

# Science and Mathematics Initiative

CalTeach - 2009

## Overview

California faces a serious deficit in the supply of K-12 mathematics and science teachers. The UC system-wide Science and Mathematics Initiative (SMI) is helping the state meet this critical need. Known on campuses as CalTeach, programs:

- 1) create multiple pathways for students to explore the possibility of teaching;
- 2) expand the capacity of the state's teacher preparation programs to accommodate these students; and
- 3) strengthen the quality of teacher preparation programs to assure deep subject matter content knowledge and strong pedagogical skills.

These three elements make up the essential priorities identified by the California Council on Science and Technology and the Center for the Future of Teaching and Learning and other authorities for building a larger and more expert STEM (science, technology, engineering, and mathematics) teacher corps for California's schools. SMI integrates the STEM curriculum with that of UC's schools of education. In addition, UC collects data for evaluation as part of an accountability framework. The initiative involves partnerships with UC, K-12, community colleges and the California State University.

### CAMPUSES:

**UNIVERSITY OF CALIFORNIA (UC)**

**UC Berkeley (UCB)**

**UC Davis (UCD)**

**UC Irvine (UCI)**

**UC Los Angeles (UCLA)**

**UC Merced (UCM)**

**UC Riverside (UCR)**

**UC San Diego (UCSD)**

**UC Santa Barbara (UCSB)**

**UC Santa Cruz (UCSC)**

### STUDENT PARTICIPANTS ACROSS ALL CAMPUSES (2005-2009)

**TOTAL: 4,235**

**SCHOOL VISITS: 33,976**

“SMI has been my greatest support system in my efforts to become a teacher. SMI has provided me with vast opportunities that not only prepared me to become a teacher, but also constantly reinforced my decision that the teaching profession is the career that I want to enter.”

**ALEXIA OLSON, UCR GRADUATE, 2008, MATH MAJOR,  
CREDENTIALLED TEACHER**

“This course helped me discover a career that I had never thought was possible, and something I was not interested in. As of today, thanks to the SMI course, I undoubtedly would like to be a teacher.”

**CATABRIEA WHITE, UCM STUDENT, SOPHOMORE**



## Evaluation

### Quality and Retention in CalTeach

The university administers regular surveys to participants to project student progress toward completing the CalTeach program and obtaining a single-subject science or mathematics teaching credential. A total of 471 students completed the survey in 2008-2009. They expressed positive reactions to CalTeach:

- **Interest in becoming a science or mathematics teacher: 81%**
- **High opinion of field (classroom) experience: 83%**
- **Interest to continue in CalTeach: 79%**

## SMI Enrollment and New Courses by Campus

	ENROLLMENT				NEW COURSES
	2005-06	2006-07	2007-08	2008-09	2005-09
UC Berkeley	45	134	192	224	8
UC Davis	21	63	165	285	3
UC Irvine	26	74	56	170	9
UC Los Angeles	66	144	244	397	5
UC Merced	0	22	75	170	8
UC Riverside	12	71	87	301	4
UC San Diego	23	115	178	233	10
UC Santa Barbara	0	32	147	174	8
UC Santa Cruz	50	76	112	122	5
<b>TOTAL</b>	<b>243</b>	<b>731</b>	<b>1,256</b>	<b>2,076</b>	<b>60</b>

“The SMI students have been staying after school and conducting one-on-one reteaching of standards that students have had difficulty with while I conduct a tutorial for at risk students. This has proven to be very effective. I am impressed with the ability and dedication of the SMI students. You should be proud of the contribution they are making. Thanks for the support.”

KEVIN SULLIVAN, TEACHER, CLEVELAND ELEMENTARY

“I loved the opportunity CalTeach provided to study math and learn about teaching in a small community of like-minded peers.”

KATIE SEIM, UCSC STUDENT, 2009, MATH MAJOR

## Community College Connections

### Partnerships between UC and California Community Colleges (CCC) are an essential element of SMI.

A key component to attract CCC students to CalTeach is to provide them with lower division experiences that parallel those offered by the UC.

The collaborative—known as the Aurora Project—extends throughout California. It was founded at the Foothill De Anza Community College District Office and received initial funding from the Alliance for Regional Collaboration to Heighten Educational Success (ARCHES). Beginning with ten community colleges, it has grown to include 28 community colleges, industry partners, and a number of county offices of education, school districts and community-based organizations.

In addition, the CalTeach Community College Connections emphasizes recruitment of community college students who are typically underrepresented in mathematics and the sciences and who have the potential to obtain a bachelor's degree in mathematics or science followed by a teaching credential.

### LINKS TO REPORTS OF INTEREST

Center for the Future of Teaching and Learning Reports and Publications  
[www.cftl.org/publications.php](http://www.cftl.org/publications.php)

Rising Above the Gathering Storm  
[www.gwib.maryland.gov/aero/pdf/aaugustine10202005.pdf](http://www.gwib.maryland.gov/aero/pdf/aaugustine10202005.pdf)

UC Science and Math Initiative  
[www.universityofcalifornia.edu/academics/1000teachers](http://www.universityofcalifornia.edu/academics/1000teachers)

Education Partnerships  
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