



Hartnell College Office of Advancement and Development

Grant Pre and Post Award Form

October 2013

1. Funding Agency/Organization and Title of Grant Project				
National Science Foundation Advanced Technological Education				
2. Applicant		Fiscal Agent		
<input checked="" type="checkbox"/> Hartnell College <input type="checkbox"/> Other		<input checked="" type="checkbox"/> Hartnell College <input type="checkbox"/> Other		
3. Submitted		Submission Date	4. Awarded	Award Date
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		9-22-15	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
If not submitted, why?		Reviewer Notes Attached		
		Provided additional information and negotiated budget in February 2016. Final award \$757,115		
Hartnell College Board of Trustees report date:		October 6, 2015		
Abstract:				
See attached				

NSF ATE Project Summary

Hartnell College's NSF ATE program will advance and expand agricultural sciences technician training by implementing a food safety technician program and seed science technician program. The proposal addresses critical current and future needs in one of the world's most productive agricultural regions by: building on current programs and infrastructure to develop two high skill, high demand agricultural science technician programs that meet current industry shortages; linking the project to high schools using a modified 2+2 structure, with a university transfer option; helping industry better respond to changing environmental and regulatory conditions; building on successful ATE models for high skill STEM technician training programs; helping the nation improve its food production and food safety capabilities; and providing access to STEM jobs for a largely low income, underrepresented population.

Hartnell College's student body is comprised largely of disadvantaged and underrepresented students, with a migrant farming background, who are first generation college students.

The overarching goals of this NSF ATE project are to:

- Improve the STEM pipeline from high school through community college (with a transfer/ university option) resulting in increased student access to, and success in, STEM majors;
- Integrate new technologies in targeted agricultural sciences curricula to foster a qualified, sustainable, high skill agriculture workforce;
- Prepare a new generation of agricultural scientists and technicians to address problems and challenges associated with food safety, security, and supply; climate change; and new regulations.

By year three, the project will achieve the capacity to enroll 35 students annually in each new program; achieve an 80 percent persistence rate; and engage at least 125 high school students per year through participation in program activities. It will be implemented through: aligned, articulated and new curricula; secondary school program enhancement; new faculty; intense outreach; hands-on workshops; extensive industry partnerships; academic counseling; cohorts/learning communities; faculty mentors; industry internships; academic and student support services; industry networking; and evaluation.

Project deliverables will include:

- Articulated course sequences and course outlines for two agricultural science technician pathways;
- Program materials, including web-based and hard copy;
- List of project partners and detailed information about support provided to the program;
- Additional evidence on successful models for STEM-based project consortia;
- High school program materials; student enrollment and success outcomes;
- Formative and summative evaluation data on student participation and program success;

Intellectual Merit. This criterion will be met by contributing to the knowledge and understanding of effective methods to improve low income and underrepresented student achievement in STEM. The program will: adapt high quality, extant, evidence-based practices and strategies focused on common cohort experiences to create a small learning community; and implement an evaluation study using data analytics resulting in qualitative and quantitative data on, and assessment of, program effectiveness.

Broader Impacts. This ATE project will build on a replicable model to enable Latino and low income students to access high demand, high skill, high wage agricultural science STEM job opportunities through high quality, engaged learning; academic support; and industry internships. According to current data, while the Latino/a population represents 16 percent of the U.S. population, they are *overrepresented* in low skill jobs and *underrepresented* in high skill jobs, like STEM. This project can help change this inequitable dynamic, reduce income disparities, while also helping to meet the nation's need for a high skill STEM workforce able to meet future challenges.