



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 Improving Undergraduate STEM education (IUSE)			
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
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		11-03-15	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
If not submitted, why?		Reviewer Notes Attached	
Review panel on file			
Hartnell College Board of Trustees report date:		November 10, 2015	
Abstract:			
See attached			

PROJECT SUMMARY

Overview:

The Integrated Math Access, Success, Transfer and Engagement Resources (iMASTER) project aims at addressing immediate challenges that are facing calculus students and math majors at Hartnell College. The project develops a model to improve undergraduate STEM education for underrepresented community college students, and increase their engagement, number and success in math transfer and career pathways. The project will expand and build on structures that made Hartnell, a 2-year California Community College and a Hispanic Serving Institution, lauded for promoting and achieving success for its underrepresented students. 100 students will be directly transformed by the project, at a critical stage of their college education, through persistent and sustainable activities as 'fellows' of a new Math Academy Plus (MAP) program. Activities are built on coherent supports for the fellows, engagement in communities of learners, and access to transfer and career pathways through math. The project will collaborate with the Math Department at the nearby Cal. Stat. Univ. at Monterey Bay (CSUMB), a 4-year university, and Hartnell's innovative CSin3 computer science, MESA, College to University Success, and STEM Internship programs.

The project's goals include: increase success of underrepresented and community college students into math transfer and career pathways; improve students' transformative transitions and engagement, at a minority serving community college, through math; improve timely graduation and transfer rates STEM students through innovative calculus supports at a 2-year college; and contribute to the knowledge on practices to significantly increase engagement and preparation of community college and underrepresented students in pathways that require strong mathematical skills.

These goals will be achieved through a synergy of the following objectives: (1) MAP- Extended Math Academy workshops for Calculus students throughout the academic year; (2) PaTTH through Math-Pathways in Transformative Transitions at Hartnell through Math; (3) INSPIRE- Integrated Network of Sustained, Persistent and Inspiring Resources and Engagements; and (4) SHARRE- Share Hartnell Achievement and Research Results in Education, including refinements and transportability.

Intellectual Merit :

The permanent and emerging roles of mathematics in STEM fields and careers are clear. At nearly all institutions of higher education, success in mathematics is required for every STEM transfer program or degree. The mathematics program at Hartnell is uniquely positioned to take the lead on the design and implementation of activities that: align with NSF's goals on meeting the nation's workforce needs and diversity in STEM; foster engagement and success in undergraduate STEM education; enhance the vitality and appeal of the math major, especially for minority and 2-year college students; and foster students' achievement at and beyond a 2-year college. The iMASTER project offers a coherent and innovative model through mathematics. The model, based on sustainable collaborations with existing college programs and with 4-year universities, a year-long integration of engagement methods, and persistent community of learners support, represents an improved way to successfully prepare, retain, transfer, and graduate STEM students from disadvantaged and underrepresented populations.

Broader Impacts :

Hartnell Community College is the only affordable postsecondary option for a growing population of Hispanic, underserved, underrepresented, low income, and first generation college students. Commitment to a sustained increase in STEM access and success for those students at and beyond 2-year college, is prominent in this project's goals. The iMASTER project will add to the knowledge and understanding the nation needs to ensure equal access and improved representation of underrepresented groups in STEM. In a recent study, the top 15 highest-earning college degrees have a common element: mathematics. This project will create a transportable model to enable, through innovative activities and collaborations, underrepresented students from a 2-year college to access high demand, high skill, high wage STEM job opportunities, while also helping to meet the nation's need for a high skill STEM workforce.