

# Bioengineers and Biomedical Engineers

SOC: 17-2031 • Career Profile Report

## ■ Key Facts

<b>\$106,950</b> Median Salary	<b>22,200</b> Employment	<b>+5.0%</b> Growth Rate
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## ■ 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

**7.2/10** - Good 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

Analytical skills, Communication skills, Creativity, Math skills, Problem-solving skills

### ✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

### ■ Challenges

- Burnout Risk
- Rapid Technological Change

## ■ What They Do

Bioengineers and Biomedical Engineers typically perform the following tasks:

- Evaluate the safety, efficiency, and effectiveness of biomedical equipment.
- Prepare technical reports, data summary documents, or research articles for scientific publication, regulatory submissions, or patent applications.
- Design or develop medical diagnostic or clinical instrumentation, equipment, or procedures, using the principles of engineering and biobehavioral sciences.
- Conduct research, along with life scientists, chemists, and medical scientists, on the engineering aspects of the biological systems of humans and animals.
- Adapt or design computer hardware or software for medical science uses.
- Maintain databases of experiment characteristics or results.
- Develop statistical models or simulations, using statistical or modeling software.
- Read current scientific or trade literature to stay abreast of scientific, industrial, or technological advances.
- Manage teams of engineers by creating schedules, tracking inventory, creating or using budgets, or overseeing contract obligations or deadlines.
- Develop models or computer simulations of human biobehavioral systems to obtain data for measuring or controlling life processes.
- Design or conduct follow-up experimentation, based on generated data, to meet established process objectives.
- Write documents describing protocols, policies, standards for use, maintenance, and repair of medical equipment.
- Communicate with bioregulatory authorities regarding licensing or compliance responsibilities.
- Develop methodologies for transferring procedures or biological processes from laboratories to commercial-scale manufacturing production.
- Collaborate with manufacturing or quality assurance staff to prepare product specification or safety sheets, standard operating procedures, user manuals, or qualification and validation reports.
- Research new materials to be used for products, such as implanted artificial organs.
- Prepare project plans for equipment or facility improvements, including time lines, budgetary estimates, or capital spending requests.
- Consult with chemists or biologists to develop or evaluate novel technologies.
- Confer with research and biomanufacturing personnel to ensure the compatibility of design and production.
- Recommend process formulas, instrumentation, or equipment specifications, based on results of bench or pilot experimentation.

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