

Becoming a Robotics Engineer: What You Need to Do

Robotics engineers earn a median salary of \$96,980 per year.



Image courtesy of Interesting Engineer

Designing the world's top robots is a dream of many kids and teenagers. Robots have moved from science fiction into our everyday life. Better yet, robots that we previously thought would never be possible to create are now getting made. These are robotic machines like Boston Dynamics Spot mini or [Atlas which can do parkour](#).

Behind these innovative machines are robotics engineers. They are mechanical and electrical designers who constantly push the limits of robotic invention. Robots aren't just for looking cool though, robotic engineers are vital to the function of modern production lines and factories. Truth is, robotics are all around us and they have an impact on pretty much every product or object we come into contact with each day.

Through the work of robotics engineers, jobs are made safer and more efficient, they are slowly shaping the future of making things. So, let's take a look at what it takes to become a robotics engineer and what to expect if you become one.

What you'll need to become a robotics engineer

Robotics engineers, like any other professions in the engineering discipline, will need to be strong in math and sciences. However, most people think that engineers are just whizzes at math and science from the get-go, but that's rarely ever the case. For most engineers, at least the ones that complete their degrees, they aren't the people that are best at math naturally, they're the ones that stuck it out and put in the hard work.

All that said, starting the work on developing a good mathematics background starts in primary or high school. You'll want to work to place in advanced math classes if you can and possibly even start or join in a robotics club at your school. Robotics, like coding, are one of the interesting technical paths you can gain experience in with little formal education background.

As for college education, you'll definitely need to get an electrical or mechanical engineering degree. Some colleges have robotics engineering degrees, but most don't. The only benefit that these more specialized degrees provide over general mechanical engineering degrees are just that, your schooling is more specialized in what you're hoping to work in down the line. However, that can be a double-edged sword. Over-specializing in college can limit the scope of what jobs you can get down the line. You'll want to evaluate what path is right for you.

Electronics engineers turned robotics engineers will be more adept at the coding and electronics facets of robots. Mechanical engineers will be more adept at the mechanical function and design of robotic machines. All that said, either will do if you hope to become a robotics engineer.

Job experience is the biggest box you're going to want to check off the list on your path to becoming a robotics engineer. If possible, try to find an internship during college that will give you practical experience in robotics design. If you can't find an internship, then make sure some of your extra-curricular projects in college are robotics-based. When applying for a robotics engineering position, what will set you apart is experience, either through a job or personal project.

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The robotics engineering sector is expected to grow by about 4 to 6 percent in the next decade, so hopefully, you will have plenty of potential opportunities and your robotics engineering skills will likely be in demand for the foreseeable future.

What do robotics engineers do each day?

Robotics engineers will spend most of their time behind a computer screen on CAD software. This will involve designing and simulating robot designs. After all, you don't get to spend tons of money on building cool robots until you can design and test the robots in a digital computer-aided design space.

There will, of course, be some tinkering involved in the life of robotics engineers, but this will come further on in the development cycle.

Some robotics engineers are also responsible solely for the assembly of robots. Whereas others will specialize in implementing robots in specific manufacturing environments. Within the robotics engineering field, there exists a variety of these specialized responsibilities. At the end of the day though, robotics engineers will have to focus on designing robots that solve a specific problem. Your day to day duties list will look something like this:

- Designing the software for robotic systems, but in manufacturing and training environments
- The building, tinkering and modifying robots, both physically and in computer-aided design systems
- Developing automation solutions for manufacturing plants
- Writing machine learning algorithms to develop robotic artificial intelligence
- Research around new electronic components that you can use in the design of robotic devices

What are robotics engineer's job prospects?

Robotics engineers can expect to make a median salary of \$96,980 USD according to [2018 job data](#). That's a pretty sizeable income for a pretty interesting job, which makes a career path as a robotics engineer fairly desirable if you're interested in the field.

The industry is expected to grow 4 to 6% between 2018 and 2028, and there's not really any signs that robotics engineers will become less important in modern industry. In fact, it's more likely that robotics engineers will become more and more important to ensure that the manufacturing and production industries run smoothly.

Looking at data for mechanical engineers as a whole, that engineering field is expected to grow 4 percent in the next decade according to the United States Bureau of Labor Statistics, or BLS. Not only is the industry currently understaffed with qualified applicants, but companies are expected to have more and more job openings for robotics engineers in the coming years.

So, that's the field of robotics engineering. If you're interested in the career path, you can make a pretty respectable income designing some pretty incredible things. That said, if you do become a robotics engineer, just make sure you don't accidentally design the next terminator.

Article Courtesy of Trevor English, Interesting Engineer