



CAREER PROFILE

Mechanical Designer

Starting Salary Range ⁱⁱⁱ

\$43,000–\$70,000

Education/ Training ⁱⁱⁱ

- Associates degree in drafting or a related field
- Certifications to demonstrate specific areas of focus

Who are they? ⁱ

Mechanical designers, sometimes called drafters, create technical designs and specifications for mechanical equipment and devices. They may also work closely with engineering teams to create or improve manufacturing processes by designing new tools and technologies. Their work often relies on computer-aided design (CAD) software. Mechanical designers work in varied industries: from aerospace to automotive to government. The majority of mechanical engineers work in manufacturing, and at Stanley Black & Decker, they are a critical part of an innovative manufacturing process driven by state-of-the-art technology. If you have an artistic mind and want to use it to bring products and technology to life, you should consider a career as a mechanical designer.

What do they do? ⁱⁱ

Mechanical designers turn the broad ideas of engineers into plans of action. They may begin by meeting with project managers and engineers to understand their needs and how a new product or mechanical system could support their work. They then determine the product's specifications and decide what materials should be used to create it. Then, they move to the design phase where they use tools like CAD to create a blueprint and develop a digital model. The model will be tested and refined so that the mechanical designer is confident that they are delivering an optimized design to the engineering team that will build the new product or system.

How do I become one? ⁱⁱⁱ

Students interested in becoming mechanical designers will likely need to pursue associates' degrees and specialized training and certificates. An associate of applied science in drafting—which is offered at many community colleges and technical schools—or a related degree would be appropriate. These programs prepare students in the areas of design, sketching, and CAD software. Students often have the chance to specialize in skills needed for a particular industry, such as mechanical or architectural drafting. Once they've obtained a degree, individuals interested in this career may also pursue certification from the American Design Drafting Association, to illustrate advanced competency. High

school students can begin honing the skills necessary to excel in these programs and this career by taking mathematics, science, computer science, design, and graphic design courses, where available.

Job Outlook ^{iv}

Because the engineering services and construction industries are projected to grow, the US Bureau of Labor Statistics predicts that employment opportunities for mechanical designers will remain consistent. Mechanical designers with strong skills in CAD and building information modeling (BIM) technologies are projected to be the most competitive for jobs in this sector. There will be variations in job prospects based on the needs of local industries, so candidates should consider living in areas of the country where the specific industry of interest—for instance, manufacturing—is experiencing growth.

ⁱ "What Do Mechanical Designers (Drafters) Do?" Engineers Edge. https://www.engineersedge.com/mechanical_engineering/what_do_mechanical_designers_do.html

ⁱⁱ "Mechanical Designer: Job, Description, Duties and Requirements." Study.com. https://study.com/articles/Mechanical_Designer_Job_Description_Duties_and_Requirements.html.

ⁱⁱⁱ "Occupational Employment Statistics." Bureau of Labor Statistics. <https://www.bls.gov/oes/2017/may/oes173013.html>

^{iv} "Occupational Outlook Handbook." Bureau of Labor Statistics. <https://www.bls.gov/ooh/architecture-and-engineering/drafters.html>