

# ACHARYA INSTITUTE OF TECHNOLOGY

Affiliated to VTU







- Accredited, industry-aligned programs with expert faculty.
- Access to LinkedIn and high-performance laptops for seamless learning.
- In-demand certifications in EV, Cyber Security, and more for career advantage.
- Global exposure through partnerships and a diverse student body.
- Cutting-edge labs and a digital library for comprehensive resources.
- Collaborations with top corporations offering internships and projects.
- Vibrant clubs and activities focused on holistic development.
- Robust placement support with 550+ recruiting companies annually.

B.E BIOTECHNOLOGY ENGINEERING

#### **About**

Biotechnology engineering combines technology and biological sciences to create or alter products to benefit human health and society at large. In addition to healthcare, biotechnology is also employed in agriculture, food production, environmental management, and industrial processes.

## **Career Scope**

Addressing Global Challenges: A graduate in biotechnology engineering can implemen solutions for worldwide challenges, including healthcare, agriculture, and environmental sustainability. A biotechnology engineering degree opens doors to careers in the development of new drugs, medical devices, and diagnostic tools.

Career Opportunities: Graduates can work in pharmaceuticals, healthcare, agriculture, food processing, environmental management, and more.

Sustainable Agriculture: Graduates have the

# **Eligibility**

the year of admission.

Pass in 10+2 / Higher Secondary (HS) / Pre University (PUC) / 'A' Level (with 12 years of schooling) or its equivalent with English as one of the languages. Shall have secured a minimum of 45% marks in aggregate in Physics, Mathematics and any one of the following: Chemistry, Biology, Computer Science, Electronics. AIT admits students as per prevailing rules and regulations of VTU.

Candidate must have completed 17 years by June - for

opportunity to revolutionise the agricultural sector

as well. They can contribute to crop improvement, pest resistance, and the development of bio-fertilizers.

Duration Vegrs

# **COURSE CONTENT**

#### Semester 1

- Mathematics I for Biotechnology Engg. Stream
- Applied Physics for BT Stream
- Principles of Programming Using C
- Engineering Science Course I
- Emerging Technology Course I
- Programming Languages Course I
- Communicative English
- Professional Writing Skills in English
- Samskrutika Kannada / Balake Kannada
- Indian Constitution
- Innovation and Design Thinking
- Scientific Foundations of Health

#### Semester 3

- Cell Biology and Genetics
- Unit Operations + Lab
- Biochemistry + Lab
- Microbiology
- Microbiology Lab
- Engineering Science Course
   Python Programming
   Human Anatomy and Physiology
   R programming for Biologists
   Plant Physiology and Phyto-hormones
- Social Connect and Responsibility
- Ability Enhancement Course /Skill Enhancement Course - III
  - Bio-Lab Management and Risk Assessment Data presentation, Error Analysis and Inferences Analysis Of Dairy Products Lab Biodiversity and Conservation Law
- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoga

#### Semester 2

- Mathematics II for Biotechnology Engg. Stream
- Applied Chemistry for BT Stream
- Computer Aided Engineering Drawing
- Engineering Science Course II
- Programming Language Course II
- Emerging Technology Course II
- Professional Writing Skills in English
- Communicative English
- Indian Constitution
- Samskrutika Kannada / Balake Kannada
- Scientific Foundations for Health
- Innovation and Design Thinking

#### Semester 4

- Molecular Biology & Genetic Engineering
- Biostatistics and Tools + Lab
- Immunotechnology + Lab
- Molecular Biology & Genetic Engineering Lab
- Engineering Science Course
   Biochemical Thermodynamics
   Marine Bioresources and applications
   Bioprocess Principles and Stoichiometry
   Structural Biology and Biophysical Techniques
- Ability Enhancement Course / Skill Enhancement Course- IV
  - Hydroponics, Aquaponics and Aeroponics
    Water Analysis Lab
    Extraction methods and herbal products lab
    - Extraction methods and herbal products lab Biopesticides and Biofertilizers
- Biology For Engineers (Dr VM, SCE)
- Universal human values course
- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoqa



#### Semester 5

Bioeconomy and Entrepreneurship

- Enzyme Technology + Lab
- Genomics, Proteomics and Bioinformatics
- Bioinformatics Lab
- Professional Elective Course

Food Processing and Nutraceuticals (include nutrigenomics)

Medicinal Chemistry and Chemoinformatics Forensic Biology

Bioprocess Equipment Design and CAED

- Mini Project
- Research Methodology and IPR
- Environmental Studies
- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoga

#### Semester 7

- Upstream Process Technology + Lab
- Downstream Process Technology + Lab
- Bioethics, Biosafety and Regulatory affairs
- Professional Elective Course

Clinical Research

Biological Data Management

Environmental Biotechnology

Agricultural Biotechnology

Open Elective Course

Biomaterials and Medical Implants

Traditional Medicine And Health Management

Public Health and Community Medicine

Bioremediation Techniques

• Major Project Phase - II

#### Semester 6

- Bioprocess Control & Automation + Lab
- Biokinetics
- Professional Elective Course
   Biopharmaceuticals
   Synthetic Biology and Tissue Engineering
   Biomedical Imaging and Health Informatics
   Systems Biology and Rational Drug design
- Open Elective Course
   Robotics in Healthcare and Agri-Tech
   Food, Nutrition and Health
   Nanobiotechnology

Ecology and Ecosystem

- Project Phase I
- Biokinetics Lab
- Ability Enhancement Course / Skill Development Course V

Bio-Innovation and Start-ups
Modelling and Simulations in Biology Lab
Bioinstrumentation and Servicing Lab
Good Manufacturing and Laboratory Practices

- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoga

#### Semester 8

- Professional Elective (Online Courses)
- Open Elective (Online Courses)
- Internship (Industry/Research) (14 20 weeks)





Founded in 1990, Acharya aims to revolutionize education. With over 12,000 students and 100+ academic programs annually, it stands among the global education elite. Located in India's technical hub, Bangalore, Acharya prioritizes innovation and knowledge. The institution fosters experiential and collaborative learning, shaping well-rounded individuals, evident in its diverse student population from 75+ countries.

11 Institutions

15 Research Centers

10P Programmes

**75**+Nationalities

**1200?** Students

1000 Eminent Faculties

12PAcres State-of-the-Art Campus

# B Premnath Reddy

Founder Chairman Acharya Group

# Acharya Offerings - click on each to know more... »

### **Academic Studio**



Clubs



Research



Habba



CIUD



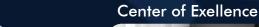
**Digital Library** 



**Sports** 



PROGRAMS OFFERED





Laboratories



Hostels



Follow on Social Media



