

# Biomedical Engineer



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633000

**Average per year**



56

**Hours per week**



Being Updated!

**Employment 2017**



Being Updated!

# Biomedical Engineer

Designing systems and products such as artificial organ and devices that replaces body parts and also develop machines for diagnosing medical problems.

## Outlook

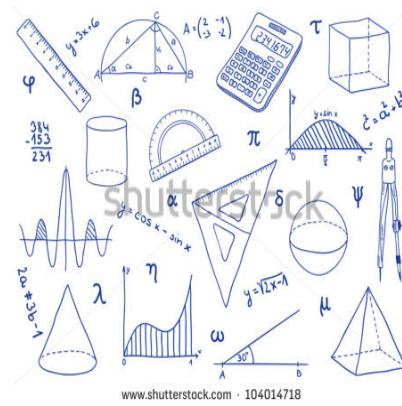
Stable - The growth outlook for this profession seems to be stable positive in the USA. However India outlook may be quite different and worth a check with your counselor, if this is a passion career pursuit for you.

## AI Redundancy Threat

Moderate- This profession seems likely to be moderately impacted by the automation and AI threat.

## Subjects





## Mathematics

## Abilities



## Scientific Reasoning



## Logical Reasoning



## **Social Ability**

### Activities

The tasks a Bio-medical Engineer is expected to perform include:

- Conducting research into biological aspects of humans or other animals to develop new theories and facts, or testing, proving, or modifying known theories of life systems, and Designing life - support apparatus, utilising principles of engineering and bio-behavioural sciences
- Planning and conducting research concerning behavioural, biological, psychological, or other life systems
- Studying engineering aspects of bio-behavioural systems of humans, utilising knowledge of electrical, mechanical, chemical, or other engineering principles and knowledge of human anatomy and physiology
- Developing mathematical models to simulate human bio-behavioural systems in order to obtain data for measuring or controlling life processes, utilising knowledge of computer, graphics, and other related technologies
- Designing and developing instruments and devices, such as artificial organs, cardiac pacemakers, or ultrasonic imaging devices, to assist medical or other health-care personnel in observing, repairing, or treating physical ailments or deformities

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- Specialising in design and development of biomedical equipment used by medical faculties and being known as Clinical Engineer

## Work Place

- It is a field job
- Need not handle a team
- Local travelling is not a part of this job
- Part-time work and contractual jobs are available in some cities
- Work from home option is not available

## Skills

- Knowledge of designing systems and products, such as artificial internal organs, artificial devices that replace body parts, and machines for diagnosing medical problems
- Ability to Install, adjust, maintain, repair, or provide technical support for biomedical equipment
- Well-versed in evaluating the safety, efficiency, and effectiveness of biomedical equipment
- Proficient in analysing and designing solutions to problems in biology and medicine

## Personality

- Exceptional communicator
- Strong interpersonal skills
- Analytical skills
- Mathematical skills
- Research and problem solving skills
- Attention to detail
- Analytical skills

- Technical abilities

## Education

10<sup>th</sup> Grade

12<sup>th</sup> Grade - Science

B.Tech or B.E.

M.Tech or M.E

Minimum –Degree in Science

## Certifications



## Licensing

Professional Engineer License

## Experience

Experience requirements varied

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## Growth Path

- Curated data unavailable. Will be provided as soon as possible

## Salary Range

- For candidates with up to 2 years' of experience – ₹ 10,000 to ₹ 20,000 per month
- For candidates with 2 to 5 years' of experience – ₹ 30,000 to ₹ 40,500 per month
- For candidates with over 5 years' of experience – ₹ 50,500 to ₹ 55,000 per month

(These figures are indicative and subject to change)

## Apprenticeships

Apprentice <http://mhrdnats.gov.in/>

<http://www.apprenticeship.gov.in/>

Internship <http://niti.gov.in/career/internship>

## General Information And Links

Life Science sector has three sub-sectors Pharmaceuticals, Bio-pharmaceuticals and Contract Research. Pharmaceutical industry falls under the broader umbrella of Life Sciences. Pharmaceutical industry is further classified into five sub- segments - Domestic Formulation Companies, Export Oriented Formulation Companies, API Manufacturers,



Contract Manufacturing of Formulations, and Nutraceuticals Products. Apart from core sub segments, Pharmaceutical is affected by Biopharmaceuticals and Contract research. Currently, the Indian pharmaceuticals sector ranks third globally in terms of volume sales and 10th, in terms of value. With the evolution of the sector, the boundaries between these sub-sectors are getting blurred. Biotechnologists are increasingly catering to pharma clients, while pharma companies now have biotech products in their fold. Indian pharmaceuticals sector has increasingly demonstrated growth in mid- teens over the last few years- inherent nature makes it recession proof. The pharmaceuticals sector presents diverse and lucrative opportunities for both domestic and foreign multinational companies. The sector is expected to reach US\$ 60 billion in 2017 (CAGR of 18 percent) whereas the industry size is expected to reach of US\$ 100 billion by 2020, thereby employing 1.5 million people in the sector by 2015, 1.898 million by 2018 and 2.464 million by 2022.

- Scientific research and development services across India
- Medical equipment and supplies manufacturing across India
- Pharmaceutical and medicine manufacturing across India
- General medical and surgical hospitals across India

#### **Info Links**

<http://www.nsdcindia.org/sites/default/files/files/Pharmaceuticals.pdf>

## Tags

Dancing

Blogging

Primary Health Care