ACHARYA INSTITUTE OF TECHNOLOGY

Affiliated to VTU

NBA NATIONAL BOARD OF ACCREDITATION | NAAC A ACCREDITED

Established in 2000, **Acharya Institute of Technology (AIT)** stands as a NAAC & NBA-accredited centre of excellence, recognised by NIRF for its academic standards and innovation. Located on a vibrant 120-acre campus in Bengaluru, AIT blends industry-aligned education, advanced infrastructure, and strong corporate partnerships to shape future-ready engineers and technology leaders.



- **Industry-aligned programs** delivered by expert faculty, enriched with in-demand certifications like Ai, EV, Cyber Security, and emerging technologies.
- **Smart learning ecosystem** with LinkedIn Learning access, high-performance laptops, advanced labs, and a digital library.
- **Strong industry collaborations** enabling internships, live projects, and real-world exposure with leading corporations.
- **Global outlook** through international partnerships and a culturally diverse student community.
- **Proven placement excellence** supported by 550+ recruiting companies visiting the campus annually.

B.E MECHANICAL ENGINEERING

Specialization in Product Life Cycle Management (PLM) powered by

SIEMENS

About

Our Mechanical Engineering program integrates engineering physics, mathematics principles, and materials science to manufacture, maintain, and design mechanical systems, making it one of the oldest and broadest engineering branches. Students stay updated on current industry trends through our collaboration with Siemens, ensuring they are informed about the latest advancements and practices in the field.

- **Broad and foundational mechanical curriculum** covering mechanics, thermodynamics, fluid dynamics, materials science, manufacturing and design principles.
- **Hands-on laboratory experience** with well-equipped facilities that support experimentation, design, analysis and practical skill building.
- **Integration of industry trends and technologies,** including collaboration with Siemens to keep students updated with the latest practices in product lifecycle management and engineering tools.
- **Experienced faculty and research support** from industry-aware educators guiding students toward academic excellence and professional readiness.
- **Preparation for research and innovation careers,** with focus on applying engineering principles toward problem solving and technological advances.

Career Scope

- **Core engineering careers –** Graduates can take up roles in design, manufacturing, thermal sciences, product development, and maintenance engineering across automotive, energy, aerospace and industrial sectors.
- **Innovation and product design opportunities –** Mechanical engineers are key in developing new technologies, enhancing existing systems, and contributing to industrial advancements.
- **Global demand and versatile pathways –** There's broad demand for mechanical engineers worldwide in fields such as construction, manufacturing, robotics, automation, and technical consulting.

Eligibility

10+2 with PCM/PMC/PME + English, min 45%.
Age 17+.

Duration
4 years

COURSE CONTENT

Semester 1

- Mathematics I for Mechanical Engg Stream
- Applied Physics for ME Stream
- Elements of Mechanical Engineering
- Engineering Science Course-I
- Emerging Technology Course-I
- Programming language Course-I
- Communicative English
- Professional Writing Skills in English
- Samskrutika Kannada/ Balake Kannada
- Indian Constitution
- Innovation and Design Thinking
- Scientific Foundations of Health

Semester 2

- Mathematics-II for Mechanical Engg Stream
- Applied Chemistry for ME 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 3

- Mechanics of Materials
- Manufacturing Process
- Material Science and Engineering
- Basic Thermodynamics
- Introduction to Modelling and Design for Manufacturing
- ESC/ETC/PLC
  - Electric and Hybrid Vehicle Technology
  - Smart Materials & Systems
  - Internet of Things (IoT)
  - Waste handling and Management
- Social Connect and Responsibility
- Ability Enhancement Course/Skill Enhancement Course - III
  - Advanced Python Programming [0-0-2]
  - Fundamentals of Virtual Reality [0-2-0]
  - Spreadsheet for Engineers [0-0-2]
  - Tools in Scientific Computing [0-0-2]
- National Service Scheme (NSS
- Physical Education (PE) (Sports and Athletics)
- Yoga

Semester 4

- Applied Thermodynamics
- Machining Science & Metrology
- Fluid Mechanics
- Mechanical Measurements and Metrology lab
- ESC/ETC/PLC
  - Non Traditional Machining
  - Environmental Studies
  - Micro Electro Mechanical Systems
  - Robotics and Automation
- Ability Enhancement Course/Skill Enhancement Course- IV
  - Introduction to AI & ML
  - Digital Marketing
  - Introduction to Data Analytics
  - Programming in C++
- Biology For Engineers
- Universal human values course
- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoga



Semester 5

- Industrial Management & Entrepreneurshipa
- Turbo machines
- Theory of Machines
- CNC Programming and 3-D Printing lab
- Professional Elective - I
  - Mechatronics
  - Automation in manufacturing
  - Supply chain management & Introduction to SAP
  - Energy Engineering
- Mini Project
- Research Methodology and IPR
- Environmental Studies
- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoga

Semester 7

- Finite Element Methods
- Hydraulics and Pneumatics
- Control Engineering
- Professional Elective-III
  - Additive manufacturing
  - Product Design and Management
  - IC Engines
  - Cryogenics
- Open Elective- II
  - Non Traditional machining
  - Hydraulics and Pneumatics
  - Operations Research
  - Non-Conventional Energy Resources
- Major Project Phase-II

ENRICHMENT PROGRAM CONTENT

PLM by SIEMENS

- **2nd Sem** : CAD Fundamental Processes
- **3rd Sem** : Teamcenter User + NX Integration/ PLM Fundamentals (Concepts) + Teamcenter Active Workspace usage
- **4th Sem** : Teamcenter Administration + Data Model Customization (Working with Admin Application)
- **5th Sem** : Teamcenter Customization
- **6th Sem** : Teamcenter Active Workspace Customization

Semester 6

- Heat Transfer
- Machine Design
- Professional Elective - II
  - Total Quality Management
  - Refrigeration and Air Conditioning
  - MEMS and Microsystem Technology
  - Design for Manufacturing and Assembly
- Open Elective -I
  - Project Management
  - Renewable Energy Power plants
  - Mechatronics
  - Modern Mobility
- Major Project Phase - I
- L Design lab
- Ability Enhancement Course/Skill Development Course V
  - Basics of Matlab
  - Fundamental of Virtual Reality ARP Development
  - Simulation and Analysis using Ansys workbench [0-0-2]
  - Introduction Augmented Reality
- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoga

Semester 8

- Professional Elective -IV (Online Courses)
  - Quality Design & Control (Available in NPTEL)
  - Machinery Fault Diagnosis and Signal Processing (Available in NPTEL)
  - Modelling & Analytics for Supply Chain Management (Available in NPTEL)
  - Strategies for Sustainable Design (Available in NPTEL)
- Open Elective - III (Online Courses)
  - Fundamentals of Automotive systems (Available in NPTEL)
  - Product Design and Manufacturing (Available in NPTEL)
  - Computer Integrated Manufacturing (Available in NPTEL)
  - Business Planning & Project Management (Available in Swayam Portal)

FEE STRUCTURE

Refer offer letter for the actuals.

Inclusions : Tuition Fee, University Registration, Eligibility Fee, Miscellaneous Fee, Laboratory Fee, Library Fee and Sports Fee.

Exclusions : Uniform & Stationery.
Examination Fee as prescribed by the University / Board.

The Program Includes OBT, AMCAT/CoCubes, Soft Skills Training, Domain-Specific Training, Long Term Domain Training and LinkedIn Learning. Students are also provided with a Complimentary Laptop and Global Immersion Program.

Acharya Legacy

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

100+ Programmes

75+ Nationalities

12000+ Students

1000+ Eminent Faculty

120 Acres State-of-the-Art Campus



B Premnath Reddy
Founder Chairman
Acharya Group

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Academic Studio



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Center of Excellence



Clubs



Digital Library



Laboratories



Research



Sports



Hostels



Habba



PROGRAMS OFFERED

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