



Biomedical Engineer

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Job Description:

Biomedical engineers design new tools and devices to improve health care. They develop new ways to treat illness and disease.

Wages:

Average median yearly pay is about \$80,400 a year in Utah.

Schedule: Generally work an established schedule. May work overtime to complete important projects.



Gross Monthly Income:

\$6,700

Advancement: At large companies, new graduates usually work under the supervision of experienced engineers. As biomedical engineers gain experience, they are given more difficult projects and the independence to develop their designs. Those with leadership skills may move up to manage a team of engineers and technicians. Engineers who want to move into management quickly may advance by getting a master's degree in the field.

Some engineers with experience and professional contacts may start their own consulting firms.

Education & Experience:

- ◆ Completed High School
- ◆ Bachelor's degree in Biomedical engineering
- ◆ Have a license

High

School Courses:

- ◆ Anatomy and Physiology
- ◆ Computer Applications
- ◆ Computer Science
- ◆ Keyboarding

Work Conditions:

- ◆ Have a high level of interaction with others. They constantly interact with other engineers and scientist.
- ◆ Are exposed to diseases and infections on a weekly basis.
- ◆ Must be exact and extremely accurate in their work.
- ◆ Estimate sizes, quantities, time cost, or materials needed.
- ◆ Provide information or drawing about devices, equipment or structures.
- ◆ Analyze data or information

Travel: None

Job Outlook:



Small

Hours a Week:

40

Leisure Time:

Medium

Knowledge:

- ◆ Biology
- ◆ Mathematics
- ◆ Engineering & Technology
- ◆ Physics
- ◆ Chemistry
- ◆ Computers & Electronics
- ◆ Design
- ◆ Medicine & Dentistry

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Overview

Doctors heal sick people and engineers build bridges. Not that long ago, that was our (overly) simple understanding of medicine and engineering. However, in a few short decades, the relationship between engineering and the medical sciences has grown to form a new field: biomedical engineering. In this occupation, people use their knowledge of both technical design and biology to create medical equipment. This equipment can be as simple as a thermometer to something as complex as an artificial organ.

The first priority for biomedical engineers is safety. The equipment they design must not only work, but be safe for patients (especially if it is something surgically inserted into a body). Therefore, much of their work is spent testing their equipment to see what might go wrong and how to prevent problems.

Biomedical engineers use computers for a majority of their work. They use computers to model how organs and internal systems work. This allows them to see how the body would function with, or react to, a biomedical device. In addition, they research diseases and general biology. They also use computers to perform research on new materials, devices, and procedures. While most of us are familiar with the idea of artificial hearts and other organs, biomedical engineers also create new ways to detect disease.

An important part of this job is to work with other scientists, doctors, and engineers. Biomedical engineers often work as part of a team in order to design and test their ideas. In addition, they often work with hospital administrators on the best way to use their designs.

Pathway:

***Technology &
Engineering***