EXCEL ENGINEERING COLLEGE (Autonomous)
KOMARAPALAYM-637303

DEPARTMENT OF AERONAUTICAL ENGINEERING
ARHAKRZ 2K22– 23 Q1

VOLUME I ISSUE 1

VISION

To empower the students subject knowledge of Aeronautical Engineering for serving the society in a challenging global environment

MISSON

To provide the quality technical education in tune with challenges.

To offer latest technological development in the field of aero engineering.

To integrate the intellectual, spiritual, ethical and social development of the students for becoming dynamic Aeronautical engineers.

To initiate desires for under taking entrepreneurship and lifelong learning.

CHAIRMAN'S MESSAGE

The Aeronautical Engineering Department continues to make remarkable strides in innovation and technology. With a strong foundation in aerodynamics, propulsion, avionics, and space technology, we prepare students to excel in this dynamic industry. Our dedicated faculty and hands-on learning approach ensure that students are equipped with the skills to tackle real-world challenges. I encourage students to stay curious, embrace advancements, and contribute to the future of aerospace engineering. Let us continue to strive for excellence and achieve new milestones.

Prof. Dr. A. K. NATESAN
M. Com., MBA., M. Phil.,

VICE-CHAIRMAN'S MESSAGE

The Aeronautical Engineering Department is dedicated to shaping future aerospace professionals through innovation, research, and technical excellence. With advancements in aviation and space exploration, our students have immense opportunities to contribute to this ever-evolving field. Our experienced faculty and industry-focused curriculum provide a strong foundation in aerodynamics, propulsion, and avionics. I encourage students to stay committed, embrace challenges, and strive for excellence in their pursuits. Together, let us soar to new heights in aerospace engineering.

Dr. N. MATHAN KARTHIK
M.B.B.S., M. H. Sc .,

PRINCIPAL'S MESSAGE

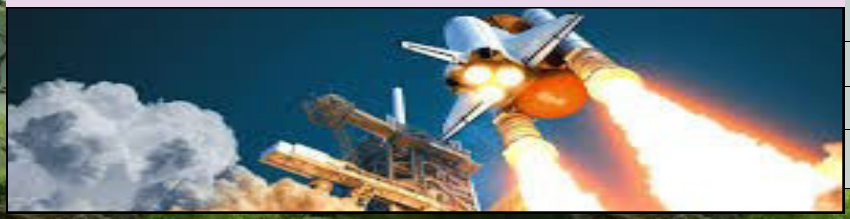
The Aeronautical Engineering Department plays a vital role in fostering innovation and technical excellence in the field of aviation and space exploration. With a strong curriculum, experienced faculty, and hands-on learning opportunities, we prepare students to meet industry challenges and drive future advancements. I encourage students to be inquisitive, embrace emerging technologies, and strive for excellence in their academic and professional journeys. Together, let us continue to achieve new milestones in aeronautical engineering

Dr. K. BOMMANNA RAJA
Ph.D.,

HOD'S MESSAGES

The Aeronautical Engineering Department is committed to providing a strong technical foundation and practical exposure to aspiring aerospace engineers. With a focus on innovation, research, and industry-oriented learning, we equip students with the skills needed to excel in aviation and space technology. Our dedicated faculty,

Dr. S.P.VENKATESAN Ph.D.,



INDEX OF THE NEWSLETTER

DEPARTMENT NEWS

The Sports Meet has done (Chess, Cricket and Volleyball) **on** 06/08/2022

Chief Guest:

Mr.Rukumanathan,
Mr.Magesh & Mr. KaruppaiyaSelvam
Physical Department
Excel Engineering College

No. of participants: 25

Non –Academic Events: Paper Plane Contest **at Aero Hanger on** 03/09/2022

Chief Guest

Dr.S.P. Venkatesan
Head of Department Aeronautical Engineering,
Excel Engineering College.

No. of participants: 40

ARHAKRZ association Inauguration function and Seminar on “Indian Space Programme” on 17/09/2022 at Pavaiyammal Hall

Chief Guest:

Dr. N. Sivasubramanian,

EX-Senior scientist,

ISRO

No. of participants: 55

Faculty column

Faculty participation in various Events

SL. No.	Name of the faculty	Designation	FDP / Seminar / Conference / Workshop / Webinar / NPTEL / Online course Industrial / Training
1	Dr.S.P.Venkatesan	**HoD**	**1**
2	Dr.P.Karunakaran	**Professor**	**1**
3	Dr.A.Karthikeyan	**Asso. Professor**	**1**
4	Dr.S.Prashanth	**Asst. professor**	**1**

Research Paper publication

June to September 2022*

S.No	Name of the Faculty	Title of the Paper	Journal Name
1	Dr.S.P. Venkatesan	Experimental investigation on the wear behavior of low-cost composite made from industrial wastes	Industrial Lubrication and Tribology
2	Dr.M. Gowtham	Experimental Investigation of Laminated Metal Matrix Composite Used in Drone Frame	International Journal for Research in Applied Science and Engineering

Conference Published

Name of the Faculty	Title of the Paper	Journal Name
Dr. M Gowtham	Effects of Port Fuel Injection of Calophyllum Inophyllum Biodiesel on the Performance and Emission Characteristics of a DI Diesel Engine	Innovations in Energy, Power and Thermal Engineering: Select Proceedings of ICITFES 2020, Pages. 119-131, Publisher Springer Singapore

Program Fund Received

S.No.	*Name of the Faculty*	*Funding Agency*	*Amount in Rs.*	*Duration*
1	Dr. P. Karunakaran	AICTE SIH Senior 2022	672000	2 Days

Research Patent publication

S P Venkatesan. Model and Interpretation of Multidimensional Vibro Acoustical Cavitation Diagnostics using a Kaplan Turbine (202241077568)

STUDENTS ACTIVITES

Activity participation*

Sl.No	Nature of Events	Participants
1	Workshop	4
2	Seminar	8
3	Symposium	10
4	Other	1
	Total	23

Consultancy Work

Research and Development of Corrosion-Resistant Coatings for Industrial Use	Komarappa Industries No.83/2, cochin- Bangalore highway, Nasiyanur, Tamil Nadu 638107	Dr. S.P. Venkatesan Mr. S.Prabhu Mr. M. Sanjay	2022-2023 & 1 year	2,18,000	Complet-ed

Placement Details*

Sl. No	Name of the Company	Number of Students
1	Intellipaat, Bangalore	1
2	Evoriea infotech ltd, Bangalore	30
3	Job world India Pvt Ltd, Bangalore	1
4	Focus edumatics Pvt Ltd, Coimbatore	1
5	Tech mahindra (BPO),Chennai	7
6	Edu station, Bangalore	30
7	Hawk Aerospace Pvt Ltd, Bangalore	2

Aero word puzzles

AERO FALCONS

AVIATION TRAINING ACADEMY

R	A	E	A	T	I	T	E	T	O	L	I	P	U
G	A	T	E	O	F	R	I	N	G	E	A	T	G
Y	V	L	I	E	L	W	D	U	L	E	L	E	R
E	A	A	A	A	I	R	P	L	A	N	E	D	A
E	U	T	D	U	G	R	R	U	G	A	U	E	V
R	A	G	R	U	H	W	L	G	M	I	A	P	A
T	T	P	R	W	T	T	E	O	A	G	E	A	C
E	T	I	A	R	A	T	A	T	W	R	A	R	A
R	U	G	R	V	A	N	E	O	A	U	R	T	T
M	E	G	A	G	G	U	L	G	G	N	R	U	I
I	G	N	I	W	L	E	W	Y	A	W	I	R	O
N	A	E	T	R	O	P	R	I	A	A	V	E	N
A	R	L	E	V	A	R	T	S	A	Y	A	I	I
L	R	E	G	N	E	S	S	A	P	A	L	A	G

Luggage
Pilot
Airplane
Gate
Airport
Flight
Arrival
Departure
Passenger
Terminal
Travel
Vacation
Runway
Wing

READING PAGE

Program Educational Objective

* PEO 1: Graduates will have the ability to handle industrial challenges by equipping them to meet the demands of the Aeronautical Industry.
* PEO 2: Graduates will have the capability to become socially, intellectually and ethically responsible aeronautical engineers.
* PEO 3: Graduates expertise with essential technical, managerial, and soft skills that make them to be professionally competent.

Program specific outcome

* **Core skills:** Identify, Formulate and Analyze Complex Engineering problems in aerodynamics, Propulsion, Aircraft Structures, aircraft Manufacturing and Maintenance domains.
* **Interdisciplinary skills:** Able to design and develop interdisciplinary and innovative systems.
* **Personality Development:** Able to inculcate effective communication skills, team work, ethics, leadership in preparation for a successful career in industry and R&D organizations.

RECENT TREND IN AEROSPACE ENGINEERING

Sustainability & Propulsion

Alternative Fuels

The development and exploration of sustainable aviation fuels (SAFs) and hydrogen fuel cells were key areas of focus for reducing the industry's carbon footprint.

Electric and Hybrid Systems

Research continued into more efficient and environmentally friendly electric propulsion systems.

Automation & Digitalization

AI and Machine Learning

- AI and ML were increasingly used for predictive maintenance, route optimization, enhancing cybersecurity, and improving design simulations.
- AI and ML were increasingly used for predictive maintenance, route optimization, enhancing cybersecurity, and improving design simulations.
- Virtual and augmented reality were employed to improve pilot and maintenance crew training and to facilitate remote design collaboration.

Advanced Air Mobility & Unmanned Systems

- The capabilities of Unmanned Aerial Vehicles (UAVs) expanded into surveillance, reconnaissance, and cargo delivery, with autonomous navigation systems improving reliability.
- Foundations were laid for urban flight networks through the development of advanced air mobility (AAM) platforms, including electric vertical takeoff and landing (eVTOL) aircraft.

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