BE Biomedical Engineering

Department of Biomedical Engineering

About the Department

- Biomedical engineers analyze and design solutions to biological and medical problems with the aim of improving healthcare.
- Work areas include **designing instruments, devices, and software** for diagnostics and therapy.
- Serve in **industry, hospitals, research facilities, teaching, and government agencies**.
- Act as coordinators/intermediaries combining **engineering and medical knowledge**.
- Focus areas:
    - Development of medical technology.
    - Integration of engineering into public health and hospitals.
    - Improving diagnosis and therapy.
    - Biomedical information storage and retrieval.

Head of the Department

Dr. N. Sathish Kumar, B.E., M.E., Ph.D

- Leader in **health-related technologies** with a multidisciplinary approach.
- Driving force behind **student training in medical electronics, rehabilitation engineering, molecular diagnostics, medical data science, and therapy design**.
- Collaborations with **Sri Ramakrishna Hospitals, Coimbatore** give students real-world exposure.
- Structured program designed to meet the **growing demand** in healthcare services and biomedical innovation.

Vision

“To develop into a center of merit in Biomedical Engineering, providing quality education, with orientation towards research and innovative development of health care products that will significantly enhance the quality of life.”

Mission

- Provide quality education in Biomedical Engineering.
- Focus on **research and innovative healthcare product development**.
- Enhance **quality of life through education, research, and industry partnerships**.

Programme Educational Objectives (PEOs)

Graduates of Biomedical Engineering will:

1. Accomplish professional success with social responsibility.
2. Work effectively in **core Biomedical Engineering areas**.
3. Contribute to **industries, hospitals, government agencies, and entrepreneurship**.
4. Pursue lifelong learning via higher studies, research, and innovation.

Programme Outcomes (POs)

Engineering graduates will be able to:

1. Apply engineering knowledge (math, science, computing).
2. Analyze complex engineering problems and provide sustainable solutions.
3. Design and develop biomedical systems for healthcare needs.
4. Conduct investigations with modern research-based methods.
5. Use engineering & IT tools effectively.
6. Evaluate societal & environmental impact of biomedical solutions.
7. Apply ethical principles in professional practice.
8. Work effectively as individuals and team members.
9. Communicate effectively with diverse stakeholders.
10. Apply project management & finance in healthcare engineering.
11. Engage in lifelong learning and adapt to emerging technologies.

Programme Specific Outcomes (PSOs)

- **PSO 1**: Design/test electronic systems for physiological/biochemical measurement, medical imaging, and therapeutics.
- **PSO 2**: Apply ICT tools for biomedical signal/image processing and analysis.
- **PSO 3**: Design implants, prosthetics, orthotics, artificial tissue, drug delivery systems using biomechanics & nanotechnology.

Laboratories

- Medical Equipment Service Training Centre
- Biomechanics & Bio-modelling Laboratory
- Biosensors Laboratory
- Biosignal & Medical Image Analysis Laboratory
- Bioscience Laboratory
- Molecular Diagnostics Laboratory
- Computing & Project Laboratory

Faculty

- **Dr. N. Sathish Kumar** – HoD
- **Dr. Deepa B. Prabhu** – Associate Professor
- **Dr. V. Radhika** – Associate Professor
- **Mrs. L. Dhiviyalakshmi** – Assistant Professor (Sl. Grade)
- **Mrs. G. Lavanya** – Assistant Professor (Sl. Grade)
- **Dr. R. Saranya** – Assistant Professor (Sl. Grade)
- **Mr. S. Vigneshwaran** – Assistant Professor (Sr. Grade)
- **Mrs. A. Rasheedha** – Assistant Professor (Sr. Grade)
- **Dr. P. Vishnu Vardhan** – Assistant Professor (Sr. Grade)
- **Dr. Shilpa Joy** – Assistant Professor (Sr. Grade)
- **Dr. A. Mahalakshmi** – Assistant Professor
- **Mrs. K. Chamundeswari** – Assistant Professor
- **Ms. R. S. Karthika Shivaani** – Assistant Professor

Technical / Supporting Staff

- Mr. P. Rajeshkumar
- Mrs. S. D. Soundaravalli
- Mrs. V. Leelavathi
- Mr. Praveen John G
- Mrs. M. Padma
- Mrs. J. Vinodhini