



CAREER PROFILE

Electro-Mechanical Engineer

JOB OUTLOOK^{3,5}

Based on projections for electrical and mechanical engineers, overall employment of electro-mechanical engineers is projected to grow at about the average rate for all occupations. Electro-mechanical engineers can work in any industries that produce products that combine principles of electronics and mechanics. Job growth is expected to be highest for firms that produce electronic devices for industry and home use, as well as in research and development positions that require engineering skills.

SALARY RANGE^{3,5}

\$82,190 – \$116,050

WHO ARE THEY?^{1,2,6}

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. Electro-mechanical engineers have a strong foundation in science and mathematics, particularly in physics, computer science, and engineering. They are able to collaborate with colleagues representing diverse areas of expertise to come up with creative solutions, ideas, and designs. Successful electro-mechanical engineers use their knowledge and creative skills to design and build a wide range of quality products that are used for commercial, medical, military, scientific, and household purposes.

WHAT DO THEY DO?^{1,2,3,4,5,6}

Electro-mechanical engineers design and plan the manufacture and testing of products that are both electrical and mechanical in nature, particularly products with electronic motors and controls. These include power tools manufactured by Stanley Black & Decker. 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.



CAREER PROFILE

Electro-Mechanical Engineer

EDUCATION/ TRAINING

- Bachelor's degree in electrical, mechanical, or electro-mechanical engineering
- 3–5 years of fieldwork experience in product development

HOW DO I BECOME ONE?^{1,3,5,6}

High school students interested in the field should take advanced coursework in physics, algebra, trigonometry, and calculus. Electro-mechanical engineers require at least a bachelor's degree in electrical or mechanical engineering. Some colleges now offer electro-mechanical engineering degrees. Higher-level positions may require a master's degree. A survey of job postings found that about half of employers require 3 to 5 years of experience, perhaps serving as an electro-mechanical technician. Electro-mechanical engineers are creative professionals who have strong math, science and computer skills. They also need communications skills for sharing ideas and delivering presentations of plans.

¹ "Electro-Mechanical Engineer," Online and Distance Education, NC State University, <https://online-distance.ncsu.edu/career/electro-mechanical-engineer>.

² "Electro-Mechanical Engineer: Job Description & Career Info," Study.com, https://study.com/articles/Electromechanical_Engineers_Job_Description_and_Info_About_a_Career_in_Electromechanical_Engineering.html.

³ "Electrical and Electronics Engineers," BLS Occupational Outlook Handbook, <https://www.bls.gov/ooh/architecture-and-engineering/electrical-and-electronics-engineers.htm#tab-2>.

⁴ "Aerospace Engineers," BLS Occupational Outlook Handbook, <https://www.bls.gov/ooh/architecture-and-engineering/aerospace-engineers.htm>.

⁵ "Mechanical Engineers," BLS Occupational Outlook Handbook, <https://www.bls.gov/ooh/architecture-and-engineering/mechanical-engineers.htm#tab-2>.

⁶ "Sr. Engineer, Electro-Mechanical," Job Listing, Stanley, Black and Decker, Monster.com, <https://www.monster.com/job-openings/sr-engineer-electromechanical-towson-md-bacd164c-cf09-47e5-9900-d9b9de3eae21>.