RISE STUDENTS IN STEM AT CI

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Abstract
RISE (Retaining, Inspiring, Supporting, and Engaging) Students in STEM Program at CSU Channel Islands aims to decrease the attrition of STEM majors, particularly under-represented minorities and women. The project will implement an integrated program by providing a summer institute STEM experience, a first-year experience consisting of learning communities between STEM courses and general education courses, and redesigned introductory STEM and general courses to increase student engagement and success by integrating thematic topics across the learning communities.

Introduction
RISE Students in STEM aims at addressing the national problem of too few STEM graduates, particularly under-represented minorities and women. At CSU Channel Islands, over 429 (25%) incoming freshmen who declare STEM as a major leave STEM within their first three years and the majority of these STEM Leavers switch to a non-STEM major (22% switch to non-STEM and 33% leave CI without a degree). Despite considerable effort on the CI campus to improve student success, there is a problem of too few STEM graduates, particularly under-represented minorities and women. At CSU Channel Islands, the RISE Students in STEM Program aims at addressing the national and institutional problem of too few STEM graduates, particularly under-represented minorities and women. The project will implement an integrated program by providing a summer institute STEM experience, a first-year experience consisting of learning communities between STEM courses and general education courses, and redesigned introductory STEM and general courses to increase student engagement and success by integrating thematic topics across the learning communities.

Focus Areas
1. Summer Scholars Institute Expansion: This program, fun for the past three years under Department of Education HSI STEM Grant (Project ACCESO), engages incoming STEM freshmen with STEM experiences and math skill development (Figure 1). Students work interact with CI STEM faculty and engage in science activities that apply mathematical skills. We propose to expand the number of students involved in this program to 30 students by recruiting incoming freshmen who were placed in MATH 95 as a remedial course. This program will begin in the Summer 2015.

2. Freshman Year Learning Communities: Three learning community tracks are being created between a STEM class and English composition, a communication course, and a first-year seminar course (UNIV 150). Students would be part of a cohort consisting of 2 - 4 courses. This program will begin in Fall 2015.

3. Redesign of Curriculum: UNLV 150, a general education critical reasoning course, is being redesigned so that it focuses on Scientific Reasoning. In addition, content will be integrated across courses in the learning communities and the STEM courses are being redesigned to integrate interdisciplinary topics.

Participants
As part of the freshmen first year experience, students in STEM will have 30 participants in the Summer Scholars Institute and 160 participants in the STEM Learning Communities. The STEM Collaboratives initiatives will gradually increasing the percentage of STEM students impacted by the initiative. To achieve this scale-up, we propose to add a second Introductory Chemistry Learning Community in Fall 2016.

Evaluation
To evaluate the impact of the three interventions (1) the Annual Freshman Survey will be administered to both STEM-RISE and students not receiving interventions (control group). The Annual Freshman Survey will be administered to both the control and intervention groups.

Conclusion
CI's STEM Collaboratives Program involves a collaboration between STEM (Biology, Mathematics and Chemistry) and non-STEM (English, Communication) program areas in Academic Affairs and between Academic Affairs and Student Affairs on the CI campus. We anticipate that our collaborative model will assist STEM students on our campus in succeeding in their studies and remaining STEM majors.

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Figure 1: Students participating in the Summer Scholars Institute

Figure 2: Learning Communities for RISE Scholars