

Org-Type	CTE Non-Profit-based		
Lead	Sierra Sands Unified School District	PoC	Laura Hickle- Coordinator
PoC-Phone	(760) 384-2350	PoC-Email	lhickle@ssusd.org
Address			
URL			
Service-Region	Central Coast		
Type	Professional Development for Teachers Student Program		
Subjects	Engineering		
Level	Middle School (5-8th grade) High School (9-12th grade)		
Other-Objectives	Engineering and design and renewable energy		
Served-per-Year	60+	Demographics	Women Economically disadvantaged
Content	<p>Cerro Coso Community College, Sierra Sands Unified School District, Naval Air Warfare Center Weapons Division –China Lake, and other local organizations in the Indian Wells Valley and its extended service area have formed a partnership to implement strong Career Technical Education (CTE) programs. This project addresses the urgent demand for highly qualified engineers, technicians, and other trained workers in technology rich environments, in the local, state and national work forces. Implementation of a pre-engineering program called Project Lead The Way (PLTW) will be offered at Burroughs High School starting in the fall of 2007 to create a strong system of support for students starting in 8th grade through college. PLTW will be expanded to include the full sequence of four courses though the course of this grant to provide a seamless transition into the community college or university system in engineering, engineering technology and renewable energy fields. In addition to training students to enter the workforce, high school and community college teachers will be trained to teach the PLTW classes in San Diego during a summer training program. Through an extensive outreach we will begin to identify students who need support through summer camps, exploration opportunities, career guidance, alternative project based and online learning, tutors and support. Special assistance will be focused on underrepresented student populations in the technical fields including, girls, socio-economically disadvantaged students, English language learners, students with disabilities and students from diverse backgrounds. The PLTW program will be articulated from the high school to the community college at the inception to ensure seamless non-duplication of coursework and college credit to secondary students. In addition, the foundation PLTW courses will be offered at the community college to provide equal access to all student populations that may not have entrance through the secondary level. Business, industry and military representative will play pivotal roles in active engagement with students as mentors. They are committed to offering our graduates internships and employment during the course of their educational experiences as well as long term employment at the completion of their program. This program will provide the future workforce educated students strong in technical and academic skills. Engineering and Design classes are being offered at the high school level. Two courses, "Principles of Engineering" and "Introduction to Engineering Design" were implemented this year. These courses utilize the curriculum provided by Project Lead The Way, Inc. Digital Electronics will be implemented in 07-08. Robotics and a course for 7th and 8th grade students will be offered during spring break. SSUSD and Cerro Coso have also held an Employers Summit to bring industry/ businesses in Engineering and renewable energy together to work on curriculum issues and development(9/14/07), and will be holding a California Community College Workforce and Economic Development Program, Advance Transportation Technology and Energy Center (ATTEI) Wind Technology Technical Training on December 14, 2007</p>		
Outcomes	<p>Outcomes-Generated: This project is designed to address the required objectives as listed below: 1. Align existing technical preparation programs and career technical education curriculum between high schools and/or ROCPs and community colleges to create, expand or transform foundation career technical education areas that support emerging career opportunities with the addition of new technologies or new conditions, 2. Address the contemporary skill needs of business and industries with career technical programs provided in high schools and ROCP, 3. Provide accelerated education and training for those students who choose to be prepared for career and technical employment opportunities in less traditional and more expeditious methods while maintaining and or improving student competencies. 4. Support professional development inservice workshops for instructors, especially those focused on assisting instructors understand and apply CTE standards embedded in the CTE curriculum, thereby increasing course rigor. 5. Establish, expand or improve sequenced courses of study in high schools, academies, or ROCPs, culminating in capstone courses that are articulated directly into community college or apprenticeship programs in high wage, high growth sectors. 6. Create new articulated courses between high schools, ROCPs and community colleges and, where appropriate, four-year institutions. Ensure that curriculum meets California Department of Education (CDE) Career Technical Education standards and/or industry standards. 7. Explore new and more relevant career and technical practicum models that integrate coursework and student internship for secondary students, such as ROCP teacher-supervised community classroom and cooperative work experience education methodologies, or orientation to apprenticeship programs in high wage, high growth sectors. 8. Disseminate materials and curriculum to middle schools, high schools, ROCPs and community colleges.</p>		
Started	Jul-07	Funded-Through	
Length	Ongoing	Cost	
Primary-Funding	Government Industry Academia	Primary-\$	
Materials			
Other-Funding			
How-Assessed			
Best-Practice-Why	<p>SSUSD has always been committed to providing Career Technical Education for students and generally expands their program/ offerings yearly. Forty percent of students at Burroughs High School (1,700 enrollment) enroll in one of 10 ROP certificate programs (Auto, Business Graphics, Business and Retail Coop, Child Care, Construction, Criminal Justice, Health Careers, Restaurant, and TV/Video Production) during the 11th or 12th grade. Additional students complete other course sequences, including metal, wood, mechanical design, graphic design, business, and home economics. Sixty-eight percent of students completing a ROP capstone course are employed, in the military, or are enrolled in college six months after graduation. (Perkins/ ROP E1 and E2 data) Burroughs High School offers a strong academic program including math through Calculus, Chemistry, Physics, Anatomy and Physiology, Forensic Science and Advanced Placement courses in English, social studies, science and foreign language. The graduation rate at Burroughs is 97.8% (04/05 data). Kern County's graduation rate is 86% and state total is 85% (NCES definition). This year Cerro Coso College and SSUSD completed articulation agreements for 12 courses in a variety of sectors and jointly piloted a Virtual Class on-line program that enables students to take any of 16 college level courses through the on-line college while being supported at the high school by a Virtual Class teacher.</p>		
Promising-Practice	<p>While SSUSD and Cerro Coso both have strong academic and career programs, there has been limited emphasis on work preparation courses of study for technical fields. In response to the documented local, regional, state, and national need for engineers, scientists</p>		

and technicians with adequate preparation in high school and training in college, Sierra Sands USD has geared up to offer the National Alliance for Pre-Engineering Program- "Project Lead the Way" (PLTW) High School Pre-Engineering Program at Burroughs High School starting in fall 2007. The focus is the implementation of PLTW, strengthen the Engineering and Design Industry Sector in Sierra Sands and Cerro Coso, and articulation of coursework and curriculum alignment. In addition to other activities, already existing CTE Advisory Committees will be strengthened and outreach activities (including guidance activities) will be implemented.

Sponsor

Sponsor-Org

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Other-Orgs

Naval Air Warfare Center- Weapons Division- China Lake, Cerro Coso Community College, Searles Valley Minerals and other organizations (Florida Power and Light, Kern River Wind), Project Lead the Way