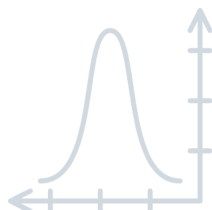
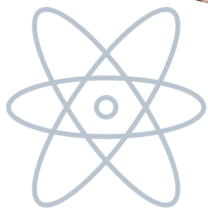




STUDENT ACTIVATION



Electro-Mechanical Engineer

OVERVIEW

Electro-mechanical engineers are creative, problem-solving, teamwork-oriented professionals who have knowledge in mechanical engineering, mechanical design, and electronics. They work for firms that manufacture and utilize products that are both electrical and mechanical in nature, such as robots, computer hardware, and power tools. They use computerized 3D modeling software and detailed drawings to create product designs and oversee the development of prototypes. They evaluate production plans to ensure they are achievable, adhere to customer requirements, and comply with government regulations. They develop criteria for product design and manufacturing plans, and ensure that projects meet minimum quality standards. They investigate issues that come up during production and formulate creative solutions to address these issues.

EVALUATE YOUR INTEREST

- I love learning by doing. My favorite activities at school involve hands-on experiences such as labs, field trips, and research.
- I am fascinated about how things work, particularly electronic devices and mechanical devices. I enjoy taking things apart to learn more about how they are designed.
- I am a natural leader who works well with others. During group activities, people turn to me for help to overcome challenges.
- I enjoy bringing people together from different areas of expertise with different strengths.
- I am a creative problem-solver. I have a knack for asking smart questions that help others identify problems and issues. I work with others to formulate solutions to problems.

Electro-Mechanical Engineer

STUDENT ACTIVATION (CONTINUED)



- I am a highly organized multi-tasker who can keep track of several projects at once, each with many moving parts.
- I am a rule follower, but also flexible. I can implement an existing plan, but make adjustments if problems arise.
- I love seeing how the complicated science and math concepts I learn about in the classroom apply to the real world.

CAREER CONNECTION

How does this career affect me?	What are some other similar careers?	How does this career affect the world?
<p>Devices that combine principles of electronics and mechanics play a crucial role in our everyday lives at home and in the workplace. Robotic devices help manufacturers mass produce goods safely and efficiently, and they are becoming increasingly important in homes as well. Power tools are used in workplaces in homes for a broad and nearly endless array of tasks, from repairing vehicles, to maintaining yards and landscapes, to creating furniture. Electro-mechanical engineers design and plan for the manufacture of these life-changing products. Their work makes these products more accessible to the general population. It also enables them to operate effectively and efficiently.</p>	<p>Electro-mechanical technicians operate and maintain electro-mechanical equipment, such as robots and power tools.</p> <p>Computer and Information Research Scientists are innovators who find new uses for computing technology and come up with ideas for new approaches to technology.</p> <p>Computer Hardware Engineers design, build and test computer hardware systems and parts.</p> <p>Electrical engineers design, develop, and maintain electrical equipment, including systems for generating power.</p> <p>Mechanical engineers design, develop, and maintain mechanical devices or devices with motors.</p> <p>Materials engineers develop and test materials used to manufacture products.</p>	<p>Electro-mechanical engineers are increasingly responsible for innovations that have advanced the fields of communications, medicine, heating and cooling, and transportation. Machines that use characteristics of human intelligence to solve problems combine principles of electrical and mechanical engineering. These include self-driving cars, vehicles with motion-detecting safety features, and production equipment that utilizes artificial intelligence. Electro-mechanical engineers design and manufacture products that make life easier at home and in the workplace.</p>

Electro-Mechanical Engineer

STUDENT ACTIVATION (CONTINUED)



TAKE ACTION

- Help to plan a household construction project, such as the building of a gazebo or patio, a room renovation, or the installation of a new appliance or entertainment system. Conduct necessary measurements. Think about the answers to these questions: In what order should tasks be completed? What tools will be needed? What materials and services need to be acquired? After the project is completed, reflect on how the planning process might be improved next time.
- Join a science-oriented club at school that is involved in designing and creating new products and applications that can solve problems.
- Possibilities include robotics, a computer science club, or coding. Establish as a personal goal to work to earn the opportunity to occupy a leadership position on a specific project or within the group as a whole.

