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. AERONAUTICAL ENGINEERING

Specialization in Product Life Cycle Management (PLM) powered by **SIEMENS**

About

Our aeronautical engineering program is tailored to provide students with the expertise and skills needed to thrive in the challenging and fast-paced field of aviation and aerospace technology. The program covers a wide range of topics including aircraft design, propulsion systems, aerodynamics and avionics. Additionally, 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.

- **Comprehensive aerospace-focused curriculum** covering core engineering principles alongside specialised subjects like aircraft design, propulsion, aerodynamics and avionics.
- **State-of-the-art laboratories** for hands-on learning in aircraft systems simulation, aerodynamic testing and avionics experimentation.
- **Siemens-enabled industry collaboration** ensures students stay current with emerging trends, tools, and best practices in aeronautical engineering.
- **Industry-integrated projects and collaborations** with aerospace organisations such as HAL, NAL and ISRO for real-world experience.
- **Dedicated career guidance and placement support**, helping students secure internships and employment opportunities in aerospace and related sectors.
- **Experienced faculty and activity-based learning**, including aero modelling and educational trips that enrich curiosity and practical understanding.



Career Scope

- **Aerospace & Defence Opportunities –** Build a career with leading organizations in aircraft design, manufacturing, testing, and maintenance, including national aerospace and defence sectors.
- **Diverse Engineering Roles –** Pursue roles in aerodynamics, propulsion, avionics, systems integration, and UAV/drone technology across aviation and related industries.
- **Global & Emerging Tech Pathways –** Access international opportunities and cutting-edge fields like space exploration, satellite systems, aerospace research, and advanced aviation technologies.

Eligibility

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

Duration
4 years

COURSE CONTENT

Semester 1

- Mathematics I for Aeronautical Engg. Stream
- Applied Physics for AE Stream
- Elements of Aeronautical 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 Aeronautical Engg. Stream
- Applied Chemistry for AE 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

- Aircraft Materials & Processes
- Elements of Aeronautics
- Fluid Mechanics
- Mechanics of Materials
- Computer Aided Aircraft Drawing
- ESC/ETC/PLC
  - Introduction to Drone Technology
  - Mechanism & Machine Theory
  - Aircraft Maintenance, Repair and Overhaul
  - IOT Concepts and Algorithms
- Social Connect and Responsibility
- Ability Enhancement Course / Skill0 Enhancement Course - III
  - Development of Soft Skills for Engineers
  - Ethics, Technology and Engineering
  - Digitalization in Aeronautics
  - Coding literacy
- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoga

Semester 4

- Aero Engineering Thermodynamics
- Aerodynamics
- Aircraft Propulsion
- Aircraft Material Testing & Processing Lab
- ESC/ETC/PLC
  - Additive Manufacturing (3D Printing)
  - Turbomachines
  - Introduction to Space Technology
  - Introduction to Combustion
- Ability Enhancement Course / Skill Enhancement Course - IV
  - Fundamentals on Spreadsheet
  - DRONE Pilot Training
  - Concept of Augmented Reality
  - Introduction to programming with MATLAB and Python
- Biology For Engineers
- Universal human values course
- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoga



Semester 5

- Aviation Management
- Aircraft Structures
- Unmanned Aerial Vehicles - Basics and Applications
- Energy Conversion Lab
- Professional Elective Course
  - Finite Element Methods
  - Rocket & Missiles
  - Optimization Technique
  - Industrial & Experimental Aerodynamics
- Mini Project
- Research Methodology and IPR
- Environmental Studies
- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoga

Semester 6

- Aircraft Vibration Theory
- Aircraft Performance and Stability
- Professional Elective Course
  - Flight Vehicle Design
  - Airframe Structural Design
  - Guidance & Navigation
  - Heat and Mass Transfer
- Open Elective Course
  - Introduction to Aerospace History
  - Introduction to Helicopters
  - Basics of UAV
  - Introduction to Flight Simulator
- Project Phase I
- Flight Simulation Lab
- Ability Enhancement Course / Skill Development Course - V
  - Probability and statistics for Aerospace Engineering
  - Virtual Aircraft Simulation
  - Introduction to Swarm Drone
  - Multi-disciplinary Research in Aeronautical Engineering
- National Service Scheme (NSS)
- Physical Education (PE) (Sports and Athletics)
- Yoga

Semester 7

- Avionics Systems
- Computational Fluid Dynamics
- Control Engineering
- Professional Elective Course
  - Gas Turbine Technology
  - Wind Tunnel Techniques
  - Fight Testing
  - AI and ML for Aerospace Applications
- Open Elective Course
  - Earth and Space Science
  - Air Traffic and Weather
  - Basics of Rockets and Missiles
  - Aviation and Internet Infrastructure
- Major Project Phase - II

Semester 8

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

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, (Optional at additional cost) Long Term Domain Training and LinkedIn Learning. Students are also provided with a Complimentary Laptop and Global Immersion Program.

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



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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Habba



PROGRAMS OFFERED

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