



# EL CAMINO COLLEGE

## STEM Grant Office

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# STEM

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SCIENCE, TECHNOLOGY, ENGINEERING & MATH

*ENHANCING STUDENT SUCCESS AND ENCOURAGING  
DIVERSITY THROUGH STEM PATHWAYS*

# focus

## El Camino College to Host Conference for High School & Middle School Counselors, Faculty and Administrators



El Camino College Career & Technical Education (CTE) in collaboration with Science Technology Engineering & Math (STEM) Grant Project, Tech Prep, and CTE Senate Bill 70 Collaborative, will be offering a conference targeted to high school and middle school counselors, faculty and administrators from our surrounding district. The conference is scheduled to take place at ECC on Thursday, May 27, 2010.

The conference will include ECC/CEC information as well as a student services resource fair. Using the latest information from our college and our dynamic guest speaker, we will explore the many opportunities in CTE and STEM (Science, Technology, Engineering and Math) education and focus on solutions to the most current issues facing us in education today. Attendees will participate in an interactive workshop where input will be strongly encouraged and valued!

Our guest speaker Jim Brazell, has 26 years of experience as an innovator who delivers timely strategies to address education, workforce, economic development and industry needs. Don't miss out on this great opportunity to network and learn more about what our campus has to offer. Space is limited, so register today! To register and for more information visit our website at [www.elcamino.edu/academics/STEM](http://www.elcamino.edu/academics/STEM).

## Student Enhancement Team

The STEM Grant Project is currently looking for student leaders well-versed in math and science to serve as tutors in local high-schools as a part of the STEM Student Enhancement Team (SET). SET aims to provide El Camino College students with the opportunity to develop leadership skills by exposing them to a collaborative near-peer teaching environment.

The goal of the program is to reinforce instruction, increase positive student interaction, and improve the educational climate of mathematics and science for high school students. Any students interested in becoming a part of this team while earning money and valuable experience may contact Josefina Bedolla at 310-660-3593 x3452 or visit the STEM website at [www.elcamino.edu/academics/STEM](http://www.elcamino.edu/academics/STEM).

## Students Tour Universities

The ECC STEM Grant Project has partnered with the Transfer Center to increase student awareness of STEM programs and grant students exposure to the programs and services available at four-year universities. Last fall, trips included UC Irvine, UCLA, and CSU Long Beach to the schools of engineering, physical sciences and computer sciences.

ECC students such as Brian P. (a computer science major) and Flor C. (a biology major) commented that they enjoyed the trips because the workshops offered plenty of useful resources and the scholarship details were very informative.

This year, Transfer Center Director Sue Oda-Omori and staff had the opportunity to plan a Northern California trip funded by the STEM Grant, where students had the chance to visit universities such as UC Merced, UC Santa Cruz, Santa Clara University, UC Berkeley, and UC Davis. The tour was a great success and students found the experience very rewarding.

## Students Attend STEM Conference

El Camino College hosted a conference on November 20, 2009 for students interested in careers in science, technology, engineering and math fields. The STEM Student Conference offered professional development opportunities for students interested in pursuing an education or career in any of the STEM fields. From engineering to biotechnology, to teaching in the math and sciences, students learned about new careers as well as transfer information and the degree and certificate programs offered at El Camino College.

Conference participants began the day at Marsee Auditorium with breakfast and a keynote presentation by Dr. Glenn Orton, Senior Research Scientist at NASA Jet Propulsion Laboratory. Workshops followed with topics that included: transferring to a university; careers in teaching math, science or technology; women in STEM; engineering technology careers; robotic technology; and biotechnology. In addition, an alumni panel shared experiences and success stories about how they transferred and moved on to exciting careers in STEM fields.

The conference included a total of 211 attendees and was very well received by both faculty and students. Students' most recurrent comment was that they wished they were able to attend more of the workshops.



*STEM students had the choice to participate in two of seven different workshops.*



*The Keynote Address was given by Dr. Glenn Orton of NASA JPL*

## Future Equipment: Laptops with Mathematica

Recently, the STEM project funded mobile laptops for Math Division classrooms. For the first time, students will be able to model for themselves in real-time, the mathematics taught during a classroom lecture. Students will use the Mathematica computer algebra system from a laptop at their desks. Formerly, math classroom lectures had to be disrupted as students moved to the MCS basement computer lab in order to use the Mathematica software.

Mathematics Professor Kristine Numrich believes that enhancing the curriculum and student learning experience in the classroom will mean improved student success in completing the calculus series—a sequence in which a high percentage of students drop off, never completing the full series. Taking all three semesters of calculus keeps student options open for changing majors, makes them more competitive to transfer to four-year institutions, and is an important component for student retention in engineering majors. We look forward to hearing more about this project from faculty and students!

## STEM Young Scholars To Resume In Summer

The STEM Grant Project will resume its Math and Science Bridge Program for high school students interested in learning about careers in Science, Technology, Engineering & Math. The STEM Young Scholars Program will be expanded to include freshman, sophomores and juniors in high school.

The free program will consist of guest speakers, college and career workshops, STEM Team Challenges, field trips to local industries and university visits. Students who finish the four-week program will be awarded a certificate of completion. Space is limited and participation in the program will be on a first-come, first-served basis. For more information please contact Zenia Bobadilla at ext. 3887 or by e-mail at [zbobadilla@elcamino.edu](mailto:zbobadilla@elcamino.edu).

## Industry & Tech

The STEM grant has enabled the purchase of new machinery for the I&T Division to further engage and prepare students for careers in Industry & Technology. Students experimented with the new Kent-CNC milling machine in the fall. Feedback from the Machine Tool Technology (MTT) 107 class was positive and students were amazed by the ease of use and rapid ability of the machine. Multiple classes were exposed to the Z-Corp Spectrum 510 Rapid Prototyping machine which makes a variety of molds.

The STEM grant has also enabled the purchase and assembly of a small CNC foam cutter, which could be considered a rapid prototyping technique—especially when applied to the lost art of foam casting.

All the new machinery places the I&T Division in an excellent position to be prepared for the new ETEC 16 Computer Integrated Manufacturing class in the fall semester that is steadily filling up.

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