Engineering INSIGHT

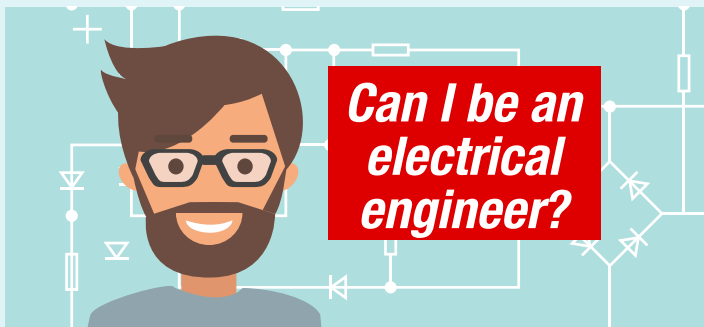From Texas Instruments
www.ti.com/engineeringinsight

Electrical engineering: Is it for you?

What do electrical engineers do?

They study electricity and design electrical systems that solve problems – how to make your smartphone smarter; how to make your refrigerator run more efficiently; coming up with the optimal temperature to heat pizza in your microwave; designing the audio and visual technology that brings movies to life. Modern conveniences we often take for granted are made possible by electrical engineers who look for and then design ways to make life easier, safer, greener and more fun!

Can I be an electrical engineer?

Electrical engineering is for you if you answer ...

- ❏ I often ask "how?" and "why?" and "what if"?
- ❏ I like to figure out answers to problems
- ❏ I like to work with others
- ❏ I want to make a difference in the world

Math scares me!

Well, the truth is, math matters, but…it isn't anything to be scared of. Ghosts? Yes. Math? No. Many successful engineers will tell you that they didn't enjoy math or find it easy when they were students, but they kept at it and now use math concepts every day to design inventions that improve our lives.

Math teaches us how to figure things out. And without math, we wouldn't have bionic limbs, video games, IMAX® 3-D and Dolby® digital and audio technology, or something as commonplace as refrigerator ice makers. Love math! It will love you back. Ghosts? Not so much.

Why be an electrical engineer?

Infinite opportunities to change the world in many career fields:

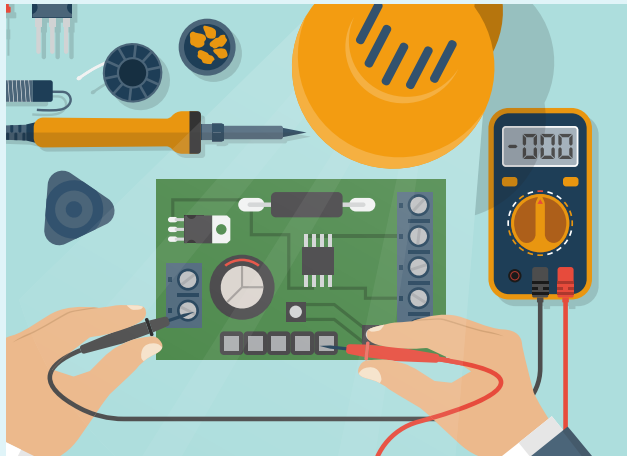| Aerospace and aeronautics	Develop new sensors, control systems and power supplies for airplanes and space vehicles.
Transportation	Design remote control systems for cars to be driven automatically on smart highways.
Medical	Remove today's barriers for the physically disabled by creating bionic limbs , eyes and even ears!
Energy	Make solar energy affordable and widely used.

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Electrical engineering: Is it for you?

What's my path during high school to becoming an electrical engineer?

1- Learn to code. If your school doesn't offer courses in coding, there are plenty of online resources.

2- Join clubs that make learning math fun! Robotics competitions are a great way to discover your inner math geek

3- Four years of math and science in high school. Don't get discouraged!

1,000 university engineering departments are offered in the U.S. Make appointments with electrical and computer engineering department heads and faculty and talk to them about what they look for in prospective students. Be brave and call them up! Participate in your nearest local university high school STEM camps if available. Tinker, take things apart, use your math skills to put things back together. Have fun!

Myths are myths.

If you're not naturally good at math, then forget about an engineering career.
WRONG! Thomas Edison's teachers told him he was unable to learn math. Yet, he is one of our greatest inventors.

Only nerds are engineers.
What's wrong with nerds? Yes, a lot of engineers are nerdy, but they are also musicians, athletes, chefs and artists. That's cool.

There's nothing new to invent.
WRONG AGAIN! As long as the world spins on its axis, there will be problems to solve. Engineers take "out there" ideas and see if they are possible to turn into reality. What problems will you solve?

Additional resources

IEEE's Try Engineering
www.tryengineering.org

TI STEM student resources
www.ti.com/education

Life as an engineer
www.ti.com/university

Engineers confess their path to engineering wasn't always easy
www.ti.com/engineeringinsight

10 minutes of code
www.education.ti.com/TICodes

Try out our starter engineering kit
www.university.ti.com/sidekick"

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