuing a career in biotechnology need to understand what that means. There is no "big money" or guaranteed work, but rather a satisfaction with using current technologies to solve big problems. Students should have an aptitude and interest in biology, a desire to work hard, the ability to be disappointed in results that aren't successful, be good at math, and like to work as a team. Recent high school graduates do not seem to be the appropriate audience, as industry tends to hire mature, educated workers. Appropriate activities organized by the Outreach staff would stress these characteristics. Tours and presentations by the Biotechnology faculty would be helpful.	
Programs, clubs, organizations, and special activities for students		

15. List the clubs that are designed specifically for students in this program. Describe their significant accomplishments.		N/A
16. List any awards, honors, scholarships, or other notable accomplishments of students in this program.		N/A
Summary of Planning Goals and Action Plans		
17. What are your goals with respect to support services and how will those goals be measured?		Work with counselors, marketing and outreach to recruit students into the training program.
18. Are additional resources needed to accomplish your support services goals? If yes, identify the resource, as well as the purpose and rationale for each resource.		
Identified Resource	Purpose	If requesting funding, provide a rationale for how each request **supports one or more college strategic initiative and/or supports student learning.**
Marketing Activities	To highlight the Biotech program and bring in more students.	Building a Community of Scholars, Workforce
Biological and Health Sciences Evaluator	To aid students in evaluation of graduation and/or transfer requirements. The Biotech program would truly benefit from an individual who truly understands the program and its students' needs.	Building a Community of Scholars, Workforce, transfer

VIII. Career and Technical Education Programs	
Response to Labor Market Demand	
1. How does your program meet labor market demand? Cite specific examples and sources.	*The Biotechnology and Biomedical Technology Regional Program Demand Report* prepared by EMSI predicts regional and state growth in related jobs, research and manufacturing, will increase by 18% and 35%, respectively, by 2013.
2. Given the number of enrollments projected for the program and necessary to support the program, are there enough openings locally to permit placement of the expected number of graduates?	The Biotechnology Program is intentionally small (24 students per year) to provide quality instruction and skills training as well as likely job placement in the region.
3. Has the job market been: declining slowly? steady? growing slowly? growing rapidly? newly emerging?	The current economic situation aside, growth has been steady. The birth of the industry is here in Northern California and has had a strong presence for decades.
4. What is the average starting salary a student can expect to make after completing a certificate or degree?	It depends on what other education and experience the student may have. As stated earlier, historically our students already have B.S. degrees and have come for specialized training to make them more competitive. B.S. degree holders can expect $50,000/year. A.S. degree and certificate holders will make less.
5. What is the projected average percentage of salary increase in 2 years? 4 years?	Steady salary and benefit (i.e., stock) increases occur in the industry with merit.
Response to Program Credibility/Viability	
6. If advanced degrees are typically needed for career advancement, will the courses required for this program transfer towards completion of the requirements for those degrees?	Not yet, but it is a goal the department is currently working towards.
7. If yes, are the courses in your program aligned and/or articulated with the four-year institutions.	Some do transfer, but usually as electives. The department is working towards alignment and articulation to 4-year institutions.

8. Will this preparation permit students to stay current in their field? Does the program teach basic principles and theory, as well as applications? Is it current? Is it of sufficient rigor to assure the capacity to continue to follow the literature and learn new techniques? Is it of sufficient generality to allow for later shifts in career?	The Biotech Program, as it has existed in the past, has always stressed basics first – laboratory work, safety, organization, record keeping, trouble-shooting, critical analysis of results. Our industry advisors have always said if we train students in these skills, they'll teach them what's new and specialized. There is always room for change and improvement in the curriculum, but these basic skills are one of the strengths of this program.
9. Does this preparation provide a significant secondary expertise to primary careers? If yes, explain the purpose of the training – is it designed primarily or in part to meet the needs of those already employed for upward mobility, entrepreneurship, or other career upgrade?	
10. Describe any pre-collegiate or noncredit pathways that exist to direct students into the program?	N/A
11. How does this program prepare students for competitive employment?	By keeping current in theory and enforcing strong laboratory skills, students are immersed in laboratory work from day one – all aspects of working in a lab is their job in the program: preparing solutions, following protocols, performing experiments, organizing the lab space, cleaning up, ordering necessary supplies (although they don't actually get to spend any money!), designing experiments, being responsible for equipment care, etc…. This will prepare them for just about anything they will need to do in their "real" job.
Advisory Board	
12. List your advisory board members. The list of advisory board members should include their job titles as well as their affiliations, and an accompanying explanation should make clear that the professionals on this committee represent those within the industry who would hire graduates of a proposed CTE program.	The newly hired Biotech Director is in the process of assembling a new advisory board that will meet in 2011.
13. List the dates and number of members attending of your most recent advisory board meetings.	See above.

14. What have been the major outcomes of your advisory board meetings? Of those outcomes, which have been acted upon, and what is your plan of action with regard to other outcomes discussed?	In the past, AB members have been generally impressed with all we do at a community college. They continually emphasize the strengths of our curriculum and quality of our graduates (some of them have hired our graduates, which is how they came to be interested in serving on the AB). There have been some requests to meet more often than once a year, and so the new Program Director is planning to have semi-annual meetings.	
Program Accreditation		
15. Is this program subject to approval by specialized state, regional, or national accrediting agencies?	No	
16. What is the program's accreditation status?	N/A	
17. Indicate recommendations of the most recent accreditation evaluation of the program and corrective actions taken or planned. Most recent accreditation report and all additional pertinent documentation and explanations should be available on site for consultant review.	N/A	
18. Provide a brief analysis of student performance on licensure or board exams on first attempt.	N/A	
19. What indicators does your program use to determine success of our students after completion?	Currently, there is nothing in place to do so, but the Director is planning on tracking student employment and success upon completion of the program.	
20. Does your program survey employers for satisfaction of our students who have earned a degree/certificate? Provide brief analysis of employer satisfaction.	Not yet, but this is part of the plan above.	
21. Does the department's analysis of labor market demand, advisory board recommendations, and accreditation status (if applicable) reflect the data?	Unclear.	
22. Have any/all issues been identified in the program plan and are they adequately addressed with appropriate action plans? Explain.	Unclear.	
Summary of Planning Goals and Action Plans		
23. What are your 4-year goals based on areas identified in the Career and Technical Education section of the program plan and how will those goals be measured?	Continued reorganization of the Biotech Program to better serve students and continue to meet industry needs.	

24. Are additional resources needed to accomplish career and technical education goals? If yes, identify the resource, as well as the purpose and rationale for each resource.			
Identified Resource	Purpose	If requesting funding, provide a rationale for how each request **supports one or more college strategic initiative and/or supports student learning.**	

IX. Resource Planning: Personnel, Technology, Facilities, and Budget	
Faculty	
1. How does your PT/FT ratio impact the program?	Much improved now that there is a full time Director and faculty member able to coordinate part time faculty and other departmental needs, etc.
2. What staffing needs do you anticipate over the next four years. (Consider: retirements, PDL, reassigned time, turnover, growth or reduction of the program)	Until the program is running again (Fall 2011) and fully enrolled, the current staffing should be sufficient.
Classified Staff	
3. What staffing needs do you anticipate over the next four years. (Consider: retirements, PDL, reassigned time, turnover, growth or reduction of the program)	No staff in the department currently. See above regarding Biological and Health Sciences Evaluator.
Technology and Equipment	
4. Are the existing equipment and supplies adequate for meeting the needs of the instructional program?	Much equipment was purchased with the new building. There is a constant need for replacement and repair and no budget for this. New instructional equipment needed includes: micropipettors, pipette aids, pipettes, and microscopes. Also, we are in desperate need of a maintenance contract for our Flow Cytometer. Other needs will arise with new curriculum. Two computers were stolen in spring of 2009 and need to be replaced (addressed in section VII, above).
5. Do you have adequate resources to support ADA needs in your physical and/or online courses and classrooms?	Yes.
6. Is the technology used in your distance education courses appropriate to the nature and objectives of your courses? Please explain how it is appropriate or what changes are underway to make it appropriate. Explain.	There are no distance education courses offered at this time.
Technology & Equipment Definitions	
• **Non-instructional Equipment and Supplies:** includes equipment for "office use" that is non-instructional and that is not used in a lab or classroom – it includes non-programmatic equipment for individual instructors and staff, such as a desktop computer for office use. Desktop technology (computers, printers, scanners, faxes) and software requests are processed through your Dean or Director.	

• **Instructional Equipment and Supplies:** includes technology, software, and supplies used in courses or labs, including occupational program equipment. Instructional program equipment requests are prioritized by the department and then by the Dean or Director.	
• **Durable Equipment and Furniture:** includes non-instructional, non-technology equipment (chairs, tables, filing cabinets, vehicles, etc.) necessary to improve the operational functioning of the program/department.	
• **Note:** It is recommended that divisions perform and maintain an inventory of all their technology and equipment.	
Facilities	
7. Are your facilities accessible to students with disabilities?	**Yes.**
8. List needs for upgrades for existing spaces	
9. List any new spaces that are needed	None.
10. Identify any long-term maintenance needs.	Equipment maintenance fund for replacement and repair of general biotechnology equipment (examples listed above).
11. Are available general use facilities, such as classrooms, laboratories, and faculty office/work space adequate to support the program? Please explain.	Yes.
12. Are work orders, repairs, and support from district maintenance adequate and timely? Please explain.	Yes. The Biology Laboratory Technician is responsible for this – as Biotechnology shares the same building with Biology.
Budget	
13. Are the A-budget and B-budget allocations sufficient to meet student needs in your department?	Definitely not! The Biotechnology B-budget has always been too small. Biotechnology is expensive – materials and reagents necessary are costly. The Biotechnology department has consistently tapped into the Biology B-budget for supplies.
14. Describe areas where your budget may be inadequate to fulfill program goals and mission.	There is not enough money to buy the consumables needed for laboratory experiments outlined in the curriculum. There is not enough money to replace and repair equipment that is dysfunctional due to regular use.
15. Are there ways to use existing funds differently within your department to meet changing needs?	Existing funds are just woefully inadequate. The faculty are very adept at doing their best with what is available, procuring donations, and requesting supplies from contacts in the industry. There is always a level of support that comes from outside sources in this way, but it is no way to run a Biotech Program.
Summary of Planning Goals and Action Plans	
16. What are your goals with respect to resource planning and how will those goals be measured?	Secure a steady source of funds with an adequate B-budget.

17. Are additional resources needed to accomplish your resource planning goals? If yes, identify the resource, as well as the purpose and rationale for each resource.			
Identified Resource	Purpose	If requesting funding, provide a rationale for how each request **supports one or more college strategic initiative and/or supports student learning.**	
B-budget increase to $15,000/ year	Provide necessary materials to teach laboratory exercises in the curriculum.	SI: Building a Community of Scholars Money is needed to support the curriculum so students will be able to learn the skills necessary to be competitive in the job market.	
Equipment Repair and Replacement Fund- $20,000/ year- The BTEC Director will also be applying for Perkins funding to help offset this cost.	Provide a service contract for our Flow Cytometer to be kept functioning for our students. Provide method for replacement and repair of general equipment as necessary.	SI: Building a Community of Scholars Money is needed to support the curriculum so students will be able to learn the skills necessary to be competitive in the job market.	

X. Final Summary of Goals, Commitments to Action, and Resource Requests

1. Upon review of this program plan, provide a comprehensive summary of goals met or in progress and resources awarded from the previous program plan.

Goal /Purpose - Met or In Progress	Resource(s) Awarded	Related Learning Outcomes	Related Strategic Initiative or Core Mission
Hire full time faculty member- goal has been met	Full time faculty member salary	Adds leadership to the program and someone to carry out many of the needed improvements to the program.	Workforce Development
Reorganization of program to serve students and industry needs (ongoing).	None needed.	Supports entire mission of the Biotech program	Workforce

2. Upon review of this program plan, provide a summary of current or continuing goals and resources needed.

Note: If you are requesting resources this year, these items have to be included in your current program review. If you want the college to understand your full range of need, list every current and upcoming resource need in this section.

Goal/Purpose – Current or Continuing	Resource(s) Requested (Costs need to be included)	Related Learning Outcomes	Related Strategic Initiative or Core Mission
B budget increase - During the 08-09 academic year, the biotechnology department spent $10,713.52 on materials and supplies for laboratory courses. The B-budget for the department that year was $3600.00 (the difference came out of the Biology department budget). In 09-10, the biotechnology B-budget is $1800.00. Even without a formal Biotech	$15,000	Supports entire mission of program and would be used for student laboratory supplies.	Workforce

Program, this amount will not cover the costs related to laboratory instruction. Once the Biotech Program resumes, the B-budget will need to be adequate enough to meet the demands of the courses. This is a minimal amount, and will not cover repair and replacement of basic equipment.			
Equipment Repair and Replacement Fund- we have expensive equipment in the Biotech Labs that need to be maintained to keep them functioning. The flow cytometer needs to have a Maintenance contract that costs about $12,000/ year to ensure it is functioning properly. We've already had to repair it this year.	$20,000 per year (Possibly some of this will be funded with Perkins monies.)	PLO #1: Upon successful completion of the biotechnology program the students will demonstrate an understanding of cellular, molecular and immunological techniques used in the biotechnology industry and demonstrate proficiency and safety in performing these techniques. <u>In order to learn techniques, students must have functioning equipment.</u>	Workforce
Two Mac computers	Assuming District has a set cost for computers? Two iMacs retail for **$2400.00**.	Supports entire mission of the Biotech program. The students need access to computers to analyze data, graph, etc.	Workforce, lifelong learning
Evaluator for Biological and Health Sciences	Classified position	This would benefit all of the programs in the BHS Division. Currently, the Biotech program is not well understood by counselors. If we had someone familiar	Workforce, Lifelong learning

		with this program and others, it would increase enrollment and student success.		
Supervising Administrator Signature		*Completion Date*		