

BIOMEDICAL ENGINEERING



INTRODUCTION

Biomedical engineers typically do the following: Design systems and products, such as artificial internal organs, artificial devices that replace body parts, and machines for diagnosing medical problems. Install, adjust, maintain, repair, or provide technical support for biomedical equipment.

Biomedical engineering, or bioengineering, is the application of engineering principles to the fields of biology and health care. Bioengineers work with doctors, therapists and researchers to develop systems, equipment and devices in order to solve clinical problems.

SKILL SET

- Keen interest in Biology & Mathematics
- Good communication skills
- Research And analytical skills
- Computational skills
- Aptitude for life Sciences
- Critical Thinking & Record keeping

ELIGIBILITY

B.E. Biomedical Engineering: Eligibility. Candidate must have passed the 10+2 or equivalent examination from a recognized state or central board with at least 50% (40% to 45% for reserved category candidates) of the marks with Physics, Chemistry, and Mathematics/Biology as the major subjects of study.

COURSE AREA

- The course is of 4 years duration
- The candidates have to appear for the entrance examination conducted by the respective institution.
- After +2, one can directly do B.E. in Biomedical Engineering, Or
- B.E in other branches of engineering then become a Bio medical professional by completing a postgraduate course in Biomedical engineering.
- Or, one can do B.E in any branch of Engineering and go for a postgraduate course in Medical Technology, which is considered equivalent to a postgraduate course in Biomedical Engineering.

WonderSkool (WS Education Pvt. Ltd.)

+91 172 460 40 48

SCO - 21, 1st Floor, Sector - 11
Panchkula - 134109

info@wonderskool.com
www.wonderskool.com

- One could also take up this career after completing an MBBS degree and then opt for a postgraduate degree in Biomedical Engineering/ Medical Engineering/ Medical Technology.

JOB PROSPECTS:

- **Bioinstrumentation** - It specializes in the application of electronics and measurement techniques to develop devices for diagnosis and treatment of diseases.
- **Biomechanics** - Biomechanics is the application of mechanical principles on living organism and also the analysis of mechanics of organisms.
- **Biomaterials** - This area of science is about the natural or manmade material used for the medical application.
- **Molecular, cellular and Tissue Engineering** - It deals with the development of artificial materials and tissue that used for artificial blood vessels and organs, replacement of skin and bone.
- **Clinical Engineering** - It deals with develop and maintain computer database of medical instruments and equipment record in hospitals.
- **Orthopaedic Bioengineering** - This science helps to understand the function of the bones, muscles and the joints. It also helps to design and develop artificial joint replacement.
- **Navigation Systems** - It is a specialized branch that use software tools and specialized imaging equipment to create a digital picture of the insides of a human patient's body.
- **Rehabilitation Engineering** - It is used to design, develop, adapt, test, evaluate, apply and distribute technological solutions to problems faced by individuals with disabilities like communications, hearing, and vision. The Rehabilitation engineers improve the capabilities and develop the quality of life for such individuals.
- **Systems physiology** - It is the study of living systems including molecular processes, isolated tissues, organ systems and the whole organism. This study also includes the analysis of how various organs interacts and function.

CAREER FIELDS:

Pharmaceuticals	Medical institutions	Medical Research
Medicine	Modern health care	Government Regulatory agencies
Universities/Colleges	Hospitals	Industrial Firms

WonderSkool (WS Education Pvt. Ltd.)

+91 172 460 40 48

SCO - 21, 1st Floor, Sector - 11
Panchkula - 134109

info@wonderskool.com
www.wonderskool.com

Employed by companies like -

- BPL
- Larsen & Toubro
- Wipro
- Medical and Siemens.

TOP COLLEGES

- **IIT , Kanpur**
Course: Biological Sciences & Bio-engineering
Eligibility: 12th with PCM
Selection Process: JEE Main + JEE Advance
- **SRM University : Department of Biomedical Engineering, Ghaziabad**
Course: B.Tech Biomedical Engineering
Eligibility: Minimum 50% aggregate in PCM / PCB
Selection Process: SRMJEEE
- **Thapar Institute of Engineering and Technology, Patiala**
Course: B.Tech in Biomedical
Eligibility: 10+2 with PCB
Selection Process: NEET score/10+2 PCB merit.
- **VIT University, Vellore**
Course: B.Tech Biomedical Engineering
Eligibility: 10+2 with 60% in PCM/PCB but after joining VIT, registering for Mathematics as a bridge course is mandatory only for PCB
Selection Process: VITEEE
- **National Institute Of Technology - [NIT], Rourkela**
Course: B.Tech Biomedical Engineering
Eligibility: 10+2 with 50% marks in PCM/PCMB
Selection Process: JEE Mains



➤ **Manipal Institute Of Technology - [MIT], Manipal**

Course: B.Tech Biomedical Engineering

Eligibility: 10+2 with 50% marks in PCM/PCMB

Selection Process: Manipal University Online Entrance Test (MU-OET)

➤ **Deenbandhu Chhotu Ram University Of Science And Technology , Sonipat**

Course: B.Tech Biomedical Engineering

Eligibility: 10+2 with PCM/PCMB

Selection Process: JEE Mains

Disclaimer: The information provided here is best to our knowledge. It is highly recommended that you should cross-check the source of information through the specific Colleges and Institutes. WonderSkool (WS Education Pvt. Ltd.) is in no way responsible for the decisions made solely on the basis of this document.

WonderSkool (WS Education Pvt. Ltd.)

SCO - 21, 1st Floor, Sector - 11
Panchkula - 134109

+91 172 460 40 48

info@wonderskool.com
www.wonderskool.com