NATIONAL INSTITUTE OF TECHNOLOGY
TIRUCHIRAPPALLI

DEPARTMENT OF
TRAINING AND PLACEMENT

POST GRADUATE
PLACEMENT BROCHURE
2025-26

NIT TRICHY

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Chemical Engineering
Civil Engineering
Computer Applications
Computer Science and Engineering
Electrical and Electronics Engineering
Electronics and Communication Engineering
Energy and Environment
Instrumentation and Control Engineering
Management Studies
Mechanical Engineering
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ABOUT NITT

NIT TRICHY

Established in 1964, NIT Trichy is a premier technical institute in Tamil Nadu, recognized for excellence in engineering, architecure, science and management. It aims to nurture young talent and effectively address real-world challenges for societal impact.

VISION

To be a university globally trusted for technical excellence where learning and research integrate to sustain society and industry.

MISSION

- To offer undergraduate, postgraduate, doctoral and modular programmes in multi-disciplinary / inter-disciplinary and emerging areas.

- To create a converging learning environment to serve a dynamically evolving society.

- To promote innovation for sustainable solutions by forging global collaborations with academia and industry in cutting-edge research.

- To be an intellectual ecosystem where human capabilities can develop holistically.

N Chandrasekaran
Chairman of TATA Sons & TATA Groups
(1986)

Mahalingam Krishnamurthy
Director of TSM group & President of IIM, Calcutta
(1985)

Raj Iyer
President of Public Sector Markets at Tsecond.ai
(1992)

Shyam Srinivasan
MD & CEO
Federal Bank
(1984)

Anantha Radhakrishnan
Executive VP CEO & MD of Infosys BPM Ltd.
(1988)

Krishnakumar Gopalan
CMD of Bharat Petroleum Corporation Ltd
(1986)

Revathi Kant
Senior Vice President & CDO of Titan Company Limited
(1990)

R. Chandrasekaran
Group Chief Executive of Cognizant (Retired)
(1979)

Sanjay Khanna
Director Refineries Bharat Petroleum Corporation Ltd.
(1991)

Srinivas K
MD & CEO of India1 Payments Ltd
(1984)

Saumen Bhaumik
Managing Director of Caratlane
(1989)

P. Barathi, IAS
Chief Electoral Officer, Gujarat
(1986)

N. Kamakodi
MD & CEO of City Union Bank
(1995)

P T R Palanivel Thiagarajan
Minister of IT and Digital Services of TamilNadu
(1987)

P Srikar Reddy
Executive Vice Chairman of Sonata Software
(1980)

Srimathi Shivashankar
CVP and Global Head of HCL EdTech Business
(1990)

R Sridhar
Founder & CEO of Bloom Energy
(1982)

Ravi Viswanathan
Managing Director of TVS Supply Chain Solutions Limited India
(1984)

B V Ramanan
CMD of Livia Polymer Products Pvt. Ltd.
(1981)

T V Narendran
CEO & Managing Director
TATA Steel
(1986)

And
Many
More...

GLITTERING ALUMNI

RANKINGS

NIRF Engineering 2024

#1 NIT *among all NIT's in India*

In the NIRF 2024 Engineering rankings, released recently, NIT Trichy secured the **9th overall rank among all Engineering institutions in India.**

QS World University Rankings 2025

Improved to 701—710

Southern Asia Rank #76

Asian Rank #308

Times Higher Education (THE) World Rankings 2024

Engineering (Subject-wise)

Placed within 601—800 band

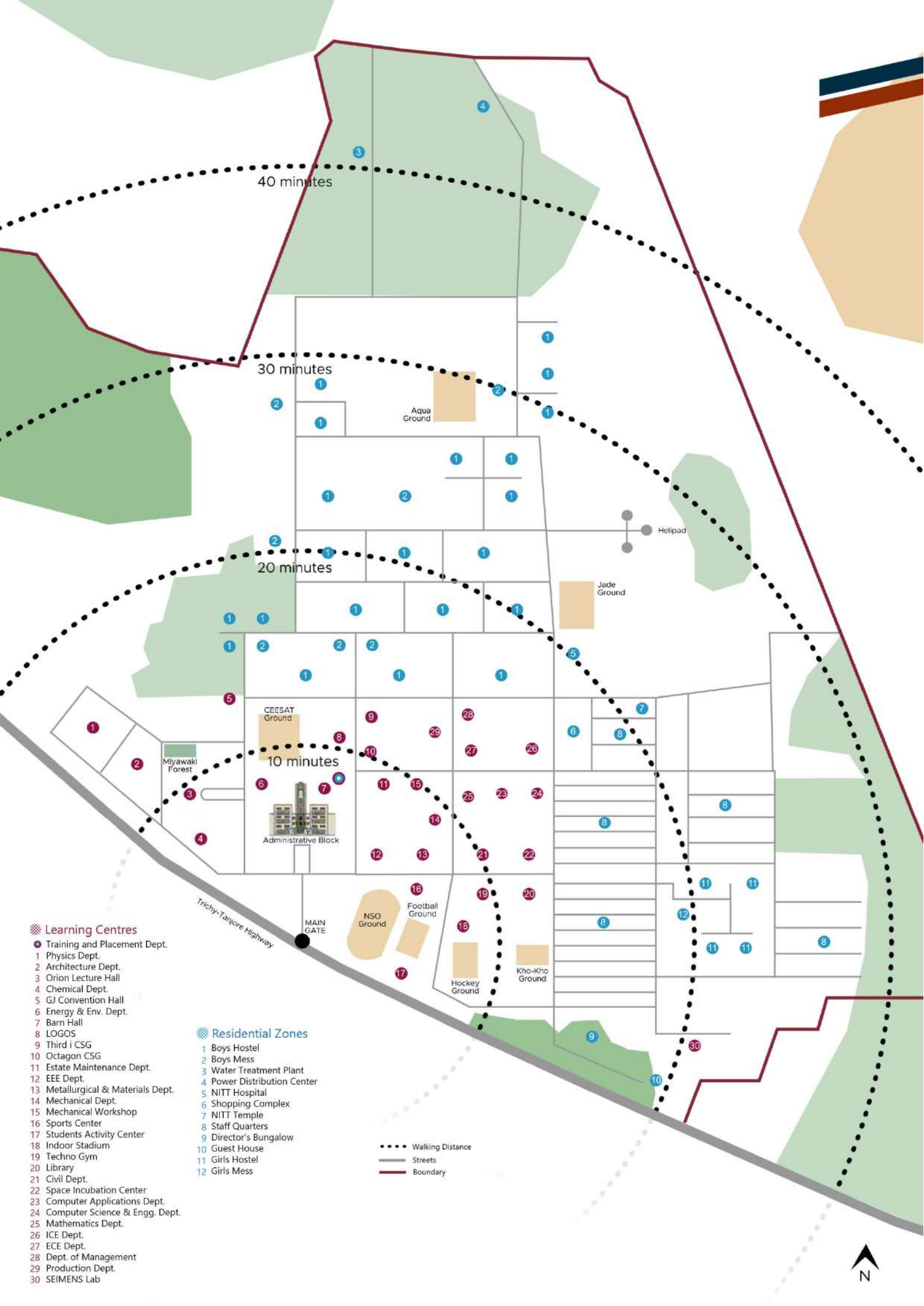
EduRank (EduRank.org) 2025

Engineering (Subject-wise)

#19 in India

Historical Trends

- Engineering rank stayed within **Top 10 from 2020—2024**
- Among NITs, #1 in Engineering in 2023 and 2024
- NIRF Ranking #11 in 2018
- NIRF Ranking #10 in 2019



Learning Centres

- Training and Placement Dept.
1. Physics Dept.
2. Architecture Dept.
3. Orion Lecture Hall
4. Chemical Dept.
5. GJ Convention Hall
6. Energy & Env. Dept.
7. Barn Hall
8. LOGOS
9. Third i CSG
10. Octagon CSG
11. Estate Maintenance Dept.
12. EEE Dept.
13. Metallurgical & Materials Dept.
14. Mechanical Dept.
15. Mechanical Workshop
16. Sports Center
17. Students Activity Center
18. Indoor Stadium
19. Techno Gym
20. Library
21. Civil Dept.
22. Space Incubation Center
23. Computer Applications Dept.
24. Computer Science & Engg. Dept.
25. Mathematics Dept.
26. ICE Dept.
27. ECE Dept.
28. Dept. of Management
29. Production Dept.
30. SEIMENS Lab

Residential Zones

1. Boys Hostel
2. Boys Mess
3. Water Treatment Plant
4. Power Distribution Center
5. NITT Hospital
6. Shopping Complex
7. NITT Temple
8. Staff Quarters
9. Director's Bungalow
10. Guest House
11. Girls Hostel
12. Girls Mess

Walking Distance
Streets
Boundary

ARCHITECTURE

Established in 1980-81, the Department of Architecture at NIT Tiruchirappalli is one of India's top-ranked architecture schools, renowned for its focus on Energy Efficiency, Green Building Design, and Sustainability. With a strong commitment to climate-resilient development, the department shapes architects who are both technically skilled and environmentally conscious. Holding 8th position in the NIRF ranking, the department offers well-structured undergraduate, postgraduate, and doctoral programs that emphasize design principles, human-centered architecture, and environmental responsiveness. State-of-the-art infrastructure, including a computer lab with advanced design and simulation tools, supports a comprehensive and future-ready learning

M.ARCH. IN ENERGY EFFICIENT AND SUSTAINABLE ARCHITECTURE

COURSE DURATION: 2 Years

COURSE DESCRIPTION: The course encompases deep technical understanding of thermal comfort and building performance, crafting innovative methods to save energy and reduce carbon footprint. The curriculum is designed to facilitate this, structured with courses such as Building Science and Sustainability, Building Modelling and Simulation, Building Energy Audit and Management, Visual Comfort Assessment, Lighting Design, Energy Environment and Buildings, Energy Efficient Landscape Design, Post Occupancy Evaluation, Environment and Behaviour, Solar Passive Architecture and Statistics for Environmental Design.

LABS: Climate Lab, Strength of Materials Lab, Building Science Laboratory, Acoustics Lab, Lighting Lab, Model Making Lab.

SOFTWARE: Rhino + Grasshopper, Environmental Plugins (Ladybug and Honeybee), IES ANSYS, DIVA, DIALux, OPAQUE, COMFEN, Revit, DesignBuilder, OpenStudio, ENVI-met.

PROJECTS:

- Design optimization of transparent photovoltaic facades for daylight and energy performance in high rise buildings.
- A Study to optimize the Thermal Performance of Pradhan Mantri Awas Yozana-in hot and humid climate.
- Effect of shading and Reflection of Sunlight from nearby Building, and its impact on building performance (Gurugram, India)
- Impact of built morphology on the ventilation availability in residential buildings.

CHEMICAL ENGINEERING

Established in 1967, the Department of Chemical Engineering, NIT Tiruchirappalli is regarded as one of the premier centers for Chemical Engineering in India by industries as well as academia. It also has the distinction of being ranked as one of the top seven Chemical Engineering Institutions in India. The department is backed by highly qualified and experienced faculty, most of who have been involved in various industrial projects and consultancy services. The department's vision is to be a global centre of academic and research excellence to serve the society.

M.TECH. IN CHEMICAL ENGINEERING

COURSE DURATION: 2 Years

COURSE DESCRIPTION: With the rapid development of chemical industries based on petroleum, coal and alcohol, process design of chemical process equipment has assumed importance. Students are imparted with knowledge in Chemical Process Equipment Design along with Chemical Reaction Engineering, Advanced Process Control and Process Modeling & Simulation. Students are also acquainted with purely industry-oriented subjects like Advanced Separation Techniques and

LABS: Transfer Operations Lab, Unit Operations Lab, Chemical reaction, Technical Analysis, Momentum Transfer, Process Control laboratory with multi-process trainer and several DDC systems.

PROJECTS:

- Life cycle assessment of CO2 reduction by energy efficient hybrid biomass pyrolysis and gasification.
- Environmental and Energy Impacts of Higher Alcohol and Biofuel Synthesis by Thermo-chemical Process (SPARC).
- Ultrasonically synthesized microspheres for biomedical and food industries (SPARC).
- Design and Development of In-Situ Indigenous Soil Analysis system for effective Fertigation in Precision Farming, DST-AGROTECH.
- Development of a new approach in waste-water treatment with self-cleaning membrane technology and regeneration of membranes via natural source for restoring water ecosystem.
- Biohydrogen Production from Industrial Wastewater Using Microbial Electrolysis Cell.
- Design of a controller for enhancing the hydrogen production in microbial electrolysis cell.

CHEMICAL ENGINEERING

M.TECH. IN PROCESS CONTROL AND INSTRUMENTATION

COURSE DURATION: 2 Years

COURSE DESCRIPTION: In every industry where there is a great focus on quality, there is a significant importance for instrumentation and control. The program strives to train manpower for the ever-increasing demands of the industry and academics in this area. Emphasis is laid on the dynamics of various process equipment and their control. Recent trends in distributed control systems and multivariable control are dealt with extensively.

This course was started in 1996, with a specific focus on process instrumentation and control systems. This is an interdisciplinary programme offered by the Department of Chemical Engineering and the Department of Instrumentation and Control Engineering. Young and dynamic faculty together with state-of-the-art lab facilities makes this program one of its kind in the country.

LABS: Biomedical Engineering Lab, Control Engineering Lab, Embedded Systems Lab, Industrial Automation Lab, MEMS Design Centre, Modeling and Simulation Lab, Process Control Lab, Smart Structures Lab, Virtual Instrumentation Lab.

PROJECTS:

- Development of nanocomposite coating on MMAW electrodes for reduction of hazardous constituents in welding fumes (Sponsored by DST - TDT - AMT).
- Development and Thermal Analysis of Non - Azide Gas Generating Compositions for automotive Airbag Systems (DST - SERB).
- Experimental Investigation of Impact Initiation of Sound/Light emitting Pyrotechnic (Sponsored by ARMREB, DRDO).

CIVIL ENGINEERING

The Department of Civil Engineering has been one of the oldest and finest departments of the institute. Established in 1964, it has been involved in making professional Civil Engineers. The highly qualified and experienced faculty along with its engineering consultancy centre has been instrumental in bringing the institute to the forefront of academic and consulting activities.

M.TECH. IN GEOTECHNICAL ENGINEERING

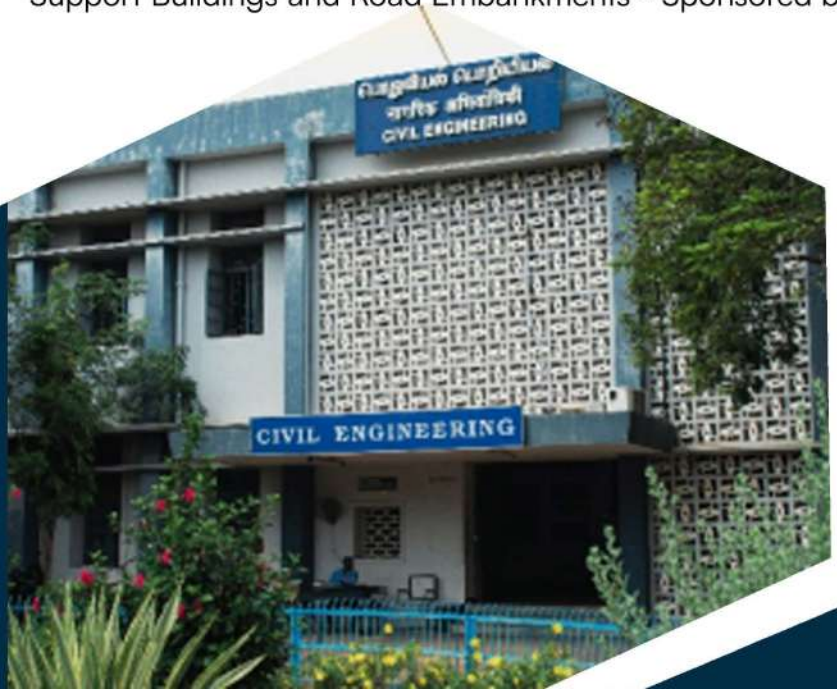
COURSE DURATION: 2 Years

COURSE DESCRIPTION: Geotechnical Engineering, a core specialization of Civil Engineering, forms the foundation of all infrastructure development, addressing the design and construction of foundations, slopes, tunnels, retaining walls, embankments, and offshore structures such as oil platforms and wind farms. It plays a critical role in analyzing soil and rock behavior, ensuring stability, and mitigating natural hazards like earthquakes, liquefaction, landslides, and sinkholes. The curriculum is designed to equip students and practicing engineers with advanced knowledge in Geomechanics, Foundation Engineering, Soil Dynamics, Earth Retaining Structures, Ground Improvement, Geosynthetics, Machine Foundations, and Forensic Geotechnics. Emphasis is also placed on computer-based modeling, finite element analysis, and optimization techniques. This program offers strong career prospects in construction, consultancy, academia, and research by bridging theoretical principles with cutting - edge geotechnical practices.

LABS: Cyclic Triaxial Apparatus, Bender Element Apparatus, Ground Penetration Radar, Dynamic Cone Penetration Test, Digiconsolidometer, Earth Resistivity Apparatus, Hydraulic Actuator - Dynamic Loading Plate Load & Field Vane Shear Apparatus, Large Scale Direct Shear Apparatus Light Weight Deflectometer, SASW, Dynamic Soil - Structure Interaction Facilities, Digital Direct Shear Apparatus.

PROJECTS:

- Characterization of Lunar Soil Simulant for Chandrayaan Missions - ISRO RESPOND Project, sponsored by URSC - ISRO, Bangalore.
- Ground Penetration Radar Study for Surface Cracks on the Runway at Chennai Airport.
- Comprehensive Scientific Study for the Stability of Structures, IREL (India) Limited.
- Effect of Soil - Water Retention Behaviour on the Land Use Pattern for Drought Mitigation, Sponsored by SERB.
- Optimization of Sustainable Polymeric Materials for a Composite Ground Modification System to Support Buildings and Road Embankments - Sponsored by SERB.



CIVIL ENGINEERING

M.TECH. IN ENVIRONMENTAL ENGINEERING

COURSE DURATION: 2 Years

COURSE DESCRIPTION: This program aims to develop professional engineers with leadership skills in land and water management, environmental assessment, water supply, wastewater treatment, land reclamation, and solute transport. Graduates are trained to work collaboratively with ecologists, biologists, and resource managers, equipped with strong analytical, computational, and field-based skills. The curriculum is tailored to meet the demands of industry, consultancy, academia, and R&D sectors involved in environmental management, pollution control, and remediation. With a wide array of electives such as Environmental Monitoring and Modeling, Environmental Impact Assessment, Environmental Biotechnology, Industrial Pollution Control, Ecology, Clean Technology, and Hazardous Waste Management the program fosters expertise to address environmental challenges through sustainable engineering solutions.

LABS: Ion Coupled Plasma Mass Spectrophotometer (ICP - MS), Atomic Absorption Spectrophotometer (AAS), UV - Visible Spectrophotometer, Gas Chromatography, TOC Analyzer, Ion Chromatography, Photo - Fenton Reactor, Ultrasonicator, Membrane Bioreactor, Environmental Particulate Air Monitor, Automated Cell Counter, Muffle Furnace with Microprocessor Controller and Bomb Calorimeter, Ultra - pure Water Unit, Orbital Shaking Incubator, Flue Gas Analyzer, Stack Monitoring Kit, Ambient Air Sampler, Airborne Particle Counter, Projection Microscope with Digital Camera, Ozone Analyzer.

SOFTWARE: AutoCAD, Visual MODFLOW, ArcGIS, ArcView, ArcInfo, ENVI, RIAM, QUAL2E.

PROJECTS:

- Scientific Closure of Municipal Solid Waste (Capping) Dumpsite and Development of Sanitary Landfill, Salem City Corporation.
- Bio-Mining of the Existing Municipal Solid Waste at Vairapalayam and Vendipalayam Dump Site, Erode City Municipal Corporation.
- Revamping of Existing Dumped Garbage (Legacy Waste) in Compost Yard by Biomining Process, Tiruchirappalli City Corporation.
- Production of PHA from Oily Industrial Wastes by Immobilized Bacterial Consortium.
- Spatio-temporal Modelling and Analysis of Urban Heat Island Effect over Bangalore and Hyderabad Cities in India Using Geospatial Techniques.

CIVIL ENGINEERING

M.TECH. IN TRANSPORTATION ENGINEERING AND MANAGEMENT

COURSE DURATION: 2 Years

COURSE DESCRIPTION: This program addresses both engineering and management aspects of transportation systems, with a focus on road infrastructure. The curriculum covers key areas such as Transport Management Economics, Traffic Engineering, Pavement Design, Land Use Planning, and Financial and Personnel Management. It also integrates modern tools like CAD, Computer Simulation, and Geographic Information Systems (GIS), with hands - on IT training. The program prepares students for careers in multinational transportation consultancies, government agencies such as Highways and Railways, and academic institutions, while also serving as an excellent opportunity for working professionals to enhance their expertise with the latest advancements.

LABS: Pavement Engineering Lab: Centrifuge Extractor, Bitumen Testing Kits, Roughometer, Marshall Stability Testing Apparatus, Geogauge, Field CBR Tests, Plate Load Setup, Benkelman Beam Deflection Apparatus, CoreLok, Film Stripping Device, Ductility Testing Machine, Rotational Viscometer (Brookfield), Pensky - Martens Flash Point Apparatus, Marshall Stability Apparatus, Dynamic Shear Rheometer, NCAT Asphalt Content Igniter.
Intelligent Transport System Lab: Mx Road Software, Induction Loop Detector, ANPR Camera, VISSIM Software, HDM - 4 Software, Transyt - 15 Software, N - LOGIT 5.0 Software, ESRIs ArcGIS Software, CUBE Software, Inductive Loop Detector.
Addition: Speed Radar Gun, Variable Message Sign Board (VMS), Sensitivity Tester, Cannon - Manning Vacuum Viscometer, Rolling Thin Film Oven (RTFO), Permeability Tester.

SOFTWARE: SPSS Software, MATLAB, R Software, GAMS.

PROJECTS:

- Development of Optimization Models and Decision Support System for National Highways, Funding Agency, National Highway Authority of India (Ongoing).
- Evaluation of Pavement Performance of Coir Reinforced Rural Roads in Tamil Nadu, Funding Agency, Coir Board, Ministry of MSME, Government of India (Ongoing).
- Development of an Integrated Health Monitoring System for Large Engineering Structures, SERB - IMPRINT IIC (Institute Industry Collaborative Project), 2019 - 2023.
- Life Cycle and Performance Assessment of Waste Plastic Roads, Funding Agency - NRIDA, Government of India (Completed in 2021).

CIVIL ENGINEERING

M.TECH. IN STRUCTURAL ENGINEERING

COURSE DURATION: 2 Years

COURSE DESCRIPTION: Structural Engineering is a core specialization in Civil Engineering that addresses the analysis, design, detailing, and construction of safe and efficient structures. With a growing demand for skilled professionals in this field, the program is designed to equip both students and practicing engineers with advanced knowledge of structural behavior and design methodologies. The curriculum emphasizes hands-on experience with industry - relevant software tools, including finite element analysis and optimization techniques. It offers comprehensive exposure to modern structural systems and practices, preparing graduates for diverse career opportunities in the construction industry, consultancy, academia, and research institutions.

LABS: Structural Engineering Lab: Column Testing Frame - 100 Tonnes Capacity, Lateral Load Testing Frame - 20 Tonnes Capacity, Vertical Load - 50 Tonnes Capacity, Loading Frame — 30 Tonnes Capacity, Table Vibrator, Pelletizer, Concrete Mixer 80 L, Column Testing Frame, Electrical Furnace, Computerized UTM, Data Acquisition System, Dynamic Actuator (5 tonnes), Industrial Furnace, Compression Testing Machine (310 tonnes).
NDT & Dynamics Lab: Horizontal Shake Table Eccentric CAM, Vertical Shake Table 30kg Capacity, Horizontal Shake Table Cylindrical CAM, Vibrating Beam, Rapid Chloride Penetration Test Apparatus, Tuned Mass Damper, Ultrasonic Pulse Velocity Instrument, Profometer, Rebound Hammer, Corrosion Analysis Instrument, Vibration of Simple and Continuous Sup.

PROJECTS:

- Analysis and Design of Large Size HRSG using Limit State Method for optimization and bringing out the salient features of Limit State Design for future application - NITT - BHEL Joint Project
- Analysis and Design of Horizontally Spliced Steel Girders - NITT - BHEL Joint Project.
- Affordable Housing for Economically Weaker Section in all Disaster - Prone Areas - DST-TARE Joint Project.
- Proof Checking of Design for the Daimler (India) Bus Plant at Oragadam and many other projects.
- IOCL Terminal at Ulundurpettai, Tamil Nadu - PDIL (Government of India) - 2019 - 2020.
- CPWD Structural Designs for various buildings - 2017 - 2020.
- 500,000 - liter capacity, two compartments, shaft - supported funnel - type Overhead Tank with a height of 25 m and 500,000 - liter capacity, two compartments, Underground Water Sump for BHEL Tirumayam, 2011.

COMPUTER APPLICATIONS

The Department of Computer Applications offers the Information Technology courses which include MCA, M.Sc. Computer Science and M.Tech. in Data Analytics. The Department aims to provide various computer - based knowledge and solutions to simplify the complex hurdles in the real - world scenarios. It is also committed to inculcate the IT professional skills in the students and prepare them for the corporate world ahead. The Department of Information Science and Technology aims to build a center of excellence that provides quality e ducation and valuable resources to society. Our mission is to offer a curriculum that balances strong theoretical knowledge with practical training. We are dedicated to fostering professionalism rooted in ethical values, social responsibility, and holistic development, helping students contribute meaningfully to the field and the community. The department emphasizes continuous learning, i nnovation, and adapting to advancements in technology.

MASTER OF COMPUTER APPLICATIONS

COURSE DURATION: 3 Years

COURSE DESCRIPTION: The Master of Computer Applications program offered at NITT is considered to be the best in the country. MCA is a 3 - year, full - time post - graduate programme to provide professional training in the area of computer applications and to develop computer professionals to meet the demand of the fast growing IT industry who excel in their profession through innovative ideas, knowledge and team work. The department imparts computer education to MCA students through class room lectures, seminars, group exercises, industry visits, projects and guest lectures by eminent personalities of the IT industry. The course contents is a perfect blend of Computer Science, Computer Oriented Mathematics and Management Science.

LABS: NIT Local Area Network (OCTAGON Computer Center), Dell PowerEdge Server R1950, Platforms such as Linux, Solaris based SUN machines, HP DEC Alpha Ultra Sparc, IBM System Storage DS3500 and IBM System 2U Server Rack, DELL Optiplex 9020 MT PCs connected to NITT LAN

PROJECTS:

- Features Extraction from Ultrasound Image of Fetus.
- Extreme Low Light Image Enhancement using Deep Learning.
- Human Behaviour Analysis from Video Sequences using Deep Learning approach.
- Cyber Threat Intelligence General on using Deep Learning models.

COMPUTER APPLICATIONS

M.TECH. IN DATA ANALYTICS

COURSE DURATION : 2 Years

COURSE DESCRIPTION: M.Tech. in Data Analytics seeks to present its students with a vast knowledge base and wide range of data analytic techniques and is structured around the broad contours of the different types of data analytics. This programme is aimed at equipping students with the knowledge and familiarity on various tools that are necessary for Big Data analytics. Almost all industries are bracing into the challenge of Big Data and want to dig out valuable information to get insight to solve their challenges. This course will provide the knowledge and understanding of the theory, majorly the application perspective needed to equip students to be able to handle those challenges. The course also includes subjects like Machine Learning, Deep Learning, Natural Language Computing, Image and Video Analytics and Statistical Computing which gives the students an added advantage thus gearing them up to be better data analysts.

LABS: State of art computing facility at octagon computer center with core i7 systems.

- Servers (Dell PowerEdge Server R1950 rack Mount Server) which support the LAN providing a Linux/Windows environment.
- Platforms such as Linux, Solaris based SUN Machines.
- HP DEC Alpha Ultra Sparc, IBM System Storage DS3500 and IBM System 2U Server Rack.
- High - Performance Computing lab.
- Natural Language Processing and text analytics lab.
- Parallel Processing and Machine Learning Lab.
- Image and Video Analytics.
- CUDA and E - Learning.

PROJECTS:

- Machine Learning IOT based Prediction and classification of stress using wearable sensor.
- Feature interpretation and classification of genetic mutation leading to tumor and cancer.
- Number Plate recognition of vehicles.
- Corpus Generation.
- Credit card risk detection.

COMPUTER APPLICATIONS

M.Sc. COMPUTER SCIENCE

COURSE DURATION: 2 Years

COURSE DESCRIPTION: This program is specifically aimed at imparting quality education in the field of Computer Science. M.Sc. Computer Science is a four - semester full - time postgraduate program spread over two years, with the first two semesters focusing on building a strong theoretical foundation through high - quality teaching and extensive practical training.

The final year emphasizes project work in two phases, fostering independent research and hands - on problem - solving skills. The course is designed to inculcate value - based, socially committed professionalism for the overall development of research aptitude and life - long learning. Additionally, it equips students with advanced technical competencies and critical thinking abilities to address real - world challenges, preparing them for diverse career paths and further academic pursuits.

LABS: State - of - art computing facility at Octagon computer center with core i7 systems.

- Servers (Dell PowerEdge Server R1950 rack Mount Server) which support the LAN providing a Linux/Windows environment.
- Platforms such as Linux, Solaris based SUN Machines.
- HP DEC Alpha Ultra Sparc, IBM System Storage DS3500 and IBM System 2U Server Rack.
- Lab facilities with the latest configuration of DELL OptiPlex 9020 systems.
- Dedicated lab for carrying out research in information security, system security and network security.

PROJECTS:

- Extreme Low Light Image Enhancement using Deep Learning.
- Human Behaviour Analysis from Video Sequences using Deep Learning approach.
- Cyber Threat Intelligence General on using Deep Learning models
- Emergency Response Support System Development.
- Digital Health Records Storage and Analysis.

COMPUTER SCIENCE AND ENGINEERING

Established in 1982, the Department of Computer Science and Engineering at NIT Tiruchirappalli is a leading center for advanced computing education and research. The M.Tech. programme offers a balanced curriculum in core areas such as Programming, Architecture, Networking, and AI, regularly updated to meet industry and research needs. Backed by a team of experienced faculty, the department fosters innovation, interdisciplinary learning, and societal impact through strong industry - academia collaboration.

M.TECH. IN COMPUTER SCIENCE AND ENGINEERING

COURSE DURATION: 2 Years

COURSE DESCRIPTION: The M.Tech. programme in Computer Science and Engineering is designed to provide a strong foundation in advanced computing concepts, research methodologies, and system - level design. It emphasizes both theoretical depth and practical skills to prepare students for emerging challenges in industry and academia. The curriculum balances core computing principles with specialized electives, fostering innovation, interdisciplinary learning, and real - world problem solving through projects, seminars, and hands - on training in cutting - edge technologies and industry - centric domains.

LABS: The M.Tech. programme is supported by advanced labs such as the M.Tech. Project Lab, Networks Lab, AI/ML Lab, IoT Lab, Hardware Lab, and the RISE Lab. These are equipped with Core i7 systems, Dell Optiplex 9020 desktops, and PowerEdge R910 servers for high - end development and research. Students also have access to PARAM PORUL, an 838TFLOPS hybrid CPU - GPU supercomputer at the Centre of Excellence in Computational Intelligence and Big Data, enabling large - scale simulations and deep learning research.

PROJECTS:

- Interdisciplinary Research Group.
- Studies on issues in Multi - Core Architecture.
- Studies on Cyber Space Security.
- Studies on Big Data Analytics and Hadoop Technologies.
- Studies on Cloud Computing and Cloud Security.

ELECTRICAL AND ELECTRONICS ENGINEERING

Established in 1964, the Department of Electrical and Electronics Engineering (EEE) is known for its academic excellence and strong research focus. Along with undergraduate program, it offers M.S. and Ph.D. research opportunities in core and emerging areas of Electrical and Electronics Engineering. The department houses advanced labs and is globally recognized for its work in renewable energy, electric vehicles, smart grids, and sustainable power systems. With a strong R&D culture and focus on innovation, the EEE department continues to contribute significantly to the evolving global energy landscape.

M.TECH. IN POWER ELECTRONICS

COURSE DURATION: 2 Years

COURSE DESCRIPTION: The M.Tech. program in Power Electronics focuses on enhancing knowledge and skills in power electronic systems analysis, design, and application. Graduates can contribute to industry and academia through research, doctoral studies, employment in R&D organizations, technical roles in circuit design, power conversion, and system integration, and faculty and research positions.

LABS: **Power Converter Laboratory:** Microprocessor and Microcontrollers Laboratory, Power Electronics and Drives Laboratory, Electrical Machines Laboratory, MATLAB / SIMULINK 7.5, PSCAD 4.2, ETAP 4.0, Mipower 4.0, Power World Simulator, PSIM v11.1.5, Proteus v8.9, FPGA kit from Xilinx.
Research Laboratories for M.Tech. & Ph.D. Project Works: Control Systems Research Lab, Hybrid Electrical Systems Lab, Networking Research Lab, Power Converters Research Lab (partly funded by NaMPET), Power Electronics Research Lab, Power System Automation and Control Research Lab, Solar PV Energy Conversion Research Lab, VLSI Systems Research Lab, Advanced Power Converters Research Laboratory, Switched Mode Power Converters Research Laboratory.

PROJECTS:

- Electronification of Ground Water Control and Conveyor Systems in Mines - Funded by Ministry of Coal, Government of India.
- Development of modular multilevel converter for enhancing power quality and PV output power under partial shading conditions in Grid - connected PV system - Funded by SERB.
- Wireless sensor node for online data transfer of parameters from electrical machines and drives - Meity, Government of India sponsored.
- LC Bandpass Filter for Space Technology - Funded by ISRO.

ELECTRICAL AND ELECTRONICS ENGINEERING

M.TECH. IN POWER SYSTEMS

COURSE DURATION: 2 Years

COURSE DESCRIPTION: The M.Tech. in Power Systems equips students with deep technical knowledge and analytical skills to tackle complex challenges in electrical power engineering. Graduates are well-prepared to advance into doctoral research, join R&D teams at power-sector organizations, take on technical roles within utility and energy companies, or enter academia as faculty at leading institutions.

LABS: **Power Converter Laboratory:** HVDC Transmission Line Simulator, Microprocessor-Based Numerical Relays, FACTS Devices, Short / Long Transmission Lines, MATLAB / SIMULINK, PSCAD 4.2, ETAP 4.0, Mipower 4.0, Power World Simulator, PSIM v11.1.5, Proteus v8.9, Electrical Machines Laboratory.
Power Electronics Laboratory: Research Laboratories for M.Tech. & Ph.D. Project Works: Power Systems and Smart Grid Lab, Power System Automation and Control Research Lab, Power Converters Research Lab (partly funded by NaMPET), Hybrid Electrical Systems Lab, Power Electronics Research Lab, Solar PV Energy Conversion Research Lab, VLSI Systems Research Lab, Electric Mobility Research Laboratory.

PROJECTS:

- Potential Peer to Peer Transactive Energy Markets in Indian Power Distribution Systems - Funded by SPARC - MHRD.
- Implementation and Analysis of coupled coils at different Structures with misalignments for WPT EV battery charging - Sponsored by SERB - DST.
- Investigation on Data - Driven Event Detection using Indian Power Grid's Synchrophasor Data - Sponsored by SERB - DST.
- Design, Implementation and Analysis of Wireless Power Transfer system and PV system for battery charging of passenger e - bus, - Funded by CPRI.

ELECTRONICS AND COMMUNICATION ENGINEERING

The Electronics and Communication Engineering (ECE) Department was established in the year 1968 and nurtures a broad range of research that spans generation of new fundamental knowledge as a primary function. This culture of collaboration is one of the major strengths of the department, enabling integrative research based on interactions between investigators in different disciplines. Research includes: VLSI technologies, Communication systems, Wireless networks, Signal and Image Processing, RF MEMS and MIC, Microwave antennas, Optical communication and Photonics.

M.TECH. IN COMMUNICATION SYSTEMS

COURSE DURATION: 2 Years

COURSE DESCRIPTION: The M.Tech. program in Communication Systems emphasizes a rigorous study of communication theory from a signal processing perspective. Core courses include Advanced DSP, Coherent Optical Communication, High-Speed Networks, and Error - Control Coding, supported by foundational subjects like Linear Operators, Probability, and Signal Detection. The curriculum also covers advanced topics in Analog and Digital Electronics, MOSFETs, Bipolar devices, ASIC design, Low Power VLSI, and IC testing. Students gain hands - on experience through DSP and fiber optics labs and dedicate their final year to project work.

LABS: Electronic Devices Laboratory, Digital Circuits and System Laboratory, Microprocessor and Microcontroller Laboratory, Communication Engineering Laboratory, Signal Processing Laboratory, Microwave and MIC Laboratory, Fiber Optics Laboratory, VLSI Design Laboratory.

PROJECTS:

- Design and Development of Ferrite Dielectric Based Microstrip Isolator for X - Band Application funded by ISRO.
- LC Band Pass Filter for Space Technology funded by ISRO (Space Technology Incubation Center).
- Deep Learning - Based Reconfigurable and Multifunctional Nanophotonic Interconnects for Hyperscale Data Centers and 6G Backhaul Networks funded by CRG, SERB - DST.
- Modeling and Simulation of Multigate In Sb / AlInSb based High Electron Mobility Transistors (HEMTs) for 5G Applications.

ELECTRONICS AND COMMUNICATION ENGINEERING

M.TECH. IN VLSI SYSTEM

COURSE DURATION: 2 Years

COURSE DESCRIPTION: This comprehensive VLSI System course covers the Fundamentals of VLSI Design, including transistor - level design, digital logic, and fabrication processes. It includes Analog IC Design, Digital System Design, and Low - Power VLSI Circuits, as well as Electronic Design and Automation Tools. The course also delves into advanced topics such as VLSI System Testing and High - Speed System Design. Additionally, students learn about DSP structures for VLSI and Design of Application - Specific Integrated Circuits (ASICs) using Verilog HDL. By the end of the course, students have a deep understanding of VLSI design principles and practices, enabling them to design and develop complex VLSI systems.

LABS: WARP V3 KIT Test Bed for Wireless Systems • Cadence Tools (Virtuoso, Encounter, Spectre, Assura) • Synopsys Tools (VCS, Design Compiler, Formality, Prime Power, Astro, Jupiter XT, Hercules, StarRCXT) • Mentor Graphics Tools (IC - Station, Leonardo Spectrum, Calibre, Physical Verification Tools, Parasitic Extraction Tools) • Advanced FPGA Boards & Tools from XILINX and ALTERA (Maxplus II & Quartus II), HDL Designer Tool kit • ModelSim & ASIC design tools from Mentor Graphics consisting of Analog & Mixed-Signal ADMS.

PROJECTS:

- Technology Incubation and Development of Enterpreneurs (TIDE) in the Areas of Electronics & ICT-CEDI.
- Machine Learning / Artificial Intelligence (ML / AI) Hardware / Software Framework for Vyomnoids funded by Indian Space Research Organisation (ISRO).
- 4D Trajectory - based Air Traffic Flow Management System using System Wide Information Management (4DADFMS) funded by Airport Authority of India.
- Design of Digital Signal Processor using SCL foundry funded by ISRO - STIC.
- Design & Implementation of Digital Modules of On Chip Speech Recognition System funded by ISRO.
- Design and Implementation of MB - OFDM UWB Transceiver Modules using Asynchronous Pipelining.

ENERGY AND ENVIRONMENT

With the focused objective of enhancing the excellence in training, research and consultancy in Energy and Environmental science, the CEESAT - Centre for Energy and Environmental Science and Technology or DEE - Department of Energy and Environment was established under the auspices of the UK - India RECs Project: Energy Theme.

M.TECH. IN ENERGY ENGINEERING

COURSE DURATION: 2 Years

COURSE DESCRIPTION: The two - year program is designed to equip post - graduate students with a nuanced understanding of energy principles, helping evaluate energy sources concerning economic viability and environmental impacts. An industry - centric curriculum comprising of Energy Audit and Management, Computational Fluid Dynamics, Smart Grid Systems, Flexible AC Transmission System, High Voltage Direct Current, Microgrid Energy Systems Design, Design of PV, Wind Energy and Energy Storage Systems, Design of Heat Transfer Equipment, Energy Systems Modelling and Analysis, Advanced Fossil Fuel Technologies, Refrigeration and Air Conditioning, Power Source for Electric Vehicles, Solar Energy Utilisation, Wind Energy and Hydro Power Systems, Wind Resource Assessment, Batteries and Fuel Cells, Environmental Engineering and Pollution control, Environmental impact assessment and Economic Analysis, Hydrogen energy and Hydrogen storage, AI and ML in Energy systems, Energy markets.

LABS:

Curriculum Labs: Computational Fluid Dynamics Lab (Ansys 2022 R1), Solar Energy Lab, Energy Audit Lab, Calibration Lab, Environmental Engineering Lab

Research Labs: Energy Storage Lab, Testing and Analysis Lab, Bioenergy - Algae and Bio - Technological Research lab, Waste water recovery lab, Experimental Simulation Lab

PROJECTS:

- DST Project: “Switchable polarity solvents, magnetic nanocomposites and metabolic engineering approach for enhancing Triacylglycerol content in marine microalgae towards economic biodiesel production”.
- DST project under the scheme of Science for Equity Empowerment and Development division titled “Biomass driven trigeneration system for improving the livelihood of Scheduled Tribes at Athanavur Village, Yellagiri Hills, Tamil Nadu”.
- Design and development of a fully automated prototype of the IITM Biomass generation system (GAIL funded).
- O2 generation plant (Federal Bank Hormis Foundation).
- Development of Ammonia based flexible heat pipe for space application (ISRO funded).

INSTRUMENTATION AND CONTROL ENGINEERING

Established in 1993, this department has been at the forefront of technical education and research in the fields of measurement, control, and automation. The department focuses on three key areas: Instrumentation & Sensor Technology, Control & Industrial Automation. Through industry - relevant coursework, hands - on labs, expert lectures, internships, and collaborative projects, students are well - prepared to address real - world engineering challenges across diverse sectors.

M.TECH. IN INDUSTRIAL AUTOMATION

COURSE DURATION : 2 Years

COURSE DESCRIPTION: The department introduced the M.Tech specialization in Industrial Automation, aligning with the growing need for intelligent, efficient, and autonomous industrial systems. The program offers in-depth training in advanced control strategies, PLCs, SCADA, Industrial robotics, Machine Learning and communication protocols with sensors and transducers forming a core part of the curriculum. Students gain practical experience in designing and implementing automation solutions for complex industrial processes. With strong industry interaction, modern laboratories, and research-oriented learning, the program shapes graduates into highly competent automation engineers, ready to contribute to the digital transformation of modern industries.

LABS: Industrial Automation, Control Engineering, Process Control, Embedded system, Instrumentation & Sensor Design, Modelling and Simulation, Industrial water distribution network simulator, Industrial process trainers, PLC and Distributed control system, Sensor Technology for industry 4.0, DGX1 Server & GPU Workstations, 3D Printer and Probe station, V - Amp 16 channel EEG DAS, Digital Video EEG, COMSOL MultiPhysics.

PROJECTS:

- Low - Cost Assistive Exoskeleton for Lower Limb Support.
- Design of a Sensing Device to Assess Sensory Loss in Diabetic Feet.
- Fault Diagnosis of LRE Turbo Pumps Using Neural Networks.
- Development of PV - Based Cold Storage (in Collaboration with NIFTEM).
- Structural Health Monitoring of Railways Using RF Sensors.

MANAGEMENT STUDIES

MASTERS IN BUSINESS ADMINISTRATION

Established in 1978, the Department of Management Studies (DoMS), National Institute of Technology, Tiruchirappalli, is one of India's oldest and most respected B-Schools. For over four decades, DoMS has been at the forefront of management education, seamlessly integrating academic excellence with real-world relevance.

At DoMS, management is more than a discipline - it is a way of thinking and a way of creating impact. The institute is committed to nurturing responsible leaders who not only master the art and science of management but also lead with integrity, empathy, and purpose. Our mission is to shape professionals who drive change, innovate with conviction, and contribute meaningfully to a better tomorrow.

COURSE DURATION: 2 Years

COURSE DESCRIPTION: What sets DoMS apart is its curriculum rooted in relevance and innovation. Students are trained to apply management principles through case - based learning, live projects, simulations, and continuous interaction with industry leaders. The program emphasizes critical thinking, data - driven decision - making, leadership, and adaptability - all essential to thrive in today's dynamic business environment.

Our faculty, with decades of research, consulting, and teaching expertise, act as mentors who inspire excellence and curiosity. They bring the perfect balance of academic rigor and industry understanding, helping students connect theory to real-world scenarios.

The two-year MBA program offers a rich blend of core knowledge, emerging trends, and industry-demanded electives:

Financial Derivatives, Investment Banking, Investment Security Analysis and Portfolio Management, Strategic Brand Management, Marketing Metrics, Consumer Behavior, Logistics Management, Supply Chain Management, Project System Management, Production Planning & Control, Personal Growth programme, Talent Management, Introduction to Business Analysis & IT Consulting, Systems Analysis & Design and CASE, Software Project Management, Basic Data Analytics, Machine Learning Techniques, Analytics for Strategic Market Planning.

MANAGEMENT STUDIES

MASTERS IN BUSINESS ADMINISTRATION

CONCLAVES:
Students gain hands-on exposure to industry trends and management practice through multiple platforms:

PRABANDHAN: The distinguished lecture series organized by NIT Tiruchirappalli's Department of Management Studies, delves into Management 4.0. It empowers future business leaders with vital insights, enabling students to navigate dynamic industries, fostering preparedness for evolving business challenges.

INACON: The conclave, acts as a pivotal nexus for academic and industrial convergence, providing students with exclusive access to immersive sessions, workshops, and networking events.
Through these engagements, Inacon equips students with the skills and insights essential for adeptly maneuvering the ever - evolving challenges within their chosen professional domains.

NISADYA: NIT Trichy's annual business fest, serves as a revolutionary force, transforming the educational landscape in business studies. Beyond a mere gathering, it's a dynamic platform where participants embark on an exhilarating journey, pushing the boundaries of conventional thinking in the realms of business and management.

PROJECTS:
- Inventory optimization for parts with intermitten and lumpy demand through zero inflated forecasting.
- Intricacies of Forex Trade.
- Brand engagement - Build online entity.

MECHANICAL ENGINEERING

Since its inception in 1964, the Department of Mechanical Engineering at NIT Trichy has been at the forefront of engineering education and research. With a strong foundation and a forward-looking approach, the department continues to shape engineers who are equipped to meet the demands of a rapidly evolving world. The department is home to world-class facilities that support both learning and innovation. The curriculum is enriched by industry-aligned projects, internships, and mentorship by an experienced faculty team. This close-knit environment between students and faculties, combined with opportunities to work on real-world projects and collaborate with industries and research institutions, creates a learning experience that is both meaningful and future-focused.

M.TECH. IN INDUSTRIAL SAFETY ENGINEERING

COURSE DURATION: 2 Years

COURSE DESCRIPTION: Started in 1985, M.Tech. in Industrial Safety Engineering is one of the earliest and most respected programs of its kind in India. The course has been specially designed to prepare professionals who can effectively equip to address today's complex industrial safety challenges. The committed and experienced faculty team help the students learn, grow and gain confidence to lead in the field of safety.

LABS: **Personal Protective Equipment Lab:** Safety Helmet, Safety Shield, Safety Shoes, Safety Belts, Safety Goggles, Respiratory Masks, Earmuff, Earplug, Leather Hand Sleeve, Leather Belt Guard.
Industrial Safety Lab: BAM Friction Tester, Impact Sensitivity Tester, DSC (Differential Scanning Calorimetry), Fume Test Chamber, Airbag Testing Facility.
Industrial Hygiene Lab: High Volume Sampler, Personal Air Sampler, Noise dosimetry, WBGT Index meters, LUX meters, ECG & EMG for measuring work capacity.

PROJECTS:

- Development of New Electrode using 92% Rutile Grade Flux with Improved Operability and Industrial Applicability - IREL.
- Development of nanocomposite coating of MMAW electrodes for reduction of hazardous constituents in welding fumes (Sponsored by DST - TDT - AMT).
- Development and Thermal Analysis of Non - Azide Gas Generating Compositions for Automotive Airbag Systems (DST - SERB).
- Specific Electrical Conductivity of Kerosene based fuels (LPSC - ISRO).

MECHANICAL ENGINEERING

M.TECH. IN THERMAL POWER ENGINEERING

COURSE DURATION: 2 Years

COURSE DESCRIPTION: This course is aimed to provide an extensive knowledge of design and analysis of energy conversion systems, power plant systems, and thermal sciences. The program aims to address the growing demand for efficient and sustainable thermal power solutions. This programme is designed to make professionals technically competent and industry - ready, helping them stand out among engineers in the field.

LABS: Thermal Lab: Integrated Thermal Analyzer, Temperature calibration bath, Infrared Thermometer.
Turbomachinery Lab, Automobile Lab, Refrigeration & Air conditioning lab, Heat and Mass Transfer lab.
CAD Centre: Advanced Modeling and Analysis Packages, AutoCAD 2000, ANSYS, Unigraphics, Catia.
CFD Packages: ANSYS Fluent, Gambit, Phoenix, Online Hue Gas Analyser, Hightech Calorimeters.

PROJECTS:

- Development of Ammonia Based Flexible Heat-Pipe for space applications - ISRO STIC.
- Experimental investigations of thermal cracking due to rewetting phenomena during metal quenching process (DST - SERB).
- Study on Heat Transfer Characteristics of Low melt alloy encapsulated PCM for satellite avionics thermal management (ISRO).
- Experimental Investigation on Dual Fuel Engine using Compressed Natural Gas and Pyrolysis waste engine oil (DST - SERB).
- Methanol fed High energy density fuel cell system with Novel Catalyst and Flow Field Design (DST - UKIERI).
- In-depth investigations on corrosion and tribological characteristics on expendable engine (GTRE - DRDO).
- Environmental and Energy impacts of higher alcohol and biofuel synthesis by thermochemical process (MHRD - SPARC).

METALLURGICAL AND MATERIALS ENGINEERING

Established in 1967, the Department of Metallurgical and Materials Engineering offers postgraduate programs in Welding Engineering, Materials Science & Engineering, and Industrial Metallurgy. It features strong academics, active research, and qualified faculty. The department collaborates with experts from BHEL, WRI, DRDO, IGCAR, etc., and is NBA - accredited for six years. It also contributes to CECASE for research and industrial collaboration.

M.TECH. IN WELDING ENGINEERING

COURSE DURATION : 2 Years

COURSE DESCRIPTION: The Post Graduate program in Welding Engineering was started in 1978 in collaboration with Welding Research Institute (WRI) BHEL, Tiruchirappalli. This unique course meets the growing demands of technological expertise in the field of welding. The students go through two semesters of course work learning various subjects related to Metallurgy / Welding both from the regular faculty of the Metallurgical and Materials Engineering Department and the experts from WRI handle theory and practical classes. The students are particularly encouraged to get a feel for various welding techniques and also get exposed to Failure Analysis. The course is designed to include Welding Metallurgy, Welding Codes and Standards, Welding Processes, Welding Application Technology, Design of Weldments, Physical Metallurgy, Testing, Inspection and Characterization, Repair Welding and Reclamation, Non Destructive Testing, Corrosion Engineering, Mechanical Behaviour of Materials, Design and Selection of Materials, Additive Manufacturing.

LABS: Invertor with CMT facility, Multipurpose Welding Invertor, MicroPlasma Welding unit, FSW Machine, SMAW, GLAW with AC & DC pulsing, GMAW, Diffusion Bonding Machine, Automated GTAW facility. Scanning Electron Microscope, High Resolution Optical Microscope with Photographic Attachment, Image Analyzer, In - situ Metallography Facility.

PROJECTS:

- UGC-DAE - CSR sponsored project: Welding of Titanium tube to Steel tube plate / tube by using an improved FWTIPET process.
- VSSC/ISRO Project: Friction Stir Welding of Aluminium Alloys for Aerospace Applications
- Royal Academy UK: Application of multiscale modelling for dissimilar welding and improving graduate employability in India. A study on the properties of dissimilar weldments between P92 - S304H materials.

METALLURGICAL AND MATERIALS ENGINEERING

M.TECH. IN MATERIALS SCIENCE AND ENGINEERING

COURSE DURATION: 2 Years

COURSE DESCRIPTION: This unique course ensures that the student achieves the necessary technological expertise required in metal fabrication. This unique course ensures that the student achieves the necessary technological expertise required in the fields of manufacturing, materials development, and materials research. The students go through two semesters of course work learning various subjects related to Metallurgy / Materials Science. The students are particularly encouraged to get a feel for the latest developments in Engineering Materials. The curriculum comprises Physical Metallurgy, Thermodynamics and Kinetics, Electrical, Magnetic and Optical Properties of Materials, Ceramic Science & Technology, Additive Manufacturing, Polymers and Composites, Non - Destructive Testing, Metallic Materials, Testing Inspection and Characterization, Design and Selection of Materials Particulate Technology, Developments in Iron Making and Steel Making, Mechanical Behaviour of Materials, Surface Engineering, Manufacturing Technology, Metallurgical Failure Analysis, Corrosion Engineering, Nano - Materials & Technology.

LABS: Sieve Analyzer, Mineral Crusher, Simultaneous Thermal Analyzer, Viscosity Measurement System, Diamond Cutter, Metallography Specimen Preparation Equipment, 3D Cutter, Elecrolytic labs, Etching Unit Abrasion Wear Tester, High Temperature Wear Tester, Scanning Electron Microscope, High Resolution Optical Microscope with Photographic Attachment.

PROJECTS:

- DRDO / GTRE: In depth Investigations on Corrosion and Tribological properties of Expendable Engine.
- DST : Development of Black zinc Nickel Coating as Replacement to Cadmium Coating used in Aerospace and Defence Applications.
- DST : Development of Nanostructured Titanium Implants with Bioactive and Antibacterial Composite Coatings for Dental and Maxillofacial Application.
- DRDO : Fabrication of Corrosion and Wear Resistant Ceramic Composite Coatings on Al Alloys by Plasma Electrolytic Oxidation for Defense Applications.

METALLURGICAL AND MATERIALS ENGINEERING

M.TECH. IN INDUSTRIAL METALLURGY

COURSE DURATION : 2 Years

COURSE DESCRIPTION: This unique course ensures that the student achieves the necessary technical expertise as a practicing metallurgist in the field of manufacturing and service industries. Students undergo summer training in industries like TATA Steel, Saint Gobain, UltraTech Cement, Cummins India, Jindal Stainless Ltd., Defence Metallurgical Research Laboratory (DMRL), and ISRO to gain practical knowledge. The students of this course work and participate in multidisciplinary environments as well as to develop entrepreneur skills. The curriculum is structured to encompass, Ferrous Foundry Metallurgy, Physical Metallurgy, Metal Joining, Corrosion Engineering Surface Engineering, NDT, Industrial Heat Treatment, Welding Technology, Foundry Technology, Mechanical Behavior of Materials, Testing, Inspection and Characterization, Metal Forming, Particulate Technology, Design and Selection of Materials, Developments in Iron Making and Steel Making, Manufacturing Technology, Additive Manufacturing, Nano - Materials & Technology.

LABS: Vacuum Arc Melting, Atmosphere Controlled High Temperature Furnaces. UTM (60T & 100T), Rockwell Hardness Tester, Brinell Hardness Tester, Micro Hardness Tester, Impact Testing Machine, Torsion Testing Machine, Jominy Hardenability Setup, Scanning Electron Microscope, Abrasion Wear Tester, High Temperature Wear Tester, Spark Plasma Sintering, Micro Sintering furnace.

PROJECTS:

- ISRO: Structure and mechanical properties of ultrafine grained Cu - Cr / Cu - Cr - Zr - Ti alloy processed by equal channel angular processing.
- CSIR: Mechano - chemical Synthesis of Nanostructured Magnesium Silicide Thermo - electric materials by Spark Plasma Sintering.
- DST - EMEO : Development of Nano - Oxide Dispersion Strengthened Ferric / Martensitic Steels by Spark Plasma Sintering and Study their High Temperature Properties.
- DST : Development Nano - structured Magnesium Silicide Thermo - electric materials by Spark Plasma Sintering and Evaluation of Electric Power Generation from Thermal Systems.
- NRB: Development of High Strength Cast Al - Si Alloy Based Composite Reinforced with High Entropy Alloy Particles for Naval Torpedo Applications.

NON-DESTRUCTIVE TESTING

The Department of Physics offers a distinguished M.Tech program in Non-Destructive Testing (NDT), designed with a clear objective to produce highly skilled industry-ready professionals in the field of NDT. Established in 1986, this pioneering program has a proven legacy of consistently delivering experts who contribute significantly across core sectors. Spanning four semesters, the curriculum maintains a perfect balance between advanced theoretical knowledge and hands-on industrial experience. As part of the fieldwork, students gain real-time exposure by visiting the laboratories and workshops at BHEL, where they engage with the latest NDT technologies and practices. With a strong emphasis on technical proficiency, industrial relevance, and field exposure, this program equips graduates to seamlessly integrate into quality assurance, safety, and inspection roles in a diverse range of industrial sectors

M.TECH. IN NON-DESTRUCTIVE TESTING

COURSE DURATION : 2 Years

COURSE DESCRIPTION: The first two semesters of the course will deal with the theory behind Non Destructive Testing from the basics to the advanced levels. Other than the inspection methods, the curriculum includes Digital Signal Processing as well as various Computational Methods. The final two semesters are dedicated for project work at prestigious industries and research institutions like CNDE IIT Madras, NAL Bangalore, IGCAR - Kalapakkam, NML Jamshedpur, BARC Mumbai, ISRO Trivandrum, WRI - BHEL and NDL - BHEL. Students concurrently get qualified for the ASNT Level 2, from ISNT Chapter and are members of ISNT.

LABS: Visual Testing, Liquid Penetrant Testing, Magnetic Particle Testing, Eddy Current Testing, Ultrasonic Testing, Radiographic Testing, Phased Array Techniques, Time of Flight Diffraction, Thermographic NDE, Digital Signal and Image Processing, Computational Techniques.

PROJECTS:

- Detection of Solid Liquid Interface In Casting by Paut Method.
- Development of a High Temperature EMAT sensor using Active Cooling System.
- Inspection of Mild Steel Specimen Using VSA and FMC Technique.
- NDE Characterization and Condition Monitoring of Critical Aero Engine Hardware.
- Automated Defect Recognition in Radiography of Aerospace components.
- Automated Defect Recognition and Classification in Surface Eddy Current Testing Using Machine Learning Techniques.

ADVANCED NDE LAB

Radiographic Testing

Infrared Thermogrpahy

Immersion C-Scan

Ultrasonic Testing

PRODUCTION ENGINEERING

The Department of Production Engineering at NIT Tiruchirappalli is a hub of advanced research and education in the domains of manufacturing and industrial engineering. In postgraduate education, the department offers two rigorous and future - ready M.Tech. specializations - Manufacturing Technology (MT) and Industrial Engineering and Management (IEM) - each tailored to meet the evolving needs of modern industry.

Blending engineering expertise with strategic management principles, our programs are meticulously designed to produce technocrats who are equally adept at handling shop - floor innovations and boardroom decisions. Our curriculum empowers students with strong analytical foundations, simulation proficiency, cutting - edge tooling knowledge, and exposure to next - generation technologies in smart manufacturing, supply chain, and data - driven optimization.

CENTRE OF EXCELLENCE IN MANUFACTURING:

Established in 2018 under the Department of Production Engineering, the Siemens sponsored Centre of Excellence in Manufacturing (CoE - M) spans over 20,000 sq ft and houses 12 advanced software / hardware labs. It bridges academia and industry by offering cutting-edge training, research support, certification programs, and industrial consultancy.

HIGHLIGHTS:

Industry - Grade Infrastructure: 12 state - of - the - art labs designed for hands - on experience in advanced manufacturing, automation, and digital technologies.

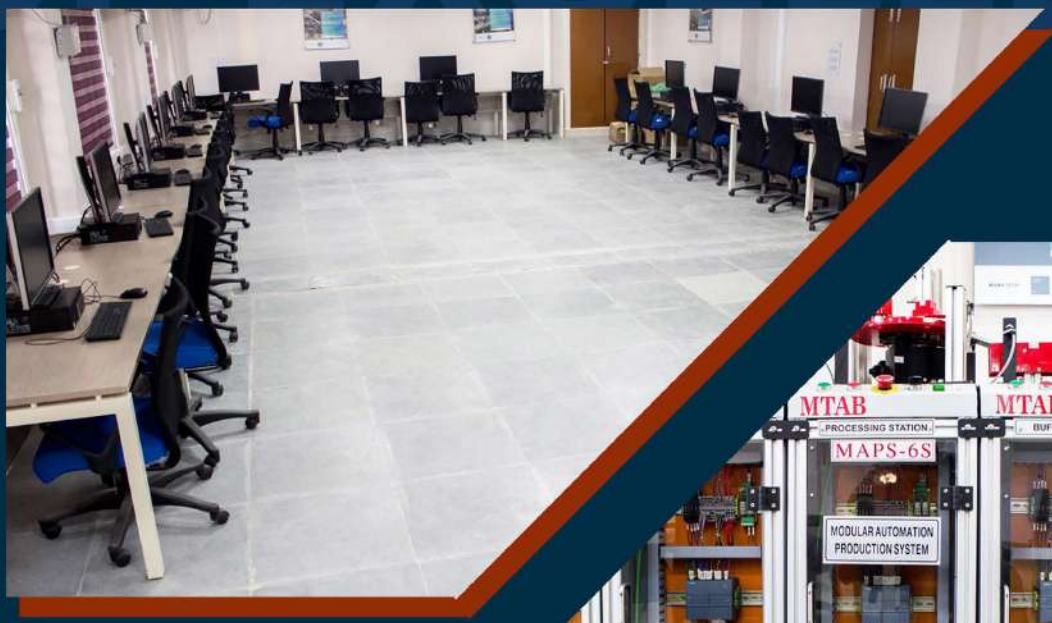
Student Empowerment: Provides certification courses, and R&D support tailored for PG students and partner institutions.

Consultancy Engagement: Enables students to participate in real - world industry consultancy projects spanning product development, process automation, and shopfloor design.

Cutting - Edge Capability: Hosts specialized systems such as 3D metal printers, femtosecond lasers, and IoT - enabled automation solutions facilitated by CAMA.

Industry Integration: Developed in collaboration with Siemens, the center aligns educational outcomes with professional standards
and industry - ready practices.

CENTER OF EXCELLENCE
IN MANUFACTURING



PRODUCTION ENGINEERING

M.TECH. IN MANUFACTURING TECHNOLOGY

COURSE DURATION: 2 Years

COURSE DESCRIPTION: The program is designed to develop expertise in advanced manufacturing areas such as CNC automation, additive manufacturing, precision machining, laser processing, and mechatronics. It also covers key topics like TQM, TPM, and manufacturing management. Emphasizing process innovation and hands - on learning, it prepares students to tackle real - world industrial challenges in sectors like automotive, aerospace, defence, and R&D. The course encompasses Advanced Tooling and Automation Inspection, Production Automation and CNC Technology, Manufacturing Automation and Mechatronics, Machining Science and Technology, Advanced Forming Technology, Welding and Additive Manufacturing, Additive Manufacturing, Heat Treatment Processes, Laser Material Processing, Tribology, Modeling for Manufacturing Processes, Manufacturing of Non - Metallic Products, Data Science for Manufacturing, Manufacturing Management, Product Design and Development, Financial Management.

LABS: **CAD / CAM / CIM Lab:** Pro / ENGINEER 2000i, Unigraphics, IDEAS, AutoCAD, MATLAB, Abaqus, ANSYS, Advanced CNC Lab: EMCO PC Turn 55, EMCO PC Mill 55, Triac Milling, HMT STC - 15 Turning Centre, Hardford VMC, Leadwell CNC Turning Centre, Robotics Lab, Mechatronics Lab, Rapid Prototyping Lab, Composite Processing Lab, Surface Engineering and Tribology Lab, Machinability Studies Lab, Micro / Nano Engineering Lab (FIST), Advanced Welding Lab, Graphics &

PROJECTS:

- Laser Micro - Cladding of Titanium and Nickel - Based Alloy Shafts - Sponsored by DRDO.
- HPTR Brazing Research at GTRE - Sponsored by DRDO.
- Machinability Studies on Incoloy 800H using Carbide Tools.
- Development of Spur Gears for High - Performance Applications - Sponsored by SERB.
- Wire EDM and Abrasive Water Jet Machining of Inconel 617.
- Micro / Nano Laser Patterning for Anti - Reflectance of Silicon.

PRODUCTION ENGINEERING

M.TECH. IN INDUSTRIAL ENGINEERING AND MANAGEMENT

COURSE DURATION: 2 Years

COURSE DESCRIPTION: This program combines the principles of industrial engineering with contemporary management strategies to enhance system efficiency, resource utilization, and decisionmaking. Students are trained in data analytics, operations research, quality engineering, and simulation tools to address real-world industrial challenges. With a balanced focus on theory and application, the program prepares graduates for impactful roles in operations, logistics, supply chain, and productivity consulting across manufacturing and service sectors. The curriculum encompasses Data Analytics, Industrial Engineering and Productivity Management, Analysis and Control of Manufacturing Systems, Advanced Operations Research, Product lifecycle Management, Supply Chain Management, Modeling, Simulation, and Analysis, Total Quality Management & Six Sigma, Lean and Agile Manufacturing, Project and Financial Management, Industry 4.0 and Cloud Manufacturing, Product Design and Development.

LABS: **Simulation Lab:** SimQuick, ARENA, WITNESS, Flexsim.
Operations Management Lab: TORA, GAMS, CPLEX, OM Expert,Data.
Analytics Lab: SPSS, SYSTAT, GaBi, Supply Chain Management Lab.
CAD/CAM Lab: Pro/ENGINEER, Ideas, Unigraphics, ANSYS 14.5, Ergonomics Lab, Intelligent Systems Lab.

PROJECTS:

- Modeling and Implementation of Sustainable Manufacturing Strategies in an Automotive Component Manufacturing Organization.
- Investigations on e-waste flow assessment and collection strategies for a sustainable and economic e-waste value chain design in India.
- Artificial Intelligence heuristics for a class of combinatorial optimization problems.
- DSS for measuring Agile Characteristics.
- Study and establishing the design guidelines for the real time CAN communication for BHEL E-Bus.

CLUBS & STUDENT GROUPS

DELTA

As the official web team and programming club of NIT Trichy, Delta Force develops and maintains the institute's website, manages web activities for Festember and Pragyan, and conducts annual eventsand workshops.

SPIDER

Spider, the Research and Development Club of NIT Trichy, consists of individuals pursuing projects in Artificial Intelligence, Electronics, and Computer Technology. Additionally, Spider's distinguished alumni have founded startups worldwide.

GRAPHIQUE

Graphique, the graphic design club of NIT Trichy, promotes Design Thinking through its work on Festember and Pragyan, and campus development initiatives. Mentored by alumni who are professional designers, members tackle industrial and real-life problems.

SCIENt

SCIEnT offers students 24/7 access to a wide range of tools and machines, from spanners to lathes and resistors to Intel Galileo boards. It provides funding, resources, and mentorship for campus innovators to bring their ideas to life.

PSI RACING

PSI Racing, NIT Trichy's science & technology club, fosters innovative thinking. It has excelled in competitions like BAJA SAE and ESI, representing the institute against over 100 colleges. It has won numerous accolades, including top rank of 5th out of 120 in 2019.

THE ENTREPRENEURSHIP CELL

The Entrepreneurship Cell-NIT Trichy has promoted innovation and entrepreneurship across campus and India for over a decade. Through events and workshops, our 60-member team supports organizations with strategic insights, fostering growth and inspiring future leaders.

180 DEGREE CONSULTING

180 Degrees Consulting is the world's largest university-based consultancy, with 140+ branches in 35+ countries. Student consultants aim to enhance global organizational effectiveness with support from experienced mentors to tackle real-world challenges.

THE 3RD DIMENSION

The Third Dimension is NITT's aeromodelling club, dedicated to electrically propelled airplanes, drones and hovercrafts. Engaging in competitions, they apply electronics and coding for smarter aerial vehicles and tackle real-world problems using aerodynamics.

DATABYTE

DataByte at NIT Trichy focuses on solving real-world problems through data science and machine learning, empowering students and the community with impactful projects, research, and knowledge sharing initiatives.

SIGMA

SIGMA - The Business Club of NITT focuses on Projects, Data Analytics, Case Studies, Consulting, and Articles, encouraging members to engage in managing events like Guest Lectures, Workshops, and Competitions.

BUILDER'S HIVE

Builders' Hive, NIT Trichy's Social Innovation and Engineering Club, awarded the ACI Outstanding Award in 2021 and 2022, advances civil engineering with innovation and sustainability, driven by a skilled student team achieving exceptional results.

DESIGNER'S CONSORTIUM

Designers' Consortium, established in 2015, is NIT Trichy's official Product Design Club. Comprising diverse engineering backgrounds, their goal is to innovate solutions for societal challenges through impactful design, guided by mentors from top consulting firms.

THE PRODUCT FOLKS

Product Folks NITT Chapter focuses on nurturing future product leaders through guest lectures, workshops, & live projects in product management. We empower students with diverse skills to innovate and excel in the dynamic field of product development and leadership.

PROFNITT

ProfNITT empowers students in Finance and Investment through practical experience and mentorship in areas like Investment Banking, Private Equity, Venture Capital, Hedge Funds, and Fin-Tech, with engaging events like Guest Lectures, Workshops, and Case Competitions

STUDENTS' LIFE

Student life at NIT Trichy is a rich and dynamic experience that extends far beyond the boundaries of academics. It's a journey of personal growth, where students learn to strike a healthy balance between studies, friendships. The campus, with its wide green spaces, is a place where students not only prepare for their careers but also discover who they are and what truly inspires them.

Events like Festember and Pragyan infuse the campus with energy, enthusiasm, and a vibrant celebration of talent and innovation. Festember, the annual cultural festival, transforms NIT Trichy into a lively hub of music, dance, art and literature. It's this unique blend of learning and celebration, that truly defines the enriching and memorable NIT Trichy experience for students.

The Central Library at NIT Trichy stands as a cornerstone of academic excellence, offering an extensive collection of books, journals, and digital resources that cater to the diverse intellectual needs of students and faculty. Complementing this intellectual hub is the expansive sports complex, which promotes a healthy and active lifestyle.

DEPARTMENT OF TRAINING AND PLACEMENT

The Department of Training and Placement serves as the marketing division of the institute. Over the years, the department - acting as an interface between the institute and companies - has maintained a symbiotic, vibrant, and purposeful relationship with industries across the country. As a result, it has built an impressive placement record, both in terms of the percentage of students placed and the number of companies visiting the campus. The department hosts companies on campus and ensures that every aspirant is supported in securing a bright career of their choice.

PLACEMENT SUPPORT THAT DELIVERS

We ensure a seamless recruitment experience by providing:

- End-to-end logistics for Pre-Placement Talks, Tests, GDs & Interviews
- Audio-visual & online test infrastructure on request
- Travel arrangements from the airport/railway station
- Accommodation & hospitality at our guest house (hosted by the institute)
- Off-campus stay support for visiting executives (company-borne cost)

PLACEMENT PROCESS

INVITATION

The Department of Training and Placement invites companies for recruitment by sharing a placement brochure and Pre-Visit Response (PVR) sheet. The companies provide job profiles, eligibility, and selection process in the PVR.

COMPANY COORDINATION

The company submits the completed response sheet to the T&P Department. Once received, the Placement Council and PR/Coordinators coordinate with the company to finalize a suitable date for campus recruitment.

STUDENTS ARE NOTIFIED

Once the placement date is set, students are informed along with the company's eligibility and job details. Interested candidates register, and the eligible list is sent to the company with clear pre-placement instructions.

PRE-VISIT ARRANGEMENTS

Pre-visit arrangements include travel assistance for companies using the institute guest house, with accommodation and meals provided on prior notice. The T&P Office also ensures full logistical support - arranging venues, equipment, and online test facilities - for all stages of the recruitment process.

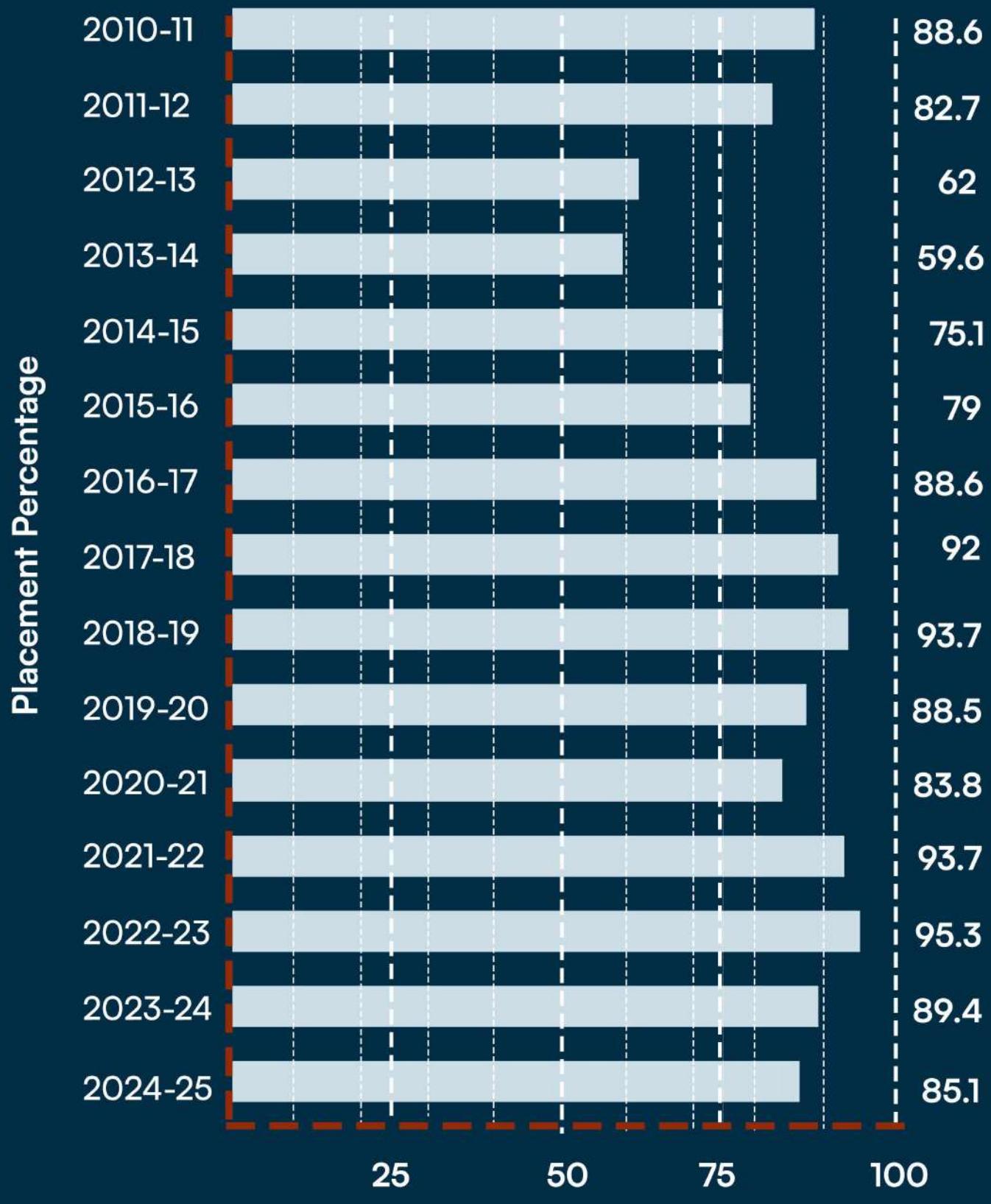
PLACEMENT DAY ACTIVITIES

The recruitment process is carried out as per the company's selection method, which may include tests and interviews. The T&P team ensures seamless coordination throughout, while student attendance and conduct are closely monitored.

RESULTS & OFFER LETTERS

Upon completion of the placement process, companies are requested to share the list of selected candidates with the Training and Placement Department on the same day. Offer letters may be sent via email or courier to the address provided on the last page of the brochure.

PLACEMENT STATISTICS



PAST RECRUITERS

PAST RECRUITERS

PLACEMENT TEAM

PRIYADHARSHINI A
Department of Architecture

SRI VIDYA M
Department of
Chemical Engineering

SIDDHARTH KRISHNA J
Department of
Civil Engineering

AKHILA M S
Department of
Civil Engineering

SAHIL KHAN
Department of
Computer Applications

GUPTA JUHI
Department of Computer Science and Engineering

PARTH SHUKLA
Department of Computer Science and Engineering

TITIKSHA MIRAJKAR
Department of Electrical and Electronics Engineering

KORIKANI DEEKSHITA
Department of Electronics and Communication Engineering

SALLA ADHARSH
Department of Electronics and Communication Engineering

VASEEKARAN S P
Department of Energy and Environment

RAMA K T
Department of
Management Studies

GOKULRAAM A K
Department of
Management Studies

SURIYA C R
Department of
Mechanical Engineering

RAMASWAMY D MALAGATTI
Department of Metallurgical and Materials Engineering

KARTHIK M
Department of Physics

DIGVIJAY SINGH CHOUDHARY
Department of
Production Engineering

HOW TO REACH NITT

BY AIR

FROM	TO	DEPARTURE	ARRIVAL	FLIGHT NO.
Chennai	Trichy	05:45	06:55	6E-7298
Chennai	Trichy	09:30	10:40	6E-7191
Chennai	Trichy	13:25	14:35	6E-7028
Chennai	Trichy	16:35	17:45	6E-7199
Chennai	Trichy	18:50	19:50	IX-1624
Banglore	Trichy	06:05	07:20	6E-7236
Banglore	Trichy	07:25	08:25	IX-1204
Banglore	Trichy	11:00	12:15	6E-7711
Banglore	Trichy	19:20	20:35	6E-7165
Hyderabad	Trichy	15:45	17:15	6E-2073
Mumbai	Trichy	10:35	12:40	6E-6118

**subject to change by the airlines*

HOW TO REACH NITT

BY RAIL

FROM	TO	TRAIN NAME	TRAIN NO.	DEPARTURE	ARRIVAL	DAYS
Chennai	Trichy	TEJAS EXP	22671	06:00	09:45	MTWTFSS
Chennai	Trichy	MS GURUVAYUR EXP	16127	10:20	16:10	MTWTFSS
Chennai	Trichy	TEN VANDE BHARAT	20665	14:45	18:35	MTWTFSS
Chennai	Trichy	MS QLN EXP	16101	17:00	21:50	MTWTFSS
Chennai	Trichy	PEARL CITY EXP	12693	19:30	00:45	MTWTFSS
Chennai	Trichy	ROCKFORT SF EXP	12653	23:30	04:55	MTWTFSS
Bengaluru	Trichy	MDU BANDE BHARAT	20672	13:30	19:20	MTWTFSS
Bengaluru	Trichy	MYS CUPJ EXP	16232	19:00	04:00	MTWTFSS
Hyderabad	Trichy	KCG NCJ SPL	7435	19:45	15:00	MTWTFSS
Mumbai	Trichy	NAGERCOIL EXP	16351	20:35	00:25	MTWTFSS
Trivandrum	Trichy	GUV CHENNAI EXP	16128	05:15	13:45	MTWTFSS
Trivandrum	Trichy	TVC TPJ SF EXP	22628	11:35	19:45	MTWTFSS
Trivandrum	Trichy	ANANTAPURI EXP	20636	16:05	23:50	MTWTFSS

*subject to change by the railways

FROM TRICHY

BY AIR

FROM	TO	DEPARTURE	ARRIVAL	FLIGHT NO.
Trichy	Chennai	07:15	08:25	6E-7101
Trichy	Chennai	11:00	12:10	6E-7365
Trichy	Chennai	18:05	19:15	6E-7242
Trichy	Chennai	20:00	21:05	6E-7151
Trichy	Chennai	22:35	23:45	6E-7052
Trichy	Banglore	06:30	07:45	IX-2420
Trichy	Banglore	08:55	10:10	IX-2742
Trichy	Banglore	16:45	18:00	6E-7712
Trichy	Banglore	20:55	22:10	6E-7166
Trichy	Hyderabad	06:05	07:35	6E-2073
Trichy	Mumbai	13:10	15:15	6E-6119

**subject to change by the airlines*

PLACES TO VISIT

40 KM

THANJAVUR BIG TEMPLE

The Thanjavur Big Temple, also known as the Brihadeeswarar Temple, is a magnificent example of Chola architecture and a UNESCO World Heritage site. It was built by King Raja Raja Chola I between 1003 and 1010 AD, dedicated to Lord Shiva.

23 KM

SRI RANGAM

Sri Rangam's history centers around the Sri Ranganathaswamy Temple, one of the most important temples dedicated to Lord Vishnu. The temple's story also involves Lord Rama, who gifted the idol to Vibhishana, and its eventual establishment on the island of Sri Rangam near the Kaveri River.

34 KM

MUKKOMBU

Mukkombu Dam, also known as Upper Anaicut, is a historic dam located in Tiruchirappalli, built between 1836 and 1838 by British engineer Sir Arthur Cotton. It's known for its scenic beauty and role in irrigating the region. The dam also creates the island of Sri Rangam by dividing the Cauvery River into two channels Cauvery and Kollidam.

18 KM

OUR LADY OF LOURDES CHURCH

Our Lady of Lourdes Church in Trichy, modelled after the famous Basilica of Lourdes in France, is a beautiful example of Gothic architecture. This historic church, built in the late 19th century, serves as a prominent pilgrimage site and a symbol of Tiriuchirappalli's rich colonial heritage.

PLACES TO VISIT

19 KM

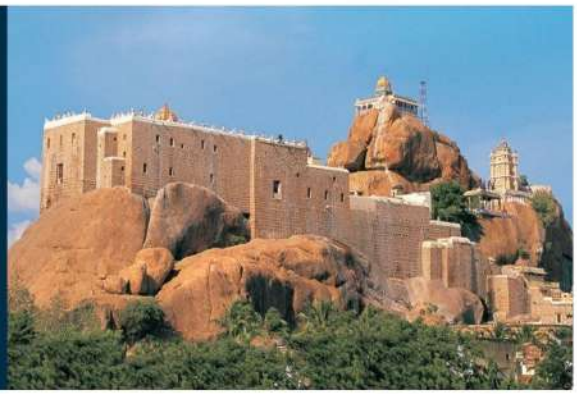
THIRUVANAIKOIL

Thiruvanaikoil, also known as Jambukeswarar Temple, is a historic Shiva temple in Sri Rangam, built by the Chola king Kochenganan over 1800 years ago. It's one of the five major Shiva temples in Tamil Nadu, representing the element of water (Appu Lingam). The temple is renowned for its architecture, including towering walls, and expansive halls,.

18 KM

ROCKFORT

The most famous land mark of Tiruchirappalli is the Rockfort Temple. It is also called as Ucchi Pillaiyar Kovil. Halfway up is the Sri Thayumanaswamy Temple, dedicated to Lord Shiva. From its summit tourists can get a fantastic view of the town and other spots such as Sri Rangam, Cauvery River, Coleroon River, Thiruvanaikoil, etc.



18 KM

KALLANAI DAM

The Kallanai Dam was built during the 2nd century AD by Karikalan, a king of the Chola Dynasty and is also one of the oldest irrigation systems in the world that is still in use. Kallanai Dam is the fourth oldest dam in the world, and first in India. It is a rock-solid project that has survived 2,000 years.

18 KM

HAZRAT NATHAR VALI DARGAH

Hazrat Nathar Vali Dargah in Trichy is a revered Sufi shrine, attracting devotees from various faiths who seek blessings and spiritual solace. This ancient dargah, dedicated to the Sufi saint Nathar Vali, is known for its serene ambience and the annual Urs festival, which celebrates the saint's legacy with devotion and festivity.

CONTACT DETAILS

DR. A. K. BAKTHAVATSALAM

Professor (HAG) & Head
Department of Training and Placement
National Institute of Technology, Tiruchirappalli
Mobile: 9486001174

MR. R. GURURAJ

Placement Officer
Department of Training and Placement
National Institute of Technology, Tiruchirappalli
Mobile: 9486001140

DR. P. PALANISAMY

Training Officer
Department of Training and Placement
National Institute of Technology, Tiruchirappalli
Mobile: 9486001111

WEBSITE

LOCATION

0431 - 2501081 | 2503781 | 2503788

tp@nitt.edu | tnp.nitt@gmail.com