

**Project Abstract**

**Increasing the Productivity of the Engineering Degree Pipeline in the High Needs Southern San Joaquin Valley: A Sound Cooperative Arrangement Project with Bakersfield College**  
 California State University-Bakersfield (CSUB), the lead college in this cooperative arrangement project, is one of 23 campuses in the California State University system. CSUB is the only four-year public institution of higher education within a 100-mile radius of Bakersfield. Bakersfield College (BC), the partner institution in this project, was founded in 1913 and is the oldest continually operating community college in California. Located just 10 miles from each other, CSUB and BC face similar challenges serving a high need area. **This project addresses all Title V Priorities and is a geographically and economically sound cooperative arrangement.**

GOALS	OBJECTIVES
<p><b>Goal 1:</b> To develop a new CSUB Power/Energy Engineering track that is responsive to student and local industry needs and is designed with a liberal engineering framework using pedagogy and methods known to increase learning.</p> <p><b>Goal 2:</b> To increase postsecondary access and success of local Hispanic and other high need students through intersegmental collaboration and development of an equitable, seamless, and scaffolded degree pathway from high school to completion.</p> <p><b>Goal 3:</b> To increase CSUB degree completion productivity through development of new, well-designed institutional STEM capacity that is responsive to student and service area needs.</p>	<ol style="list-style-type: none"> <li>1. To increase enrollment in CSUB’s new engineering program by 20 students each grant year and reach the sustainability-ensuring level of at least 90 FTES by year 5, with Hispanic students equitably represented compared to overall enrollment <i>(Related to Goals 1, 3)</i>.</li> <li>2. To increase by 2% each year the retention, success, and persistence rates in the new engineering track by continuously monitoring student achievement using data-driven improvements. <i>(Related to Goals 1, 3)</i>.</li> <li>3. To increase the number of BC students who are formally enrolled in a fully-articulated curriculum in engineering with an approved plan for transfer on schedule, and increase the number of Hispanic and other underrepresented students who complete all pathway preparation in engineering at BC on schedule. <i>(Related to Goals 2, 3)</i>.</li> <li>4. To eliminate the gap between CSUB’s six-year graduation rate for CC transfers (5.5% gap) and first-time freshman (12% gap) as compared to the statewide average. <i>(Related to Goal 1, 3)</i>.</li> <li>5. To double the number of Hispanic students, including transfers, who complete CSUB STEM degrees over 2014 baseline <i>(Related to Goals 1, 2, 3)</i>.</li> </ol>
<p><b>Absolute Priority:</b> The proposed project is specifically designed, based on principles clearly defined in the best available research literature, to increase the success of CSUB’s highest need students—Hispanics who are underprepared and least likely to complete an engineering degree.</p>	
<p><b>Competitive Preference Priority 1:</b> The project will develop a suite of integrated high impact services providing robust support to propel students along their path toward degree completion.</p>	
<p><b>Competitive Preference Priority 2:</b> The project will develop online strategies and methods to make services to Power//Energy engineering pathway students accessible and cost-effective.</p>	