

IN-CITE-FUL CONNECTIONS

Connecting Students to the *Real World*



CITE

SPRINGS
CHARTER SCHOOLS

Career Internship Technical Education

ENGINEERING



Courses in the Engineering Pathway

Engineering Essentials

Students learn to appreciate that technology is the application of knowledge and creativity to improve the standard of living. They practice Problem Solving and the Engineering Design Process, Developing Design Solutions, CAD (Computer Aided Design), and more!

Electrical and Computer Engineering

This class covers Electrical Prefixes, Ohm's law, Electrical Circuits, Soldering, Programming, building Apps, assembling and programming "Boe-Bots" and more!

Mechanical Engineering with CAD

Students gain understanding and practice in traditional drafting techniques and apply their knowledge to Computer Aided Design, which is an essential industry tool.

Pathfinder Student Center CTE Teacher, Paul Okeye and his students working collaboratively.



SO, WHAT IS ENGINEERING?

In simple terms, *engineers identify a problem, and come up with a solution* – often creating something completely new in the process.

Traditionally, engineering is about infrastructure. Engineers were known to create bridges and vehicles that got us from A to B faster more efficiently. Now engineering is acknowledged as a discipline that opens up opportunities and creates technology and products that *help make our lives easier*.

Engineers are shaping the future by applying their skills to almost everything you can think of, from medicine to renewable energy, food technologies to sustainable mining. There really is no limit to what engineers can do.

So, Engineering is Problem Solving. That's pretty much it. We problem solve- We use physics, chemistry, and math to do so.

While problem solving, students will simultaneously be *creative*, learn electrical circuitry, learn computer aided drafting skills, learn computer programming, learn about material properties, learn strength of materials, *learn how to manufacture, build, create*, learn how to work with tools, electrical components, and learn how it all affects our *environment and society*.

REASONS TO LOVE ENGINEERING

Help *shape* the future !

Be *creative*!

Solve problems!

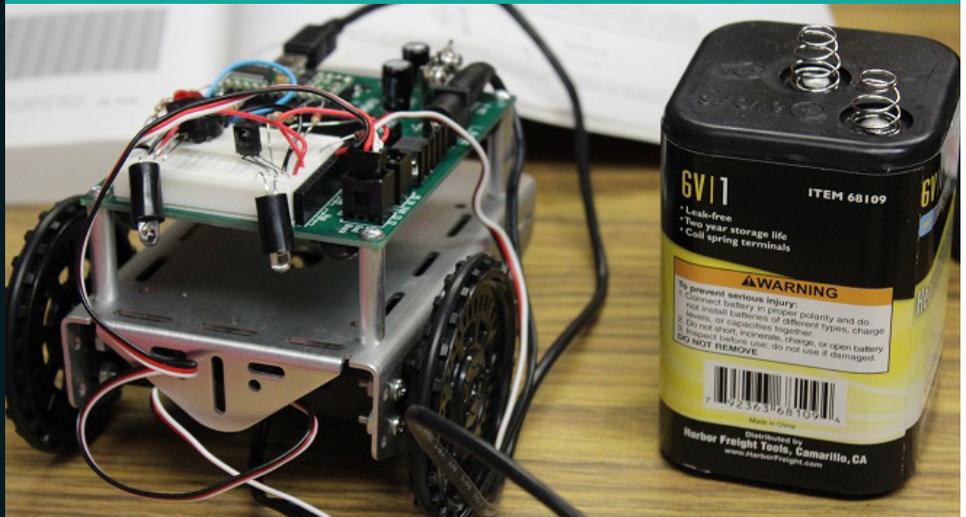
Design things that matter!

Never be bored!

Work with *great* people!

Earn a *big* salary!

Change the World!



Engineers are at the center of creative solutions to address current and future global challenges!

CAREERS IN ENGINEERING

Aerospace Engineering

Agricultural and Biosystems

Bioengineering and Biomedical

Chemical Engineering

Civil Engineering

Computer Engineering

Electrical Engineering

Environmental Engineering

Industrial Engineering

Manufacturing Engineering

Materials Science

Mechanical Engineering

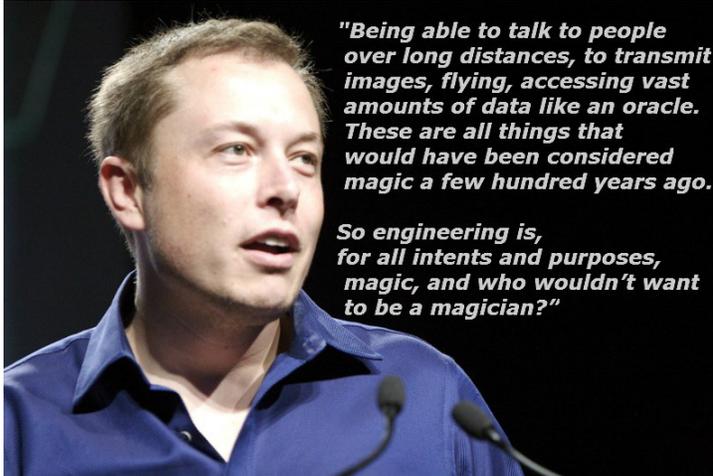
Nuclear Engineering

Petroleum Engineering



Meet an...

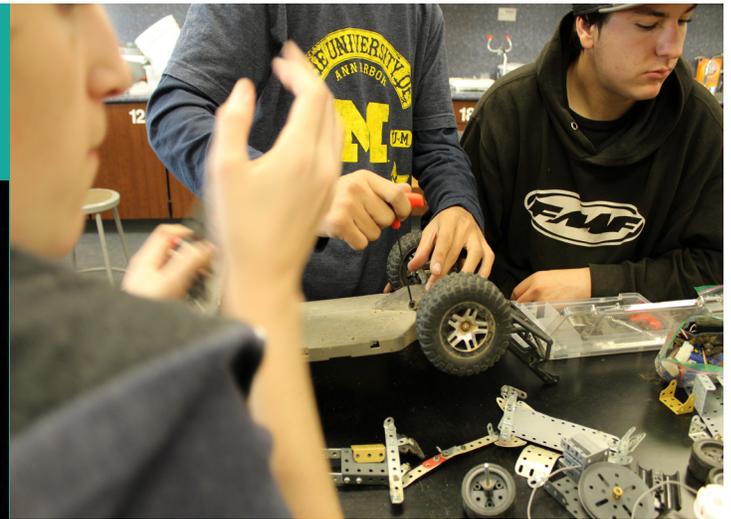
INDUSTRY STAR



"Being able to talk to people over long distances, to transmit images, flying, accessing vast amounts of data like an oracle. These are all things that would have been considered magic a few hundred years ago.

So engineering is, for all intents and purposes, magic, and who wouldn't want to be a magician?"

Elon Musk started PayPal, SpaceX, Tesla, and Solar City. He's an engineer and his work is changing the world!



Karrie Magrini's *Electrical Engineering* students at Temecula Student Center have *decided to make a rover that will deliver a beverage to a person*. Students have made their first iteration of a prototype using a remote control car, transistors, PVC pipes, a servo motor, and other materials. Next, the students will *make their own rover* and learn what they need to make the rover move via *electrical circuits* and *computer programming*.

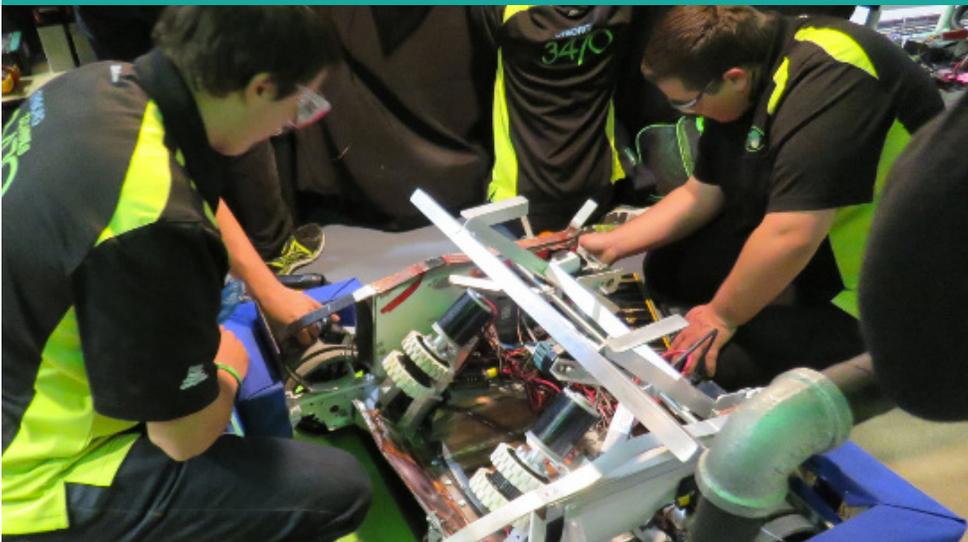


Sneak Peek...

ROBOTICS



"One of the reasons I love robotics is because you can come out of your shell, and you can make new friends and learn how the real world works!"



"I like robotics because of the collaboration that goes into making the robot and maintaining the team."



"Robotics is like a home away from home and the members are like family, that's why I love it!"

Stay tuned for a future "Robotics" issues of In-CITE-ful Connections!

Have you ever dreamt of building robots? Do you want to join a sport that requires more mental labor than physical activity? Are you interested in learning fun skills and creating memories that last? *Then we have a team for you!* Introducing the Cyborg Zombies and Pallindrones robotics teams! While the other kids spend their weekends in the blazing sun, we spend ours in our own office, working together to create our own unique robot to compete in FIRST Robotics competitions. This will not only be the the hardest fun you've ever had, but if you're in high school you'll actually get credits for it! *You can also get access to FIRST scholarships by being a part of the program!*

On January 7th the robotics season officially began, with our teams gathering together to celebrate the beginning of the season, learn about this year's challenge, and begin discussing robot designs. Everyone had an amazing time swapping ideas and being part of a close-knit team. *Does this sound like something you would be interested in?* We are currently scouting throughout our schools to find new team members to join us! If you're interested in programming, graphic design, engineering, or just want to try a new and interesting experience, come down and join us! *Once you see the robot you helped make score the winning point during competition, you'll know that you made the right choice to join one of our robotics teams.*