FOOTHILL COLLEGE
Program Planning and Review
(650) 949-7240 | http://www.foothill.edu/staff/irs/

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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 Faculty: Karen Erickson
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
Instructor/Biotechnology	0	9	Classroom teaching, and other contractual obligations as outlined in the *FA Agreement*.
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 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 face in completing the degree or certificate is the inability to complete the required externship hours in the specified time frame. The department needs to consider removing this requirement/obstacle in order to allow more students to achieve their goal of degree or certificate completion.
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 a distinct benefit.
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. It is worth noting that at this time, the FTEF is completely covered by PT faculty – there are no FT faculty in the Biotechnology Department.
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
Revise curriculum to provide flexible certificate and degree options for students and industry benefit.	☒	☐	☐	☐
Coordinate with 4-year institutions to create articulation pathways for students wishing to pursue B.S. degree.	☒	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐

12. What is your plan for accomplishing your goals?

Department Operational Goals	Activities	
Curriculum Revision	Meet with PT faculty and industry advisors to review curriculum.	
	Make changes to curriculum, including writing new courses, to meet standards of currency.	
	Create variety of certificate pathways for students to select.	
Articulation	Meet with articulation officer at Foothill.	
	Review corresponding programs at area 4-year institutions.	
	Create articulation agreements.	

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.**
FTEF	To serve as a guiding member of the department – as a Program Director and instructor. Will make sure the Biotech Program continues to serve students and	SI: Building a Community of Scholars SI: Putting Access into Action

	industry partners. Will work with industry to identify needs. Will review, revise and write curriculum that reflects these needs. Will recruit students into the program. Director duties will be reassigned at 0.35 per year.	

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 curriculum is in need of review and revision. A dedicated full-time instructor and program director is needed to oversee these changes. The aim of the department is to retain currency and relevancy in the curriculum.
3. How does your curriculum support the needs of other certificates or majors?	Up until this year, the Biotechnology curriculum was also required by Bioinformatics students. The Bioinformatics Pjrogram has been put on hiatus, so that will no longer be the case.
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. Transferability would be desirable – again, something a dedicated full-time instructor and program director could oversee.
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.
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).	As there is no dedicated full-time instructor or program director at this time, all curriculum reviews are on a "must do" basis. Title 5 requirements are being met, but meaningful revisions, corrections of deficiencies, and other reviews will require a dedicated faculty member.
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.	As the Biotech Program stood, there was a prescribed set of classes to take each quarter, with the goal of completing all within 9 months (Sep-Jun).	
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 who 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.	

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.	No. In fact, one of the challenges the Biotech Program now faces is how to restructure the course requirements to allow for completion in a reasonable, established time. The former Biotech Program was to be completed in 9 months, but it had grown to too many units (somewhere around 60) and was impossible for students to complete. The department wishes to restructure the training program to offer flexible certificates, degrees, and transfer opportunities that can be completed in one quarter, one year, or two years.
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?	Restructure program curriculum to offer flexibility to students.

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.
FTEF	To serve as a guiding member of the department – as a Program Director and instructor. Will make sure the Biotech Program continues to serve students and industry partners. Will work with industry to identify needs. Will review, revise and write curriculum that reflects these needs. Will recruit students into the program. Director duties will be reassigned at 0.35 per year.	SI: Building a Community of Scholars SI: Putting Access into Action

IV. Student Learning Outcomes	

Student Learning Outcome Assessment	

1. **Be sure and complete your student learning outcomes assessment for each course online through the C3MS system. When the program review form is online, the resources that you tie to your student learning outcomes will be included here on this form.**

2. Are additional resources needed to accomplish your student learning outcome goals that were not included in C3MS report?
   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.**
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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?	None
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 has written an articulation agreement with Mountain View High School and has participated in the Statewide Career Pathways Articulation Project to create articulation templates for use by others. The department has a standing advisory board consisting of local industry representatives that usually meets annually. Department faculty regularly attend regional meetings as members of the California Applied Biotechnology Center.
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 and Gunn High School have articulation agreements with the Biotechnology 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 in the planning stages on devising 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.
FTEF	To serve as a guiding member of the department – as a Program Director and instructor. Will make sure the Biotech Program continues to serve students and industry partners. Will work with industry to identify needs. Will review, revise and write curriculum that reflects these needs. Will recruit students into the program. Director duties will be reassigned at 0.35 per year.	SI: Building a Community of Scholars SI: Putting Access into Action

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?	The department has no formal way of doing this at this time. With no dedicated full-timer, all of the faculty are part-time and sharing of experiences, while appropriate and welcome, is not always practical.
3. In what ways have faculty shared, discussed, and used professional development activities to improve program effectiveness?	Unknown at this time.
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?	There are no staff in the department, only faculty.
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.	Unknown at this time.

Summary of Planning Goals and Action Plans

6. What are your goals with respect to professional development and how will those goals be measured?	None specifically at this time.

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		One division program assistant – Kerry West at this writing – has been invaluable in assisting with clerical needs of the Biotech Program. She continues to do so, even with the program on hiatus.
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**		There is no dedicated full-time faculty to oversee if health and safety guidelines are being met in the laboratory. The biology lab technicians – Marcia Bhide and T Vorghin at this writing – do their best, but are not capable of handling both the Biology and Biotechnology needs. Students in the Biotech Program are trained in working safely in a lab, but there are no Biotech Program students at this time.
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		The DRC is an absolutely required resource!
7. Are general tutorial services adequate?	Yes | **No**		No tutors available specifically for Biotechnology students.
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.
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?	Without supporting evidence, I would say that the Biotech Program website is very important but is hard to keep up to date without a dedicated full-time faculty member. Also, the method of updating websites is uncommonly complicated! The navigation is awkward and the entire Foothill website in general really needs improving.	
13. Is there any additional assistance from marketing that would benefit your program? If yes, explain.	Yes. This program needs tons of marketing and it has always fallen on the shoulders of the program director to handle this. I don't understand having a marketing department if they aren't doing the marketing? 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 "*We have a biotech program? I didn't know that.*" Articles regularly appear in the *Heights*, but this isn't the most effective method of advertising. I am not a marketing person, so I rely on their expertise in this area.	
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 in a team. High schoolers are not 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 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.	
FTEF	To serve as a guiding member of the department – as a Program Director and instructor. Will make sure the Biotech Program continues to serve students and industry partners. Will work with industry to identify needs. Will review, revise and write curriculum that reflects these needs. Will recruit students into the program. Director duties will be reassigned at 0.35 per year.	SI: Building a Community of Scholars SI: Putting Access into Action	
Two Mac computers	Replaces two stolen in spring 2009.	The biotechnology laboratory classroom needs a total of 6 student computers (3 Macs and 3 PCs) to allow for completion of laboratory exercises outlined in the curriculum.	

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 skill training and 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 (ie, 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 of the department to do this.
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 needs to work toward 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 flashy. 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?	There is a whole slew of courses designed for career upgrade and mobility – all interested students are welcome to enroll.

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.	Ralph Brandenberger, PhD/Director, Process Sciences, Geron Eric Brooks, MS/Research Scientist, New Lead Discovery, Exelixis Nora Lem, PhD/Director, California Applied Biotechnology Center Douglas Smith/Principle Consultant, Valitech Compliance Wai Lee T. Wong, PhD/Director, Assay and Automation Technology, Genentech
13. List the dates and number of members attending of your most recent advisory board meetings.	Members in attendance at the last AB meeting (June 9, 2008): Brandenberger, Brooks, Smith
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?	AB members are 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). One request that was not heeded was a general desire to meet more often than once a year.
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?	None – this should be part of the program's reorganization plan.
20. Does your program survey employers for satisfaction of our students who have earned a degree/certificate? Provide brief analysis of employer satisfaction.	No – this should be part of the program's reorganization plan.

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?	Reorganizing 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.**	
FTEF	To serve as a guiding member of the department – as a Program Director and instructor. Will make sure the Biotech Program continues to serve students and industry partners. Will work with industry to identify needs. Will review, revise and write curriculum that reflects these needs. Will recruit students into the program. Director duties will be reassigned at 0.35 per year.	SI: Building a Community of Scholars SI: Putting Access into Action	

IX. Resource Planning: Personnel, Technology, Facilities, and Budget

Faculty

1. How does your PT/FT ratio impact the program?	Very negatively – there are no full-time faculty in the biotechnology program. There is one full-time member who shares her teaching responsibilities with Biology and Biotechnology.
2. What staffing needs do you anticipate over the next four years. (Consider: retirements, PDL, reassigned time, turnover, growth or reduction of the program)	We had one unexpected retirement in the summer of 2009 and are trying to recover from that. At minimum a new full-time faculty member is needed to serve as the Program Director and instructor. Until the program is restored and fully-enrolled, this will be adequate.

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)	There are no staff in the department.

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. 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.	No distance education classes 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	Some rewiring needs to be done to the Flow Cytometer/Gel Documentation room.	
9. List any new spaces that are needed	None at this time.	
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?	Heavens no! 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	Provide necessary materials to teach laboratory exercises in the curriculum. 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 completion of this program plan, provide a comprehensive summary of your goals and action plans for the next 4 years.

The Biotechnology Department goals/action plans:
1) Hire a dedicated full-time faculty member to serve as Program Director, with appropriate reassigned time.
2) Reorganize the Biotechnology Laboratory Technician Training Program to serve students and meet industry needs. This can be done by offering a variety of certificate options, an A.S. degree, and/or transfer ability to complete a 4-year degree. This will involve discussions with industry advisors, articulation officers, and other faculty to revise and write curriculum as necessary.
3) Monitor equipment and supplies to ensure ability to teach curriculum is not hindered.

2. Final Resource Request Summary: When the program planning and review form is online - the section below will automatically fill in with your responses from each section.	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, then list every current and upcoming resource need in each section above.

Resource	Purpose	Rationale	Estimated Cost
FTEF	To serve as a guiding member of the department – as a Program Director and instructor. Will make sure the training program continues to serve students and industry partners. Will work with industry to identify needs. Will review, revise and write curriculum that reflects these needs. Will recruit students into the program.	SI: Building a Community of Scholars SI: Putting Access into Action	Unknown. Placement on the salary scale is determined by education and experience (*FA Agreement*/Appendix A). Benefit costs also factor into the equation.

	Director duties will be reassigned at 0.35 per year.		
B-budget increase	Provide necessary materials to teach laboratory exercises in the curriculum. Provide method for replacement and repair of general equipment as necessary. Biotechnology needs an adequate budget separate from the Biology budget.	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.	**$15,000.00** 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 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	Provide necessary funds to repair and replace basic equipment made dysfunctional by regular use.	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.	**$5000.00**
Two Mac computers	Replacement of stolen ones.	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. Allows curriculum to be taught.	I am assuming the District has a set cost for computers? Two iMacs retail for **$2400.00**.
Dedicated Outreach	Provide current	SI: Building a Community of Scholars	Unknown.

Specialist and Counselor	information and guidance to prospective Biotech Program students.	SI: Putting Access into Action	Can be shared with others in the BHS Division?

| *Supervising Administrator Signature* | | *Completion Date* | |