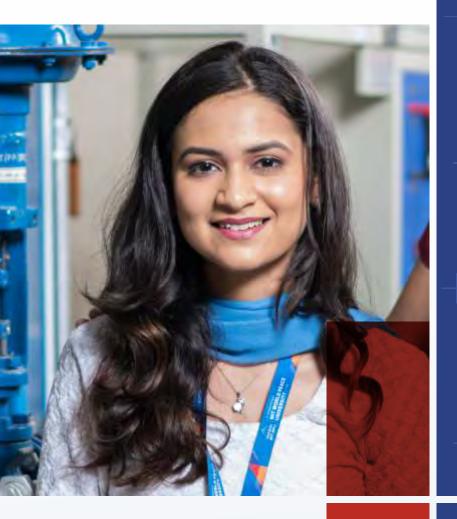


Dr. Vishwanath Karad MIT WORLD PEACE UNIVERSITY | PUNE

TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS



Faculty of Engineering and Technology

M.Tech

A University for Student's Life Transformation

- + Civil Engineering (Structural Engineering)
- + Civil Engineering (Construction Engineering and Management)
- + Civil Engineering (Tunnel Engineering)
- + Mechanical Engineering (Thermal Engineering)
- + Mechanical Engineering (Design Engineering)
- + Mechanical Engineering (CAD / CAM / CAE)
- + Chemical Engineering
- + Electronics and Communication Engineering (VLSI and Embedded Systems)
- + Computer Science and Engineering (Cyber Security)
- + Computer Science and Engineering (Data Science and Analytics)
- + Petroleum Engineering
- + By Research in Environment Engineering
- + By Research in eMobility
- + Ph.D in Engineering

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WORLD'S FIRST UNIVERSITY FOR LIFE TRANSFORMATION



WELIVE IN AN ERA OF TECHNOLOGICAL PROGRESS

MIT-WPU

With a rich legacy of 40 years in fostering world-class academic excellence and over 100,000 alumni across the globe, MIT-WPU is one of the premier centres of higher learning in India that offers over 150 programmes. The programmes developed by leading Indian and International academicians focus on both theoretical and practical aspects. Students at MIT-WPU benefit from a hands-on learning approach, mentor-mentee relationships, internships and immersion programmes that provide opportunities for real-world learning and personal growth.

Faculty of Engineering and Technology

The MIT-WPU Faculty of Engineering and Technology offers an ideal combination of practical knowledge, problem-based, experiential learning, and collaborative training approaches. The academic fraternity at MIT-WPU is highly experienced and prides itself on its strong industry-academia network that enables students to acquire the best theoretical knowledge with proper industry exposure through application-oriented pedagogies, guest lectures, seminars, workshops, national and international tours, and more. Students also gain relevant experience from multiple capstone projects that focus on brainstorming and problem-solving, encouraging innovation at every step. Moreover, the Centres of Excellence, in collaboration with multiple MNCs, prepare students for bright careers ahead.

Highlights

- Choice Based Credit System (CBCS) pattern
- Project Based Learning (PBL)
- State-of-the-art facilities equipped with the latest tools and advanced technologies for research & practical training
- MOOCs and interdisciplinary courses included in the curriculum to boost core competencies in students
- Guest lectures, seminars, and workshops by industry experts and leaders from multinational companies
- 6 months optional industry internships with companies and corporations which include Tata Motors, JCB, Volkswagen, John Deere, Sandvik Asia, Force Motors, Bharat Forge, Mercedes Benz, PARI, L&T, EATON, Kirloskar Pneumatic Co. Ltd., HAL Nashik, CUMMINS India Ltd. ARAI Pune, and many others
- Dedicated Centre for Industry-Academia partnerships to support students through internships and job placements with world-class organisations
- Strong alumni network across the globe
- Faculty with strong research background with 1500+ journal publications, 1000+ research papers, 400+ books and 70+ patents to their names.
- MoUs with 231+ corporates for training, research, and development
- More than 100 student-led clubs catering to varied interests, from technology to drama
- Encouraging entrepreneurship in students through funding, mentoring, and network connection in MIT-WPU Pune Technology Business Incubator (TBI)



Dean's Message

Dear students and parents,

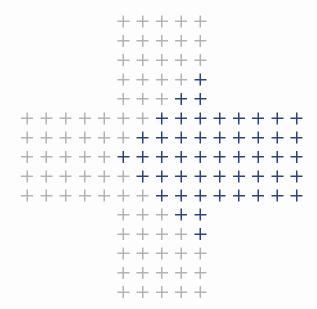
There is a huge demand for industry-ready manpower that is conversant with the latest technologies adopted by the industry. Therefore, it is necessary, as academicians, that we contribute to the growth of our nation by grooming professionals, who are conversant with the current advances and practices in the industry.

Building a strong industry-academia connection is a priority for the Faculty of Engineering and Technology. My team of faculty members is continuously revising the engineering curriculum in consultation with the top industry experts. Industry readiness at the global level and research and innovation are our key focus areas.

I firmly believe that our nation needs research-oriented education that pushes our young minds toward innovation that can provide solutions to real-life problems. This will truly make the dream of Atma Nirbhar Bharat a reality.

As the Dean of the Faculty of Engineering and Technology, providing infrastructural support and encouragement to my team of faculty members, along with their bright young engineering students, is a priority for me. It gives me immense pleasure to inform you that this team is currently working on several innovative, interdisciplinary projects across various domains.

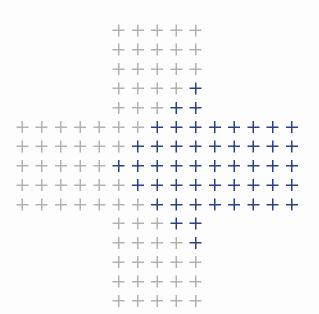
I am confident that the Faculty of Engineering and Technology at MIT-WPU will produce global professionals, leaders, and lifelong learners with holistic personalities who will contribute to the well-being of mankind.



Industry Collaborations

MIT-WPU has strong industry collaborations for student placements, research, and seed funding. These collaborations provide students with opportunities to gain practical experience, work on real-world projects, and interact with industry professionals. They also help faculty members to stay updated on the latest industry trends and developments, and provide a platform for research collaboration and funding. These collaborations help students to develop the skills and knowledge necessary for successful careers in their chosen fields, and provide a valuable source of support for faculty research and innovation. Industry partnerships also benefit the university by providing access to industry expertise, funding, and resources, which can help to enhance the quality of education and research at MIT-WPU.

- AMDOCS Innovation Lab is a unique lab on campus for students to transform their innovative ideas into a reality, developed in collaboration with AMDOCS India
- Certified Network Associate with Exploration Version
 4.0
- Siemens has set up a "Unified Communication Lab" for research in Communication Business



Centres of Excellence at MIT-WPU

- Centre of Excellence for Cryptography and Cyber Security with Ziroh labs
- Centre of Excellence for Blockchain Technology with Snapper Future Tech
- Centre of Excellence for Parallel/Distributed Computing with NVIDIA CUDA
- SUBSEA Lab an initiative of MIT-WPU with Aker Powergas Subsea Pvt. Ltd., and Aker Powergas Pvt. Ltd.
- Centre of Excellence for Innovative Design and Construction Technologies with Italy's
 Politecnico De Milano

Academic Partnerships and Collaborations

The Faculty of Engineering and Technology, MIT-WPU has partnered with top international universities, demonstrating its commitment for a truly global education. These programmes enable learning beyond borders through the cross-pollination of international disciplinary approaches.

MIT-WPU continues to cultivate, enhance, and sustain global relationships and expand inter-cultural networks for its students through student and faculty exchange programmes, summer and winter programmes, research associations, extra credit programmes, and other activities.

The Faculty of Engineering and Technology has collaborations with the international universities listed below.



Deakin University, Melbourne, Australia



Virginia Commonwealth University, USA



Macquarie University, Sydney, Australia



University of Texas, USA



Universityof LaTrobe, Victoria, Australia



Nottingham Trent University, UK



University of Vermont, USA



IMT Mines, Albi, France



Eastern Michigan University, USA



Vrije Universiteit, Netherland



Utah Valley University, USA



John Hopkins University, USA



University of Massachusetts, USA



Department of Civil Engineering



The Department of Civil Engineering at MIT-WPU is committed to creating ethical civil engineers of the future who are well-versed in planning, conceiving, designing, building, monitoring, operating, and maintaining infrastructure, transportation, and public utility projects. Students develop an aptitude for research and a keen knowledge of various civil engineering materials and learn to integrate them into developing infrastructure that effectively meets the users' objectives and needs. The B.Tech. programmes offered by the department build a solid foundation in the domain of civil engineering and instil analytical, technical, professional, and management skills in students.



Let Your Passion
Be your Career

Research at Department of Civil Engineering

Grants Received

More than INR 1 crore

Research Areas

Construction Risk Management, Quality Management, Resource Management and its Optimisation, Sustainable Construction, Concrete Technology, Prestressed Concrete, Composite Materials, Earthquake Engineering, Structural Engineering, Ferrocement Materials, Fracture Mechanics, Subsea Engineering, Precast Technology, Seismic Analysis and Design, Durability of Tunnels, Design of Large Diameter Tunnels, High Altitude Tunnels, Geophysical Methods EIA & EMP, Domestic & Industrial water, Sewage treatment domain areas etc.

Current Research Areas at MIT-WPU

Novel Construction Materials, Sustainable Construction, Concrete Technology, Prestressed Concrete, Ferrocement Materials, Composite Materials, Earthquake Engineering, Tunnels Design and Construction, Fast Track Projects, Life Cycle Analysis, Lean Management.

Research Facilities

Earthquake Engineering, Ferrocement Technology, BIM, AR/VR, Precast Construction, Tensegrity, Rocking shear walls, Risk management, Affordable housing, Pavement distresses, Sustainable material, Tunnel Engineering, Underground Construction, Adsorption Techniques for treatment of effluent, Solid Waste Management, Optimization techniques in water supply,

Rehabilitation and Restoration of urban water bodies, analytical equipment like UV-spec, AAS, PCR thermal cycler etc.

Labs

The Department of Civil Engineering, MIT-WPU has the following labs equipped with the latest state-of-the-art equipment.

- Surveying Laboratory
- · Transportation Engineering Laboratory
- Concrete Technology Laboratory
- · Structural Dynamics Laboratory
- Heavy Structures Laboratory
- Environmental Engineering Laboratory
- Geotechnical Engineering Laboratory
- Tunnel Engineering Laboratory
- IoT Laboratory

Internships and Placements

L&T, Black & Veatch, ACC, AFCONS, Geoconsult, Dhruv Consultants, J & W Structural Consultants, Precast India Ltd., B. G. Shirke Company, AFCONS Infrastructure Limited, Larsen & Toubro, Hindustan Construction Co., Gammon India, TATA consulting Engineers, J Kumar, Shapoorji Palonji and Co., Aecom, Geodata, Smec, Strudcom Structural Consultants, Project Management Consultancy (PMC), Gammon India Limited, Indian Railways, Mumbai Metro Corporation Itd., Pune Metro (Maha-Metro Corporation Ltd.), RITES Ltd., NHIDCL, Public Works Department etc.



Collaborations and Funding

The Department of Civil Engineering offers a collaborative programme with Burton and South Derbyshire College (BSDC) in the United Kingdom, as well as an agreement for collaborative research with organisations such as the Pune Construction Engineering Research Foundation (PCERF), the Builders Association of India (BAI), KL Structures USA, BSDC College UK, Aberdeen University, AKER solutions Pune, Ajay Kadam Associates, and CWPRS, among others.

The MODROB scheme provides funding to the Department to assess the seismic response of various infrastructures. It enables two-dimensional earthquake response and simulates all major earthquake scenarios from previous centuries.

M.Tech Civil Engineering (Structural Engineering)

The M.Tech in Civil Engineering (Structural Engineering) is a specialised programme that focuses on training students in critical thinking and problem-solving skills for the field of structural engineering. The curriculum includes hands-on training in modern engineering tools and computer simulation methods for analysing and designing civil engineering structures according to Indian and international standards. The programme also includes seminars, projects, and internships that allow students to gain real-world experience and connect with the industry. In addition to technical skills, the programme also emphasises value-based education through peace courses.

Career Opportunities

- Site Engineers
- Structural Consultants
- Project Managers
- Government Engineers
- Surveying Consultants



Duration - 2 years



Fees - ₹ 2,15,000 PA





M.Tech Civil Engineering (Construction Engineering and Management)

The construction sector in India receives significant funding from the government, making it a thriving industry with many job opportunities. The M.Tech in Civil Engineering (Construction Engineering and Management) programme prepares students for careers in this field by combining engineering principles with project management skills and practical experience with modern materials, processes, and technologies. Students also learn to use software programmes like MSP, Primavera, and PRRT, which help them be more competitive in the job market. Graduates of this two-year programme can work in managerial roles at project management consultancies, contracting firms, public sector organisations, private construction companies, and multinational corporations. Many students from this programme have secured paid internships at companies like VJ Developers and Afcons Infrastructure. they have also been placed at firms like L&T and Shapoorji Pallonji Engineering and Construction with competitive packages.



Duration - 2 years



Fees - ₹ 2,15,000 PA





M.Tech Civil Engineering (Tunnel Engineering)

India is experiencing a high demand for tunnel construction due to various infrastructure projects, and there is a shortage of qualified tunnel engineers to meet this demand. To address this need, the Department of Civil Engineering has launched M.Tech Civil Engineering (Tunnel Engineering) in collaboration with Montan University in Leoben, Austria, a leading institution in tunnel engineering education. This programme provides students with a comprehensive understanding of the technologies, machinery, software, and equipment used in tunnel engineering and is taught by experienced faculty and industry experts.

Career Opportunities

- Site Engineers
- Tunnel Engineers
- Project Managers
- Government Engineers
- Surveying Consultants



Duration - 2 years







M.Tech by Research in Environment Engineering

The M.Tech by Research in Environment Engineering is a programme designed to give students advanced knowledge and research skills in environmental engineering. The curriculum covers emerging areas in environmental engineering and includes a research project that culminates in a dissertation and publications in scientific journals. This programme combines traditional coursework with research opportunities, allowing students to gain practical experience in their field. Upon graduation, students will have a strong foundation in environmental engineering and the adequate skills to pursue research in this area.

Career Opportunities

- Environment Engineers
- Project Engineers
- Commissioning Engineers
- Project Environmental Engineers
- Process Engineers
- Environmental Managers



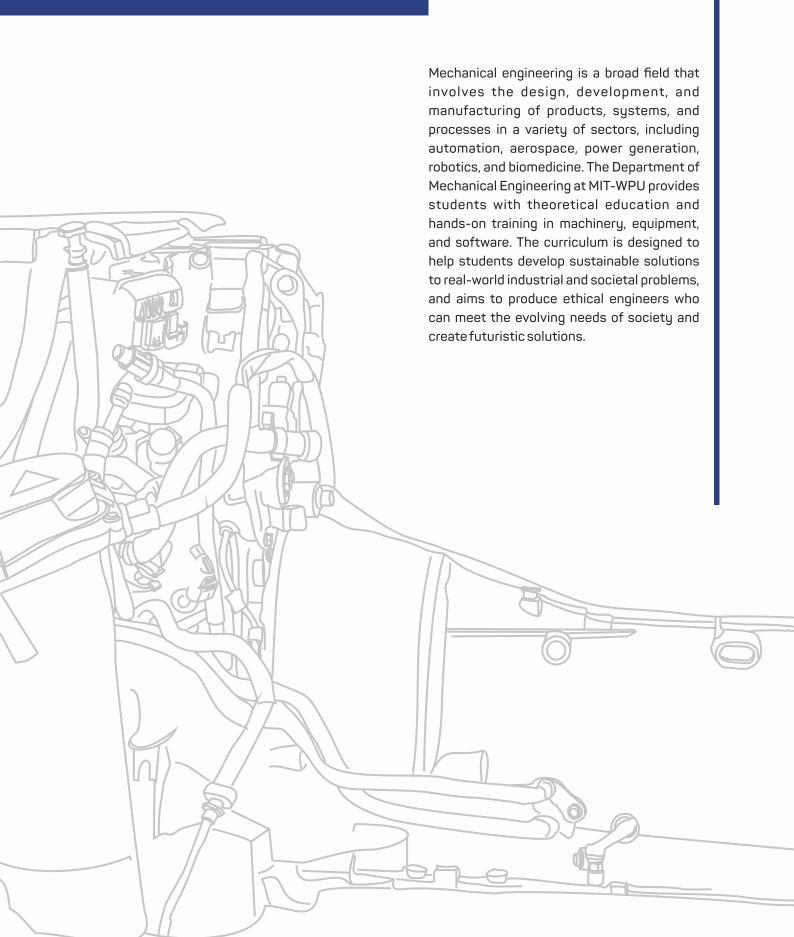
Duration - 2 years







Department of Mechanical Engineering



Research at the Department of Mechanical Engineering

Grants Received

More than INR 1 Crore

Research Areas

Design Engineering, Composite Materials, Tribology, Biomaterials and Biomedical Engineering, Material Testing, NVH - Fault Diagnosis, Reliability, Vehicle Dynamics, Metal Forming, Optimisation of Manufacturing Processes, Solar Energy, Computational Fluid Dynamics, Biomechanics, Cryogenic Applications, Heat Pipe Applications, HVAC Applications, Micro-Forming, Advanced Refrigeration System Design, Friction Stir Welding, Two-Phase Heat Transfer, E-Vehicle Battery Thermal Management, NVH and Fault Diagnosis, New Refrigerants and Allied Applications, Design Engineering, Optimization of manufacturing Processes, Solar Energy-Integrated Thermal System, Computational Fluid Dynamics, Biomechanics and Bio-Engineering, Composite Materials, Metal Forming/Micro Forming and more.

Current Research Areas at MIT-WPU

Metal Micro Forming, Solar Energy and Refrigeration, Biomedical Engineering and Mechanics

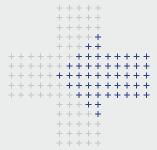
Research Facilities

Multi Fuel Research Engine, Pin on Disc Tribometer, Four Ball Tester, Universal Testing Machine and Hydraulic Fatigue Testing, Double Disc Polishing Machine, Microscope and Image Analyzer, CAD, Sheet Metal and Manufacturing Simulation Lab, Harness and Impact Testing, FFT Analyzer and Electrodynamic Shaker, Renewable Energy Lab, small scale solar heliostat system, Thermal Imaging Camera, Electrolyte Marking

Labs

Research at the Department of Mechanical Engineering, MIT-WPU has the following labs equipped with the latest state-of-the-art equipment.

- EVehicle and Electrical Mobility Lab
- RAC and Cryogenics Lab
- Hydraulics Lab
- Pneumatics Lab
- Robotics Lab
- Automation Lab
- Advanced Material Characterisation and Metrology Lab
- Noise Vibration and Harshness (NVH) Lab
- Tata Technology Visualisation and Competency Centre-I
- Mechatronics and SensorTechnologyLab
- Computer Aided Design (CAD) Lab
- Steam and Power Generation Lab
- Thermal Engineering & Nanofluidics Research Lab
- Hydraulics Machinery Lab
- Advance Heat Transfer & HVAC Lab





Internships and Placements

Tata Motors, JCB, Volkswagen, John Deere, Sandvik Asia, Force Motors, Bharat Forge, Mercedes Benz, PARI, Alfa Laval, L&T, EATON, Kirloskar Pneumatic Co. Ltd., HAL Nashik, CUMMINS India Ltd. ARAI Pune, Lean Maestro Pune, NCL, Magna Steyr India Pvt. Ltd., Thermax, Forbes Marshall, Godrej, Whirlpool, Lear Corporation, Cosmic Refrigeration, Vacuum Plant Refrigeration Pvt. Ltd., Nissu Radiators, 3D PLM software solutions, Siemens, Geometric Solutions, Kirloskar Group of Companies, TATA Technologies, ANSYS, Force Motors, Lawkim, Kirloskar Group, Accenture, Mubea Automotive India Pvt. Ltd. Polyone Polymers.

Research and Innovations

- IP Australia on behalf of the Australian government has granted six patents to faculties of DoME
- DoME also has 18 patents from the Indian Patent Office to its credit.
- 3. The Department has to its name over 500 research papers, with 2000 citations, and research funding of more than 1 crore

M.Tech Mechanical Engineering (Thermal Engineering)





M.Tech Mechanical Engineering (Design Engineering)

Design engineering is a sub branch of mechanical engineering that emphasises the design and development of real-life applications and technologies to solve real-world problems. The M.Tech Mechanical Engineering (Design Engineering) programme at MIT-WPU trains students in the design elements of machines with their complex geometry and gives them hands-on experience in the designing and modelling of various tools and software used in the industry. Through multiple core and elective courses, the programme trains students in the computational modelling of product functions, integrating mechanical, electrical, and electronic systems, the choice of the appropriate materials, and their design for optimum performance.

Career Opportunities

- Mechanical Design Engineers
- **HVAC Design Engineers**
- **LED Lighting Engineers**
- Design Quality Assurance Managers



Duration - 2 years





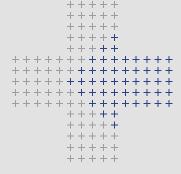






The success of MIT-WPU in ABU Robocon

Robocon is a contest organized by Asia Pacific Broadcasting Union (ABU) and its member countries. The MIT-WPU team Robocon has participated in this competition since 2008 and represented India on many international platforms. MIT-WPU's tech team has to its name the highest rank secured by any Indian team-5th International position in the year 2012. MIT-WPU's team has qualified 5 times at the international level to date. The MIT-WPU team Robocon has won the competition at the national level and represented India on the international platform in Fiji in 2020.



M.Tech Mechanical Engineering (CAD/CAM/CAE)

Computer-aided design, manufacturing, and engineering (CAD/CAM/CAE) is a specialised field within mechanical engineering that involves the use of computer software and scientific principles to solve problems related to manufacturing and design in engineering. The M.Tech Mechanical Engineering (CAD/CAM/CAE) programme at MIT-WPU trains students in various areas of CAD/CAM/CAE, including computational geometry, artificial intelligence, customisation of CAD/CAM software, advanced sheet metal forming, design for X, composite materials, micro-nano manufacturing technology, bio mechanics, mechanobiology, and more. The goal of the programme is to produce engineers who are skilled in designing high-quality, low-cost products and machines that can be used in a wide range of industries. As global markets become more interconnected and demand for these skills increases, the need for engineers trained in CAD/CAM/CAE will continue to grow in future as well.

Career Opportunities

- CAE Safety Engineers
- CAE Engineers
- CAE Analysts
- Application CAE Engineers
- CAE Analysts
- Sr. Analysts-CAD



Duration - 2 years







Department of Chemical Engineering



Research at the Department of Chemical Engineering

Grants Received

More than INR 60 lakhs

Research Areas

Pollution abatement and recovery of components from waste water, Green Hydrogen and Bio Methane, AI/ML and Process Data Analytics, Biomaterials, Bioprocesses and Biowaste Valorisation, Flow Modeling for Process Intensification.

Current Research Areas at MIT-WPU

Bioenergy and green hydrogen, energy and sustainability, reaction engineering and catalysis, novel and advanced separations, process systems engineering, green polymers and composites, nanotechnology and flow modelling.

Research Facilities

Softwares like Aspen Plus, HYSYS along with mathematical solvers such as COMSOL, MATLAB and others. Open ware such as DWSIM, ChemSep, analytical instruments such as HPLC, GC, BOD and COD metres, experimental set-ups for Hydrodynamic Cavitation, Industrial scale Membrane Separation Unit, Integrated multiphase horizontal and vertical flow regime loop etc.

Labs

The Department of Chemical Engineering, MIT-WPU has the following labs equipped with the latest state-of-the-art equipment.

- Chemical Engineering Unit Operations Laboratory
- Instrumental Analysis Laboratory
- Fermentation and Chemical Reaction Engg Laboratory
- Instrumentation And Process Control Laboratory
- Chemical Process Development Laboratory
- Bioprocess Engineering Laboratory
- Mass Transfer and Advanced Separation
 Processes Laboratory
- Bioengineering Laboratory
- Transport Phenomena Lab

Achievements & Awards

The Department of Chemical Engineering, MIT-WPU is associated with the international AIChE (American Institute of Chemical Engineers) student chapter. This student chapter has won the Global Outstanding Student Chapter Award for 3 consecutive years, 2019, 2020, and 2021.

Prestigious awards:

- Donald F. Othmer Sophomore Academic Excellence Award presented by AIChE
- AIChE-Southern Asia Regional Liaison



- International Position of Regional Liaison at the Executive Student Committee-AIChE
- Freshman Recognition Award by AIChE
- Project Based Learning hackathon by IUCEE. (Indo Universal Collaboration for Engineering Education)

This also helps the students to effectively engage in co-curricular activities and social impact projects that not only develop communication skills, team-building skills, and leadership skills among students but also sensitises them to ground level realities to find relevant solutions.

Internships and Placements

Reliance Industries Ltd, Worley India Ltd, Cummins India Ltd, NCL, NEERI etc.

M.Tech Chemical Engineering

The M.Tech Chemical Engineering programme at MIT-WPU is designed to upskill and reskill graduate students from chemical, petrochemical, petroleum, polymer, oil, paint, environmental, applied chemistry, and related fields. The programme aims to give students the knowledge and skills needed to build on their bachelor's degree, expose them to the various streams of chemical engineering and preparing them for careers in academia, research, and industry. The programme is offering professional and open electives like Process Engineering, Process Data Analytics, Biochemical Engineering, Polymer Technology, and Computational Fluid Dynamics. The department has established the 'New and Green Hydrogen Energy Centre' which gives students an exposure to the developments in clean hydroenergy solutions.

This programme offers two elective tracks:

- Water and Wastewater Treatment
- Energy Engineering with a focus on affordable Green Hydrogen manufacturing.



Duration - 2 years







Students' Achievements at MIT-WPU Faculty of Engineering

Piranha Racing

- Champions of BAJA SAE India-2021
- 8 trophies including AIR 1 in Overall Dynamics,
 Gradeability, Acceleration, All-Terrain Performance,
 Suspension and Traction

Hyperloop - Vegapod

- Among Top 3 in Asia and the top 30 out of 1600+ teams worldwide
- Among Top 20 out of 150 teams to qualify for European Hyperloop Week

Smart India Hackathon

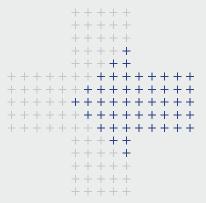
First Prize in 2020

Formula Student

- 1st University from India to qualify for Formula Student
- Ranked 9th at the Formula Bharat 2019 among 64 international teams

ABU Robocon

Ranked 5th internationally; qualified five times at the international level

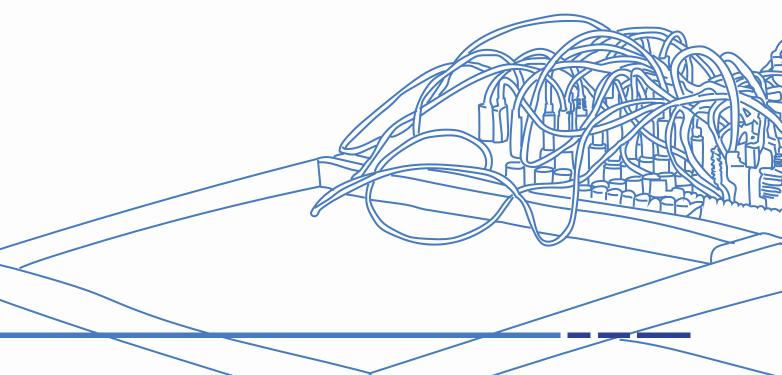




Department of Electronics and Electrical Engineering

Electronic and electrical engineering is a field that deals with the practical applications of electricity and the real-time problems of operating, maintaining, controlling power systems and electrical machines. The Department of Electronics and Electrical Engineering at MIT-WPU, offers special programmes designed to meet the critical needs of the industry. The department also offers hands-on projects, industry visits, and internships to help prepare students for professional careers. By providing students with practical experience and industry-specific training, the department aims to produce wellequipped electronic and electrical engineers who are ready to enter the workforce with confidence.







Research at Department of Electronics and Electrical Engineering

Grants Received

More than INR 67 lakhs

Research Areas

VLSI & Embedded Systems, Hardware Implementation (ASIC), Programmable Hardware (FPGA), Embedded System Product Development, 3D Power Scaling, 3D System in Chip (SIP) Architectures, Ultra-low Power IC Design, IoT (Internet of Things) and IoE (Internet of Everything), Big Data and Cloud Computing, Deep Learning, Artificial Intelligence and Machine Learning Chip Design, Network on Chip (NOC), SOC Interconnects, EDA Algorithm Development, MEMS, Robotics, Network Security, EV Machine and Drives, Embedded Systems and Control, Power Electronics, Battery Technologies and Management Systems, Charging Infrastructures, Green Energy, EV Telematics and VANETs, Artificial Intelligence etc.

Current Research Areas at MIT-WPU

Artificial Intelligence and Machine Learning, LoRA, Automotive Electronics, Agro electronics, Healthcare, Software Defined Networks, VLSI, Industrial IoT, Medical Image Analysis, Network Security, LiDAR Technology, Battery Technologies and Management Systems, EV Telematics and VANETs, Internet of Things, EV Life Cycle Assessment and allied areas.

Research Facilities

Advanced VLSI Lab with industry standard CAD tools like CADENCE, XILINX VIVADO, Mentor Graphics Communication Networks software tools, for example Qualnet, Netsim, NS2/NS3, SDN Tools, KEIL, Wireless Sensor Boards, IoT Lab, Advanced Embedded system and DSP Lab, BLDC Test bench, Universal test bench for Induction, synchronous, DC Motors, Odin

Machine for Battery pack manufacturing. Cadence, MATLAB, Xilinx Vivado, STMicroelectronicsAlLab

AloT SerBot Prime X Robot, Poweredge T440 Dell server with Intel XEON with SRV STD 20160EM Licence, R440 Power Edge server Intel XEON silver 4116, 32 GB RDIMM, 2TB 7.2K SATA, E-Health sensor platform V 2.0 for Arduino & Raspberry Pi (Biometric/Medical application), Virtex-5 Development Board with XC5VLX50 on board, Virtex - 6 Development Board with XC6LX240T on board, Educational Practice Board with AC6LX240T on board, Educational Practice Board for ARM CortexM3 LPC1768, Education Practice Board 8051F340, Vector Network Analyser 6Ghz, RF Spectrum Analyser 9KHZ to 3GHZ, Logic Analyser, USB Real time signal analyser 9khz - 6.2 Ghz

Labs

The Department of Electronics and Electrical Engineering, MIT-WPU has the following labs equipped with the latest state-of-the-art equipment.

- EV & Automation Lab
- Control Systems & Measurement Lab
- Advanced Machine Lab
- Power Electronics & Power System Lab
- Renewable Lab
- Programming Smart Grid Lab
- VLSILab
- Embedded Lab
- AIML Lab
- IoTLab
- Nvidia Lab
- IBM Lab
- Computer Vision Lab
- Automation Lab



The Department has received funds over Rs 2 Crore from DST and ISRO for:

- Yield Prediction and Quality Assessment of Grapes in Vineyard Using LIDAR Technology (Department of Science and Technology (DST) under the Women Scientists Scheme KIRAN)
- Design and Development of Multisensory Smart Assistive Technology for the Blind (Department of Science and Technology (DST), Govt. of India)
- Development of an Algorithm for the Analysis of Vegetation Dynamics (ISRO)
- Modification of TW3 RUS for Bone Age Assessment (Department of Science and Technology (DST), Govt. of India)

Internships and Placements

BOSH, BHTC, SIEMENS, SCL, Philips, WNS, IMEC Belgium, Volkswagen IT Services, KNORR-BREMSE, MOOG INDIA, ARAI, Schindler India Pvt. Ltd., Varroc, MAN Truck & Bus, Infosys, Cognizant, HELLA India Automotive Pvt. Ltd., NVidia, Tech Mahindra, Cognizant, Wipro, L&T Infotech, John Deere, Accenture, ZS Associates, JENDAMARK India Pvt. Ltd., FEV India Pvt. Ltd., TCS, Tata Power Company Ltd., Tata Auto Component Systems, Bosh Global Software Solutions, Deloitte, KPIT Pvt. Ltd.



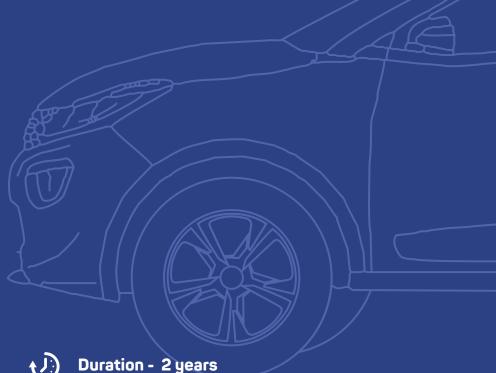
M.Tech Electronics & Communication Engineering (VLSI and Embedded Systems)



M.Tech by Research in eMobility

In the next 15 years, India is expected to grow significantly in terms of economy and thereby creating a higher urban population and a larger middle class. Such growth will have increased demand for transportation, and that could lead to potential challenges such as managing congestion, reduced emissions, reduced dependency on oil, increased safety on roads, reduced human involvement, smart connected cities, and many others. Hence, it is driving us towards two major directions: Electric Vehicles (EV) and Smarter/Intelligent Vehicles.

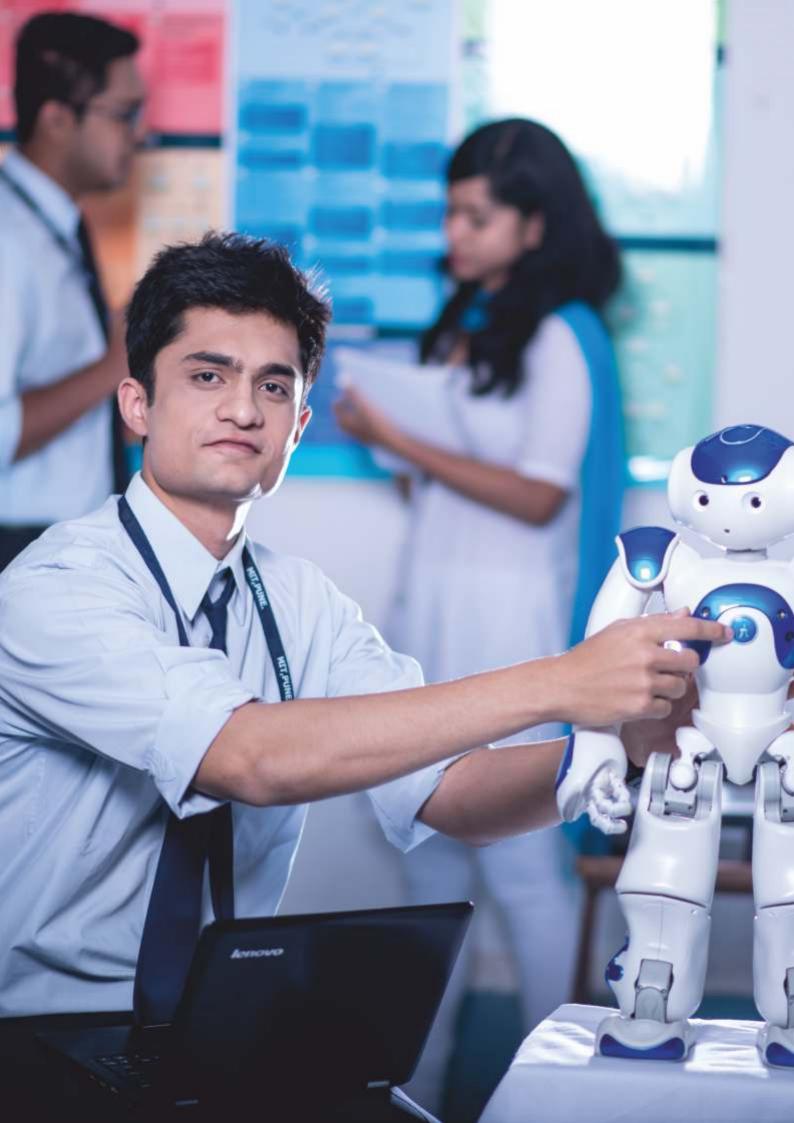
The MTech by Research in eMobility program is offered for fulltime students as well as professionals working in Industry, academia, and research organizations. It is a research-intensive multidisciplinary program, especially designed to prepare the students to undertake quality research and contribute in expanding the frontiers of eMobility and allied areas.





Fees - ₹ 1,90,000 PA

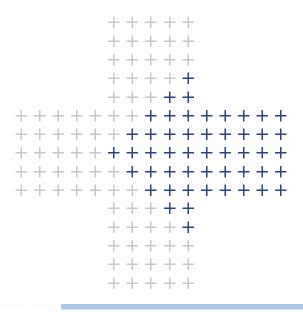




Department of Computer Engineering and Technology

The field of computer engineering and technology presents an unprecedented demand for innovation, design, development, deployment, usability, and presentation. The Department of Computer Engineering and Technology offers cutting-edge programmes to meet this unprecedented demand from budding engineers. These programmes are a perfect blend of academics, industrial exposure, research opportunities, and a multitude of co-curricular and extracurricular activities. The department also organises several workshops and skill enhancement courses for hands-on experience in software and applications such as Linux, Python, IoT, and Data Science.





Research at the Department of Computer Engineering and Technology

Grants Received

More than INR 40 lakhs

Research Areas

Machine Learning, Data Analytics, Deep Learning, Big Data Analytics, Data Mining, Network Security, Wireless Security Networks, Network Management, High Performance Computing, and Parallel Computing.

Current Research Areas at MIT-WPU

Machine Learning, Deep Learning, Medical Image Analysis, Health Informatics, Network Security, Wireless Sensor Networks, Affordable Agriculture.

Research Facilities

PARAM-Shavak Super Computer, NAO Humanoid Robot and Latest Software Tools, Open source softwares like Nmap, Metasploit, Burp Suite, Kali Linux, Wireshark; Solidity Language, High end processor-GPU-RTX3080, graphic workstation for application development and demonstration.

Labs

The Department of Computer Engineering and Technology, MIT-WPU has the following labs equipped with the latest state-of-the-art equipment.

- Devops Laboratory
- Emerging Technology Laboratory
- Object Oriented Programming Lab
- Software Developments Laboratory
- High Performance Computing Laboratory
- Embedded System Laboratory

- Microprocessor Laboratory
- Cyber Security Laboratory
- Big Data Analytics Laboratory
- System Software Laboratory
- Cloud Computing Laboratory
- Image Processing Laboratory
- IoT Technologies Laboratory
- BlockChainTechnologyLaboratory
- Web Technology Laboratory
- HCI Laboratory
- AR/VR Laboratory
- Computer Networks Laboratory
- Wireless Networks Laboratory
- Operating Systems Laboratory
- Artificial Intelligence Laboratory
- Machine Learning Laboratory
- Digital Electronics Laboratory
- Data Science & Analytics Laboratory (PG)
- NMCS Laboratory (PG)

Internships and Placements

Phillips, Dell, Bit metric, Bitwise, Schindler, CDK Global, Varroc, VU Clips, Vizitech Solutions, Softcell, Emerson, SAS, Persistent, Cognizant, Wipro, L & T Infotech, Tech Mahindra, CDK Global, Dell, ZS Associates, Accenture, etc.



M.Tech Computer Science and Engineering (Cyber Security)

M.Tech Computer Science and Engineering (Cyber Security) is an industry relevant programme that trains students in the domains of advanced cryptography, digital forensic analysis, and wireless security. The objective of the programme is to provide expertise in maintaining the security of wireless networks. Students learn how to actively monitor and defend the network, as well as basic security approaches and methods.

The programme helps students apply cyber security principles to protect the data and manage their personal conduct in relation to protecting the data and information. Students can find excellent internship and job placement opportunities in various domains of network management and cyber security after completing the programme successfully.



Duration - 2 years



Fees - ₹ 1,90,000 PA

Career Opportunities

- Network Security Specialists
- Wireless Network Engineers
- Network Architects
- System Administrators
- Security Administrators
- Security Architects
- Network Engineers



M.Tech Compuater Science and Engineering (Data Science and Analytics)

The M.Tech. in Data Science and Analytics is an innovative programme in the rapidly growing field of data science. This programme trains students to become proficient data analysts and scientists through training in data engineering, data warehousing, machine learning, deep learning, cognitive computing and big data analytics.

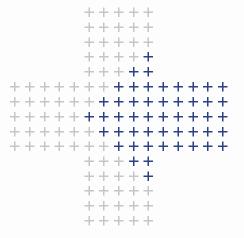
The programme is highly application-oriented and involves the implementation of algorithms on real-world data in various domains. Students can find excellent internship and placement opportunities in various areas of data science after successfully completing the programme.



Duration - 2 years

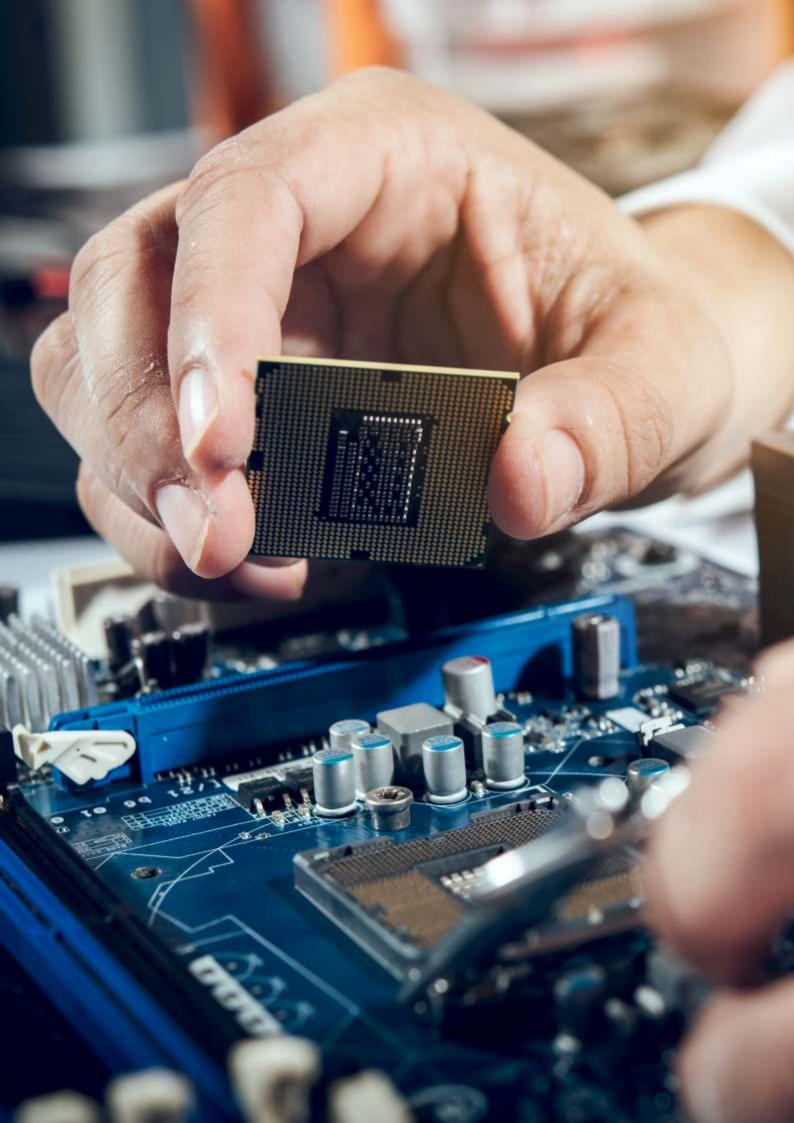


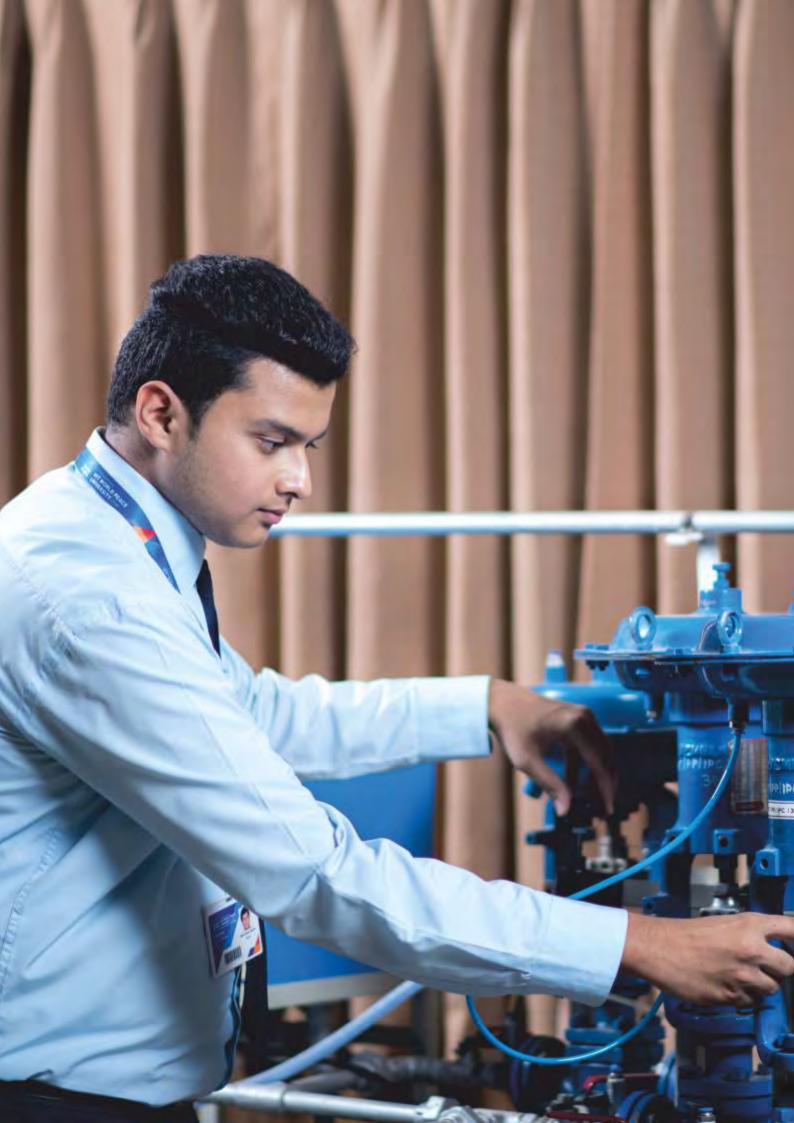
Fees - ₹ 1,90,000 PA



Career Opportunities

- Data Architects
- Application / Infrastructure Architects
- Data Scientist / Analysts
- Data Engineers
- Business Analysts
- Business Intelligence Managers
- Machine Learning Engineers





Department of Petroleum Engineering

The Department of Petroleum Engineering, the second oldest department of its kind in any University in India, offers specialised M.Tech programme designed by industry experts that familiarise students with the production and processing of hydrocarbons such as natural gas or crude oil. The programme introduce students to various disciplines that are important in this interdisciplinary field, such as geophysics, petroleum geology, formation evaluation, drilling, economics, reservoir simulation, reservoir engineering, well engineering, artificial lift systems, and so on.



Research at the Department of Petroleum Engineering

Grants Received

More than INR 1.40 Crore

Research Areas

Reservoir Engineering, Well Engineering, Production Engineering, Geosciences, Health safety, Exploration, Geophysics and Geology, Drilling, Production, Reservoir, Petrophysics, Flow Assurance, Data Analytics, Geothermal energy systems, Enhanced oil recovery, etc.

Current Research Areas at MIT-WPU

Conventional Reservoir Drilling And Production, Data Science and AIML for Reservoir, Drilling and Production Engineering, Geothermal Energy Exploration and Production, Carbon Capture Utilisation and Sequestration, Biofuels and Nano Particle Explosion.

Research Facilities

Drill Bench Drilling Simulator, Consistometer, Well Completion Equipment, Porosimeter, Permeameter, Core Flooding Apparatus, Polarising Microscopes, Gas Chromatograph, Software packages like-Ecrin, Landmark, CMG, Eclipse, Frac Pro, Pipe Flow, Well Flow, Oil Field Manager, Opendtect, etc.

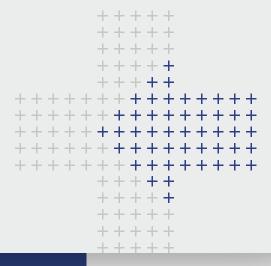
Labs

The Department of Petroleum Engineering, MIT-WPU has the following labs equipped with the latest state-of-the-art equipment.

- Petroleum Engineering Laboratory
- Petroleum Production Laboratory
- Reservoir Characterisation Laboratory
- Well Engineering Laboratory
- Petroleum Exploration Laborator

Internships and Placements

ONGC, Cairn Vedanta, ExxonMobil, Halliburton, Schlumberger, ESSAR, Aker Solutions, Weatherford, Baker Hughes, Techniche, Reliance Industries Limited, Enverus, Shell, DGH, L&TInfotech, etc.





M.Tech Petroleum **Engineering**



Duration - 2 years



Fees - ₹ 1,90,000 PA

The M.Tech. in Petroleum Engineering at MIT-WPU focuses on the exploration, drilling, production, and management of subsurface oil and gas resources. The programme trains the students in the design and use of the various principles, tools, and systems to locate, extract, process, and refine crude oil and petroleum. The students learn about the essential drilling and mining systems as well as the various environmental states, laws, and safety systems.

The Department of Petroleum Engineering has developed a strong connection with leading oil and gas companies such as ONGC, OIL, Cairn, Shell India, Halliburton, Weatherford, Baker Hughes, TietoEvry, Enverus, and John Energy International for numerous





Ph.D in Engineering

The highly research intensive Ph.D programme offered by the Faculty of Engineering and Technology provides students with excellent facilities and expert guidance to support their research endeavors. The programmes are designed to help postgraduate students develop research skills and prepare for careers in academia or research. The programmes provide specialised training in research components such as hypothesis creation, research questions, literature review, research ethics, and the use of online tools and resources. The programmes focus on interdisciplinary research, innovation. and entrepreneurship in their chosen areas of study.

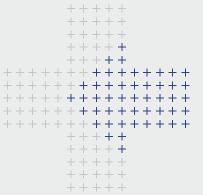
Students are guided in selecting relevant research topics and completing a thorough, systematic study to write their thesis of 80,000-1,00,000 words which is evaluated at regular intervals. The candidates are encouraged to publish papers in reputable journals and provided with guidance from faculty members with extensive experience in research.

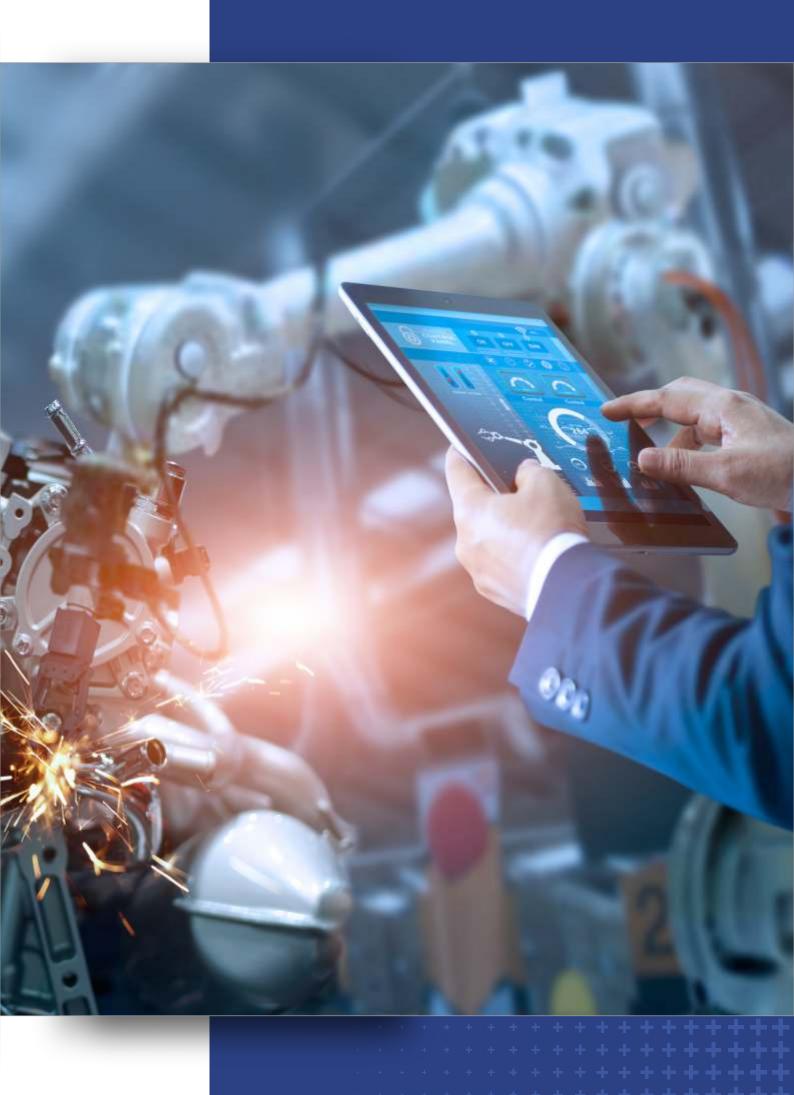
The programmes include common courses in the first six months to help students build scientific aptitude and optimise their research output. The Faculty of Engineering supports the building of researcher networks, successful execution of Ph.D project plans, and aims to provide students with a broad base of knowledge and expertise for their future careers.

The Faculty of Engineering and Technology offers the following Ph.D programmes:

- Ph.D in Civil Engineering
- Ph.D in Mechanical Engineering
- Ph.D in Chemical Engineering
- Ph.D in Electronics and Communication Engineering
- Ph.D in Computer Engineering
- Ph.D in Petroleum Engineering

Please refer to the website for the latest details of the Ph.D programmes.







Centre for Subsea Engineering Research (CSER)

The goal of the MIT-WPU Centre for Subsea Engineering Research (CSER) is to promote research, entrepreneurship, and innovation in a wide range of engineering disciplines.

One of only three operational subsea laboratories worldwide and the first in the entire eastern hemisphere is the Subsea Engineering Research Laboratory at MIT-WPU. This laboratory is a cutting-edge functional prototype of deep-water offshore petroleum mining activities, collaboratively built by Aker Solutions and MIT-WPU.

Through sessions at this laboratory, the Civil and Petroleum Engineering students at MIT-WPU acquire knowledge of the complex processes used in subsea mining, fuel extraction, and other operations carried out on and below the seafloor. The students are also instructed in drilling and well control procedures, industrial safety and health engineering (ISHE), and oil recovery.



MIT-WPU faculty and students are actively conducting research in the following fields in this lab:

- Vibration Analysis
- Robotics, ROVs in Subsea Engineering
- Fluid Dynamics
- Subsurface Production and Reservoir Engineering
- Surface Production Facilities Engineering
- Underwater Electronics and Fabrication

- Fluid Machinery
- Enhanced Oil Recovery
- Advanced Instrumentation and Process Control
- Flow Assurance
- Drilling and Well Control
- Pipeline Transportation
- Data Science and Analytics

Eligibility and Selection Process

M.Tech Programmes

 Minimum 50% aggregate score in graduation (4 years) of relevant Engineering Branch from UGC approved university or equivalent (at least 45% marks, in case of Backward class category candidate belonging to Maharashtra state only)

AND

 GATE Qualified (Obtained a positive score in GATE (2021, 2022, 2023) / MIT-WPU CET / PERA 2023

OR

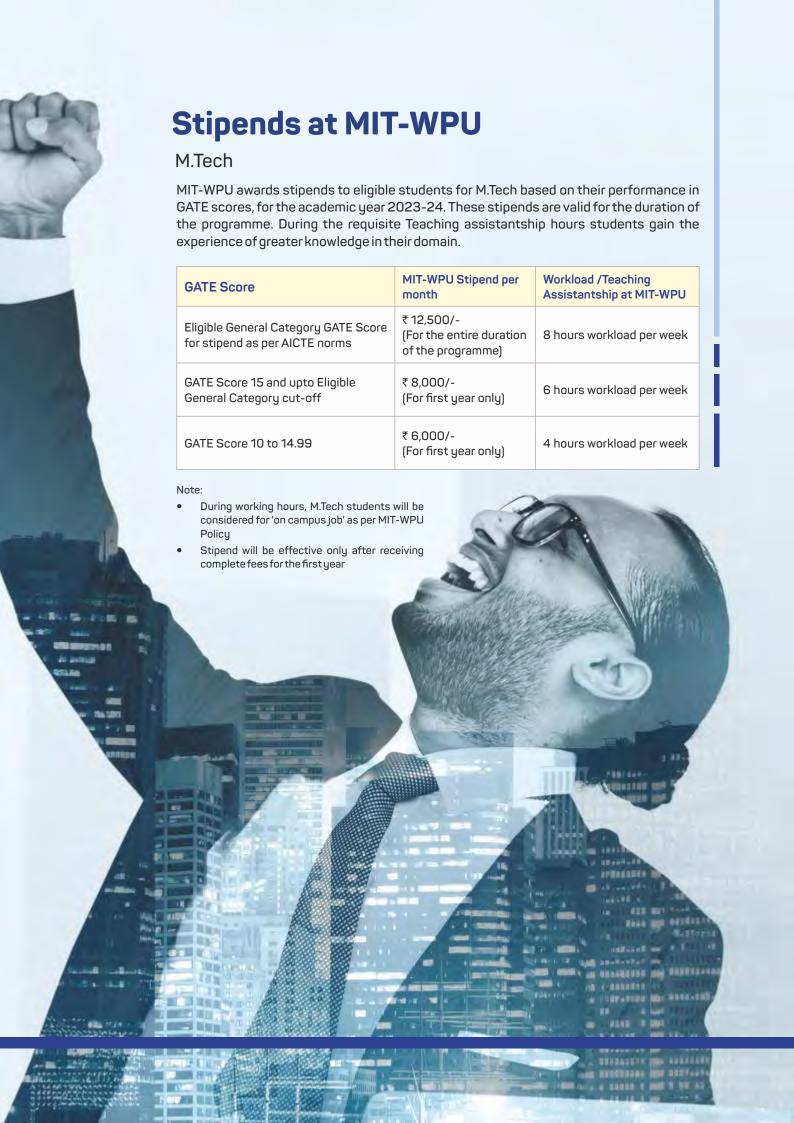
- Sponsored Candidate (Need 2 years of work experience after graduation, in field related to graduation)
- The Selection process for this program is based on the merit of MIT-WPU CET 2023 Score / PERA Score or GATE Score (2021/2022/2023) & Personal Interaction conducted by MIT-WPU.
- For admission under sponsored category, candidate should have minimum two years of fulltime work experience in a registered firm/ company/ industry/ educational and/or research institute / any Government Department or Government Autonomous Organization in the relevant field in which admission is sought.
- For any vacant seats after above process, candidates who do not have either GATE score or work experience will be considered for admission through a process of written test followed by interview in respective school.

*Note: MIT-WPU retains the right to make changes to any published schedule. Any other criterion declared from time to time by the appropriate authority as defined under the Act.

Ph.D Programmes

Please refer to the website for the latest details







Internships

Experiential learning is an integral component of learning at MIT-WPU. The students of M.Tech can pursue a six-month internship with renowned companies in their field. This internship aims to provide a platform to integrate classroom knowledge with related practical applications and skills in a professional ecosystem. The students get a chance to access real-world practical learning that instill critical perspectives for rewarding future career pathways.



Highest Stipend - ₹60,000

Placements

The Training and Placement Cell at MIT-WPU plays a crucial role in locating job opportunities for students by inviting reputed firms and industrial establishments for opportunities. MIT-WPU has been successful in maintaining high placement statistics over the years.

The Placement Cell organises career guidance programmes for all the students. The cell also arranges training programmes like Mock Interviews, Group Discussions, Communication Skills Workshop etc.



Highest Package - ₹ 44.14 L*

*including Sign-On Bonus and ESOPs

Top Recruiters



























































































Life at Campus

Rural Immersion Programme

MIT-WPU's rural immersion programme is a unique educational opportunity that helps students understand and address the challenges faced by rural communities. During the programme, students visit a village and learn about the local culture, community, and landscape. They work on various projects, such as optimising irrigation systems, conserving and storing water, recycling waste, and using solar power, to improve the rural environment. This hands-on, real-life learning experience helps students develop critical thinking, problemsolving, and community awareness skills. It also helps them gain a deeper understanding of rural society and how their knowledge can lead to innovative solutions.

R.I.D.E.

R.I.D.E is an yearly national conclave hosted by the Innovation Club of MIT-WPU to expand the horizons of education beyond academics and open the pathway for students towards entrepreneurship. The conclave is meant to expose students to the emerging research, entrepreneurship, design thinking and innovation in various fields. The five day conclave witnesses a footfall of ten thousand students and showcases over a hundred start-ups from various sectors including technology, design, healthcare, agri-tech, sustainable energy and retail. More than fifty experts from the venture capital industry address students about the changing face of start-ups, innovations and the evolving market trends to encourage out-of-the-box thinking by simulating a real-world start-up environment.

Bharatiya Chhatra Sansad

MIT-WPU's flagship social initiative and brainchild of Shri. Rahul V. Karad, the Bharatiya Chhatra Sansad (BCS) is an yearly national event which aims to regenerate youth's interest in the country's political system, governance and administration. This non-political platform aims at sensitising the youth to the changing social and political landscape of the country through debates, discussions, addresses from eminent personalities including the chief ministers and governors of various Indian states, union ministers and members of the parliament. The Sansad witnesses the participation of students from around 25,000 colleges in India.

Other Events at MIT-WPU

MIT-WPU is known for its dynamic and engaging academic and extracurricular events, which provide students with numerous opportunities to learn, grow, and get involved in their community. In addition to the well-known events R.I.D.E. and BCS, there are over 100 student-led events that take place at the university throughout the year. These events cover a wide range of interests and topics, from cultural festivals and guest lectures to community service projects and sporting events. By participating in these events, students can gain valuable skills, make new connections, and become more active and engaged members of the MIT-WPU community. Some of the events are as follows:

- **Design Xpo**
- Aarohan
- Kala Mehfil
- National Conference on Media and Journalism
- Abhivyakti
- **TEXEPHYR**
- Techogenesis
- RoboCon



Peace Studies

The mandatory peace studies module at MIT-WPU aims to provide students with a holistic education that integrates various disciplines for their personal development. Through this module, students gain a greater understanding of the interconnectedness and interdependence of mind,





scientific temperament and a spirit of inquiry, as well as a sense of humanism.

In addition, the peace studies module introduces students to various yoga practices that help them develop their information base and cognitive abilities, as well as their critical thinking skills and personality. Upon completing the course, students will have a better understanding of how elevated consciousness can positively impact human behaviour and contribute to a happier, healthier, more peaceful, and empowered world.

which provide students with opportunities to learn about and explore their specific areas of interest.

Some examples of clubs at MIT-WPU include:

- The Innovation Club, which hosts events and workshops related to entrepreneurship and innovation.
- The Art and Photography Club, which brings together students with a shared interest in artistic expression.
- The Sports Club, which organises sporting events and activities for students to participate in.
- The Cultural Club, which celebrates the diversity of the MIT-WPU community and promotes cultural exchange.

By joining a club or team, students learn to make the most of their time while engaging their mind and developing their skills, making meaningful contributions to the community at large.





Testimonials

The atmosphere at MIT-WPU has always encouraged me to set a path toward my dreams. I got an opportunity to work as a research intern at IMEC, Belgium. IMEC has its state-of-the-art research labs and cleanrooms in the field of Semiconductors. MIT-WPU is taking great efforts for the overall development of the students. It has helped me to keep my vision clear about career & excel in academics.

Nikhil Mane, SY MTech - VLSI & ES

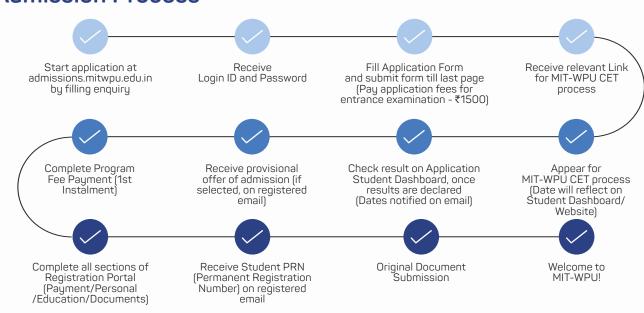
I chose MIT-WPU because it is a well-renowned university with one of the best industrial tie-ups and with the best academic excellence. Even in the pandemic situation, the online classes were conducted with good connectivity between students and faculties. Regular feedback was conducted to understand the problems that occurred during the online teaching session. Timely expert lectures and industrial webinars were carried out for industrial exposure. Overall even in pandemic, it was a great experience of gaining knowledge and practical approach using the online platform.

Akash Pawale, S.Y.M.Tech Thermal Engineering

I am pursuing M.Tech in CAD/CAM/CAE and my interest has been increased in learning after getting admission here at MIT-WPU. The University infrastructure is very good and is well equipped with all the learning facilities, laboratories. The teaching faculties are very supportive, experienced and highly educated. They keep updating us about the recent advances. In fact from 2020 they have introduced a unit in which they update us about the recent trends and techniques.

Neha Tiwari, S.Y.M.Tech CAD/CAM/CAE

Admission Process





Call WhatsApp-only Email Website Address +91-20-71177137 / 04 +91-9881492848 admissions@mitwpu.edu.in admissions.mitwpu.edu.in MIT-WPU, Kothrud, Pune



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