



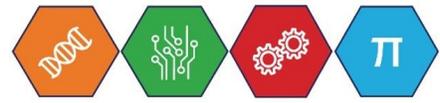
## STEM Professional Learning



### Lab Redesign Mini-Grant

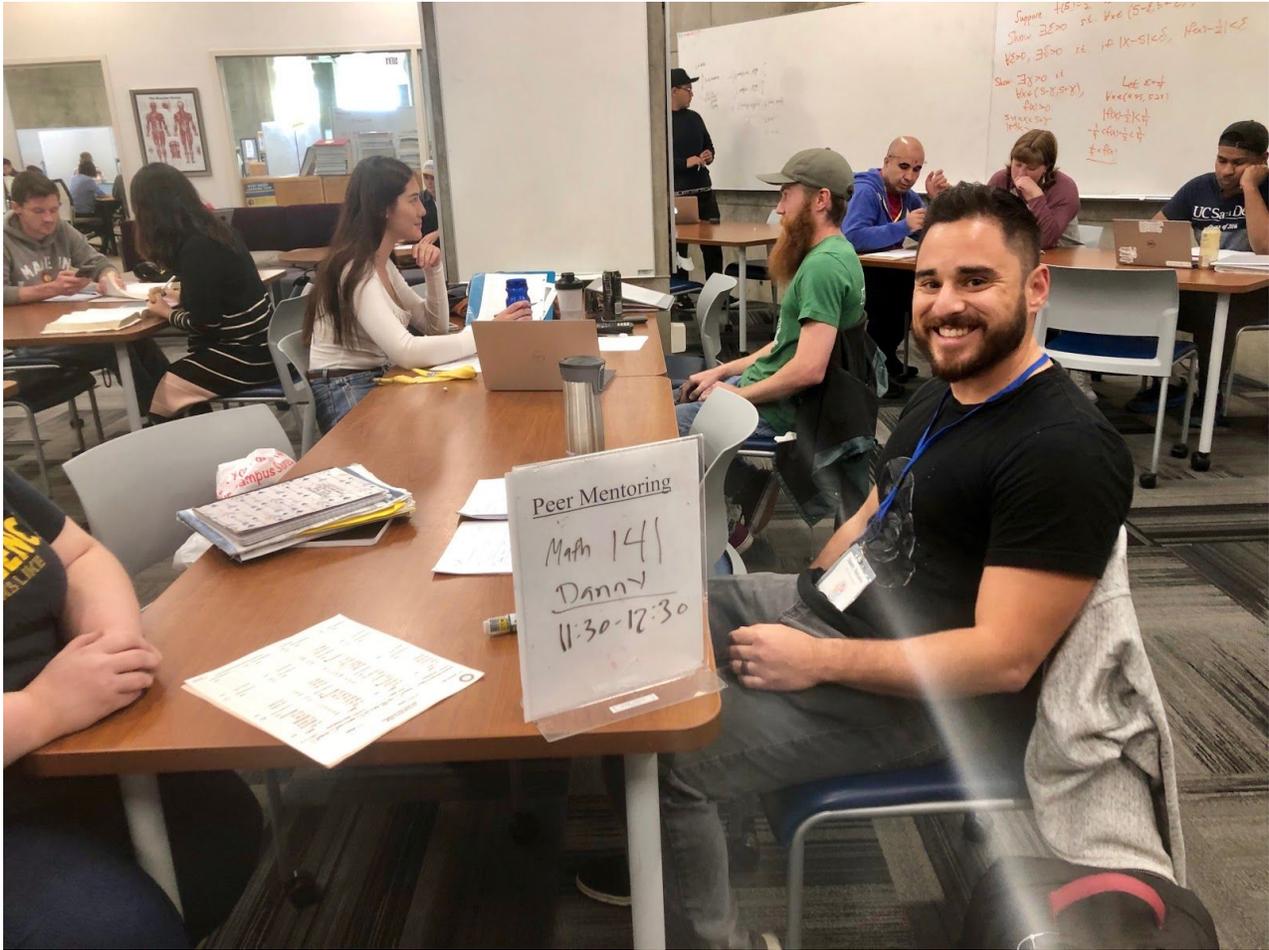
**Bulent Bas and Dr. Sahsa Carter, Physical Sciences**  
*“Redesigning Physical Geology Labs for Students”*

As Geology faculty members of the Physical Sciences Department, Professors Bas and Carter wanted to improve student preparedness and success in their geology laboratory exercises. They developed lab exercises where students collect actual data to improve the realism of seismic sources, develop better survey arrays, use actual earthquake data from the seismometer in the lab, and compare these against vibrations created from musical instruments. The lab redesign idea came about after the instructors noticed that students often struggle with understanding the causes of earthquakes and visualizing how earthquake energy travels and is detected. Students benefit greatly from exercises that engage multiple senses and tie the phenomena to something more tangible to show its applicability in the real world. In recent years, a number of smartphone apps have been developed to make time series data from the phone’s motion sensors and microphone. The instructors have leveraged these new technologies with existing elements of the campus infrastructure to develop a new set of lab exercises that fully illustrate how earthquake waves travel and are detected. For example, in the redesigned Geology lab exercises, students can set up their phones at testing sites, activate a seismic source on campus, and record the vibrations at locations as the Mesa Parking Structure. This proposed lab redesign better serves student learning since it engages all senses, thus improving retention. It also illustrates mathematical contexts for connecting student experience and larger geologic phenomena.



Welcome to the STEM Center!

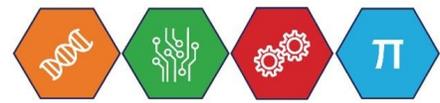
## STEM Peer Mentor Spotlight



### **Danny Rosales**

Peer Mentor, STEM Core Mathematics

My name is Danny Rosales and I am a Peer Mentor for the STEM Core Program at Mesa College. My major is Mechanical Engineering and I am planning to transfer to University of San Diego in the fall of 2020. During my time at Mesa College the STEM Center has been a huge resource for me and has helped me become a better student. The tutoring services the center offers have been crucial in my academic endeavors. Being able to check out laptops and have access to huge white boards has also made it a great place to study. It was actually a tutor from the STEM Center who first told me about the STEM Core Program which helped me advance in my math classes in order to transfer faster. So I am happy that I am able to give this year's STEM Core students some insight from someone who has gone through the program.



## Hours of Operation

<b><u>STEM Center</u></b> Monday - Thursday: 8 am - 8 pm Friday: 9 am - 3 pm	<b><u>Tutoring</u></b> Monday - Thursday: 9 am - 8 pm Friday: 10 am - 3 pm	<b><u>Counseling</u></b> Monday: 4 pm - 6 pm Tuesday: 12pm - 2pm Thursday: 10am - 12pm
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## Contact Our Team!

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