FY 20XX-20XX
Carl D. Perkins Career and
Technical Education Act of 2006

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

2014-2015

District/College:	RSCCD/ Santa Ana College	Agreement No.:	XX-C01-XX	
Program Title:	Engineering Department	TOP Code:	0924.00	

Title of Proposed Project/Ad	ctivity	Development	of Engineering Technician	Program
Department/Division		ENGINEERI	NG/ BUSINESS	
Project Director		Craig D Taka	hashi	
Project Director's Phone #	714-56	4-6306	Email	Takahashi craig@sac.edu
Division Dean	Allen D	ooley		
Dean's Phone #	714-56	4-6750	Email	Dooley allen@sac.edu
TOP Code	0924.0	0	TOP Code Title	Engineering Technology, General

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)

The Engineering Department is looking to develop an engineering technician program. The engineering technician plays a vital role in the engineering process. Engineering technicians design from scratch, complete designs started by engineers, draw and model designs on CAD (computer-aided drafting/design software), fabricate prototypes of the design, test the prototypes, & collect the data. Technicians are "hands on" individuals whose pay rates are generally higher than those of drafters.

Industry, and employers, is increasingly demanding that college graduates be capable of hands-on work in order to be hired. These hands on skills make the job candidate, our students, more effective in the corporate environment as they have a deeper understanding of design principles and they are better able to manage projects. Drafters who learn these hands-on required fabrication skills will be more successful and better able to compete and move to these higher-paying

technician positions.

In addition, the Santa Ana Unified School District (SAUSD) is adopting the "Project Lead the Way" curriculum, which espouses hands-on fabrication in the class room. SAUSD has directly contacted and met with SAC's Engineering Department seeking to partner with its faculty, students, and program. The creation of this program at SAC provides a pathway for students going through this program. SAUSD estimates that over 100 students will graduate from this program each year, and they expect about half of those to go on to community college. This is a great opportunity to capture these students, enhance enrollments, improve the curriculum, and provide a pathway for students to get higher-paying jobs. This new partnership is an exciting opportunity to grow, create, and improve the Engineering skills training and job preparation for SAC students.

In order for SAC to prepare its Engineering students with the essential skills they will need for the job market, the classrooms and computer labs where this program is offered must have the required resources to support this program improvement. Also, for SAC's Engineering Department to effectively meet the needs of its intended partnership with the SAUSD, again essential classroom equipment for project based student work and necessary technology must be acquired. This proposal will meet these needs.

What is your projected completion date?

June 2015

Briefly describe how the issue(s) will be addressed. (Limited to 2,000 characters, or approximately 1/2 page of text)

An engineering technician curriculum must include hands-on fabrication. This will require the department to acquire equipment, computers, tooling, supplies, and materials necessary to do fabrication work.

Funds will be used to:

- 1. Acquire equipment, supplies, and tooling to create an engineering technician program. This includes items related to facilities and storage (storage cabinets, benches, safety supplies, smoke filters,), tooling (hand tools, tool storage, cutting tools for machining equipment,), mechanical fabrication equipment (laser cutters, small-size mills and/or lathes, 3D printers, laser cutters), electrical testing and fabrication equipment (breadboards, wire, IC chips, digital multi-meters, oscilloscopes, function generators, soldering stations), and additional computers for classroom that are needed for design work, data collection, operate fabrication equipment, and conduct analysis.
- 2. Produce promotional material brochures to promote the new program

Other activities that do not require funding from this grant include:

- 1. Enhance coordination & relationships with local high schools, four-year institutions, & other SAC departments, including manufacturing technology & automotive areas (which provide engineering students with hands-on fabrication skills). Santa Ana Unified School District is adopting "Project Lead the Way". The development of this program provides a pathway for these students, and will help enrollments in engineering.
- 2. Develop & offer curriculum that teaches hands on technical skills (design, fabrication, testing) needed for jobs as designers & technicians.
- 3. Expand & promote program to enhance enrollment & completions of a broader range of students, including non-traditional groups & special populations.

Fin	al Report summary (this yellow shaded section	ns are for Final Repo	ort)		
1.	Was the program improvement issue(s) addressed and/or of the response in Section 1 is No or Partially describe the barriers and if the response in Section 1 is Yes or Partially describe the accomplish Select [] yes [] No [] Partially (Compared to the program of the program	l/or lessons learned in Section	2. es derived	from the pro	Ject In Section 3.
2.	Describe any barriers encountered and lessons learned – F (Narratives limited to 1000 characters, or approximately one quarter pa		Question	1 is No or l	Partially.
2	Describe accomplishments including effective practices de	prived from the project			
3.	(Narratives limited to 1000 characters, or approximately one quarter page 1				
Fina	al Report of Expenditures: \$(Resource Development v	vill have this amount for Fin	al report)		
	Professional Dev. (Including stipends)	nstructional Materials Purchase	e/Replacer	nent (include	software)
	instructional Equipment Purchase/Replacement F	Programs/Services for Special I	Population	s	
	Facility rental/lease (off-campus location)	Consultant or Other Contracted	Services		
	Curriculum Development C	Other (specify)			
	Program Marketing & Outreach				
		T			
mee mee acti be n	ow are the nine §135(b) Requirements for Uses of Funds. Programs rest these requirements. Indicate with a check mark those requirements that (met). Any remaining unmet requirement(s) must be addressed with the state of the state of the final report. Note: All nine remet by the end of the Act or each year until reauthorization. Funds maintain activities specified in number 10.	hat the program currently ith completed or ongoing equired uses of funds must			check mark which e been met, below.
Req	uirements 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 participathrough the integration of academics with CTE programs. $[\S135(b)(1)]$	pating in CTE programs	X		
2.	Link CTE at the secondary and the postsecondary levels, including by offering program of study described in §122(c)(1)(A). [§135(b)(2)]	g elements of not less than one	X		
3.	Provide students with strong experience in and understanding of all aspects of include work-based learning experiences. [§135(b)(3)]	an industry, which may	X		
4.	Develop, improve, or expand the use of technology in CTE, which may include providing students with the skills needed to enter technology fields, and encount with technology industries to offer internships and mentoring programs. [§13]	iraging schools to collaborate	x		
5.	Provide in-service and pre-service professional development programs to facu guidance and academic counselors involved in integrated CTE programs, on to		X		

	Development in the second control of the COTT and the second of the Policie Condition of the Second Co		
	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)]	х	
7. I	Initiate, improve, expand and modernize quality CTE programs, including relevant technology. [§135(b)(7)]	x	
3. F	Provide services and activities that are of sufficient size, scope and quality to be effective. [§135(b)(8)]	х	
е	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	
	THOSE REQUIREMENT(S) LISTED ABOVE AS <u>"UNMET:"</u> ribe specific activity(ies) intended to address for <u>each</u> of the unmet requirement(s). (Limited to t.)	o 2,000 charac	ters, or approximately ½ [
	THOSE REQUIREMENT(S) LISTED ABOVE AS "UNMET:" ribe specific future activity(ies) intended to address for each remaining unmet requirement(s)	. (Limited to 4	,000 characters)

10. P	Permi	nissive Uses Per Section 135(c) (check activities to be funded wit	th CI	TE funds)
v	1	Involve parents, businesses, and labor organizations, in the design, imp	lemer	ntation and evaluation of CTE programs. [§135(c)(1)]
X	1.	Builty assess suidence and academic counseling for students participa	iting i	n CTE programs, that improves graduation rates and provides information on
	4.			
X	3.	Local education and business partnerships, including work-related expe	rience	es for students, adjunct faculty arrangements for qualified industry
^	٥.	professionals and industry experience for teachers and faculty. [§135]	(3)]	
	4.	Provide programs for special populations. [§135(c)(4)]		
X	5.	Assisting career and technical student organizations. [§135(c)(5)]		
**	6.	10125(-)(6)]		
	7.	Leasing, purchasing, upgrading or adapting equipment, including instru		al aides and publications (including support for library resources) designed to 7)]
	8.	Teacher preparation programs that address the integration of academic	and C	TE and that assist individuals who are interested in becoming or E labelity,
	9.	Developing and expanding postsecondary program offerings at times a	nd in	formats that are accessible for all students, including through the use of
	10.	Developing initiatives that facilitate the transition of sub-baccalaureate agreements, dual enrollment programs, academic and financial aid courseletion. [8135(c)(10)]	nseiin	g and other initiatives to overcome starters and encourage of
	11.	n : 1:	. [§1:	35(c)(11)]
	12.	Improving or developing new CTE courses, including the development individuals academically and technically for high-skill, high-wage or h	t of pr igh-d	rograms of study for consideration by the state and courses that prepare emand occupations and dual or concurrent enrollment opportunities.
	13.	[§135(c)(12)] Developing and supporting small, personalized career-themed learning	z com	munities. [§135(c)(13)]
		Parallian mannet for family and consumer sciences programs [8135]	(c)(14	<u></u>
	14.		econd	ary education or dropouts to complete secondary education or upgrade
		• • • • • • • • • • • • • • • • • • •		tivities under this Act in continuing their education or training or finding an
	16.			
	17.	Supporting training and activities (such as mentoring and outreach) in	nontr	aditional fields. [§135(c)(17)]
	18.	Providing support for training programs in automotive technologies.	[§135	(c)(18)]
	19.		her re	cipients for innovative initiatives. [§135(c)(19)]
	20.	C.1 . A	ct. [§	135(c)(20)]
in th	E: If	If you indicate CTE funds are being used for the specified actine item budget for that TOP Code program(s) funded.		s below, then there must be funding for the activity(ies) indicated
Chec	k all t	types of activities to be funded with CTE Funds:	x	Instructional Materials Purchase/Replacement (including software)
<u>X</u>	Profes	ressional Dev. (mending supends)	$\frac{\hat{x}}{x}$	Programs/Services for Special Populations
X	Instru	ructional Equipment Furchase Replacement	_	Consultants or Other Contracted Services
		ility rental/lease (off-campus location)		Other (specify)self evaluation for improvement of the program
		riculum Development		Onto (absort) bott outnomen you miles, sent or the beautiful
X	Progr	gram Marketing and Outreach		
Chec	k one	ne: UNMET REQUIREMENTS WILL BE ADDRESSED:		
	Entire	irely with Perkins Funds		
	Entire	tirely with Other Funding Sources		
X	Using	ng Both Perkins and Other Funding Sources		

PROVIDE DETAILED BUDGET

Department Code: 15145

Budgeting Category/Description		Fund Requested	
and a second of the second of	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	\$23,005	0	\$23,005
5000 – Other Operating Expenses & Services Conference, consultants, contracts, printing, software license & fees, maintenance contract	0	\$518	\$518
6000 – Capital Outlay Equipment, software over \$1,000 (no furniture)	\$57,870	0	\$57,870
Total Funding Requested			\$81,393

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

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

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

Budget Questions/Clarifications:

All quantities are rounded to nearest dollar.

Equipment, computers, tooling, & supplies for Engineering Technician Program – laser cutter (\$10.044k), filtration system (\$2.7k), bench top CNC mill (\$19.98k), cutting grid (\$540), laptops (10x \$1080), 3D laser scanner (\$5.4k), vacuum former (\$3.24k), benches (3x \$671), casters (3x \$154), storage cabinets (3x \$502), under-bench storage cabinets (6x \$432), tool storage cabinet (2x \$1.404k), padlocks (10x \$15), storage tubs/drawers etc. (\$864), digital oscilloscopes (5x \$768), function generators (5x \$383), DMM's (30x \$80), soldering stations (5x \$152), smoke absorber (5x \$55), robot shield kit (2x \$134), supplies & hand tools (\$3.03k), micrometers (10x \$104, 10x \$132), bench vise (3x \$162), heat shrink gun (3x \$154), arbor press (\$330), battery tester (3x \$22), sander (\$770), grinder (\$550)

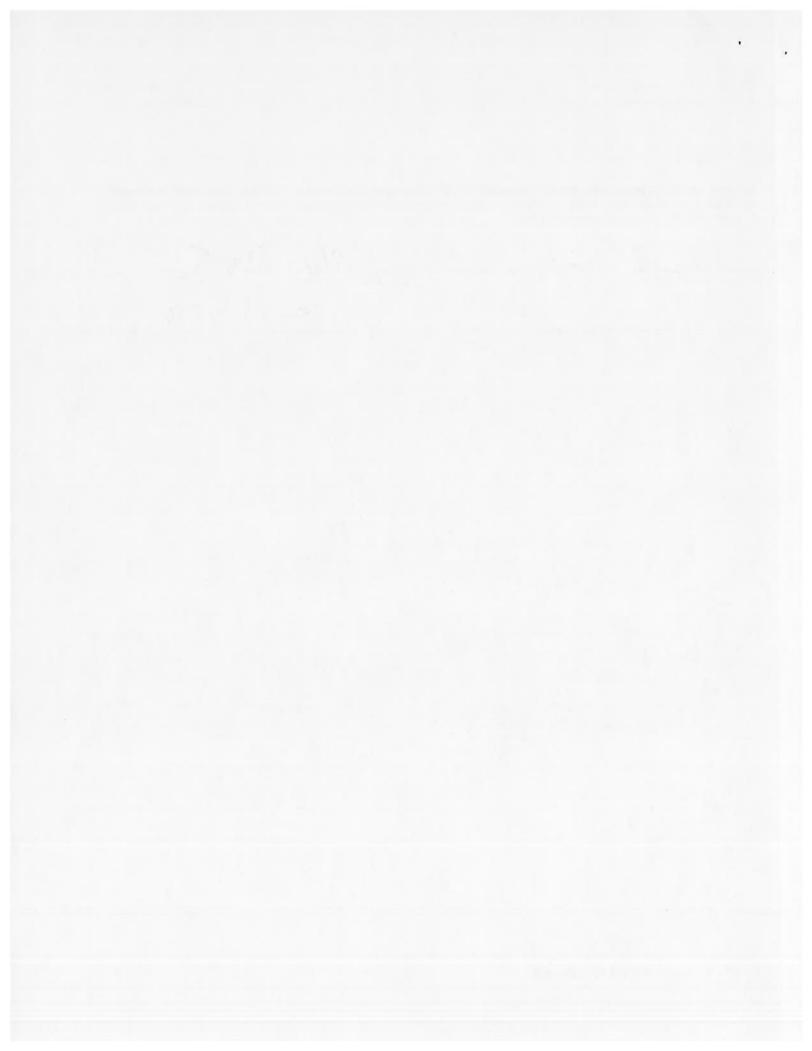
Marketing and outreach (\$518).

California Community Colleges Career Education Practices Unit FORM Sec II-A

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Carl D. Perkins Career and
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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.

Cres John	alle Dool
Project Director	Division Dean
Date: 3/19/2014	Date: 3-19-2014



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

Program Information by TOP Code

RSCCD-College/District:

Retain in District Audit Files

XX-C01-042 Agreement #: Program Title: Engineering Technology, General

Section 135(b) Requirements 0924.00 TOP CODE(s):

Status of activity at the Status of activity at the en of the fiscal year (final report) Column E Status of Activity beginning (local Enter applicable number in appropriate column below. 3 = Contrnumg 4 = Completed application) I = Planned 2 = Started assigning a number as shown below: Source of funds Designate source of funds to be used by 4 = No funds needed Column D 1 = Perkins IC 2 = Other funds 3 = Both 2 = Credential/Certificate/ Degree Core Indicator addressed by 1 = Tech. Skill Attainment Core Indicators 3 = Student Persistence or 5 = Nontrad. Participation 6 = Nontrad. Completion Column C 4 = Saudent Placement the activity listed. Transfer 5,6 machining, electrical wiring, soldering, robotics, and programming. For each Section 135(b) requirement listed in Column A, number each Under the appropriate requirement, describe activities to be funded by Perkins Title IC to improve or expand the identified 4- or 6-digit TOP If an activity meets more than one requirement, reference the number computers, software, tooling, and supplies necessary for hands-on Describe activities to be conducted to address Perkins Section 135(b) Part of this process is to acquire and implement the equipment, teaching of technical, hands-on skills such as: mechanical and PLEASE BE SPECIFIC SINCE THESE ACTIVITIES WILL BE 1. Create engineering technician curriculum that includes the electrical design, layout, & fabrication, rapid prototyping, Outcome by the end of the fiscal year (final report) Activities list in the application (local application) of the activity stated previously (i.e., same as 1.2). Code career and technical education programs Cohrmn B activity separately (i.e., 1.1, 12, etc.). requirements listed in Column A. fabrication work. AUDITED! 4 1. Strengthening the academic and career participating in CTE programs through Refer to the District's 2008-2012 Local Plan D. Perkins Career and Technical Education the integration of academics with CTE for Title I, Part C, Section 132 Funds, Carl Note: Each TOP Code identified for funding Check the corresponding Section II Part A form for the Met/Ummet "Requirements for must meet each of the mire requirements by Section 135(b) Requirements and technical skills of students the end of the Act or each year until Column A Act of 2006 (Perkins). Use of Funds." programs.

3

1, 2, 3, 5, 6

The program presently has articulation agreements with local

high schools (e.g., Valley High School Academies, Inc.) and

CCROP in the areas of CAD technology and robotics.

offering elements of not less than one

program of study described in

§122(c)(1)(A).

Link CTE at the secondary and the postsecondary levels, including by

SAUSD student who have gone through their "Project Lead the 2. Work with SAUSD representatives to provide a pathway for

Way" curriculum. This will include articulation agreements.

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

Program Information by TOP Code

RSCCD -

Retain in District Audit Files

Agreement #: XX-C01-042

Program Title: Engineering Technology, General

College/District:

TOP CODE(s): 0924.00

Section 135(b) Requirements

Column A	Colemn B	Cotumn C	Cahrum D	Column E
		Enter applicabl	Enter applicable number in appropriate column below.	column below.
3. Provide students with strong experience in and understanding of all aspects of an industry, which may include work-based learning experiences.	The new program will teach a variety of skills and provide students 1, 2, 3, 4 with experience that involve many facets of the engineering design process. This includes CAD, drafting, materials, rapid prototyping, and project-planning.	1, 2, 3, 4	E.	2

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

Program Information by TOP Code

RSCCD -College/District:

Agreement #: XX-C01-042 Retain in District Audit Files

TOP CODE(s): 0924.00 Section 135(b) Requirements

Program Title: Engineering Technology, General

Column E	Status	2		4
Column D	Source of funds	3		3
Column C	Core Indicators	1, 2, 3, 4, 5, 6	1, 2, 4	2, 3, 4, 5, 6
Column B	Activities	 Engineering technician work is technical in nature. It involves the use of computers, high-tech equipment, and the latest rapid prototyping technology. The work is technical, applied, and directly vocational in nature 	Program identifies partners in industry for work-based learning & to improve curriculum.	Program presently works with RSCCD Research Department to compile student population statistics.
Column A	Section 135(b) Requirements	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.	S. 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.	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.

Perkins IV I-C application (& Final Report)

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

Program Information by TOP Code

RSCCD-

Agreement #: XX-C01-042

College/District:

Retain in District Audit Files

TOP CODE(s): 0924.00

Program Title: Engineering Technology, General

Section 135(b) Requirements

ſ	I				
	Column E	Status	2	2	4
	Column D	Source of funds	1	1	1
	Column C	Core Indicators	1, 2, 3, 4, 5, 6	1, 2, 6	9,6
	Column B	Activities	The program expands the engineering department by creating a new engineering technician program. Program will include the use of the latest technology used in rapid prototyping, computer-controlled machining, computers, robotics, & electronics	The program includes the development of a laboratory space in room A214. This room can fit up to 40 students. Multiple class sections can be run if more spots are needed.	The program enhances the department's ability to provide course offerings at a variety of times, (including day, night, weekend, & online) to accommodate different populations, including special populations. The training will help them to secure high-wage & high-demand occupations in engineering technology. The program will allow for enhanced promotion of the technology programs so that more diverse populations may be reached.
	Column A	Section 135(b) Requirements	7. Initiate, improve, expand and modernize quality CTE programs, including relevant technology.	8. Provide services and activities that are of sufficient size, scope and quality to be effective.	9. Provide activities to prepare special populations, including single parents and displaced homemakers enrolled in CTE programs, for high-skill, highwage or high-demand occupations that will lead to self-sufficiency.

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

Program Information by TOP Code

RSCCD-College/District:

Retain in District Audit Files

XX-C01-042 Agreement #: Program Title: Engineering Technology, General

TOP CODE(s): 0924.00 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
 Funds may be used to: Involve parents, businesses, and labor organizations, in the design, implementation and evaluation of CTE programs. 	Work with local industry to help design & evaluate the CTE program (includes Advisory Meeting activities)	1, 2, 3, 4, 5, 6		3
(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.	Form partnerships in local industry for internships, faculty arrangements for industry professionals, & industry experience for instructors.	1, 2		
(4) Provide programs for special populations.				
(5) Assisting career and technical student organizations.	1. Give access to software, equipment, & other technology to the SAC Engineering Club for their activities.	1,2,3,5,6	3	_
(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.				
(8) Teacher preparation programs that address the integration of academic				

Perkins IV I-C application (& Final Report)

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

Program Information by TOP Code

RSCCD-College/District:

Agreement #: XX-C01-042

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0924.00 TOP CODE(s):

Program Title: Engineering Technology, General

Column E Status

Source of funds Column D

Core Indicators Column C

Column B Activities

through the use of distance education. (10) Developing initiatives that facilitate who are interested in becoming CTE accessible for all students, including (12) Improving or developing new CTE courses, including the development and CTE and that assist individuals experience in business and industry. postsecondary program offerings at enrollment programs, academic and initiatives to overcome barriers and faculty, including individuals with the transition of sub-baccalaureate financial aid counseling and other Section 135(c) Permissive Uses CTE students into baccalaureate (11) Providing activities to support entrepreneurship education and Section 135(b) Requirements times and in formats that are articulation agreements, dual degree programs, including (9) Developing and expanding encourage enrollment and of programs of study for Column A completion. training.

				sport)
(13) Developing and supporting small,	personalized career-themed learning	communities.	(14) Providing support for family and	Perkins IV I-C application (& Final Report)

concurrent enrollment opportunities.

demand occupations and dual or

high-skill, high-wage or high-

courses that prepare individuals academically and technically for

consideration by the state and

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

Program Information by TOP Code

RSCCD-College/District:

Agreement #: XX-C01-042

Retain in District Audit Files

Program Title: Engineering Technology, General

Section 135(b) Requirements 0924.00 TOP CODE(s):

Column A	Column B	Column C	Column D	Column E
Section 135(c) Permissive Uses	Activities	Core Indicators	Source of funds	Status
consumer sciences programs.				
(15) Providing CTE programs for adults				
secondary education or dropouts to				
complete secondary education or imprade technical skills.				
(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				
Jour.				
(11) Supporting daming and cutreach) in				
nontraditional fields.				
(18) Providing support for training				
programs in automotive rechnologies.				
(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.				

