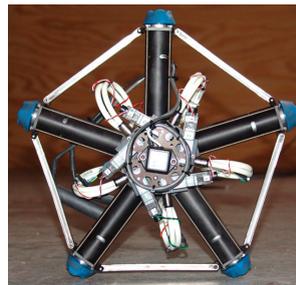




At El Camino College we believe our community must improve the way students learn science, math, technology and engineering, and that the business, education, and STEM communities must work together to achieve this goal.



### How can the community support STEM education at El Camino College?

At El Camino College, we know we must continue to improve the way our students learn science, technology, engineering and mathematics; and that the business, education and STEM communities must work together to achieve this goal. Our STEM program is built on the principle that innovation leads to new products and processes that sustain our skilled workforce and economic development. Industry partnerships are essential to maintaining current and relevant curriculum enabling

El Camino College to produce an educated, well-trained workforce. Industry partners can provide support by helping to identify current workforce needs and educational requirements, providing critical financial support and engaging El Camino College students in internship programs that will provide career opportunities in STEM fields.

“MATH AND SCIENCE ARE THE ENGINES OF INNOVATION. WITH THESE ENGINES WE CAN LEAD THE WORLD. WE MUST DEMYSTIFY MATH AND SCIENCE SO THAT ALL STUDENTS FEEL THE JOY THAT FOLLOWS UNDERSTANDING.”

— Dr. Michael Brown,  
former Nobel Prize winner  
for medicine,  
Director of the Jonsson  
Center for Molecular  
Genetics in Dallas, TX

### EL CAMINO COLLEGE FOUNDATION

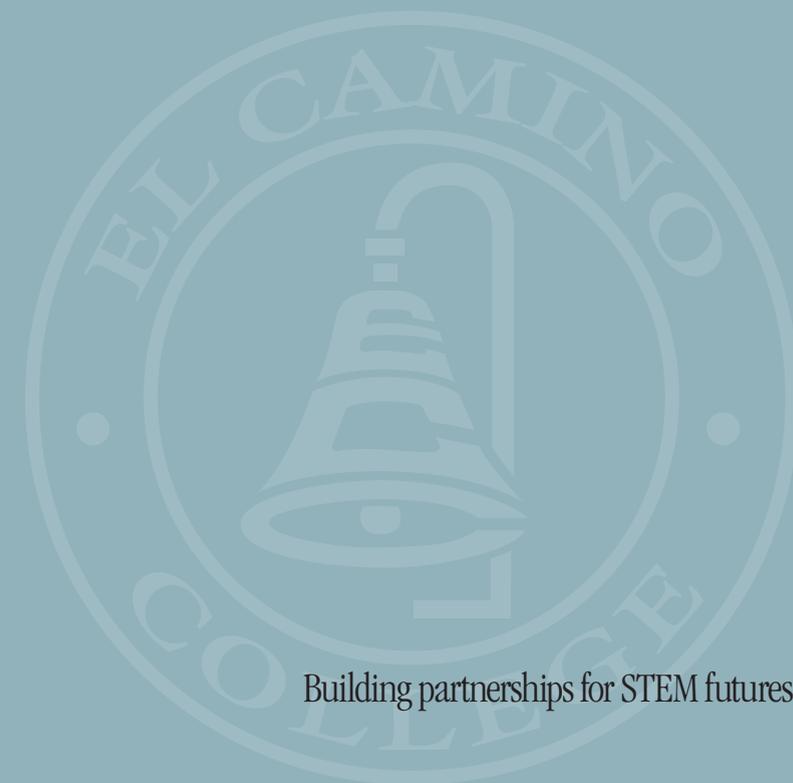


16007 Crenshaw Boulevard, Torrance, CA 90506 310-660-3683  
[www.elcaminocollegefoundation.org](http://www.elcaminocollegefoundation.org)

Supporting the mission of EL CAMINO COLLEGE

SCIENCE  
TECHNOLOGY  
ENGINEERING  
MATH

EL CAMINO COLLEGE  
STEM EDUCATION



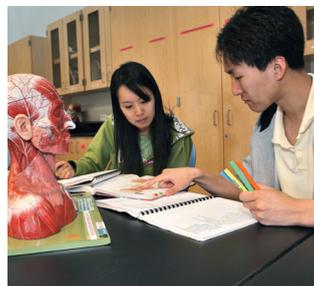
Building partnerships for STEM futures

## What is STEM?

Science, Technology, Engineering, and Mathematics (STEM) education transforms the typical teacher-centered classroom by encouraging a curriculum that is driven by problem-solving, discovery, and exploratory learning. At El Camino College, STEM educational programs provide a community-based learning environment that requires students to actively engage a situation in order to find its solution. By adopting the STEM philosophy science, technology, engineering, and mathematics all play an integral part in the teaching of the whole. The science, engineering, and mathematics fields are made complete by the technology component that provides a creative and innovative way to problem solve and apply what has been learned.

## Why is STEM education important?

The strength of U.S. manufacturing and the continued growth of high-technology industries are dependent on the availability of high-quality personnel, especially in the scientific, technological, engineering, and mathematical



THE FOUNDATION OF INNOVATION LIES IN A DYNAMIC, MOTIVATED AND WELL-EDUCATED WORKFORCE EQUIPPED WITH STEM SKILLS.

— *The Congressional Stem Education Caucus*

disciplines. U.S. manufacturing leads the world in global innovation, but it is essential to inspire a continuing pipeline of students to pursue STEM careers to sustain our technological edge and compete in the global economy.

## How is El Camino College supporting STEM educational programs?

El Camino College continues to invest in STEM education with programs such as MESA, ASEM, math and science academies and an innovative teaching laboratory.

### MESA

The El Camino College Mathematics, Engineering, and Science Achievement (MESA) Program started in 1999 to promote student's success and transfer in calculus-based disciplines. The MESA Program supports and motivates students pursuing math and science degrees by building an academically based peer community. MESA provides counseling, academic preparation, skill development and assists in the degree/transfer process from El Camino College to prestigious four-year institutions in California and throughout the country.

### TEACHING LABORATORY

The Math and Science Teaching Laboratory joins college faculty, K-12 teachers, and pre-service teachers to examine and

test innovative strategies to increase content knowledge and incorporate effective teaching strategies to improve the math and science competencies and attitudes of the teacher workforce, college students who plan to be teachers, and ultimately the K-12



students in their classrooms. Similar to the “test kitchen” for chefs, the Teaching Laboratory will be a place where educators can meet to discuss, explore, and test ideas to improve the curriculum and ways it is taught.

### El Camino MESA/ASEM Transfer Universities and Majors

Top 5 Transfer Universities		Top 5 Transfer Majors	
Schools	MESA/ASEM	Majors	MESA/ASEM
UC Los Angeles	148	Biology	122
CSU Long Beach	82	Mechanical Engineering	65
UC Berkeley	58	Biochemistry/Chemistry	49
UC Irvine	48	Computer Science	46
Cal Poly Pomona	40	Electrical Engineering	45



### STEM CENTER

The new state-of-the-art STEM Center is another example of the College's commitment to STEM education programs. The center will inspire innovation in STEM education and provide additional space for the highly successful MESA/ASEM programs. The Center will provide an essential connection where all ECC programs and projects related to STEM will converge and interact; and will be a space for students to engage with and learn from scientists, mathematicians, engineers and others. El Camino College will host a series of industry expert speakers who will provide information and interaction with students interested in pursuing careers in STEM fields.

NEARLY 70 PERCENT OF U.S. MIDDLE SCHOOL STUDENTS ARE TAUGHT MATH BY TEACHERS WITH NEITHER A MAJOR NOR CERTIFICATION IN THIS CRITICAL SUBJECT.

STUDIES SHOW THE CONNECTION BETWEEN TEACHERS' KNOWLEDGE AND STUDENT ACHIEVEMENT IS PARTICULARLY STRONG IN MATH.

— *U.S. Department of Education, Statistical Analysis Report*