



# BIOMEDICAL ENGINEERING INTERNSHIP ROADMAP



## Program Overview

### PROGRAM NAME

Biomedical Engineering Internship Roadmap

### DURATION

Flexible semester-wise program (5 semesters)

### MODE OF TRAINING

Hands-on practical sessions with real biomedical machines

### TRAINING APPROACH

Step-by-step guidance from industry professionals



## Who Can Join?

### Academic Background

Diploma / UG / PG  
students of  
**Biomedical  
Engineering**

### Interest Areas

Students interested in  
**medical devices,  
hospital equipment,  
and electronics**

### Experience Level

No prior experience  
needed — just an  
**interest to learn!**

### Prerequisites

- ✓ Basic knowledge of electrical circuits and electronic components
- ✓ Understanding of fundamental mathematics (algebra, trigonometry)
- ✓ Familiarity with basic physics concepts (current, voltage, resistance)
- ✓ Computer literacy and internet access for online sessions
- ✓ Interest in hands-on practical work and problem-solving



# Semester-wise Curriculum

## Semester I – Introduction to Biomedical Engineering

- Understand the role of biomedical engineers in healthcare and hospitals
- Basics of how biomedical machines function
- Introduction to biomedical signals (ECG, EEG, EMG, etc.)
- Healthcare industry overview and career opportunities
- Medical device regulations and standards
- Introduction to hospital equipment and systems

## Semester II – Understanding Equipment

- Learn the working principles behind hospital machines
- Understand how machines operate and respond
- Explore input and output signals in medical devices
- Patient monitoring systems and their functions
- Safety protocols in medical device handling
- Introduction to medical device testing procedures

## Semester III – Biosensors & Electronics

- What are biosensors and how do they detect biological signals?
- Learn about electronic components used in medical devices
- Understand the function and usage of resistors, capacitors, and ICs
- Signal conditioning and processing techniques
- Introduction to microcontrollers in medical devices
- Biosensor calibration and maintenance

## Semester IV – Assembling & Component Analysis

- Hands-on training on assembling biomedical devices
- Identify components on circuit boards and their role
- Learn how each part interacts to power a medical device
- PCB analysis and component replacement techniques
- Quality control and testing procedures
- Documentation and maintenance records

## Semester V – Troubleshooting & Service

- Learn how to identify problems in faulty equipment
- Understand step-by-step repair and service techniques
- Case studies on common device issues and fixes
- Advanced diagnostic tools and methods
- Preventive maintenance strategies
- Professional service reporting and documentation

## Learning Outcomes

Upon completion of this internship, students will be able to:

 Understand biomedical engineering principles in healthcare

 Operate and maintain medical devices safely

 Analyze biosensors and electronic components

 Assemble and troubleshoot biomedical equipment

 Apply safety protocols in medical environments

 Document service reports professionally



## Certification & Assessment

### SEMESTER-WISE CERTIFICATES

Individual certificate awarded upon successful completion of each semester

### SKILLS ASSESSMENT

Practical evaluation and project-based assessment for each semester

### PROGRESS TRACKING

Continuous monitoring and feedback throughout the program

### INDUSTRY RECOGNITION

Certificates recognized by leading electronics companies



## How to Apply

1. **Contact us** via email or phone using the details provided below
2. **Submit** your academic details and specific area of interest
3. **Receive** program confirmation and detailed information
4. **Complete** enrollment process to secure your position
5. **Access** study materials and training schedule

## Key Features & Benefits



### Real Machine Experience

Hands-on sessions with real biomedical machines



### Professional Guidance

Step-by-step guidance from industry professionals



### Confidence Building

Gain confidence to work in hospital equipment servicing



### Semester Certificates

Certificates after each semester completion



### Career Enhancement

Great addition to your resume and job placements



### Future Ready

Become future-ready in medical technology

## Contact & Registration

 EMAIL ADDRESS

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 PHONE NUMBER

+91-7695946008

 WEBSITE

[www.aspintechnologies.in](http://www.aspintechnologies.in)

### About Aspin Technologies

*Aspin Technologies is dedicated to bridging the gap between academics and industry for Biomedical Engineers. Join our program to become future-ready in medical technology!*

Ready to start your journey in Biomedical Engineering?  
Contact us today to secure your position in this comprehensive internship program!