

MECHANICAL NEWS LETTER

JUNE-2023

MECHANICAL ENGINEERING

universal engineering college , Thrissur



VISION

Provide excellent engineering education to create competent and innovative mechanical engineers to cater the society with strong ethical values.

MISSION

- To produce technically skilled and innovative engineering graduates through experienced faculty and robust infrastructure.
- Foster the students to achieve lifelong learning and to become competitive through proper curriculum delivery and holistic development strategies.
- To inculcate multidisciplinary approach in engineering and to prepare them for global skill set
- Mould the students to be socially, ethically and environmentally responsible citizens

REPORT ON BASIC AUTOCAD AND SKETCHUP WORKSHOP


The Department of Mechanical Engineering, Universal Engineering College, organized a workshop titled “Basic AutoCAD and SketchUp” on 14 January 2023 at the CADD Lab, B-Block. The session, handled by Mr. Vimal N A, Assistant Professor, aimed to provide students with foundational knowledge in CAD drafting and 3D modeling. The workshop covered basic AutoCAD commands, drawing tools, layers, and dimensioning, followed by an introduction to SketchUp for 3D modeling techniques such as extrusion and visualization. Through hands-on practice and



BASIC AUTOCAD AND SKETCHUP



Mr. Vimal N A
(Assistant professor
Department of Mechanical
Engineering)

 14/01/2023

 CADD Lab B-Block

Department of Mechanical Engineering



interactive sessions, students gained practical skills and confidence in using AutoCAD and SketchUp for academic and professional applications.

REPORT OF FIVE DAY SHORT TERM TRAINING PROGRAM (STTP) ON COMPUTATIONAL FLUID DYNAMICS USING OPENFOAM

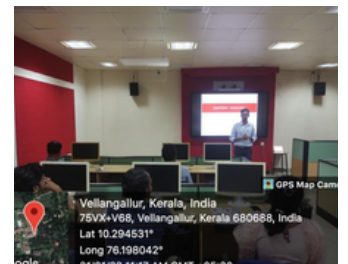
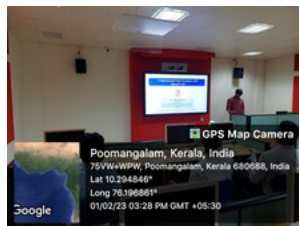
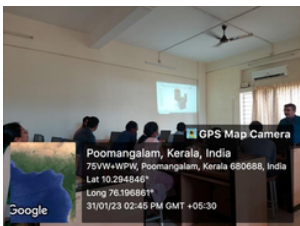


The Five Day Short Term Training Program (STTP) on Computational Fluid Dynamics using OpenFOAM was organized by the Centre for Scientific Research in CFD (CSR-CFD) in association with the Department of Mechanical Engineering, Universal Engineering College, Vallivattom, from 31st January to 4th February.

2023, with sponsorship from APJ Abdul Kalam Kerala Technological University. The program was inaugurated by Dr. Jose K Jacob, Principal of Universal Engineering



College, and attended by 30 faculty members from various affiliated institutions. The sessions covered fundamentals of Computational Fluid Dynamics (CFD), 3D modeling using Autodesk Fusion 360, and detailed training on OpenFOAM including pre-processing, meshing with

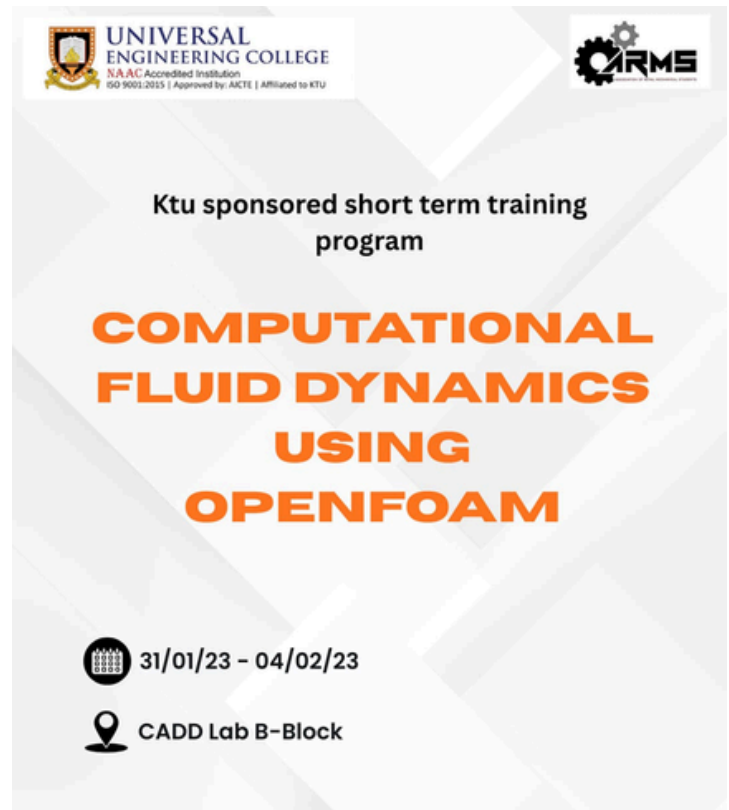


snappyHexMesh, solvers for compressible and incompressible flows, heat transfer, combustion, and post-processing using ParaView. Participants worked on practical examples such as lid-driven cavity flow, pipe flow, airfoil analysis, and heat transfer problems. The program concluded with a valedictory function where certificates were distributed, highlighting the importance of CFD and open-source tools in research and academic development.



REPORT OF FIVE DAY SHORT TERM TRAINING PROGRAM (STTP) ON COMPUTATIONAL FLUID DYNAMICS USING OPEN FOAM

The Five Day Short Term Training Program (STTP) on Computational Fluid Dynamics using OpenFOAM was organized by the Centre for Scientific Research in CFD (CSR-CFD) in association with the Department of Mechanical Engineering, Universal Engineering College, Vallivattom, from 31st January to 4th February 2023, with sponsorship from APJ Abdul Kalam Kerala Technological University. The program was inaugurated by Dr. Gireesh Kumaran Thampi from Cochin University of Science and Technology, and attended by 30 faculty members from affiliated engineering colleges.



The five-day training covered fundamental and advanced concepts with Salome, meshing using snappyHexMesh, solver settings for heat transfer and fluid flow problems, and post-processing using ParaView. Participants worked on practical examples such as lid-driven cavity, heat transfer through an air cavity, pipe bend flow, and compressible fluid flow analysis. The program concluded with a valedictory function, certificate distribution, and discussions highlighting the importance of CFD and open-source tools in research and academia.

SESSION ON LEADERSHIP SKILL

A Leadership Skill session was conducted on 20th February 2023 at Universal Engineering College, led by Ms. Suprabha C C, Assistant Professor, Department of Applied Science and Humanities. The session aimed to develop students' leadership qualities and enhance skills such as decision-making, communication, and team management. It included presentations on leadership concepts, leadership styles, and the difference between leadership and management, along with interactive group activities like role-playing and team-building exercises. Students actively participated and found the



session motivating, informative, and confidence-building. Overall, the program successfully inspired students to adopt leadership roles and develop a proactive, responsible mindset for academic, professional, and personal growth.

EXPERT TALK ON CHILLER PLANTS

An Expert Talk on Chiller Plants was conducted on 21st February 2023 by the ISHRAE Student Chapter, Department of Mechanical Engineering, at Universal Engineering College, in the Seminar Hall (B-Block). The session was led by Mr. Syed Nazif S, Student Activities Chair, ISHRAE Kochi Chapter, and attended by 30 mechanical engineering students. The program covered key HVAC topics including chiller types, cooling towers, pumps, AHUs, and FCUs, supported by real-world case



studies from Lulu and OberonMalls. Through technical

explanations, live calculations, and interactive discussions, students gained practical exposure to chilled-water systems, energy efficiency, and system design principles. Overall, the session provided valuable industry-oriented knowledge and strengthened students' understanding of large-scale HVAC and chiller plant operations.

LEADERSHIP SKILLS



SUPRABHA C C
ASSISTANT PROFESSOR
DEPARTMENT OF ASH

20/02/2023
Time : 10:00AM

DEPARTMENT OF MECHANICAL ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

ISHRAE

KOCHI CHAPTER

WORKSHOP ON

CHILLER PLANTS

Types of chillers , Cooling Towers ,Pumps ,Air Handling units and Fan coil Units

on

21/02/2023 @ 10.00 AM - 12.30 PM

Resource person
Mr.Syed Nazif S
ISHRAE KOCHI
Student activities chair



Universal Engineering College Irinjalkuda , Vellangallur Road Thrissur - 680123

info@uec.ac.in | +91 (480) 2864177 | 8281162777

WORKSHOP ON 3D PRINTING



A Workshop on 3D Printing was held on 21st February 2023 by the Department of Mechanical Engineering, Universal Engineering College, at the CAD Laboratory. The session was conducted by Mr. Clint K S from Green Orbis and focused on introducing students to the fundamentals and applications of additive manufacturing. The workshop covered key topics such as FDM technology, CAD to STL workflow, slicing techniques, and file preparation, along with a live 3D printing demonstration that provided practical exposure to machine



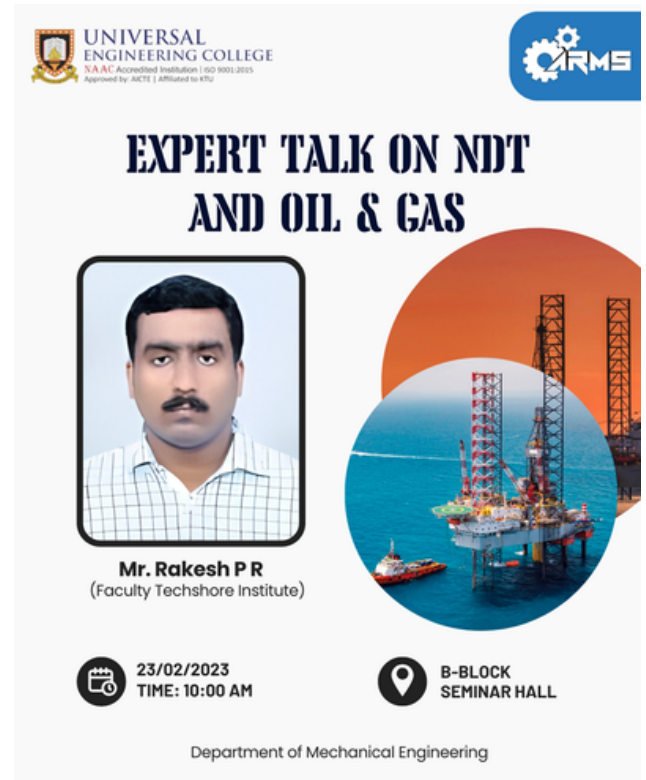
operation, filament handling, and basic troubleshooting. The session effectively connected design concepts with real-world fabrication, helping students.

EXPERT TALK ON NDT IN OIL AND GAS

An Expert Talk on Non-Destructive Testing (NDT) in the Oil and Gas sector was conducted on 23rd February 2023 by the Department of Mechanical Engineering at Universal Engineering College. The session was delivered by Mr. Rakesh P R, Faculty at Techshore Institute, with the aim of introducing students to the importance and applications of NDT in industrial safety and operations.

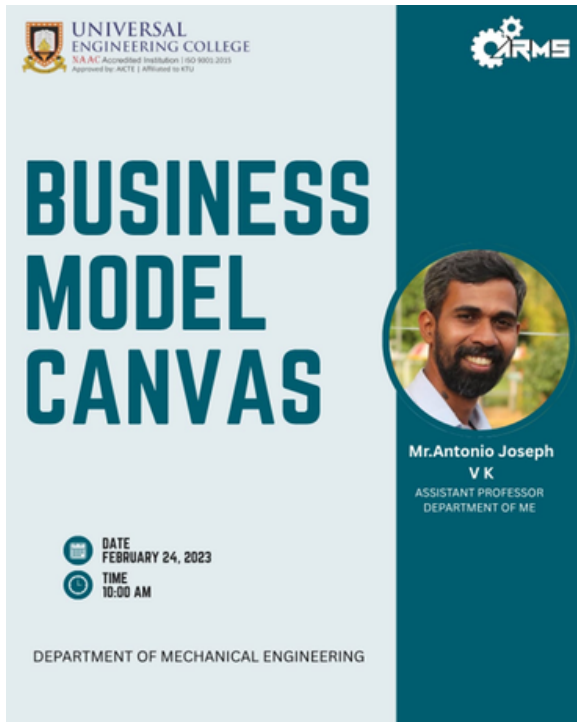


The talk covered major NDT techniques such as Ultrasonic Testing, Radiographic Testing, Magnetic Particle Testing, and Liquid Penetrant Testing, along with their practical use in inspecting pipelines, pressure vessels,



and structural components in the oil and gas industry. Students gained technical understanding, industry exposure, and career guidance, including information on certifications and job opportunities in the NDT field. Overall, the session was informative, career-oriented, and successful in creating awareness about the role of NDT in ensuring industrial safety and reliability.

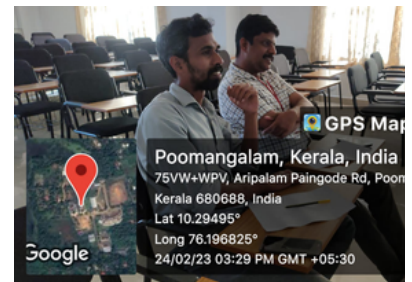
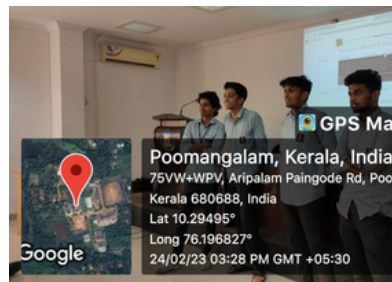
BUSINESS MODEL CANVAS WORKSHOP



A Business Model Canvas (BMC) Workshop was conducted on 24th February 2023 by the Department of Mechanical Engineering at Universal Engineering College, led by Mr. Antonio Joseph V K, Assistant Professor. The workshop aimed to develop students' entrepreneurial and strategic thinking through practical use of the BMC framework.

The session introduced the nine components of the Business Model Canvas and engaged students in team-based activities, where they developed and presented business models based on real-life scenarios. Through interactive learning, collaboration, and feedback, students gained hands-on experience in designing and

analyzing business ideas. Overall, the workshop was impactful in promoting innovation, business awareness, and entrepreneurial mindset among engineering students.

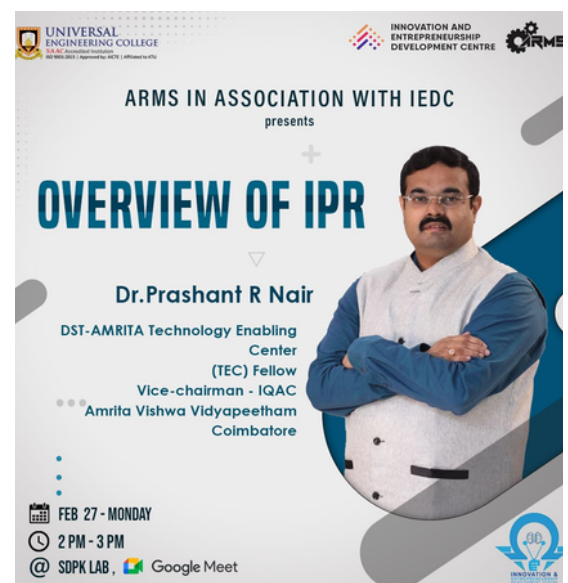


OVERVIEW OF IPR

An Expert Talk on Intellectual Property Rights (IPR) was conducted on 27th February 2023 by the Department of Mechanical Engineering at Universal Engineering College. The session was delivered by Dr. Prasanth R Nair, DST Fellow at Amrita Vishwa Vidyapeetham, with the aim of creating awareness about the importance of intellectual property in innovation, research, and entrepreneurship.



The talk covered key IPR concepts including patents, copyrights, trademarks, and designs, along with guidance on patent filing procedures, legal frameworks, and protection of



research outcomes. Through real-world examples and interactive discussions, participants gained clarity on IP laws, ethical practices, and the value of safeguarding intellectual contributions. Overall, the session effectively promoted an IP-conscious mindset among students and faculty, encouraging responsible innovation and academic integrity.

REPORT ON SESSION ON THE STEAM BASIC, IMPORTANCE OF STEAM AND ITS APPLICATIONS IN VARIOUS INDUSTRIES

Universal Engineering College organized a technical talk titled “Session on the Steam Basic – Importance of Steam and its Applications in Various Industries” on 01 March 2023 via Google Meet. The session was delivered by Mr. R. Muckund, Head – Maintenance & Repair Operations Business (South & North East Zone) at Forbes Marshall Pvt Ltd.

The objective of the session was to provide students with fundamental knowledge of steam engineering and to explain the importance of steam in industrial applications.

The speaker covered the basic properties of steam, its generation process, types of steam (saturated and superheated), and key thermodynamic principles. He also explained the working and significance of boilers, steam distribution systems, steam traps, and condensate



recovery systems. The session highlighted steam as an efficient energy carrier with advantages such as high heat capacity, easy distribution, clean operation, and energy efficiency. Various industrial applications were discussed, including power generation, food processing, chemical and

pharmaceutical industries, textiles, paper, and oil and gas sectors. Practical examples from industry were shared, along with common challenges like steam leakage, scaling, poor insulation, and condensate management.

An interactive discussion followed, where students clarified doubts related to steam efficiency, safety, maintenance, and career opportunities. Overall, the session effectively connected academic concepts with real-world industrial practices and enhanced students’ understanding of steam systems and sustainable energy management.



WORKSHOP REPORT CAREER PROSPECTS OF MEP

The workshop on “Career Prospects of MEP” was organized by Universal Engineering College in association with CORE Institute of Technology on 7th March 2023 at 11:30 AM. The session aimed to create awareness among students about opportunities in the Mechanical, Electrical, and Plumbing (MEP) industry and bridge the gap between academic learning and industry requirements. The resource person explained the fundamentals of MEP systems, including HVAC, electrical distribution, and



plumbing in construction projects, and highlighted the importance of software tools such as AutoCAD and Revit MEP. Various career roles like MEP Design Engineer, HVAC Engineer, BIM Modeler, and Project Engineer were discussed, along with global job opportunities and salary prospects. The workshop concluded with an interactive Q&A session, making it informative, practical, and career-focused for students.



WORKSHOP ON ROBOTICS



A Workshop on Robotics was conducted on 8th March 2023 by the Department of Mechanical Engineering, Universal Engineering College, in the Seminar Hall. The session was led by Mr. Sunil Paul, CEO of Srishti Robotics Technologies Pvt. Ltd., and was attended by mechanical engineering students. programming and movements provided practical exposure to real-time automation systems. Overall, the session enhanced students’



understanding of robotics and inspired interest in automation and robotic engineering applications. The workshop introduced students to the fundamentals of robotics, industry trends, and automation technologies, covering key components such as sensors, actuators, controllers, and embedded programming. A live demonstration of basic robot.

INDUSTRIAL EXPERTISE TALK – MERCHANT NAVY CAREERS

An Industrial Expertise Talk on Merchant Navy Careers was conducted on 9th March 2023 by the Department of Mechanical Engineering, Universal Engineering College, in association with ARMS, at the Seminar Hall (B-Block). The session was delivered by Mr. Prashanth R Shenoy, Chief Engineer, Anglo Eastern Ship Management Ltd., Hong Kong, for final-year mechanical engineering students.



The talk provided a comprehensive introduction to marine engineering and Merchant Navy career

pathways, explaining shipboard roles, certification requirements (STCW), recruitment processes, and career progression up to senior positions like Chief Engineer and Fleet Superintendent.

Through real-life experiences, visuals, and case studies, students gained insights into ship machinery systems, engine-room operations, safety protocols, and

modern maritime trends such as energy efficiency, decarbonisation, and autonomous shipping. The session successfully guided students on career opportunities at sea and clarified both professional and lifestyle aspects of marine careers.



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DEPARTMENT OF MECHANICAL ENGINEERING

Chart your future in Merchant Navy...



FROM LAND TO SEA:
A Comprehensive introduction to Marine Engineering

Prashanth R Shenoy
(Chief Engineer - Anglo Eastern Ship Management Ltd, Hong Kong)

Venue : Seminar hall
B block
Date : 09/03/2023
Time : 10.30 am - 12.30 pm



BASIC LIFE SUPPORT TRAINING

A Basic Life Support (BLS) training session was conducted on 13 March 2023 at Universal Engineering College by the Department of Mechanical Engineering from 10:00 AM to 1:00 PM. The session was led by Dr. Johnson K. Varghese, Lead Consultant in the Department of Emergency Medicine at Aster Medicity, Kochi. The main objective of the program was to equip students and faculty members with essential lifesaving skills and knowledge required to handle medical emergencies effectively. The session began with an introduction to the importance of immediate medical response and the role of bystanders in saving lives during critical situations such as cardiac arrest or choking.

During the training, Dr. Johnson explained the concept of the “Chain of Survival” and emphasized how timely action can significantly increase a patient’s chances of survival. Participants were



Simulation tools were used to demonstrate real-life emergency scenarios, enabling participants to gain practical experience. Students actively participated in the demonstrations and role-playing activities, which helped them understand the correct procedures and improve their confidence in responding to emergencies.

introduced to the fundamentals of Cardiopulmonary Resuscitation (CPR), airway management, and the recovery position. Detailed demonstrations were provided on performing chest compressions, rescue breathing techniques, and the proper use of an Automated External Defibrillator (AED). The trainer also discussed the signs of cardiac arrest and the steps to be taken before professional medical help arrives.

UNIVERSAL
ENGINEERING COLLEGE
NAAC ACCREDITED INSTITUTION

**BASIC LIFE SUPPORT
TRAINING**

DR. JOHNSON K VARGHESE
(CONSULTANT EMERGENCY
PHYSICIAN, BEFIRST BY ASTER)

DATE: 13/03/2023
TIME: 10:00 AM

DEPARTMENT OF MECHANICAL ENGINEERING

MOCK GROUP DISCUSSION



MOCK GROUP DISCUSSION



SUPRABHA C C
ASSISTANT PROFESSOR
DEPARTMENT OF ASH

15/03/2023
Time : 10:00AM

A Mock Group Discussion session was conducted on 15th March 2023 by the Department of Mechanical Engineering, Universal Engineering College, at the Seminar Hall (B-Block). The session was led by Ms. Suprabha C C, Assistant Professor, ASH Department.

The program involved multiple rounds of group discussions on contemporary topics, followed by feedback and improvement tips, helping students

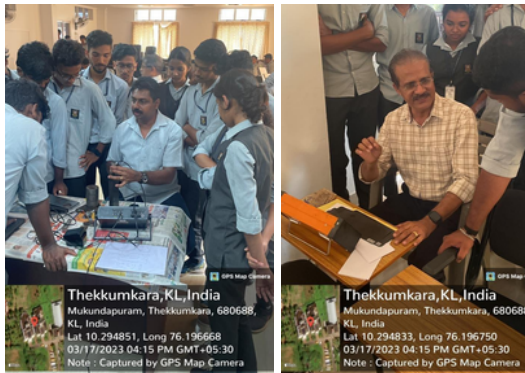


enhance their communication, reasoning, confidence, and interpersonal skills. Designed as preparation for placement processes, the session provided a practical platform for students to improve group interaction, articulation of ideas, and discussion strategies, making it a valuable confidence-building and skill-development experience.

ONE-DAY WORKSHOP & SEMINAR ON NON-DESTRUCTIVE TESTING (NDT)

A One-Day Workshop & Seminar on Non-Destructive Testing (NDT) was conducted on 17th March 2023 by the Department of Mechanical Engineering, Universal Engineering College, in collaboration with MetalScan Inspection Services, at the Seminar Hall (B-Block).

The workshop provided third-year mechanical engineering students with both theoretical knowledge and hands-on practical exposure to key NDT techniques used in industries such as aerospace, oil & gas, and heavy machinery. Sessions covered NDT





fundamentals, Ultrasonic Testing, Radiography, Magnetic Particle Inspection (MPI), and Dye Penetrant Inspection (DPI), followed by live demonstrations and student practice using professional equipment. Students learned to identify surface and subsurface defects,

perform inspections, interpret ultrasonic signals, and maintain calibration records. Overall, the program successfully enhanced technical competence, industry readiness, and practical understanding of NDT methods.

WORKSHOP ON ROBOTICS

A Workshop on Robotics was conducted on 25th March 2023 by the Department of Mechanical Engineering, Universal Engineering College, at the Seminar Hall. The session was led by Mr. Yadhuraj K P, Technical Lead at Srishti Innovative Computer System, and attended by mechanical engineering students.

The workshop introduced students to robotics concepts and embedded system integration, covering robotic architecture, sensor-actuator interfacing, system controls, and embedded



logic building, and automation principles. Overall, the session strengthened students' technical understanding of robotics systems and enhanced their interest in embedded systems and automation technologies.

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WORKSHOP ON ROBOTICS

Mr. Yadhuraj K P
(Technical Lead, Srishti Innovative Computer system)

25/03/2023
TIME: 10:00 AM

B-BLOCK
SEMINAR HALL

Department of Mechanical Engineering

programming. Through practical demonstrations and hands-on robot programming activities, students gained real-time exposure to robotics control,

ANTI-DRUG AWARENESS TALK



An Anti-Drug Awareness Talk was conducted on 03 April 2023 by the Department of Mechanical Engineering, Universal Engineering College, at the B-Block Seminar Hall. The session was delivered by Shri. Nandakumar, IRS, Assistant Commissioner of Customs, in the presence of Dr. Jose K Jacob (Principal) and Dr. Prem Sankar (HoD & Placement Officer).

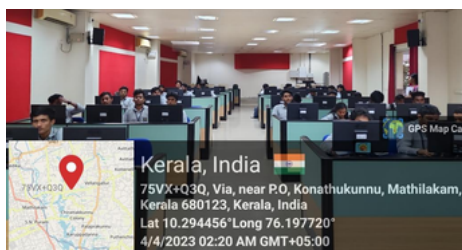
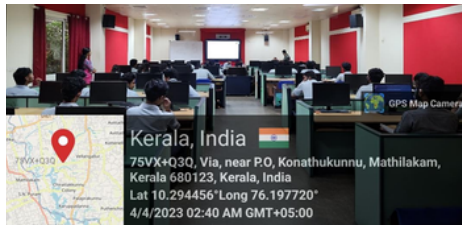
The interactive session focused on the psychological, social, and legal consequences of drug abuse, supported by real-life

case studies from coastal drug-interdiction operations. Key highlights included insights into drug trafficking routes in South India, NDPS Act provisions, peer-support strategies, early intervention methods, and myth-busting around so-called “soft drugs.” The talk effectively raised awareness, encouraged responsible behavior, and strengthened students’ understanding of the serious impact of narcotics abuse.



TECHNICAL TALK REPORT

The Department of Mechanical Engineering, Universal Engineering College, organized an online technical talk on “Nano Technology and Its Future Prospects” on 04 April 2023. The session was delivered by Dr. Vishnu Vijay Kumar, Senior Researcher at IIT Madras. The talk introduced the fundamentals of nanotechnology, explaining how material properties change at the nanoscale and discussing nanomaterials such as nanoparticles, nanotubes, and nanofibers. The speaker highlighted applications in mechanical engineering, biomedical



engineering, electronics, energy storage, and environmental

engineering, along with real-world uses like nano-coatings, sensors, and drug delivery systems. He also addressed research challenges, future prospects, and career opportunities in the field. The interactive session motivated students to pursue higher studies and research in emerging technologies, making

the event informative and inspiring for all participants.

TECHNICAL TALK – INTRODUCTION TO IOT FOR MECHANICAL ENGINEERS

A Technical Talk on “Introduction to IoT for Mechanical Engineers” was conducted on 17th April 2023 by the Robotics Club, Department of Mechanical Engineering, Universal Engineering College, at the Seminar Hall (B-Block). The session was led by Mr. Clint K S, IoT Maker and Mentor.

The talk introduced core IoT concepts relevant to mechanical engineering, including sensor selection, microcontroller interfacing, MQTT-based data transmission, edge analytics, and





predictive maintenance. A live demonstration showcased a Raspberry Pi-based sensor node streaming real-time vibration and temperature data from a DC motor to a cloud dashboard. Students actively participated by configuring MQTT communication, identifying IoT-based project ideas, and planning an IoT test-bench setup for the robotics lab. Overall, the session successfully connected

IoT technologies with practical mechanical engineering applications and industry-oriented innovation.

TECHNICAL TALK – INTRODUCTION TO IOT FOR MECHANICAL ENGINEERS

An Expert Talk on Robotics and Computer Vision was conducted on 3rd May 2023 by the Department of Mechanical Engineering, Universal Engineering College, at the Seminar Hall. The session was delivered by Mr. Sunil Paul, Co-founder & CEO of Srishti Robotics Technology Pvt. Ltd.

The talk introduced students to the fundamentals of robotics, industrial applications, and the integration of computer vision to enhance robotic intelligence. Real-world examples of vision-guided robots, autonomous navigation, and object detection systems were discussed, illustrating the potential of intelligent automation. Students gained insights into robotics



applications, computer vision concepts, and future opportunities in intelligent automation systems, bridging theoretical knowledge with emerging industry trends.