



RAJADHANI INSTITUTE OF ENGINEERING AND TECHNOLOGY

Rajadhani Hills, Nagaroor, Attingal, Thiruvananthapuram,
Kerala, India 695102.
www.riet.edu.in



College code : RIE



DEPARTMENT OF MECHANICAL ENGINEERING

Established in 2009 with an intake of 60, Mechanical Engineering department has been rated high among other engineering disciplines under APJ Abdul Kalam Technological University (KTU). The Department of Mechanical Engineering offers comprehensive education for Bachelor's Degree in Mechanical Engineering which attracts highly meritorious students. The highly dedicated and qualified faculty keeps the academics and research activities of the department in high spirits. The department has been provided with excellent infrastructure and state of the art facilities that comprise of seminar & drawing halls, department library and well-equipped laboratories. The Department has started both faculty and student chapter of Indian Society for Technical Education (ISTE) & SAE India collegiate club. The department is spreading its wing to make the students employability in various fields. The department has signed MoU with InterCAD Systems Pvt. Ltd. , Barola Technologies, Taneja Aerospace and Aviation Limited, Barola Aerospots, CADD centre, MAKS Automations Pvt Ltd, The objective behind these MoU's is to provide a forum for students to get exposed to the industry environment.

Voice of ACME

Institute Vision

Groom the Youth as Innovative, Creative and Empathetic Technologists, Hospitality Professionals, Managers and Entrepreneurs for Social Transformation

Institute Mission

- M1 : To encourage holistic development of students with a well balanced and student-centric curricular, co-curricular and extra-curricular activities.
- M2 : To promote ethical and value oriented research and consultancy among students and faculty members for social transformation.
- M3 : To engage collaborations with R&D organizations, governmental agencies, engineering and business enterprises for teaching, research and consultancy.

Department Vision

To be a preferred destination to produce technocrats in Mechanical Engineering fostering academic excellence, research, industry readiness with human values for social transformation.

Department Mission

- M1 : To impart quality education through activity based learning and leading -edge technology.
- M2 : To provide holistic education inculcated with research activities, human and ethical values, societal and industrial commitment, personality development and team spirit
- M3 : To foster strong industry- institute interaction to develop employable skills and enrich experiential learning through capstone projects.



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Program Specific Outcomes (PSOs)

- **Mechanical Design** – Capable to Design Mechanical Systems with updated software tools and equipment's/Processes to meet desired Specifications and requirements within realistic constraints to solve real time mechanical/societal problems.
- **Managing Efficiency** - Develop Capabilities to address the challenges in the Energy Sector and Develop Energy Efficient Systems.
- **Industrial Application** - Manage the Resources in an Organization more effectively and efficiently in the Dynamic Industrial Environment.

Program Educational Objectives (PEOs)

- PEO₁ : Graduate shall have strong core and interdisciplinary knowledge, skills and professional accomplishment towards employment in allied industries, higher studies and research.
- PEO₂ : Graduates shall utilise latest tools and rapidly changing technologies to analyse, design and develop sustainable systems, testing and manufacturing for real life applications
- PEO₃ : Graduates shall practice multidisciplinary approach, ethics, good communication, team spirit to evolve as competent technocrats and entrepreneurs.

Major Internships, projects and Internships



AURIFEROUS CHAMBER OF
MECHANICAL ENGINEERING

Auriferous Chamber for Mechanical Engineering ACME is a prestigious hub at our college dedicated to fostering innovation and excellence in mechanical engineering. It serves as a collaborative platform connecting alumni, faculty, and students to share knowledge, resources, and experiences. ACME provides opportunities for mentorship, industry engagement, and cutting-edge projects, bridging the gap between academia and industry. It stands as a testament to our commitment to advancing mechanical engineering and building a thriving community of engineering professionals.



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PROGRAM OUTCOMES

1. **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
2. **Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.
3. **Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the environmental considerations.
4. **Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data and synthesis of the information to provide valid conclusions.
5. **Modern Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and Team Work:** Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective and give and receive clear instructions.
11. **Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary.
12. **Life-Long Learning:** Recognize the need for and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



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Department Activities



To bridge the gap between theoretical knowledge and real-world application, a valuable one-day industrial interaction was arranged at the Kudankulam Nuclear Power Plant (KKNPP) on 27th February 2023. This visit offered students and faculty an invaluable, firsthand look at the operation and rigorous safety protocols of India's largest nuclear power station. The delegation received detailed briefings from plant engineers, providing profound insights into complex systems like reactor control and power generation, thereby enriching the academic curriculum and exposing participants directly to advanced nuclear technology and industry best practices, with a particular focus on the plant's Russian-designed VVER reactor technology, which forms the core of its operational framework.



A cohort of nine students from the third year of Mechanical Engineering participated in the intensive Super Intern program conducted by BharatBenz (Daimler India Commercial Vehicles) from May 20, 2023, to May 27, 2023. This week-long engagement provided invaluable hands-on experience in a world-class commercial vehicle manufacturing environment, allowing the students to bridge the gap between academic theory and complex industry practices. They gained direct exposure to advanced automotive engineering, production methodologies, and quality control systems, significantly enhancing their technical skills and professional readiness.





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Department Activities



A highly informative talk on Advanced Quality Engineering (AQE) was recently conducted for the students and faculty of the Mechanical Department at RIET on March 14, 2023. The session, led by an industry expert, focused on modern quality methodologies such as Failure Mode and Effects Analysis (FMEA), Statistical Process Control (SPC), and Advanced Product Quality Planning (APQP). This initiative aimed to equip attendees with the knowledge of proactive quality measures necessary to minimize defects, optimize manufacturing processes, and meet stringent global industry standards, thereby bridging the theoretical curriculum with practical industrial demands.

COLLEGE CODE
RIE

NAAC United Nations
Academic Impact

DEPARTMENT OF MECHANICAL ENGINEERING
TECHNICAL WORKSHOP ON OIL & GAS

RAJADHANI INSTITUTE OF ENGINEERING AND TECHNOLOGY

Attingal, Trivandrum | www.riet.edu.in | 70250 77773, 70255 77773, 98470 77773

To effectively bridge the gap between academic curriculum and industrial practice, a focused one-day workshop on the Oil and Gas sector was successfully conducted on March 15, 2023. This intensive session provided participants with a crucial overview of the entire hydrocarbon value chain, covering topics from upstream exploration and drilling technologies to midstream transportation and downstream refining processes. The workshop featured industry experts who shared insights into current market trends and sustainable energy transitions, significantly enhancing the participants' practical knowledge and preparing them for careers in this vital and rapidly evolving energy sector.



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Sports

The 2023 Meliga Tournament, a competitive event successfully conducted by the Mechanical Department, concluded with the team proudly titled "Mechanical" taking the coveted Winners spot. The spirited contest saw the team "ZOKOVA thunders" demonstrating exceptional skill and sportsmanship to clinch the Runner-up title. The tournament generated great excitement among the students and faculty, fostering a spirit of camaraderie and healthy competition throughout the department. This highly anticipated annual event successfully showcased not only the participants' athletic prowess but also the strong teamwork and coordination skills essential for future engineers.



The 2023 Mewo Tournament, a competitive fixture successfully organized and hosted by the Mechanical Department, concluded with a triumphant performance from the team proudly titled "Argentina". They demonstrated exceptional skill and strategy throughout the competition to emerge as the undisputed Winners. The event was a great success, promoting team spirit and healthy competition among all participants within the department.



The 2023 Vollee Tournament, organized by the Electrical and Electronics Department, concluded with the team proudly titled "Royal Mech" from the Mechanical Department taking the Winners title. They displayed exceptional skill and teamwork to triumph in this inter-departmental competition.



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AUTO SHOW 2023

The Auto Show held at RIET was an exciting event organized by the Mechanical Department. It featured a wide range of cutting-edge automobiles, attracting car enthusiasts and students alike. Among the top cars showcased, the Mustang and Porsche & Audi stood out due to their exceptional performance, design, and engineering excellence. These iconic brands captivated the audience with their sleek aesthetics and powerful engines, making the event an unforgettable experience for all. The show provided an excellent opportunity for students to witness the latest trends in the automotive industry and gain valuable insights into vehicle design and technology.





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Student Conference Publications

1. Midhunraj R S, has presented a paper titled "Design and Analysis of Disc Brake" in the International conference on Emerging Trends in Engineering Management and Applications held at PET Engineering College ,Thirunelveli on 06/06/2022.
2. Vishnu Viswanath, has presented a paper titled "Design and Fabrication of atmospheric water generator" in the International conference on Emerging Trends in Engineering Management and Applications held at PET Engineering College ,Thirunelveli on 06/06/2022.
3. Ajan J Deep, has presented a paper titled "Design and Fabrication of voice controlled Wheel Chair" in the International conference on Emerging Trends in Engineering Management and Applications held at PET Engineering College ,Thirunelveli on 06/06/2022.
4. Arya S M, Karthik Hari and Ramakrishnan M P has presented a paper titled "An Automated Approach for Railway Line Crack Identification and Monitoring" in the International conference on Emerging Trends in Engineering Management and Applications held at PET Engineering College ,Thirunelveli on 06/06/2022.
5. Abhay Krishnan A and Abhishek S has presented a paper titled "Strength evaluation and behaviour studies of hybrid natural fibre reinforce composites by using compression moulding" in the International conference on Emerging Trends in Engineering Management and Applications held at PET Engineering College ,Thirunelveli on 06/06/2022.
6. Gokul G Kumar has presented a paper titled "Design and Implementation of solar powered with IoT enabled portable irrigation system" in the International conference on Emerging Trends in Engineering Management and Applications held at PET Engineering College ,Thirunelveli on 06/06/2022.
7. Gopu S and Bimin J Babu has presented a paper titled "Design and Fabrication of voice controlled Wheel Chair" in the International conference on Emerging Trends in Engineering Management and Applications held at PET Engineering College ,Thirunelveli on 06/06/2022.

Paper Publication by Students

1. Midhun Raj R S, "Design and Finite Element Analysis of Disc Brake Rotors Using Mild Steel, Cast Iron, and Epoxy Fiber Reinforced Polymer", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1708-1716 (2023): 0886-9367
2. Gopu S, "Design and Finite Element Analysis of Disc Brake Rotors Using Mild Steel, Cast Iron, and Epoxy Fiber Reinforced Polymer", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1708-1716 (2023): 0886-9367
3. Happy Renjan S E, "Design and Finite Element Analysis of Disc Brake Rotors Using Mild Steel, Cast Iron, and Epoxy Fiber Reinforced Polymer", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1708-1716 (2023): 0886-9367
4. Arjun Prasad, "Development and Performance Evaluation of a Dual-Stage Atmospheric Water Harvesting System", International Journal of Research and Analytical Reviews (IJRAR), 10, 772-776 (2023): 2349-5138
5. Bimin J Babu, "Development and Performance Evaluation of a Dual-Stage Atmospheric Water Harvesting System", International Journal of Research and Analytical Reviews (IJRAR), 10, 772-776 (2023): 2349-5138
6. Ramakrishnan M P, "Development and Performance Evaluation of a Dual-Stage Atmospheric Water Harvesting System", International Journal of Research and Analytical Reviews (IJRAR), 10, 772-776 (2023): 2349-5138
7. Mohamed Thariq N, "A Voice-Controlled Intelligent Wheelchair System for the Disabled", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1717-1722 (2023): 0886-9367
8. Ajan J Deep, "A Voice-Controlled Intelligent Wheelchair System for the Disabled", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1717-1722 (2023): 0886-9367
9. Navaneeth S S, "A Voice-Controlled Intelligent Wheelchair System for the Disabled", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1717-1722 (2023): 0886-9367
10. Karthik Hari, "A Voice-Controlled Intelligent Wheelchair System for the Disabled", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1717-1722 (2023): 0886-9367
11. Jobin Jose, "Strength Evaluation and Behaviour Studies of Hybrid Natural Fiber Reinforced Composites using Compression Moulding", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1722-1727 (2023): 0886-9367
12. Adith Saiju, "Strength Evaluation and Behaviour Studies of Hybrid Natural Fiber Reinforced Composites using Compression Moulding", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1722-1727 (2023): 0886-9367
13. Abhishek S, "Strength Evaluation and Behaviour Studies of Hybrid Natural Fiber Reinforced Composites using Compression Moulding", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1722-1727 (2023): 0886-9367
14. Abhay Krishnan A, "Strength Evaluation and Behaviour Studies of Hybrid Natural Fiber Reinforced Composites using Compression Moulding", The international Journal of Analytical and experimental Modal Analysis (IJAEMA), 15, 1722-1727 (2023): 0886-9367.



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Alumni interaction was successfully conducted on 08/03/2022 featuring Mr. Amijith Sabu, a Graduate Marine Engineer. He provided an insightful session for students, sharing his firsthand experiences and the challenges of the maritime industry. Mr. Sabu offered practical guidance on career paths, necessary skills, and the essential qualifications required to thrive as a marine engineer, effectively bridging the gap between academic learning and professional life at sea. His talk motivated the participants and gave them a realistic perspective on life aboard a vessel and the global opportunities available in the field.



18 students from the 4th semester Mechanical Engineering participated in the one-day workshop on “Powering Up,” conducted by EXCEL 2022 and ASME MEC, gaining hands-on experience in thermal power generation.

Semester Toppers



Midhun Raj with SGPA- 8.0 (S7)



Akshay MS with SGPA-7.46 (S5)



Adhithyan TS with SGPA-8 (S3)



Vaishnav SS with SGPA- 7.84 (S1)



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Students Master Workshop Practices





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Spotlight on Success



Abhirami Sureshkumar
Interim Project Manager
Business Analyst | Engineer

Abhirami Sureshkumar,
CAPM® (She/Her) · 2nd
Business Analyst @ RBC | Data Analysis |
Project Management | Engineer

Lambton College
Toronto, Ontario, Canada



Anandhu M · 3rd
Sales and Application Engineer @ TEEJAN EQUIPMENT LLC |
Mechanical Engineering
Rajadhani Institute of Engineering and Technology, Alamcode
Attingal · TEEJAN EQUIPMENT LLC
Muscat, Masqat, Oman · 500+ connections



Ajay Krishna · 3rd
Jr. Officer - AIRSIDE OPERATIONS @ Adani
Thiruvananthapuram International Airport
MSN INSTITUTE OF MANAGEMENT AND TECHNOLOGY
Adani Airport Holdings Ltd
Kollam, Kerala, India · 500+ connections



Hesin Raj · 2nd
Graduate Student - Mechanical Engineering at
Concordia University

Concordia University
Montreal, Quebec, Canada



SIDHARTH MOHAN · 2nd
Enthusiastic professional seeking for new
opportunity

RWTH Aachen University
Hücheln, North Rhine-Westphalia, Germany



Ramzy Rahim · 2nd
Sales Engineer (Pumps and Motors) at SRA
Supply Consultants

S.R.A Group · Rajadhani Institute of Engineering and
Technology, Alamcode, Attingal
Manama, Capital Governorate, Bahrain



Asif Arif (He/Him) · 2nd
Empathetic engineer creating impactful,
human-centered solutions. Committed to
exceeding expectations and creating a better
world.

CADD Centre Training Services Pvt Ltd. · FAU
Erlangen-Nürnberg
Erlangen, Bavaria, Germany



POOJA AJAY · 1st
Design Engineer

Renault Nissan Technology & Business Centre India
Trivandrum, Kerala, India



Arjun Aravind (He/Him) · 2nd
Master of Material Science | Material Analysis
Enthusiast | Machine Learning and Computer
Vision | Data Science

TU Bergakademie Freiberg · TU Bergakademie
Freiberg



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Spotlight on Success



Karthik Narayanan P · 3rd
HR Business Partner | Guidehouse | MBA 24' - NITC | Mechanical Engineer | National Institute of Technology Calicut · Guidehouse Trivandrum, Kerala, India · 500+ connections



Dileesh Dileep · 1st
Application Engineer/ Water Equipment Division
GULF SERVICES & INDUSTRIAL SUPPLIES CO LLC ,OMAN · APJ Abdul Kalam Technological University



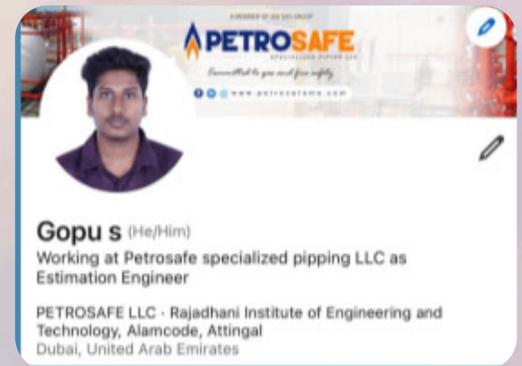
Akhil Chandra CSP @ ASP · 3rd
Sr.HSSE Engineer at Binladin Contracting Group
Rajadhani Institute of Engineering and Technology, Alamcode, Attingal · Binladin Contracting Group United Arab Emirates · 500+ connections



Yadukrishnan Karthikeyan · 3rd
Mechanical Engineer | Master's in Renewable Energy | Renewable Energy Enthusiast
College of Engineering Trivandrum · Energy Management Centre Kerala
Thiruvananthapuram Taluka, Kerala, India · 123 connections



Sree Hari Arun He/Him
IdeaLab specialist @ REVA University | Innovation Ambassador (IA) | Mechanical Engineer & Trainer | Cad Designer | passionate in engineering designs , AR VR Technology, Mixed Reality & 3D Printing Technology .



Gopu s (He/Him)
Working at Petrosafe specialized pipping LLC as Estimation Engineer
PETROSAFE LLC · Rajadhani Institute of Engineering and Technology, Alamcode, Attingal
Dubai, United Arab Emirates



Thabinsha Thaha · 1st
Operation & Maintenance Engineer at Naffco
NAFFCO GROUP · APJ Abdul Kalam Technological University
Abu Dhabi Emirate, United Arab Emirates
27 connections



AKHIL VIJAY · 2nd
Associate Officer Airside Operations at TRV (KERALA) International Airport LTD
Adani Airport Holdings Ltd · APJ Abdul Kalam Technological University
Trivandrum, Kerala, India



Dhanushma Prathap · 1st
Discrete Event Simulation | Masters in Industrial Engineering
Ford Motor Company
Chennai, Tamil Nadu, India