

Pioneering Entrepreneurs

The curriculum involves emphasis on Entrepreneurial skill development to encourage the young minds to be more curious, collaborative, creative & innovative to transform their ideas into a fully operational business. Few of our successful Entrepreneurs are:



Mr. P. Naveen Kumar
Chola Design Solutions,
Hosur (2019)



Mr. A. Vinith
Nerd Fliers,
Pudukottai,
Tamilnadu (2020)



Ms. Heena Mohammed
Afzal Mansuri
Diamond Mine Consulting, Mumbai (2020)

Major Recruiters



Testimonies



Austin Abraham Thomas
Cadet Pilot – Air Arabia

Flying out from the portals of Karunya as a Pilot trainee is truly a very special feeling and I thank the Department and its very talented faculty for their truly remarkable guidance and insight which made me reach thus far in my career.

I would proudly carry the banner of the Department and the University in all walks of my life.



Sam Ronald
CYIENT, Hyderabad

I can say with confidence that these four years I spent in Karunya campus are the golden moments of my life.



Glorintha Jeeva Gnanamuthu
Collins Aerospace, Bangalore

From being timid, nervous, dazed, and confused, Karunya has always been an integral force in developing the overall person I am today.



ADMISSIONS 2024

Department of AEROSPACE ENGINEERING



**APPLY
NOW**

Scan QR Code to Start the Admission Process



Head of the Department
Department of Aerospace Engineering

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► About us

The Department of Aerospace Engineering at Karunya Institute of Technology and Sciences (KITS) is a place where students are groomed to be technocrats, researchers, entrepreneurs and leaders who will contribute to nation building and strive to create a better society. The programs offered by the department are pioneering and foresighted with the curriculum integrating the latest developments in the industry enabling the graduates to address the current and future needs of the industry and society. The department is a happening place where state-of-the-art laboratory facilities and the innovative, competent and industry-trained faculty members facilitate the students to realize their dreams and launch their career on the right trajectory.

► Vision

To be a pre-eminent aerospace research centre with faculty committed to fostering creativity and developing leadership skills in budding engineers for a brilliant career progression.

► Mission

- To train and empower students with in-depth understanding, sound fundamental knowledge along with finely honed practical skills required to become top-notch aerospace engineers with problem-solving capabilities.
- To carry out research and development activities on practical and societal challenges and contribute to the knowledge of aerospace engineering and allied areas through publications, patents and products.
- To instill professional, social and ethical values together with leadership qualities in students who through progressive learning shall contribute to the sustainable development of the society.

► UG Programs Offered

- **B.Tech.** Aerospace Engineering
- **B.Tech.** Aerospace Engineering (Spl in Wind Power Engg)
- **B.Tech.** Aerospace Engineering (Spl in Unmanned Aerial Vehicles)

► Program Educational Objectives

- To develop the ability to demonstrate knowledge and reasoning in core areas of aerospace engineering with expertise in research, design, modeling and analysis tools.
- To impart innovative professional skills to recognize problems, formulate, analyze and propose optimal solutions.
- To cultivate proficiency in effective team work and attain strategic leadership positions in aerospace and allied domains.



► Laboratory & Research Facilities

The Department has well-equipped laboratories that cater to the Academic and Research needs of the students and faculty. Major facilities available in the department include:

- Wind Tunnel facility with Subsonic Tunnel (45 m/s, 600 mm x 600 mm test section) and Supersonic Tunnel (3.5 Mach, 100 mm x 100 mm test section)
- Desktop Water Tunnel Facility
- Cessna 152 Airplane
- Aircraft Structures Laboratory with Universal Testing Machine (UTM), Polariscope, Hardness test facility, composite winding machine etc.,
- High enthalpy facility with engines, Shock Tube & Kinetic Heat Simulator
- Computational Fluid Dynamics & ANSYS laboratory
- Avionics laboratory with motion sensor control, guidance and navigation systems
- Unmanned Aerial Vehicles Laboratory
- Aircraft Simulation Facility
- RTM Composite Fabrication & 3-D Printing Facility

► Areas of Research

- Computational & Experimental Aerodynamics
- Ignition delay studies on Rocket Engine fuels
- Aircraft Structural Analysis
- Trajectory Optimization for Low Earth orbits
- Polymer and Metal Matrix composites
- Unmanned Aircraft Systems for societal applications
- Wind Engineering

► Value Added Courses

- Customized Course on Product Design using:
 - AutoCAD
 - SOLIDWORKS
 - ANSYS
 - CREO
 - CFD
 - Geometrical Dimensioning & Tolerance
- Basic Flight Simulator Training
- Fabrication and Testing of Multicopter UAVs
- Industry 4.0 - IoT and Artificial Intelligence, Machine Learning & Digital Manufacturing
- Combustion in Air-Breathing Engines
- Data Analytics

► Technology Missions

Three technology missions of KITS are spearheaded by the faculty of the department of Aerospace Engineering where students and faculty across disciplines collaborate in bringing out solutions to societal problems in terms of publications, patents and products.

- Small Satellite Technology Mission
- Drone Technology for Agricultural Mission
- Green Energy Technology Mission

► Funded Research Projects

The department has 3 ongoing funded projects to a tune of 631 Lakhs from Government funding agencies on cutting-edge technologies.

- Design of 2-Tonnes per day Rotary Kiln Gasification Pilot plant with high CV syngas production from the Department of Science and Technology, New Delhi
- Exploratory studies on fabrication of Polymer composites for Fan blade casing of Aero Engine from Gas Turbine Research Establishment, Defence Research and Development Organization, Bangalore
- Investigation of ignition delay of hydrocarbon fuel samples from Defence Research and Development Laboratory, Hyderabad

► Industry Internships and Projects

The department facilitates internships for students in core aerospace industries to ensure that they are exposed to industry practices and are fully aligned to the industry requirements. Also, students carry out live projects at government and private space organizations where they get an opportunity to work with the great minds of the nation. Students also enrol in the International Association for the Exchange of Students for Technical Experience (IAESTE) to avail international internships to hone their domain skills and expertise.

► Higher studies at Overseas Universities

The career guidance cell of the department assists students aspiring to pursue higher studies abroad by connecting them with their preferred universities through faculty and Alumni connects and provides training to the students in order to clear the entrance examinations required for the admissions. Few of the prominent universities where our Alumni are enrolled for higher studies are :

- Arizona State University, United States
- Atlantic Aviation Institute, Ireland
- Confederation College, Canada
- Coventry University, England
- Cranfield University, England
- Embry-Riddle Aeronautical University, Florida
- Fanshawe College, Canada
- Illinois Institute of Technology, USA
- Kingston University
- Philips University, Marburg
- Politecnico di Milano, Italy
- Tamkang University, Taiwan
- Technion- Israel Institute of Technology, Israel
- The University of Adelaide, Australia
- Cranfield University, England

