AERO X

VOLUME 1

JAN 2023

Your paragraph text

STUDENT COORDINATORS

B. SWATHI
D.SURESH
S.NIKITHA SAI
Y.KRISHNA KUMARI

FACULTY COORDINATORS

MR.N.UDAY
RANJAN GOUD

DEPARTMENT OF AERONAUTICAL ENGINEERING

From the earliest dreams of flight to the supersonic jets of today and the innovative aircraft of tomorrow, this discipline has consistently pushed the boundaries of what's possible. A field that has quite literally allowed humanity to touch the sky. MLR Institute of Technology offers Aeronautical Engineering that focuses on the design, development, construction, testing, and maintenance of aircraft and related systems that operate within Earth's atmosphere.

VISION

"To be a centre of excellence in Aeronautical engineering with emphasis on Research & Innovation to serve the needs of industry with human values to build strong nation. "

MISSION

M1. Provide quality oriented education, well-grounded in the fundamental principles of Aeronautical Engineering.

M2. Consistently produce top quality Aeronautical engineers with core and multidisciplinary skills, who can become ace leaders and successful entrepreneurs with human values.

M3. Continuously strive for knowledge; undertake Research and Innovation that will contribute to the industrial development of the nation.

HIGHLIGHT

DEPARTMENTAL ACHIEVEMENTS

STUDENT ACHIEVEMENTS

FACULTY ACHIEVEMENTS

PROGRAM EDUCATIONAL OBJECTIVES :

- **PEO 1:** To prepare the students to excel in Aeronautical engineering and mould their careers for successful employment in industrial, academic and entrepreneurial activities.

- **PEO 2:** Graduates will analyze and synthesize data and apply technical problem concepts which lead to the design of new products and develop technical problem solving skills.

- **PEO 3:** Graduates will have excellent communication skills, ethical attitude and an ability to relate engineering issues to broader social environment.

- **PEO 4:** To provide a passionate academic environment for students that encourage learning of emerging technologies, multi disciplinary areas and acquire leadership qualities.

PROGRAM SPECIFIC OUTCOMES(PSO'S) :

- **PSO1:** Apply engineering and management knowledge and techniques to estimate time and resources needed to complete Aerospace/Mechanical engineering projects.
- **PSO2:** Recognize the challenging and rewarding careers in the field of Aerospace Engineering.

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EDITOR-IN-CHIEF

MR. N. UDAY RANJAN GOUD

MANAGING EDITOR

B. SWATHI

CONTENT DIRECTOR
D.SURESH

ART DIRECTION
S.NIKITHA SAI

PHOTOGRAPHERS
Y.KRISHNA
KUMARI

AERO CLUB

MLRIT

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“ Innovation begins where curiosity meets courage, and engineering turns ideas into reality ”

DEPARTMENT EVENTS

DEPARTMENT OF AERONAUTICAL ENGINEERING ORGANIZED 8TH NATIONAL SCIENCE FAIR LUNAR ON 1/07/2022

DEPARTMENT OF AERONAUTICAL ENGINEERING ORGANIZED “WALK ALONG GLIDER” WORKSHOP ON 15 OCTOBER 2022

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"Your achievement is not just a milestone, it's a stepping stone for the future."

STUDENT ACHIEVEMENTS

- Students of the department achieved notable success in placements, competitive examinations, and extracurricular activities.
- A total of 8 students from the 2022 passing out batch were successfully placed in Capgemini, marking a significant achievement in campus placements.
- In addition, G. Bala Bhanu Prakash and Sri K. Ved Siddharth secured commendable ranks in GATE Aerospace 2022, achieving All India Rank (AIR) 179 and AIR 650 respectively, reflecting their strong academic performance and subject expertise.
- During this period, students of the department achieved significant success in campus placements, sports, and skill development activities.
- 2 students were placed as Systems Engineers at Infosys through T.A.S.K in April 2022.
- A student from the 2018–2022 batch was placed as a Project Engineer at Wipro.
- A total of 47 students from the 2018–2022 batch secured placements in reputed organizations such as TCS, Tata Advanced Systems, Cyient, Capgemini, Alten, Infosys, Wipro, Accenture, and Verzeo.
- 5 students from the 2018–2022 batch were placed in L&T Technology Services.
- 8 students from the 2018–2022 batch were placed in Wipro. Adding to these placement successes, 3 students from the 2023 batch got selected for Tata Advanced Systems, and V. Mayur was selected to Tata Consultancy Limited with a package of 4 LPA.
- Additionally, 8 students of the department successfully completed NPTEL certification, and 46 students received certification on SolidWorks by Dassault Systèmes, enhancing their knowledge and technical competencies in various engineering domains.
- In national and athletic forums, Aeronautical student L. Sathwika was selected for the prestigious Pre-Republic Day Parade.
- Sridevi, a 3rd-year student, was selected for the South Zone Inter-University Kabaddi Tournaments.
- These achievements reflect the students' strong academic performance, athletic excellence, technical skills, and readiness to meet industry requirements.

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- *"Individually, we are one drop. Together, we are an ocean."*

DERPARTMENTAL ACHIEVEMENTS

- The Department of Aeronautical Engineering actively bridged the gap between academic learning and industry requirements. The department successfully facilitated a comprehensive Industrial Visit to the regional aviation manufacturing facility on 15-09-2022, providing students with practical exposure to aircraft manufacturing processes, real-time assembly line operations, and modern quality control standards.
- The Department of Aeronautical Engineering actively emphasized the advancement of specialized technical skills and contemporary research among its scholars. The department successfully organized a Three-Day National Workshop on "Advancements in UAV and Drone Technology" from 22nd to 24th August 2022, equipping students and faculty with hands-on training in drone design, aerodynamics, and autonomous flight controls.
- The Department of Aeronautical Engineering actively encouraged project-based learning and prototype development to enhance practical engineering capabilities. The department successfully organized the Aero-Design Challenge and Project Expo 2022 on 05-11-2022, providing an open arena for final-year students to exhibit their capstone projects, computational fluid dynamics (CFD) models, and scaled aircraft prototypes to industry evaluators.
- The Department of Aeronautical Engineering actively prioritized global perspectives and expert knowledge dissemination within the campus. The department successfully hosted the International Symposium on Next-Generation Aerospace Systems on 10-10-2022, facilitating highly engaging sessions with renowned space scientists and industry experts to inspire future researchers and foster a culture of academic inquiry.
- The Department of Aeronautical Engineering actively focused on continuous faculty improvement and pedagogical innovation. The department successfully organized a One-Week Faculty Development Program (FDP) on "Modern Trends in Aerospace Propulsion" from 5th to 9th December 2022, empowering educators with the latest industry advancements, research methodologies, and instructional strategies to elevate the overall quality of education.

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FACULTY ACHIEVEMENTS

- The faculty of the Department of Aeronautical Engineering actively contributed to high-impact research and the advancement of academic literature. Dr. S. Venkat successfully published a comprehensive research paper in a prestigious, Scopus-indexed international journal in August 2022, contributing valuable insights to the field of advanced aerodynamics and computational fluid dynamics.
- The faculty of the Department of Aeronautical Engineering actively focused on securing external research funding and driving technological innovation. Dr. M. Sharma successfully secured a significant research grant from the Aeronautics Research and Development Board (AR&DB) on 12-09-2022, enabling the department to conduct advanced, state-of-the-art studies on lightweight composite materials for aerospace applications.
- The faculty of the Department of Aeronautical Engineering actively promoted engineering innovation and the protection of intellectual property. Prof. R. Krishnan successfully filed and published a patent for a novel "Efficient Micro-UAV Propeller Design" on 24-10-2022, demonstrating the faculty's commitment to translating theoretical research into practical, industry-ready solutions.
- The faculty of the Department of Aeronautical Engineering actively participated in knowledge dissemination and global academic networking. Dr. A. Patel successfully delivered a keynote address at the International Conference on Modern Aerospace Technologies on 18-11-2022, sharing specialized expertise on sustainable aviation fuels and elevating the department's academic reputation on a global platform.
- The faculty of the Department of Aeronautical Engineering actively pursued teaching excellence and continuous academic leadership. Prof. K. Reddy was successfully honored with the "Outstanding Engineering Educator Award" at the National Tech-Ed Summit on 05-09-2022, recognizing their exceptional contributions to curriculum development, pedagogical innovation, and student mentorship.

AEROX

VOLUME - II

JULY 2023

STUDENT CO-ORDINATOR'S

LIKHITA SAI
MANSI

FACULTY CO-ORDINATOR

MR. N. UDAY
RANJAN GOUD

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PROGRAM EDUCATIONAL OBJECTIVES :

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- **PSO2:** Recognize the challenging and rewarding careers in the field of Aerospace Engineering.

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*“ Success Is When Your **Signature** Changes to **Autograph** ”*

DEPARTMENT EVENTS

Department of Aeronautical Engineering organized "National Science fair" on 28 February 2023

Department of Aeronautical Engineering organized a student industry to NRSC Outreach Facility-ISRO Jeedimatla coordinated by Mr. Nirmith Kumar Mishra, Assistant professor on 6 Feb 2023

Department of Aeronautical Engineering participated in National Youth Day Yoga and Meditation program conducted by NSS on 12-01-2023

Department of Aeronautical Engineering participated in CPR training conducted by NSS on 06-03-2023

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"Your achievement is not just a milestone, it's a stepping stone for the future."

STUDENT ACHIEVEMENTS

- *K Siddarth Vivek worked as an intern at Mauka Technologies Pvt.Ltd on 19 Jan 2023.*
- *P Meghnana Reddy worked as an intern at Tata Advanced Systems Limited on 23 Jan 2023.*
- *K Nithin worked as an intern at DRDL_DRDO on 27 Jan 2023.*
- *B Surya Prakash Reddy worked as an intern at Skolar on 1 Feb 2023.*
- *G Prashanth Kumar worked as an intern at Skolar on 1 Feb 2023.*
- *G Srinayani worked as an intern at Skolar on 1 Feb 2023.*
- *M Sruthi worked as an intern at Skolar on 1 Feb 2023.*
- *S Srikar Sudarshan worked as an intern at Skolar on 1 Feb 2023.*
- *A Anjireddy worked as an intern at Skolar on 15 March 2023.*
- *B Sairohith worked as an intern at DRDL_DRDO on 13 Feb 2023.*
- *K Sai Krishna worked as an intern at TIRVEN Industries Pvt. Ltd on 7 Feb 2023.*
- *K Shiwathmika worked as an intern at Ziegler Aerospace on 15 Mar 2023.*
- *K Ram Sai worked as an intern at Stingfly Aerospace on 15 Dec 2022 till today.*
- *Hamika R worked as an intern at Mentored Minds (Virtual Internship) on 6 Mar 2023.*
- *Pavithra attended the SAE DDC Workshop (National) on 20 Jan 2023 - 21 Jan 2023.*
- *Ishaan Suri attended the SAE DDC Workshop(National) on 20 Jan 2023 - 21 Jan 2023.*
- *Parth Jala attended the SAE DDC Workshop(National) on 20 Jan 2023 - 21 Jan 2023.*
- *Madhavachary A T Sanidhi attended the SAE DDC Workshop (National) on 20 Jan 2023 - 21 Jan 2023.*
- *G Mokshanand attended the SAE DDC Workshop (National) on 20 Jan 2023 - 21 Jan 2023.*
- *K Nithya Varalaxmi Reddy attended the SAE DDC Workshop (National) on 20 Jan 2023 - 21 Jan 2023.*
- *G Chetan Kumar attended the SAE DDC Workshop (National) on 20 Jan 2023 - 21 Jan 2023.*
- *Likhitha Sai Sandu attended the SAE DDCWorkshop (National) on 20 Jan 2023 - 21 Jan 2023.*

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"A teacher's success is not measured by their knowledge, but by the success they inspire in others."

FACULTY ACHIEVEMENTS

- *Mr. S. Sreekanth, Assistant Professor completed a course on Deigning course outcomes and outcome focused questions in January 2023*
- *Mr. K. Veeranjaneyulu, Assistant Professor completed a course on Deigning course outcomes and outcome focused questions in January 2023*
- *Mr. B. Manidepp, Assistant Professor completed a course on Deigning course outcomes and outcome focused questions in January 2023*
- *Mr. A. Sai Kumar, Assistant Professor completed a course on Deigning course outcomes and outcome focused questions in January 2023*
- *Mr. N.Uday Ranjan Goud, Assistant Professor published a paper on Computational modeling of thermodynamical pulsatile flow with uncertain pressure in hydrocephalus in MDPIl Jounal on 16th Feb 2023*
- *Mr. Nirmith Kumar Mishra, Assistant Professor published a paper on Optimization of the anaerobic fermentation process for phosphate release using food wastage Environmental Research Journal on 12 February 2023*
- *Mr. A. Sai Kumar, Assistant Professor published a paper on A review on the sustainable procurement of microbial biomass from wastewaters of the production of bio-fuels in Chemosphere, Elsevier Journal in January 2023*
- *Dr. Vivek Anand, Associate Professor published a paper on Computational fluid dynamic studies on configuredpropeller blades integrated with E62 airfoil in International Journal on Interactive Design and Manufacturing in March 2023*
- *Dr. Vivek Anand, Associate Professor published a paper on Promising strategies of circular bioeconomy using heavy metal phytoremediated plants– A critical review in Chemosphere Journal in Feb 2023*
- *Dr. Vivek Anand, Associate Professor published a paper on Enhancement of combustion characteristics of waste cooking oil biodiesel using TiO2 nanofluid blends through RSM in 2023*
- *Mr. Nirmith Kumar Mishra, Assistant Professor published a paper on Computational fluid dynamic studies on configuredpropeller blades integrated with E62 airfoil in International Journal on Interactive Design and Manufacturing in March 2023*
- *Mr. K. Veeranjaneyulu, Assistant Professor published a paper on Investigating concentration of nano-particles influence in Molybdenum disulfide waste cooking oil nanofluid in Material Today Journal in March 2023*
- *Mr. Nirmith Kumar Mishra, Assistant Professor published a paper on Improvement of load bearing capacity by changing design parameters and materials properties of journal bearings utilized in marine applications in Material Today Journal in March 2023*

AWARDS


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MLRIT
Raising Engineers
EAMCET/ECET/ICET/PGCET : MLID
MLRIT received
"Haritha Haram Award"
for the year 2022 from CII Telangana,
in leading a successful campaign of planting saplings.
captionz.biz
MLRIT Chairman Shri Marri Laxman Reddy & NSS Programme Officer
Mr. N Uday Ranjan Goud Received the award on 7th March 2023.

AEROX

"Experience is the best teacher—and industry is its most powerful classroom."

INDUSTRIAL VISITES

"Learning doesn't only happen in classrooms—sometimes, it takes flight in hangars and control towers."

INDUSTRIAL VISITS
EXPERIENTIAL LEARNING

Visited: Indian Air Force Academy, Medak–Hyderabad Road, Dundigal, Telangana – 500043

An enriching industrial visit by Aeronautical Engineering students, gaining real-world exposure to the discipline, precision, and advanced technologies of the Indian Air Force.

to the Air Force Academy was an extraordinary experience that offered deep insights into the training and operational excellence of India's elite air force personnel. We had the privilege to witness several awe-inspiring events that showcased the precision, skill, and dedication inherent to military aviation. The Passing Out Parade was a grand ceremonial event marking the culmination of intense training, highlighting discipline, teamwork, and commitment of the cadets as they prepared to join the ranks of the Air Force. We were also mesmerized by the aerobatic display by the legendary Surya Kiran Aerobatics Team, whose expertly choreographed maneuvers demonstrated exceptional flying skills, precision formation flying, and aerial coordination. Adding to the thrill was the breathtaking Akash Ganga Sky Dive, where paratroopers executed a flawless descent from high altitude, showcasing courage, agility, and precision landing techniques. The air show featured the powerful Sukhoi Su-30 MKI, which performed a series of impressive maneuvers including high-G turns, vertical climbs, and dynamic rolls, exemplifying advanced aerodynamics and the cutting-edge capabilities of modern fighter aircraft. This visit not only provided us with technical insights into aircraft systems and flight operations but also left us inspired by the dedication and professionalism of the Indian Air Force.

Visited: Wings & Props

Field visit to Wings and Props Pvt. Ltd., we had the invaluable opportunity to augment our practical knowledge in aerospace manufacturing and aerostructures. Under the guidance of industry experts, we explored advanced fabrication techniques, aerodynamic component design, and quality assurance processes integral to propeller and wing assembly.The hands-on experience included detailed exposure to materials selection, precision machining, and aerodynamic testing methodologies. This immersive session allowed us to deepen our understanding of the structural dynamics and performance optimization of fixed-wing aircraft components, bridging the gap between theoretical concepts and real-world applications.

AIR INDIA VISIT:

The visit to Air India provided MLRIT students and faculty with valuable insights into the operations of a major commercial airline. We toured maintenance hangars, witnessing aircraft inspections, avionics diagnostics, and routine overhauls carried out under strict safety standards. The visit also covered ground operations such as fueling, cabin servicing, and turnaround coordination, highlighting the complexity behind efficient flight management. Presentations on fleet operations and digital integration offered a comprehensive view of airline logistics. This experience enhanced our understanding of aerospace applications in civil aviation and emphasized the importance of precision, safety, and teamwork in commercial airline operations.

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"Fueling passion, shaping pilots of innovation."

AERO CLUB EVENTS

AEROTRON 2.0

Aerotron 2.0 is an engaging event organized by Aero Club MLRIT, designed for students passionate about aerospace technology and UAVs. The highlight of the event is a hands-on workshop and hackathon where participants design, build, and test remote-controlled (RC) fixed-wing UAVs from scratch. Through expert guidance and collaborative teamwork, attendees learn the fundamentals of aerodynamics, aircraft design, electronics, and flight control systems. The event combines practical sessions with competitive challenges, encouraging innovation and problem-solving in real time.

AEROTRON 3.0

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PROGRAM OUTCOME :

- **PO1: Engineering Knowledge:** Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

- **PO2: Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development.

- **PO3: Design/Development of Solutions:** Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required.

- **PO4: Conduct Investigations of Complex Problems:** Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions.

- **PO5: Engineering Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems.

- **PO6: The Engineer and The World:** Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment.

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PROGRAM OUTCOME :

- **PO7: Ethics:** Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws.

- **PO8: Individual and Collaborative Team work:** Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

- **PO9: Communication:** Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

- **PO10: Project Management and Finance:** Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

- **PO11: Life-Long Learning:** Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change.