

# Mechanical Engineers

SOC: 17-2141 • Career Profile Report

## ■ Key Facts

\$102,320

Median Salary

293,100

Employment

+9.0%

Growth Rate

## ■ Requirements & Salary Range

Education: Bachelor's degree

## ■ Automation Risk Assessment

**Low Risk** - 17.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

## ■ Work-Life Balance

**8.1/10** - Excellent work-life balance

## ■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	8.2/10	Investigative	8.8/10
Artistic	6.4/10	Social	5.2/10
Enterprising	5.8/10	Conventional	6.6/10

## ■ Top Skills Required

Creativity, Listening skills, Math skills, Mechanical skills, Problem-solving skills

### ✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

### ■ Challenges

- Burnout Risk
- Rapid Technological Change

## ■ What They Do

Mechanical Engineers typically perform the following tasks:

- Read and interpret blueprints, technical drawings, schematics, or computer-generated reports.
- Research, design, evaluate, install, operate, or maintain mechanical products, equipment, systems or processes to meet requirements.
- Specify system components or direct modification of products to ensure conformance with engineering design, performance specifications, or environmental regulations.
- Confer with engineers or other personnel to implement operating procedures, resolve system malfunctions, or provide technical information.
- Investigate equipment failures or difficulties to diagnose faulty operation and recommend remedial actions.
- Recommend design modifications to eliminate machine or system malfunctions.
- Research and analyze customer design proposals, specifications, manuals, or other data to evaluate the feasibility, cost, or maintenance requirements of designs or applications.
- Provide technical customer service.
- Oversee installation, operation, maintenance, or repair to ensure that machines or equipment are installed and functioning according to specifications.
- Assist drafters in developing the structural design of products, using drafting tools or computer-assisted drafting equipment or software.
- Conduct research that tests or analyzes the feasibility, design, operation, or performance of equipment, components, or systems.
- Develop or test models of alternate designs or processing methods to assess feasibility, sustainability, operating condition effects, potential new applications, or necessity of modification.
- Provide feedback to design engineers on customer problems or needs.
- Write performance requirements for product development or engineering projects.
- Estimate costs or submit bids for engineering, construction, or extraction projects.
- Develop, coordinate, or monitor all aspects of production, including selection of manufacturing methods, fabrication, or operation of product designs.
- Design integrated mechanical or alternative systems, such as mechanical cooling systems with natural ventilation systems, to improve energy efficiency.
- Calculate energy losses for buildings, using equipment such as computers, combustion analyzers, or pressure gauges.
- Recommend the use of utility or energy services that minimize carbon footprints.
- Perform personnel functions, such as supervision of production workers, technicians, technologists, or other engineers.

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Source: <https://www.bls.gov/ooh/architecture-and-engineering/mechanical-engineers.htm>