



# Biomedical Engineer

STANDARD OCCUPATIONAL CODE 17-2031.00

## What They Do

Apply knowledge of engineering, biology, and biomechanical principles to the design, development, and evaluation of biological and health systems and products, such as artificial organs, prostheses, instrumentation, medical information systems, and health management and care delivery systems.

## Is This For You?

**Work Interests** are described in the following categories (compatible with Holland's Model). People who tend to succeed in this career are:

**Investigative** – Interested in working with ideas, and require an extensive amount of thinking. Involves searching for facts and figuring out problems mentally.

**Realistic** – Involve work activities that include practical, hands-on problems and solutions.

**Work Values** are aspects of work that are satisfying to you. The following work values are generally associated with this career:

**Working Conditions** – Offer job security and good working conditions.

**Achievement** – Results oriented occupation that allows employees to use their strongest abilities, giving them a feeling of accomplishment.

**Independence** – Allow employees to work on their own and make decisions.

**Abilities** reflect a person's aptitude to acquire skills and knowledge. The following abilities are important for success in the career:

- Deductive Reasoning
- Inductive Reasoning
- Mathematical Reasoning
- Problem Sensitivity
- Written and Oral Comprehension
- Written and Oral Expression

## Skills You Need

- Critical Thinking – Using logic and reasoning to identify the strengths and weakness of alternative solutions, conclusions or approaches to problems.
- Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions appropriate, and not interrupting at inappropriate times.
- Complex Problem Solving – Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
- Judgement and Decision Making – Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- Reading Comprehension – Understanding written sentences and paragraphs in work related documents.

## Education & Training

Biomedical Engineers need **at least a bachelor's degree in biomedical engineering or a related program**. Biomedical engineers are required to be licensed by the South Dakota Board of Technical Professions.

## Where They Work

Industries which employ the largest number of biomedical engineers are:

- Manufacturing Companies
- Universities
- Hospitals
- Research Facilities of Companies and Educational and Medical Institutions
- Government Regulatory Agencies

## US Employment & Wages

2016 Workers	2026 Workers	Numeric Change	Percent Change	Average Demand for Workers	Average Annual Wage
21,300	22,800	1,500	7%	20	\$88,040

## Activities: what you might do in a day

- Design electronic or computer equipment or instrumentation
- Research engineering aspects of biological or chemical processes.
- Supervise engineering or other technical personnel.
- Develop software or computer applications.
- Evaluation characteristics of equipment or systems.

## Additional References

### Career OneStop

[www.careeronestop.org](http://www.careeronestop.org)

### O\*Net Online

[online.onetcenter.org](http://online.onetcenter.org)