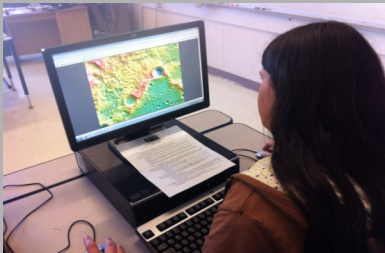


Not only does this class satisfy graduation and university requirements, but it also serves as a more practical lesson in that it will prepare students for post-secondary education that emphasizes the role of STEM (Science, Technology, Engineering and Mathematics) careers. Through mentoring by local engineers from the community (CH2MHill, Aircover Integrated Solutions, Society for Women Engineers, Pacific Medical Prosthetics & Orthotics, REU) as well as NASA engineers at John Hopkins University's Applied Physics Lab, students will be able to gain real-world experience that they wouldn't normally get in the regular classroom environment. This competency based applied learning methodology will contribute to the academic knowledge, problem solving skills, work aptitudes, technical skills and general employability skills of each student. We also hope to recruit, teach and encourage as many young women as possible to pursue STEM related careers.



**Shasta Union High School District
Career Technical Education**

Space Science and Engineering (Robotics)

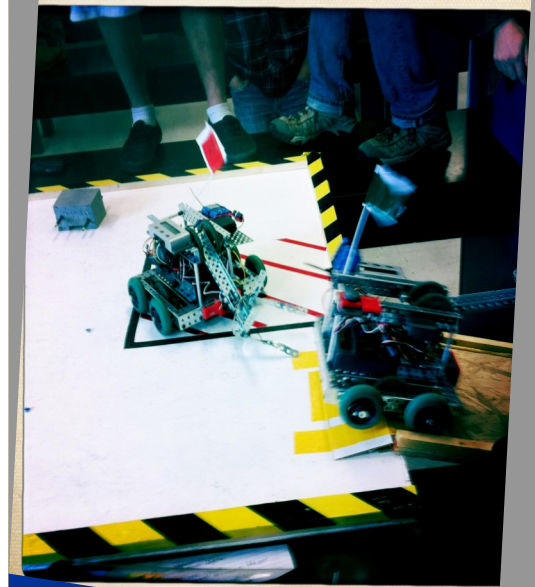
Instructor: Brian Grigsby

Class location:
Shasta High School
2500 Eureka Way
Redding, CA 96001
Room 317

Phone: 530-241-4161 ext. 15317

E-mail: bgrigsby@suhsd.net

CTE Space Science and Engineering (Robotics)



Space Science and Engineering

(also called Robotics) provides students with real, hands on experiences building robots, robotics systems and learning about real-world applications in the world of robotics. Our program is open to students that have had College Prep Biology and Chemistry. This two-period class not only satisfies the University of California's Lab Science requirement and elective requirement, but gains students their district computer proficiency requirement as well. Students will learn how to program robots, (using a version of C+ programming language), as well as conduct NASA research using authentic spacecraft data though several online based programs. Robotics places

students in situations that allow them to practice their new found knowledge, giving them real-world experiences they can't find

through any simulations.



The Space Science and Engineering (Robotics) class is part of the SUHSD Career Technical Education (CTE) program. The CTE program is designed to provide all students with opportunities for enhanced learning experiences, preparation for future career decisions and a realistic view of the world of work. This class is open to students across the district (Shasta, Foothill and Enterprise). This class is built around the fundamental understanding of the systems that make up robots, the importance of scientific exploration and the development of workplace competencies.

Students are trained to analyze, construct and test systems through robotics. Students will also be trained to conduct data analysis using real scientific data from established programs through NASA (Mars Exploration Student Data Teams and the Student Planetary Investigator programs). This class would ensure that students work with hands-on kits that teach engineering concepts. It gives the students opportunities to conduct authentic research with real NASA data as well as opportunities to work closely with real planetary scientists, through distance learning technology.

Career Technical Education allows students, educators and employers to strengthen the relationship between what is being taught in the classroom and its application in the workplace.

