



Karunya

DEEMED UNIVERSITY

SOLVING HUMAN PROBLEMS
NAAC Accredited A++



Accredited by NBA for 3 Years



World University
Rankings 2025
1201-1500 Band



in collaboration with

PHOENIX
Phoenix Medical Systems (P) Ltd

Division of
**BIOMEDICAL
ENGINEERING**

“Engineering Health. Empowering Life.”

ADMISSIONS

2026



**CATEGORY 1
Institution
UGC GoI.**



About Us

Biomedical Engineering is a multidisciplinary field that blends biology and engineering. This discipline encompasses the knowledge of biological principles in the realm of engineering design. The division was established in the year 2009 and has maintained an exceptional track record in academics, placement, industrial training and research activities. Biomedical Engineering has a direct effect on human life thus making it unique and attractive. The ever-increasing call for biomedical engineers is pertinent to our society's demand for efficient and convenient healthcare, thus opening opportunities for newer specializations such as Artificial Intelligence and Machine Learning, Data Sciences in healthcare. Being an interdisciplinary field, Biomedical Engineering has almost endless possibilities owing to its large-scale investment in industries. The curriculum is carefully designed to ensure that the students develop a strong foundation in biomedical engineering and familiarise themselves with other engineering disciplines to work on a multidisciplinary innovative platform.

The program gives prime importance to creative and independent thinking and facilitates problem-solving skills through hands on training in laboratories and hospitals. The wide scope of biomedical engineering allows students to choose from an array of research and higher studies options and assures placements in hospitals, medical equipment manufacturing and servicing companies, coding firms, smart healthcare systems, signal and image processing sectors in IT industries.

Our Vision

To be a pre-eminent learning and research centre in Biomedical Engineering, and raise competent professionals and researchers dedicated to community development and nation-building.

Our Mission

- Empower students with in-depth knowledge in the field of Biomedical Engineering and equip them with problem-solving abilities.
- Upskill students in translational research and promote innovation and entrepreneurship leading to publications, patents and products.
- Instil professional, social, and ethical principles among students contributing to sustainable development of society through technological interventions.

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knowledge of biological principles in the realm of engineering design. The department was established in the year 2009 and has maintained an exceptional track record in academics, placement, industrial training and research activities. Biomedical Engineering has a direct effect on human life thus making it unique and attractive. The ever-increasing call for biomedical engineers is pertinent to our society's demand for efficient and convenient healthcare, thus opening opportunities for newer specializations such as Artificial Intelligence and Machine Learning. Being an interdisciplinary field, Biomedical Engineering has almost endless possibilities owing to its large-scale investment in industries. The curriculum is carefully designed to ensure that the students develop a strong foundation in biomedical engineering and familiarise themselves with other engineering disciplines to work on a multidisciplinary innovative platform. The program gives prime importance to creative and independent thinking and facilitates problem-solving skills through hands-on training in laboratories and hospitals. The wide scope of biomedical engineering allows students to choose from an array of research and higher studies options and assures placements in hospitals, medical equipment manufacturing and servicing companies, coding firms, signal and image processing sectors in multinational companies.

Programs Offered

- **B.Tech.** Biomedical Engineering
- **B.Tech.** Biomedical Engineering (Specialization in Artificial Intelligence and Machine Learning (AI & ML))
- **M.Tech.** Biomedical Instrumentation
- **Ph.D.** Biomedical Engineering - Full Time & Part Time

Eligibility

- **B.Tech. BME / B.Tech. BME (AI&ML):** Pass in +2 with PCB / PCM / PCC / Diploma in all branches
- **M.Tech. BMI:** Pass in B.E / B.Tech in BME, BMIE, EIE, ICE, EEE, ECE, CSE, IT, Medical Electronics, Mechatronics, Robotics & Automation, BPT and MBBS.



MoU / MoA Signed

The division has active collaborations with the following Industries:

- Siemens Healthineers, Bangalore.
- Jubilee Mission Medical Hospital and Research Center, Thrissur.
- Karunya Hospitals, Karunya Nagar, Coimbatore.
- Jasmin Infotech, Chennai.
- Salzer Electronics Pvt. Ltd, Coimbatore.
- TMI Systems, Bangalore.
- Cyrix Healthcare Pvt. Ltd, Cochin.

Laboratories / Facilities

The department has an excellent lab facility with industrial standards. Few of the exemplary labs are:

- Bio Signal & Medical Image Processing Lab
- Diagnostics and Therapeutics Lab
- Virtual Instrumentation Lab
- Surgical and Critical Care Equipment Lab
- Wearables and IoT Lab
- Bio-Sensors and Transducers Lab
- Medical Electronics and Troubleshooting Lab
- Medical Devices and Development Lab
- Bio-Mechanics Lab
- AI/ML Lab

Short-term / Certificate / Add-on Courses / Industrial Training Offered

Hands-on Sessions/ Practical Training is given to students to impart practical skills required by the Industry.

- MATLAB & LabVIEW Training
- Python and Embedded Programming
- Medical Equipment Troubleshooting
- Artificial Intelligence and Machine Learning Workshop
- Harvey Advanced Training in Biomedical Applications
- IBSC Certification Program
- Siemens Industry Interface Program

Research Activities

Key Focal Areas:

- Design of handheld Medical Equipment / Assistive Devices
- Medical Diagnosis & Therapeutics / Rehabilitation
- Artificial Intelligence and Machine Learning
- m-Health and Smart IoT Healthcare Systems
- Wearable Healthcare Devices for Children & Elderly
- Neuroscience & Technology
- Biosignal / Medical Image Processing
- Surgical Planning

Patents

The department has 23 patents to its credits out of which 12 has been granted.



Sponsored Projects

A. National Funded Projects:

- Voice Enhanced Assistive and Safety Device for Elderly Persons, funded by Department of Science & Technology, Govt. of India.
- Demask – Biowaste Management Kiosk, funded by Indian Council of Medical Research (ICMR). Govt. of India
- Enhanced Source Separation Tool for Interrogating Neurological Disorders, funded by Department of Science & Technology, Govt. of India.
- Development and Assessment of a Portable Oxygen Concentrator for Patients with Mild Respiratory Failure, funded by Indian Council of Medical Research (ICMR). Govt. of India.
- Development of a Virtual Reality Training System for Post Stroke Upper Limb Rehabilitation funded by Indian Council of Medical Research (ICMR). Govt. of India
- Wireless Soft Flexible Membrane Electronic Device for Enhanced Cardiac Care in Children, funded by DST, Govt. of India.
- Development of smart wearable belt for posture management for low back pain patients and sedentary civilization.

B. International Funded Projects:

Harvard Medical School funds the exemplary project proposals submitted by students. 20 such projects have been funded so far. Few are listed below

- A novel device for cleaning cloth sanitary pads integrated with a blood loss measurement unit, funded by Harvard Medical School and Boston Children's Hospital, USA.
- Navigational Aid to the Visually Impaired using GPS module via text to speech, funded by Harvard Medical School and Boston Children's Hospital, USA
- Design of a low cost CPAP, funded by Harvard Medical School and Boston Children's Hospital, USA.
- Design and Development of Non-Invasive Blood Pressure monitoring system using an Optical Sensor Array, funded by Harvard Medical School and Boston Children's Hospital, USA.
- Design of the anti-snore assistive device, funded by Harvard Medical School and Boston Children's Hospital, USA

International Internships



D. SMIRNAH CURLIN
Ben-Gurion University,
Israel



TRINITA SABRINA XAVIER
University of Tehran,
Iran



M. GIDEON
State University of Sao Paulo,
Brazil



REBEKKAH RACHEL WOOD
Ben-Gurion University,
Israel

Testimonial



Ms. TANYA SAIRA JOHN

My journey at Karunya Institute of Technology and Sciences has been truly transformative. As a 2025 graduate of the B.Tech Biomedical Engineering programme, I am grateful to have completed my degree as the class first and the Best Outgoing Student with a CGPA of 8.97. Karunya provided me with an environment that nurtured innovation and research, enabling me to publish two patents and two IEEE conference papers during my course of study.

One of the most defining moments of my academic journey was participating in the BIOMED Bharat Hackathon, where my team and I secured third place along with a cash prize of ₹50,000. The research exposure and hands-on learning at Karunya played a crucial role in helping me earn a six-month internship at the Electrical Engineering Department of IIT Madras—an experience that significantly shaped my professional growth.

With the strong foundation, mentorship, and training I received at Karunya, I am now working as a Regulatory Affairs professional at Elexes Medical Consulting, Bangalore. I am deeply thankful to the university for preparing me to step confidently into the biomedical industry and for empowering me to pursue excellence in everything I do.

Our Recruiters



Ms. REBEKKAH RACHEL WOOD

I am Proud Karunyan from the Biomedical Engineering Department of Karunya Institute of Technology and Sciences. I had the privilege to intern at Ben-Gurion University's Biomaterials Engineering lab, during my 8th Semester. I am working on biodegradable metals that would revolutionize the orthopedic implant industry in the years to come. This internship sharpened my mindset and gave me the technical skills to propel me into my next journey. Six surreal months of learning and thriving in the startup nation, Israel, was an experience I wouldn't exchange for the world. I am grateful to the department and the University for unfolding this opportunity.

Scope of Employability



The Head of Division

Division of Biomedical Engineering

Karunya Institute of Technology and Sciences,

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