

Local Application Program Information by TOP Code (& Final Report)

2014-2015

District/College: RSCCD/Santa Ana College **Agreement No.:** XX-C01-XX
Program Title: Biotechnology Certificate Program **TOP Code:** 0430.00

Title of Proposed Project/Activity		Biomanufacturing Laboratory	
Department/Division		BIOLOGY/MATH, SCIENCE & HEALTH SCIENCES DIVISION	
Project Director		Kathy Takahashi	
Project Director's Phone #	714-564-6628	Email	takahashi_kathleen@sac.edu
Division Dean	Cher Carrera		
Dean's Phone #	714-564-6600	Email	carrera_cheryl@sac.edu
TOP Code	0430.00	TOP Code Title	Biotechnology & Biomedical Tech.

Funding Rationale

Based upon a review of the Core Indicators Report for your program, which of the following core indicators will be addressed in this plan?

- X___ 1P1 – Technical Skill Attainment – Successful course completion
- X___ 2P1 – Credential, Certificate or Degree – Student program completion
- X___ 3P1 – Student Persistence or Transfer – Higher Education
- X___ 4P1 – Student Placement – Employment
- X___ 5P1 – Nontraditional Participation – DISTRICT PRIORITY
- X___ 5P2 – Nontraditional Completion – DISTRICT PRIORITY

Briefly describe program improvement issue(s) concerning this TOP code and include specific examples. (Limited to 2,000 characters, or approximately ½ page of text)

This project would be aimed at getting necessary equipment and supplies for the Biomanufacturing laboratory. Many of the students who are completing the Biotechnology Lab Assistant Certificate this semester would like to continue and obtain a Biotechnology Biomanufacturing Technician Certificate. In order to maintain and increase success and retention, we would like to establish a program that parallels industry as closely as possible. This will also ensure that our students completing certificates will have the most applicable skills to related jobs in local industry. By setting up a more "real life" work environment we will also help nontraditional students toward completion. Nontraditional students value practical, applicable work experience over theoretical lecture. This tie in with hands-on application really makes concepts more practical and understandable for all students. This proposal is to obtain the equipment and supplies necessary to set-up an "industry" production line. Students would receive orders, manage inventory, make product, quality inspect that product and release it to customers. These are the same skills requested by our industry advisory group for the Biotechnology Biomanufacturing Technician Certificate.

What is your projected completion date? 3/2015

Briefly describe how the issue(s) will be addressed. *(Limited to 2,000 characters, or approximately ½ page of text)*

Currently our only issues are with space and money for equipment and supplies. If we are successful in receiving equipment and supply money from this grant, the space issue is easily addressed. In order to solve the space issue, time and effort would be devoted over the summer to cleaning up and organizing the Biology Prep area. We currently have enough space, it is just not being used as efficiently as possible.

Final Report summary *(this yellow shaded sections are for Final Report)*

1. Was the program improvement issue(s) addressed and/or planned objectives met? *(Narratives limited to 1000 characters)*

If the response in Section 1 is **No** or **Partially** describe the barriers and/or lessons learned in Section 2.
 If the response in Section 1 is **Yes** or **Partially** describe the accomplishment and/or effective practices derived from the project in Section 3.

Select **Yes** **No** **Partially** *(Complete the following narrative section(s) as appropriate.)*

2. Describe any barriers encountered and lessons learned – Required if the response to Question 1 is No or Partially.

(Narratives limited to 1000 characters, or approximately one quarter page of text).

3. Describe accomplishments including effective practices derived from the project

(Narratives limited to 1000 characters, or approximately one quarter page of text).

Final Report of Expenditures: \$ _____ *(Resource Development will have this amount for Final report)*

Professional Dev. (Including stipends)	Instructional Materials Purchase/Replacement (Include software)
Instructional Equipment Purchase/Replacement	Programs/Services for Special Populations
Facility rental/lease (off-campus location)	Consultant or Other Contracted Services
Curriculum Development	Other (specify)
Program Marketing & Outreach	

Below are the nine §135(b) Requirements for Uses of Funds. Programs receiving these funds must meet these requirements. Indicate with a check mark those requirements that the program currently meets (met). Any remaining unmet requirement(s) must be addressed with completed or ongoing activities by June 30 for reporting in the final report. *Note: All nine required uses of funds must be met by the end of the Act or each year until reauthorization. Funds may also be used for the permissive activities specified in number 10.*

Indicate with a check mark which requirements have been met, below.

Requirements for Uses of Funds	MET	UNMET	For Final Report if the UNMET activity is now met
1. Strengthening the academic, and career and technical skills of students participating in CTE programs through the integration of academics with CTE programs. [§135(b)(1)]	X		
2. Link CTE at the secondary and the postsecondary levels, including by offering elements of not less than one program of study described in §122(c)(1)(A). [§135(b)(2)]	X		
3. Provide students with strong experience in and understanding of all aspects of an industry, which may include work-based learning experiences. [§135(b)(3)]	X		

4. Develop, improve, or expand the use of technology in CTE, which may include training to use technology, providing students with the skills needed to enter technology fields, and encouraging schools to collaborate with technology industries to offer internships and mentoring programs. [§135(b)(4)]	X		
5. Provide in-service and pre-service professional development programs to faculty, administrators, and career guidance and academic counselors involved in integrated CTE programs, on topics including effective integration of academics and CTE, effective teaching skills based on research, effective practices to improve parental and community involvement, effective use of scientifically based research and data to improve instruction. Professional development should also ensure that faculty and personnel stay current with all aspects of an industry; involve internship programs that provide relevant business experience, and train faculty in the effective use and application of technology. [§135(b)(5)]	X		
6. Develop and implement evaluations of the CTE programs carried out with Perkins funds, including an assessment of how the needs of special populations are being met. [§135(b)(6)]	X		
7. Initiate, improve, expand and modernize quality CTE programs, including relevant technology. [§135(b)(7)]	X		
8. Provide services and activities that are of sufficient size, scope and quality to be effective. [§135(b)(8)]	X		
9. Provide activities to prepare special populations, including single parents and displaced homemakers enrolled in CTE programs, for high-skill, high-wage or high-demand occupations that will lead to self-sufficiency. [§135(b)(9)]	X		
FOR THOSE REQUIREMENT(S) LISTED ABOVE AS "UNMET:" Describe specific activity(ies) intended to address for <u>each</u> of the unmet requirement(s). (Limited to 2,000 characters, or approximately 1/2 page of text.)			
N/A			
FOR THOSE REQUIREMENT(S) LISTED ABOVE AS "UNMET:" Describe specific future activity(ies) intended to address for <u>each</u> remaining unmet requirement(s). (Limited to 4,000 characters)			

10. Permissive Uses Per Section 135(c) (check activities to be funded with CTE funds)	
<input checked="" type="checkbox"/>	1. Involve parents, businesses, and labor organizations, in the design, implementation and evaluation of CTE programs. [§135(c)(1)]
<input checked="" type="checkbox"/>	2. Provide career guidance and academic counseling for students participating in CTE programs, that improves graduation rates and provides information on postsecondary and career options, and provides assistance for postsecondary students and adults. [§135(c)(2)]
<input checked="" type="checkbox"/>	3. Local education and business partnerships, including work-related experiences for students, adjunct faculty arrangements for qualified industry professionals and industry experience for teachers and faculty. [§135(c)(3)]
	4. Provide programs for special populations. [§135(c)(4)]
	5. Assisting career and technical student organizations. [§135(c)(5)]
<input checked="" type="checkbox"/>	6. Mentoring and support services. [§135(c)(6)]
<input checked="" type="checkbox"/>	7. Leasing, purchasing, upgrading or adapting equipment, including instructional aides and publications (including support for library resources) designed to strengthen and support academic and technical skill achievement. [§135(c)(7)]
<input checked="" type="checkbox"/>	8. Teacher preparation programs that address the integration of academic and CTE and that assist individuals who are interested in becoming CTE faculty, including individuals with experience in business and industry. [§135(c)(8)]
<input checked="" type="checkbox"/>	9. Developing and expanding postsecondary program offerings at times and in formats that are accessible for all students, including through the use of distance education. [§135(c)(9)]
<input checked="" type="checkbox"/>	10. Developing initiatives that facilitate the transition of sub-baccalaureate CTE students into baccalaureate degree programs, including articulation agreements, dual enrollment programs, academic and financial aid counseling and other initiatives to overcome barriers and encourage enrollment and completion. [§135(c)(10)]
	11. Providing activities to support entrepreneurship education and training. [§135(c)(11)]
<input checked="" type="checkbox"/>	12. Improving or developing new CTE courses, including the development of programs of study for consideration by the state and courses that prepare individuals academically and technically for high-skill, high-wage or high-demand occupations and dual or concurrent enrollment opportunities. [§135(c)(12)]
<input checked="" type="checkbox"/>	13. Developing and supporting small, personalized career-themed learning communities. [§135(c)(13)]
	14. Providing support for family and consumer sciences programs. [§135(c)(14)]
<input checked="" type="checkbox"/>	15. Providing CTE programs for adults and school dropouts to complete secondary education or dropouts to complete secondary education or upgrade technical skills. [§135(c)(15)]
<input checked="" type="checkbox"/>	16. Providing assistance to individuals who have participated in services and activities under this Act in continuing their education or training or finding an appropriate job. [§135(c)(16)]
<input checked="" type="checkbox"/>	17. Supporting training and activities (such as mentoring and outreach) in nontraditional fields. [§135(c)(17)]
	18. Providing support for training programs in automotive technologies. [§135(c)(18)]
	19. Pooling a portion of such funds with a portion of funds available to other recipients for innovative initiatives. [§135(c)(19)]
<input checked="" type="checkbox"/>	20. Supporting other CTE activities consistent with the purposes of the Act. [§135(c)(20)]

NOTE: If you indicate CTE funds are being used for the specified activities below, then there must be funding for the activity(ies) indicated in the line item budget for that TOP Code program(s) funded.

Check all types of activities to be funded with CTE Funds:

<input type="checkbox"/>	Professional Dev. (including stipends)	<input checked="" type="checkbox"/>	Instructional Materials Purchase/Replacement (including software)
<input checked="" type="checkbox"/>	Instructional Equipment Purchase/Replacement	<input type="checkbox"/>	Programs/Services for Special Populations
<input type="checkbox"/>	Facility rental/lease (off-campus location)	<input type="checkbox"/>	Consultants or Other Contracted Services
<input type="checkbox"/>	Curriculum Development	<input type="checkbox"/>	Other (specify)self evaluation for improvement of the program
<input type="checkbox"/>	Program Marketing and Outreach	<input type="checkbox"/>	

Check one: UNMET REQUIREMENTS WILL BE ADDRESSED:

<input type="checkbox"/>	Entirely with Perkins Funds
<input type="checkbox"/>	Entirely with Other Funding Sources
<input checked="" type="checkbox"/>	Using Both Perkins and Other Funding Sources

PROVIDE DETAILED BUDGET

Department Code: 16410

Budgeting Category/Description	Fund Requested		
	Instructional	Non-Instructional	TOTAL
1000 – Faculty salaries	0	0	0
2000 – Classified salaries (Instructional Assistant)	0	0	0
3000 – Benefits (based on 2013/14 benefits) Part-time faculty & beyond contract (13.15%) P/T short-term classified (6.2% of wages) P/T ongoing classified (22.542%) Full-time classified (22.542% of wages + health & life insurance (maximum \$22,374.12) & fringe ben.\$1,486.36)	0	0	0
4000 – Supplies & Materials Reference Books; Instructional Supplies; Supplies Technology – no promotional materials/favors	5,000	0	5,000
5000 – Other Operating Expenses & Services Conference, consultants, contracts, printing, software license & fees, maintenance contract	0	0	0
6000 – Capital Outlay Equipment, software over \$1,000 (no furniture)	55,000	0	55,000
Total Funding Requested	60,000	0	60,000

Note: Final Report of expenditures will be reported according to the following categories:

- a. Curriculum Development/Instruction
- b. Professional Development
- c. Counseling/Direct Services to Students
- d. Other: You must provide a description of programs/services funded
- e. Administration (not to exceed 5% - reserved for DO)

PLEASE NOTE CARL PERKINS IV FUNDS MAY ONLY SERVE CAREER-TECHNICAL STUDENTS

Budget Questions/Clarifications:

Acceptance of requested funds entails a responsibility for developing a project plan and final report. All 9 mandated activities must be achieved. Each department must submit a copy of their Advisory Committee Minutes to the Career Education & Workforce Development Office.

Kathy Takahashi
 Project Director

K. Takahashi

Dr. Cher Carrera
 Division Dean

Dr. Cher Carrera

Date: 3-5-2014

Date: 3-7-2014

Section II Part B
Perkins Career and Technical Education Act (Title IC) – Local Application (& Final Report)
Program Information by TOP Code

College/District: RSCCD – Santa Ana College Agreement #: XX-C01-042

Retain in District Audit Files
Program Title: Biomanufacturing Laboratory

TOP CODE(s): 0430.00
Section 135(b) Requirements

Column A	Column B	Column C	Column D	Column E
		Enter applicable number in appropriate column below.		
		Core Indicator addressed by the activity listed. 1 = Tech. Skill Attainment 2 = Credential/Certificate/ Degree Transfer 3 = Student Persistence or Placement 4 = Nontrad. Participation 5 = Nontrad. Completion	Designate source of funds to be used by assigning a number as shown below: 1 = Perkins IC 2 = Other funds 3 = Both 4 = No funds needed	Status of Activity: 1 = Planned 2 = Started 3 = Continuing 4 = Completed
		Core Indicators	Source of funds	Status
<p>Refer to the District's 2008-2012 Local Plan for Title I, Part C, Section 132 Funds, Carl D. Perkins Career and Technical Education Act of 2006 (Perkins).</p> <p>Check the corresponding Section II Part A form for the Met/Unmet Requirements for Use of Funds."</p> <p>Note: Each TOP Code identified for funding must meet each of the nine requirements by the end of the Act or each year until reauthorization.</p>	<p>Describe activities to be conducted to address Perkins Section 135(b) requirements listed in Column A.</p> <ol style="list-style-type: none"> Under the appropriate requirement, describe activities to be funded by Perkins Title IC to improve or expand the identified 4- or 6-digit TOP Code career and technical education programs. For each Section 135(b) requirement listed in Column A, number each activity separately (i.e., 1.1, 1.2, etc.). If an activity meets more than one requirement, reference the number of the activity stated previously (i.e., same as 1.2). <p>PLEASE BE SPECIFIC SINCE THESE ACTIVITIES WILL BE AUDITED!</p>			
Section 135(b) Requirements	Activities			
1. Strengthening the academic and career and technical skills of students participating in CTE programs through the integration of academics with CTE programs.	Activities list in the application (local application) Biomanufacturing laboratory equipment and supplies for Bio 192 Biotech B: Proteins (Biomanufacturing) class. Biotech B will teach protein theory and will teach students technical skills for working with proteins in industry. Outcome by the end of the fiscal year (final report)	1, 2, 3	3	Status of activity at the beginning (local application) 2 Status of activity at the end of the fiscal year (final report)
2. Link CTE at the secondary and the postsecondary levels, including by offering elements of not less than one program of study described in §122(c)(1)(A).	Link secondary and committee. College students and programs by providing products made in the Biomanufacturing class to secondary school science teachers (i.e. agar plates, Taq polymerase, etc.)	1, 2, 3, 5, 6	3	2
3. Provide students with strong experience in and understanding of all aspects of an industry, which may include work-based learning experiences.	Equipment will allow us to run Biomanufacturing lab like an industry production floor.	1, 2, 3, 4, 5, 6	3	2

Section II Part B
Perkins Career and Technical Education Act (Title IC) – Local Application (& Final Report)
Program Information by TOP Code

College/District: RSCCD – Santa Ana College

Agreement #: XX-C01-042

Retain in District Audit Files

Program Title: Biomanufacturing Laboratory

TOP CODE(s): 0430.00

Section 135(b) Requirements

Column A	Column B	Column C	Column D	Column E
Section 135(b) Requirements	Activities	Core Indicators	Source of funds	Status
4. Develop, improve, or expand the use of technology in CTE, which may include training to use technology, providing students with the skills needed to enter technology fields, and encouraging schools to collaborate with technology industries to offer internships and mentoring programs.	Biomanufacturing equipment and supplies will allow students to train on industry style bioreactors so that they will have the skills necessary to complete internships in industry	1, 2, 3, 4, 5	3	2
5. Provide in-service and pre-service professional development programs to faculty, administrators, and career guidance and academic counselors involved in integrated CTE programs, on topics including effective integration of academics and CTE, effective teaching skills based on research, effective practices to improve parental and community involvement, effective use of scientifically based research and data to improve instruction. Professional development should also ensure that faculty and personnel stay current with all aspects of an industry; involve internship programs that provide relevant business experience; and train faculty in the effective use and application of technology.	The instructors in this program is currently attending local workshops and training programs to stay current in the latest technology used in these fields and incorporating research and scientific data to improve instruction. We will look into job shadowing opportunities as well. For teaching techniques, SAC is currently offering a number of teacher development courses which emphasize, online delivery which will help facilitate outreach and participation of nontraditional students. We will attend as many of these as time allows.	1, 3, 5, 6	3	2
6. Develop and implement evaluations of the CTE programs carried out with Perkins funds, including an assessment of how the needs of special populations are being met.	The Biotechnology Certificate program incorporates both pre and post assessment testing as well as the 360° skills testing criteria currently used in industry. We will also solicit feedback from targeted student groups, local industry and universities.	1, 2, 3, 4	4	2

Section II Part B

Perkins Career and Technical Education Act (Title IC) – Local Application (& Final Report)

Program Information by TOP Code

College/District: RSCCD – Santa Ana College

Agreement #: XX-C01-042

Retain in District Audit Files

TOP CODE(s): 0430.00

Program Title: Biomanufacturing Laboratory

Section 135(b) Requirements

Column A	Column B	Column C	Column D	Column E
Section 135(b) Requirements	Activities	Core Indicators	Source of funds	Status
7. Initiate, improve, expand and modernize quality CTE programs, including relevant technology.	This certificate program provides the only course series in biology that directly facilitates job placement in industry by teaching relevant job skills using modern equipment. The requested equipment and supplies are key to this goal.	1, 2, 4	3	2
8. Provide services and activities that are of sufficient size, scope and quality to be effective.	This grant will provide modern equipment for hands-on training of the students. Including hands-on practice in critical areas of biotechnology as well as skills evaluations that will let students know if their skills are at an acceptable industry level.	1, 2, 3, 4, 6	3	2
9. Provide activities to prepare special populations, including single parents and displaced homemakers enrolled in CTE programs, for high-skill, high-wage or high-demand occupations that will lead to self-sufficiency.	Students from special populations will be accommodated in this program by offering course materials in a mixed format. These will include hands-on lab work, field work, paper calculations, written assignments and online delivery. These various formats will help student with different learning styles as well as students who need to hear material multiple times.	1, 2, 3, 5, 6	3	2

Section II Part B
Perkins Career and Technical Education Act (Title IC) – Local Application (& Final Report)
Program Information by TOP Code

College/District: RSCCD – Santa Ana College Agreement #: XX-C01-042
 Retain in District Audit Files
 Program Title: Biomanufacturing Laboratory

TOP CODE(s): 0430.00
 Section 135(b) Requirements

Column A	Column B	Column C	Column D	Column E
Section 135(c) Permissive Uses	Activities	Core Indicators	Source of funds	Status
10. Funds may be used to: (1) Involve parents, businesses, and labor organizations, in the design, implementation and evaluation of CTE programs. (2) Provide career guidance and academic counseling for students participating in CTE programs that improves graduation rates and provides information on postsecondary and career options, and provides assistance for postsecondary students and adults. (3) Local education and business partnerships, including work-related experiences for students, adjunct faculty arrangements for qualified industry professionals and industry experience for teachers and faculty. (4) Provide programs for special populations. (5) Assisting career and technical student organizations. (6) For mentoring and support services; (7) Leasing, purchasing, upgrading or adapting equipment, including instructional aides and publications (including support for library resources) designed to strengthen and support academic and technical skill achievement.	Part of the funding will be used to offer workshops and tours to secondary school teachers, parents, students and local industries to help improve our program design and to recruit support for the programs. Throughout the biotech courses we will explore with students the various career options available to them and the education each job level requires. We will also work on soft skills development (interviewing, resumes, written communication, professionalism, etc.) in addition to technical skills development. We have been working with local industry to identify internship opportunities for our students and possible industry speakers for our courses in order to provide students with more insight into industry.	1, 4, 5 2, 3, 5, 6 2, 3, 4, 5, 6	3 4 2	2 2 3

Section II Part B
Perkins Career and Technical Education Act (Title IC) – Local Application (& Final Report)
Program Information by TOP Code

College/District: RSCCD – Santa Ana College

Agreement #: XX-C01-042

Retain in District Audit Files

Program Title: Biomanufacturing Laboratory

TOP CODE(s): 0430.00

Section 135(b) Requirements

Column A	Column B	Column C	Column D	Column E
Section 135(c) Permissive Uses	Activities	Core Indicators	Source of funds	Status
(8) Teacher preparation programs that address the integration of academic and CTE and that assist individuals who are interested in becoming CTE faculty, including individuals with experience in business and industry.	Our biomanufacturing program will work closely with industry to have industry speakers and teachers where possible. In addition we will invite local secondary school teachers to participate in our program so they can also prepare their students for jobs.	1, 2, 3, 4	2	2
(9) Developing and expanding postsecondary program offerings at times and in formats that are accessible for all students, including through the use of distance education.	We will work to have components of all the courses available through distance education in a variety of formats that support various learning styles.	2, 3, 5, 6	4	3
(10) Developing initiatives that facilitate the transition of sub-baccalaureate CTE students into baccalaureate degree programs, including articulation agreements, dual enrollment programs, academic and financial aid counseling and other initiatives to overcome barriers and encourage enrollment and completion.	We will work with local universities on articulation agreements and bridge programs to facilitate transfer of certificate graduates to baccalaureate degree pathways in biotechnology, biochemistry and biological sciences.	2, 3, 4	4	1
(11) Providing activities to support entrepreneurship education and training.				
(12) Improving or developing new CTE courses, including the development of programs of study for consideration by the state and courses that prepare individuals academically and technically for high-skill, high-wage or high-demand occupations and dual or concurrent enrollment opportunities.	We are working on the C-ID working group for biotechnology curriculum in order to develop standardized curriculum in the biotechnology field. We have submitted our curriculum for state approval of the certificates and hope to receive word soon.	2	4	2
(13) Developing and supporting small, personalized career-themed learning	Students in the biotech courses are working together to create local industry company profiles, put together job checklists for technical	4, 5	4	2

Section II Part B
Perkins Career and Technical Education Act (Title IC) – Local Application (& Final Report)
Program Information by TOP Code

College/District: RSCCD – Santa Ana College **Agreement #:** XX-C01-042
TOP CODE(s): 0430.00 **Program Title:** Biomanufacturing Laboratory
Section 135(b) Requirements *Retain in District Audit Files*

Column A	Column B	Column C	Column D	Column E
Section 135(c) Permissive Uses	Activities	Core Indicators	Source of funds	Status
communities.	skills requirements in biotechnology.			
(14) Providing support for family and consumer sciences programs.				
(15) Providing CTE programs for adults and school dropouts to complete secondary education or dropouts to complete secondary education or upgrade technical skills.	Implement classroom, online and hands-on practice to upgrade the skill level of all students including adults, dropouts and non-traditional students.	1, 2, 3, 4, 5, 6	3	2
(16) Providing assistance to individuals who have participated in services and activities under this Act in continuing their education or training or finding an appropriate job.	In collaboration with the Career/Job Resource Center we will provide employment preparation and guidance in all courses.	3, 4, 6	4	2
(17) Supporting training and activities (such as mentoring and outreach) in nontraditional fields.	Faculty training and outreach activities to non-traditional student groups.	1, 2, 5	3	3
(18) Providing support for training programs in automotive technologies.				
(19) Pooling a portion of such funds with a portion of funds available to other recipients for innovative initiatives.				
(20) Supporting other CTE activities consistent with the purposes of the Act.	Faculty will attend WFD and CTE meetings on campus, collaborate with the CTE instructors where appropriate and promote all CTE programs to SAC.	1, 2, 3, 4, 5, 6	3	3