

POST GRADUATE PLACEMENT BROCHURE

2024-25

NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI



Why us?

NIT Tiruchirappalli NIRF Ranking Awards

Learn to Think

Architecture Chemical Engineering Civil Engineering Computer Applications Computer Science and Engineering Electrical and Electronics Engineering Electronics and Communication Engineering Energy and Environment Engineering Instrumentation and Control Engineering Mechanical Engineering Metallurgical and Materials Engineering Physics Production Engineering Management Studies

A place to call Home

Clubs Student groups R and R Student's Life

Career with NITT

Training and Placement Placement process Placement Statistics



Glittering Alumni



K Mahalingam Director TS Mahalingam group



Shyam Srinivasan MD & CEO Federal Bank



N Chandrasekaran Chairman Tata Sons



PTR Palanivel Thiagarajan Minister of Information Technology and Digital Services TN Government



Krishnakumar Gopalan CMD of Bharat Petroleum Corporation Limited



N Kamakodi MD & CEO City Union Bank Ltd



Srinivas K MD & CEO India1 Payments Ltd



Ravi Viswanathan MD TVS Supply Chain Solutions





P Srikar Reddy CEO & MD Sonata Software



Raj Iyer Head of Global Public Sector Service Now A



Anurag Behar CEO Azim Premji Foundation



TV Narendran CEO & MD Tata Steel



Revathi Kant Senior Vice President & CDO Titan Company Limited



Anantha Radhakrishnan CEO & MD Infosys BPM Ltd



R. Chandrasekaran Executive Vice Chairman (Retd) Cognizant



Saumen Bhaumik CEO Titan Eyeplus



P Barathi, IAS Chief Electoral Officer Gujarat

- 1. Indian Institute of Technology Madras
- 2. Indian Institute of Technology Delhi
- 3. Indian Institute of Technology Bombay
- 4. Indian Institute of Technology Kanpur
- 5. Indian Institute of Technology Roorkee
- 6. Indian Institute of Technology Kharagpur
- 7. Indian Institute of Technology Guwahati
- 8. Indian Institute of Technology Hyderabad
- 9. National Institute of Technology Tiruchirappalli
- 10. Jadavpur University

1st among all NITs

9th among all engineering colleges4th among all architecture colleges

National Institutional Ranking Framework 2023, Ministry of Education

Best Innovation Club

Hon'ble President of India Shri Ram Nath Kovind Festival of Innovation and Entrepreneurship 2018

FICCI University of the Year FICCI National Education Summit 2018

Excellence in Employability

12th FICCI Higher Education Summit 2016

Among top 25 publicly funded University in India

Atal Ranking of Institutions on Innovations Achievements 2020

#8 in India India Today Ranking 2022 #22 in India QS World University Rankings 2024

#9 in India Outlook Ranking 2021

#9 in India The Week Ranking 2021 #281 in Asia

#32 in India

Asian University Ranking 2023

-	Publications per year	700
	Citations per year	10000
	Number of Patents Published (2021 - 22)	11
	Number of Patents Granted (2021 - 22)	12
	Total funding of R&C (approx)	2.2 Billion INR



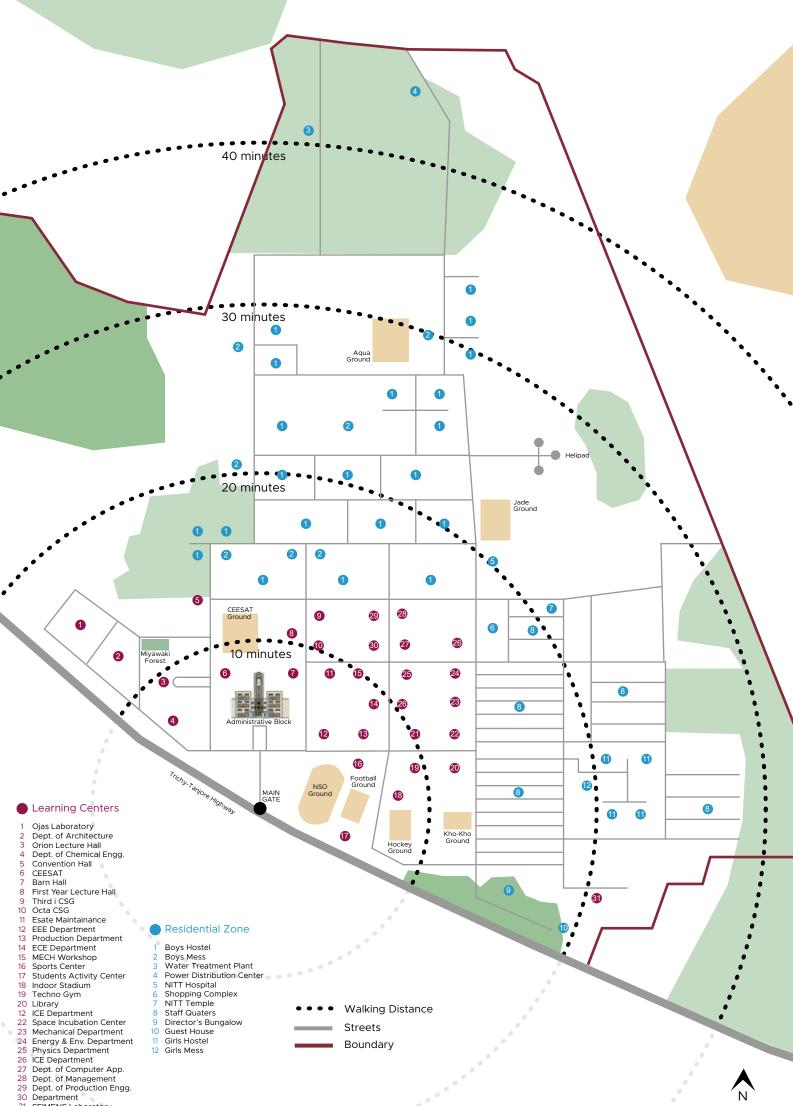
The Institute Day, exemplary student achievers



Achievements

NIT Tiruchirappalli was extolled by the Honourable Governor of Tamil Nadu Shri. R. N. Ravi for bagging 8th position in the recently released NIRF rankings.

On the occasion of the 18th Convocation Ceremony, chief guest Shri. Shyam Srinivasan, was all praise for the institute and the graduands. Through various examples of real-world inspirations, he addressed the students to grow through difficult times and come out with flying colors.



SEIMENS Laboratory

Architecture

We at NIT Trichy work with students to create, imagine and design better and efficient environment for all.

The Department of Architecture in National Institute of Technology Tiruchirappalli was started in the academic year 1980-81. Over the course of 4 decades, it stands today among top 10 architecture schools in India with specific focus on Energy Effi ciency and Green Building Design and Sustainability. The Department functions in all three segments: UG, PG and PHD. It is dedicated to the mission of creatng professionally competent architects with human values.



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Department	Program/Specialisation	Course Duration	Features
Architecture	Energy Efficient and Sustainable Architecture	2 Years	Technical understanding of thermal omfort, building performance and crafting innovative methods to save energy and reduce carbon footprint. Deep understanding of Energy Efficiency, Occupant Comfort, Building Performance and Energy Simulations.
Labs	Climate Lab • Strength of Mate Lab • Model Making Lab	erials Lab • Buildir	g Science Laboratory • Acoustics Lab• Lighting
Softwares	Rhino+Grasshopper, Environn ANSYS. Diva. Dailux. Opaque. (•	ybugandHoneybee), IES
Softwares Curriculum	 ANSYS. Diva. Dailux. Opaque. C Building Science and Sustaina and Management Visual Com 	Comfen. Revit ability • Building N afort Assessment andscape Design •	lodelling and Simulation • Building Energy, Aud • Lighting Design • Energy Environment and Post Occupancy Evaluation • Environment and

Chemical Engineering

NIT Trichy's degrees are unlike any other in the nation. They provide enormous flexibility, allowing you to create a bespoke programme.

Established in 1967, the Department of Chemical Engineering, NIT Trichy 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 ten 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.



Department	Program/Specialisation	Course Duration	Features
Department	Masters in	2 Years	Students are imparted with knowledge in
of Chemical	Chemical		Chemical Process Equipment Design along with
Engineering	Engineering		Chemical Reaction Engineering, Advanced Process Control and Process Modeling & Simulation. Students are also acquainted with purely industry oriented subjects like Advanced Separation Techniques and Computational Fluid Dynamics. This NBA accredited course is designed to groom students so that they extract the best talents and excel in their discipline.

Curriculum	• Chemical Reactor Analysis & Design • Advances in Fluidization Engineering • Advanced Process Control • Industrial Safety and Risk Management • Chemical Process Design • Advanced Separation Techniques • Pinch Analysis and Heat Exchange Network Design • Computational Fluid Dynamics • Process Optimization • Chemical Process Modeling and simulation laboratory • Mathematical modeling for chemical engineers, and Analytical instrumentation laboratory
Lab	 Transfer Operations lab Process Control laboratory with multi-process trainer and several DDC systems Simulation packages: Fluent, Aspen Plus, MATLAB, COMSOL, GPS-X, HYSYS Unit Operations lab Chemical reaction Technical analysis Momentum transfer
Projects	 Reduction in greenhouse gas emission with synergistic mixed matrix membrane for CO2 separation. 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 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.

Department	Program/Specialisation	Course Duration	Features
Department of Chemical Engineering	M. Tech in Process Control & Instrumentation	2 Years	This course was started in 1996 with a specific focus on process instrumentation and control systems. It has acquired significant importance in the process industry. The program strives to train manpower for the ever increasing demands of the industry and academics in this area. Young and dynamic faculty together with state-of-the-art lab facilities makes this program one of its kind in the country.

Curriculum	• PLC and its Programming • Real time and Embedded system • Controller tuning • Logic and Distributed Control systems • System Identification and Adaptive control • Advanced Process Control • Industrial Instrumentation • Computational Techniques in Control Engineering • Process Control And Instrumentation Laboratory
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 Inves ga⊠ on of Impact Initiation of Sound/Light emiting Pyrotechnic.(Sponsored by ARMREB,DRDO) •





Civil Engineering

This degree equips students to assume a leadership position, in comprehending and changing society by the many-sided view of education.

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.









Department	Program/Specialisation	Course Duration	Features
Department of Civil Engineering	M. Tech in Geotechnical Engineering	2 Years	This course provides in-depth knowledge in Geotechnical Engineering to understand, evaluate and analyze existing techniques to give a solution for the Geotechnical Engineering problems critically and apply independent judgment to come up with advanced and reliable solutions. The curriculum was designed to use computer based modeling and numerical analysis of Geotechnical Engineering problems in various platforms. Also, to acquire professional and intellectual integrity, professional ethics and code of conduct.

Curriculum	• Geomechanics - Theory and Applications • Soil Properties and Behaviour • Foundation analysis and Design
	Dynamics of Soils and Foundations • Applied Soil Mechanics • Ground Improvement Techniques • Soil
	Exploration and Field Testing • Geoenvironmental Engineering • Geosynthetic Engineering • Geotechnics in
	Practice \cdot Analysis of Deep Foundations \cdot Soil Structure Interaction \cdot Slope Stability and Earth Dams \cdot
	Geotechnical Earthquake Engineering • Forensic Geotechnical Engineering • Ports and Harbour Structures
	Engineering • Geotechnical Design Studio

Labs• Cyclic Triaxial Apparatus • Bender Element Apparatus • Ground Penetration Radar • Dynamic ConePenetration 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 – AAI, Chennai.

- 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, Sponsered by SERB
- Optimization of Sustainable Polymeric Materials for a Composite Ground Modification System to Support Buildings and Road Embankments, Sponsored by SERB
- Development of 1g Laboratory Model to Study the Behavior



Department	Program/Specialisation	Course Duration	Features
Department of Civil Engineering	M. Tech in Environmental Engineering	2 Years	The course is aimed to develop professional engineers with leadership qualities in engineering aspects of Land & Water Management, Environmental Impact Assessment, Skills in Water Supply, Wastewater Treatment, Land Reclamation and Solute Transportation. With these skills, Graduates will be able to play a leading role in developing engineering solutions to a wide range of problems and opportunities within an ecologically sustainable context.

Curriculum• Physico-Chemical Process for Water and Wastewater Treatment • Biological Process design for Wastewater
Treatment • Modelling of Natural Systems • Analytical methods for Environmental Monitoring • Transport of
Water and Wastewater • Solid and Hazardous Waste Management • Environmental Impact Assessment • Water
and Air Quality Models • Environmental Process Chemistry and Microbiology • Air pollution and Control
Engineering • Groundwater flow and contaminant transport through porous media • Remote Sensing and GIS
for Environmental Applications • Industrial Wastewater Management • Environmental Biotechnology

 Labs
 Ion Coupled Plasma Mass Spectrophotometer (ICPMS) • 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 • Key Softwares: Auto CAD, Visual MODFLOW, Arc GIS, Arc View, Arc Info, ENVI, RIAM and 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



Department	Program/Specialisation	Course Duration	Features
Department of Civil Engineering	M. Tech in Structural Engineering	2 Years	The aim of this course is to fulfill the growing demand for specialists in Structural Engineering. The curriculum is designed so as to get an exposure on areas of Structural Analysis, Design, Detailing and Construction. The course also familiarises the use of general purpose and application oriented software in the field of structural engineering, finite element analysis and optimisation.
Curriculum	Concrete Technology • Advanced I • Seismic Design of Structures • Br	Design of Metal Structure idge Engineering • Forer	uctural Analysis • Structural Dynamics • Advanced es • Finite Element methods • Stability of structures nsic Engineering and Rehabilitation of Structures • stic Processes in Structural Mechanics
Labs	 - 50 Tonnes Capacity • Loading Fra • Column Testing Frame • Electrica (5 tonnes) • Industrial Furnace • NDT & Dynamics Lab • Horizontal Shake Table Eccent Cylindrical CAM • Vibrating Beam 	ame – 30 Tonnes Capacit I Furnace • Computerized Compression Testing Ma tric CAM • Vertical Sha n • Rapid Chloride Penet nent • Profometer • Rel	ad Testing Frame - 20 Tonnes Capacity, Vertical Load y • Table Vibrator • Pelletizer • Concrete Mixer 80 L d UTM • Data Acquisition system • Dynamic actuator achine (310 tonnes) ke Table 30kg Capacity • Horizontal Shake Table tration Test Apparatus • Tuned Mass Damper bound Hammer • Corrosion Analysis Instrument
Projects	 salient features of Limit State Desir Horizontally Spliced Steel Girders I in all Disaster-Prone Areas DST-TA Joint Project Proof checking of Design for the IOCL Terminal at Ulundurpettai, CPWD structural designs for var 500,000 liter capacity, two comp and 500,000 liter capacity, two corr Application of Natural Fiber Reir 	gn for future application NITT-BHEL Joint Project A RE Dailmer (India) Bus plan , Tamilnadu– PDIL (Gol) – ious buildings – 2017-20 Partments, shaft supporte npartments, Undergroum	

Department	Program/Specialisation	Course Duration	Features
Department of Civil Engineering	M. Tech in Transportation Engineering and Management	2 Years	The Master of Technology course in Transportation was started in 1971 with MHRD funding under the University of Madras. One month In-plant training program is arranged for students at the end of the second semester in various Government organizations and companies to get industrial exposure which helps to groom them into competent professionals. Transportation engineering and Management has also been awarded as one of the Centre of Excellence in Transportation Engineering (CE- TransE), sanctioned by MHRD, Gol (2013) of 2 crores till Date.
Curriculum	Transportation Planning • Pavem Transportation Economics • Geos	ent Construction and Ma spatial Techniques • Water	and Design • Urban Transportation Systems nagement • Intelligent Transportation Systems way Transportation • Computational Techniques in ow Theory • Ground Improvement Techniques
Labs	 Field CBR tests • Plate Load Setup Ductility Testing Machine • Rotat Marshall Stability Apparatus • Dy Intelligent Transport System Lab Mx Road Software • Induction Lo Software • N-LOGIT 5.0 Software • Addition 	o • Benkelman Beam Defle ional Viscometer (Brookfi namic Shear Rheometer • op Detector • ANPR Came ESRIs Arc GIS Software • C sage sign board (VMS) • I ng Vaccum Visometer • P	era • VISSIM Software • HDM4 Software • Transyt-15 CUBE Software • Inductive loop Detector Rolling Thin Film Oven (RTFO) • Moisture Induced
Projects	Agency-National Highway Author • Evaluation of Pavement perform Board, Ministry of MSME, Governn • Performance evaluation of ceme Infrastructural Development Ager • Development of Trip Generation Research (CSIR), New Delhi (2021- • Development of an Integrated H IIC (Institute-Industry Collaborativ	ity of India (Ongoing). ance of Coir reinforced Ru nent of India (Ongoing). nt concrete pavements ir ncy, NRIDA (Ongoing). Manual for Indian Cities" 2022) (Ongoing). ealth Monitoring System e project), 2019 – 2023.	ort System for National Highways", Funding ural Roads in Tamilnadu", Funding Agency-Coir n rural roads ", Funding Agency-National Rural supported by Council Of Scientific And Industrial for Large Engineering Structures ", SERB-IMPRINT oads ", Funding Agency-NRIDA, Government of

Department of Computer Applications

Computers are incredibly fast, accurate, and stupid. Human beings are incredibly slow, inaccurate, and brilliant. Together they are powerful beyond imagination.

The Department of Computer Applications offers the Information Technology courses which include MCA, M.Sc. Computer Science and M.Tech 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 courses cover all the aspects of computer-based industries and thus is dedicated to developing high professionals in the field of computer applications. The Department of computer applications is one of the pioneering departments of the institute that off ers postgraduate courses in the related fields of computer science and analytics. The M. Tech Data Analytics program offered at NIT Trichy is a new addition to the institute that equips students with the analytics skills to cater to the latest demand in industry and research.





Department	Program/Specialisation	Course Duration	Features
Computer Applications	Masters in Computer Application	3 Years	The Master of Computer Applications program offered at NITT is considered to be the best in the country. The course starts with deep knowledge sessions on computer programming languages and includes advanced subjects like data analysis and cloud computing. It also has the software industry based subjects to develop soft skills as well as professional skills. The last semester is dedicated exclusively for project work. Thus, the curriculum covers diverse streams.
Curriculum	• C / C++ / Java / Python Programming • Design and Analysis of Algorithm • Database Management System • Data Structures • Object Oriented Analysis and Design • Operating Systems • Informal on Security • Computer Networks • Data Mining Techniques • Artificial Intelligence • Computer Organization and Architecture • Software Engineering • Distributed Technology • UNIX Shell Programming • Organizational Behaviour		
Labs	 NIT Local Area Network (OCTAGON Computer Center) • Dell Power Edge Server R1950 • Pla orms such as Linux, Solaris based SUN machines • HP DEC Alpha Ultra Sparc, IBM Syster Storage DS3500 and IBM System 2U Server Rack • DELL Optiplex 9020 MT PCs connected t NITT LAN 		
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. 		



Department	Program/Specialisation	Course Duration	Features
Computer	Masters in	2 Years	M.Tech in Data Analytics is an inter-
Applications	Data Analytics		disciplinary course started at NIT Trichy in
			the academic year 2017-18 offered by the
			Department of Computer Applications in
			association with the Department of
			Management Studies (DoMS) and
			Department of Computer Science. The
			course is structured around the broad
			contours of analytics and computer science
			to equip students with knowledge and
			familiarity of various tools for a data
			scientist.
	Information assurance • Real-Time management • Customer Relations		nance Computing • Financial risk analytics and
Labs	Server R1950 rack Mount Server) v such as Linux, Solaris based SUN N System 2U Server Rack. • High-Per	vhich support the LAN p Nachines. • HP DEC Alph rformance Computing la	nter with core i7 systems. • Servers (Dell Power Edge providing a Linux/Windows environment. • Platforms a UltraSparc, IBM System Storage DS3500 and IBM ab. • Natural Language Processing and text analytics age and Video Analytics. •CUDA and E-Leaning.
Projects	 Machine Learning IOT based Prec Machine Learning approach for fe 		n of stress using wearable sensor. nd classification of genetic mutation leading to tumor
	and cancer.	-	-
	• Number Plate recognition of veh	icles.	
	Corpus Generation.		
	• Credit card risk detection.		

• Fashion Discovery Engine.



Department	Program/Specialisation	Course Duration	Features
Computer Applications	Masters in Computer Science	2 Years	This program is specifically aimed to impart quality education in the field of Computer Science. M.Sc. Computer Science is a four semesters full-time Post – Graduate program spread over two years with the first three semesters concentrating on the theoretical foundation with high-quality teaching complemented with extensive practical training and the final year concentrating on project work phase I and Phase II. The course is developed to inculcate value-based, socially committed professionalism for the overall development of research atitude and life-long learning.
Curriculum	Multimedia Communications • Ao Using Python and R • Computatio	dvanced Operating Sys nal Intelligence • High-I • • Object-Oriented Sof	Structures and Algorithms • Database Technologies • tems • Data Mining and Analytics • Problem Solving Performance Computing • Web Computing • Artificial tware Engineering • Advanced Statistical Techniques
Labs	environment. • Platforms such as Linux, Solaris b • HP DEC Alpha Ultra Sparc, IBM Sy • Lab facilities with the latest config	R1950 rack Mount Serve ased SUN Machines. stem Storage DS3500 a guration of DELL OptiPl	er) which support the LAN providing a Linux/Windows and IBM System 2U Server Rack.
Projects	Extreme Low Light Image Enhan Human Behavior Analysis from V Cyber Threat Intelligence Genera	ideo Sequences using I on using Deep Learn	Deep Learning approach.

- Emergency Response Support System Development.
- Digital Health Records Storage and Analysis.



Computer Science and Engineering

Computer science education fosters analytical and problem solving skills which are required in a variety of computer related jobs and beyond.

The Department of Computer Science and Engineering with its cohesive set of faculty members offers a sound program at UG and PG level. The department has 22 faculty members and all are doctorates. The curriculum is a blend of the conventional and theoretical aiming to infuse the culture of learning and exploration among students.



Department of ComputerM. Tech in2 YearsThe curriculum is updated regularly to keep up with the growing demands and the changing trends of the softwareScience andEngineeringindustry and research laboratories	Department	Program/Specialisation	Course Duration	Features
Engineering Research Areas in the department include Programming Languages, Computer Architecture, System Software, Networking Technologies, Artificial Intelligence, Data Analytics, and Image Processing.	Computer Science and	Computer Science and	2 Years	keep up with the growing demands and the changing trends of the software industry and research laboratories. Research Areas in the department include Programming Languages, Computer Architecture, System Software, Networking Technologies, Artificial Intelligence, Data Analytics, and

Curriculum	Mathematical Concepts of Computer Science Advanced Data Structures and Algorithms High Performance
	Computer Architecture • Advanced Network Principles and Protocols • Advanced Cryptography • Design and
	Analysis of Parallel Algorithms • Big Data Analytics and Mining • Advances in Operating Systems • Service
	Oriented Architecture & Web Security • Advanced Databases • Cloud Computing Principles • Internet of Things
	Principles of Machine Learning & Deep Learning • Advanced Digital Design

Labs	 State - of - the - art computing facility at octagon with corei7 systems. Servers (Dell Power Edge R910 Rack Mount Servers) which provides a LAN and a Unix/Linux environment for collaborative work
	• LAB facilities dedicated to students with latest configurable DELL Optiplex 9020 systems.
	A dedicated lab for carrying out Information Security, Research Security and Network Security.
	Dedicated lab with multicore systems for Research.
	Dedicated Design Lab - RISE (Reconfigurable Intelligent System Engineering) Lab.
Projects	Interdisciplinary Research Group has been established.
	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 & Electronics Engineering

Engineers draw on knowledge and findings from a variety of to create products and procedures throughout the academic spectrum that genuinely alter the world.

The Department of Electrical and Electronics Engineering at NIT Tiruchirappalli has evolved significantly since its inception in 1964, expanding into a robust institution dedicated to teaching and research. Boasting a team of highly qualified faculty members, the department is equipped with state-of-the-art laboratories and an extensive library. The department actively shares our research insights through engaging technical symposia.











Department	Program/Specialisation	Course Duration	Features
Department	M. Tech	2 Years	This course emphasizes on the
of	in		foundation and technologies of modern
Electrical and	Power Electronics		Power Electronics and automation of
Electronics			Power Systems. It deals with the state of
			art techniques in the design and
Engineering			development of power modules and
			power conversion. Apart from curriculum
			necessities it also covers advanced
			topics in microprocessor and
			microcontroller application in power
			converters which are very much needed
			to meet the growing challenges in the
			field of Electrical Engineering.
			Non-Linear Systems Theory • Switched Mode Pov
	Conversion • Electric and Hybrid	Vehicles • PWM Conver	ters & Applications • Power System Automation
		nciples of VLSI Design • F	lexible AC Transmission Systems • Renewable Pov
Labs	Generation Techniques • Fuzzy Sys in Wind Energy • Solar PV System Power Converter Laboratory :	nciples of VLSI Design • F tems • Grid Converters fo	lexible AC Transmission Systems • Renewable Pow r Renewable Energy Applications • Electrical Syste
Labs	Generation Techniques • Fuzzy Sys in Wind Energy • Solar PV System Power Converter Laboratory : • Microprocessor and Microcontr	nciples of VLSI Design • F tems • Grid Converters fo rollers Laboratory • Pov	lexible AC Transmission Systems • Renewable Pow r Renewable Energy Applications • Electrical Syste ver Electronic and Drives Laboratory • Electric
Labs	Generation Techniques • Fuzzy Sys in Wind Energy • Solar PV System Power Converter Laboratory : • Microprocessor and Microcontr	nciples of VLSI Design • F tems • Grid Converters fo rollers Laboratory • Pov : MATLAB/SIMULINK 7.5,	lexible AC Transmission Systems • Renewable Pow r Renewable Energy Applications • Electrical System wer Electronic and Drives Laboratory • Electric PSCAD 4.2, ETAP 4.0, Mipower 4.0, Power Wo
Labs	Generation Techniques • Fuzzy Sys in Wind Energy • Solar PV System Power Converter Laboratory : • Microprocessor and Microcontr Machines Laboratory • Software	nciples of VLSI Design • F tems • Grid Converters fo rollers Laboratory • Pov MATLAB/SIMULINK 7.5, v8.9 • FPGA kit from X	lexible AC Transmission Systems • Renewable Pow r Renewable Energy Applications • Electrical Syste wer Electronic and Drives Laboratory • Electric PSCAD 4.2, ETAP 4.0, Mipower 4.0, Power Wo
Labs	Generation Techniques • Fuzzy Sys in Wind Energy • Solar PV System Power Converter Laboratory : • Microprocessor and Microcontr Machines Laboratory • Software Simulator, Psim v11.1.5, Proteus Research Laboratory for M.Tech. 8	nciples of VLSI Design • F tems • Grid Converters fo rollers Laboratory • Pov MATLAB/SIMULINK 7.5, v8.9 • FPGA kit from X	lexible AC Transmission Systems • Renewable Pow r Renewable Energy Applications • Electrical Syste wer Electronic and Drives Laboratory • Electric PSCAD 4.2, ETAP 4.0, Mipower 4.0, Power Wo
Labs	Generation Techniques • Fuzzy Sys in Wind Energy • Solar PV System Power Converter Laboratory : • Microprocessor and Microcontr Machines Laboratory • Software: Simulator, Psim v11.1.5, Proteus Research Laboratory for M.Tech. & • Control System Research Lab	nciples of VLSI Design • F tems • Grid Converters fo rollers Laboratory • Pov : MATLAB/SIMULINK 7.5, s v8.9 • FPGA kit from X : PhD. Project Works : • Hybrid Electrical Sy	lexible AC Transmission Systems • Renewable Pow r Renewable Energy Applications • Electrical Syste ver Electronic and Drives Laboratory • Electric , PSCAD 4.2, ETAP 4.0, Mipower 4.0, Power Wo ilinx
Labs	Generation Techniques • Fuzzy Sys in Wind Energy • Solar PV System Power Converter Laboratory : • Microprocessor and Microcontr Machines Laboratory • Software: Simulator, Psim v11.1.5, Proteus Research Laboratory for M.Tech. 8 • Control System Research Lab Converters Research Lab(partly	nciples of VLSI Design • F tems • Grid Converters fo rollers Laboratory • Pov MATLAB/SIMULINK 7.5, v8.9 • FPGA kit from X PhD. Project Works : • Hybrid Electrical Sy funded by NaMpet) • 1	lexible AC Transmission Systems • Renewable Pov r Renewable Energy Applications • Electrical Syste ver Electronic and Drives Laboratory • Electri , PSCAD 4.2, ETAP 4.0, Mipower 4.0, Power Wo ilinx stems Lab • Networking Research Lab • Pov
Labs	Generation Techniques • Fuzzy Sys in Wind Energy • Solar PV System Power Converter Laboratory : • Microprocessor and Microcontr Machines Laboratory • Software: Simulator, Psim v11.1.5, Proteus Research Laboratory for M.Tech. & • Control System Research Lab Converters Research Lab(partly Automation and Control Research	nciples of VLSI Design • F tems • Grid Converters fo rollers Laboratory • Pov : MATLAB/SIMULINK 7.5, : v8.9 • FPGA kit from X : PhD. Project Works : • Hybrid Electrical Sy funded by NaMpet) • I h Lab • Solar PV Energy	lexible AC Transmission Systems • Renewable Pow r Renewable Energy Applications • Electrical Syste wer Electronic and Drives Laboratory • Electri , PSCAD 4.2, ETAP 4.0, Mipower 4.0, Power Wo ilinx stems Lab • Networking Research Lab • Pow Power Electronics Research Lab • Power Syst

Department	Program/Specialisation	Course Duration	Features
Department of Electrical and Electronics Engineering	M. Tech in Power Systems	2 Years	The course is designed to provide sour knowledge on various aspects of model Power Systems with more thrust given of the key concepts of Power Electronics ar automation of Power Systems. It deals wit sophisticated techniques in Power Syste Restructuring, Forecasting and Analysi Planning, Reliability, Security & Stabilit Evaluation to keep up with the even increasing demand in electrical power.
Curriculum	Electric and Hybrid Vehicles • Po Techniques • Electrical Systems in	ower Quality • Advanced Wind Energy • Principle chnologies • Computer R	ability • Advanced Power System Protection • d Power System Analysis • Power Conversion es of VLSI Design • Smart Grid Technologies • elaying and Wide Area Measurement Systems. nd Microgrids • Fuzzy Systems
Labs	FACTS Devices, Short/Long Tra	nsmission lines • Soft	imulator, Microprocessor based Numerical Relays, ware: MATLAB/SIMULINK, PSCAD 4.2, ETAP 4.0, teus v8.9 • Electrical Machines Laboratory • Power
	Converters Research Lab(partly	d Lab. • Power System funded by NaMpet) • F	a Automation and Control Research Lab. • Power Hybrid Electrical Systems Lab • Power Electronics ab • VLSI Systems Research lab • Electric Mobility
Projects	Future Grids using PMUs - Sponso Indian Power Distribution System at different Structures with misalig on Data-Driven Event Detection of Pilot Project on Economic Deman kW Pilot Plant based single Axis	ored by SERB- DST. • Po s - Funded by SPARC-M- gnments for WPT EV batte using Indian Power Grid nd response managemen Solar Tracking System (Analysis of Wireless Po	bance Monitoring and Protection Methodology for tential Peer to Peer Transactive Energy Markets in IRD • Implementation and Analysis of coupled coils ery charging - Sponsored by SERB-DST. • Investigation 's Synchrophasor Data - Sponsored by SERB-DST. A at through online Monitoring- Funded by SERB. A 10 using Second Lever Principle- Funded by DST, Gol. ower Transfer system and PV system for battery



Electronics & Communication Engineering

Electric power is everywhere present in unlimited quantities and can drive the world's machinery without the need of coal, oil, gas or any other of the common fuels.

The Department of Electronics and Communication Engineering was established in 1968. Since its establishment, the Department strives to maintain its high standard by revising its academic syllabi to suit the industrial standards. The alumni consistently feed inputs for improvement on the curriculum and research facilities. The Department has inaugurated a Centre of Excellence in Electronic Packaging & Manufacturing.





	Program/Specialisation	Course Duration	Features
Department of Electronics and Communication Engineering	M. Tech in Communication Systems	2 Years	The course work has been designed wit curriculum laying strong emphasis of rigorous mathematical foundation. Wit in-depth analysis on the principles of Communication and their application with advanced concepts an recent trends in the fields of Communication and Signal Processing The students also undergo laborator programs on the design an implementation of DSP module and fiber optic devices, beside devoting their entire final year t project work.
Curriculum	Technologies • Pattern Recognit Design of Cognitive Radio • Micro	ion and Computational I wave Integrated Circuits • nal Processing • Photonic I	Digital Communication • Broadband Wireles ntelligence • Optical Communication Systems DSP Structures for VLSI • Probability and Stochasti ntegrated Circuits • Verilog HDL • Electromagneti
Labs		th the right blend of both	hardware and software laboratories
	analyzer and software-based MIC • The Fiber Optics laboratory con OPTSIM • In addition, a CAD center for MIC IN3D, CST MS, FIDELITY and COMS	E filter design tools tains application specific s C and RF MEMS has been e SOL OVENTOR, INTELLISUITE, EM	nicrowave network analyzers, a digital spectrun software packages like PHOTONICS — CAD, established with application on software such as MPIRE, ADS and ANSOFT HFSS are available for us



Department	Program/Specialisation	Course Duration	Features
Department of Electronics and Communication Engineering	M. Tech in VLSI System	2 Years	The course work has been designed with curriculum laying strong emphasis on the rigorous mathematical foundation. With in-depth analysis of the principles of VLSI and their applications with advanced concepts and recent trends in the fields of VLSI and Signal Processing. The students also undergo laboratory programs on the design and implementation of DSP modules, besides devoting their entire final year to project work.

- Curriculum• Basics of VLSI Analog IC Design Digital System Design Low Power VLSI Circuits Electronic Design and
Automation Tools VLSI System Testing High Speed System Design Graph Theory and Optimization
Techniques Architecture of DSPs DSP Structures for VLSI Verilog HDL Design of ASICs
- 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) • FPGA Tools from XILINX and ALTERA (Maxplus II & Quartus II), HDL Designer Tool kit, ModelSim & ASIC design tools from Mentor Graphics consis ng of Analog & Mixed-Signal ADMS.
- Projects
 Energy efficient implementation of Multi -modular Exponential techniques for Public-key cryptosystems sponsored by DST, New Delhi In-depth investigation on corrosion and tribological studies on expandable engine sponsored by DRDO Full Duplex and Cognitive Radio Architectures for Spectrally efficient Communications sponsored by UGC and UKIERI Adaptive Telemetry System for Launch vehicles-demonstration of Proof of Concept sponsored by ISRO Special Manpower Development Program for Chips to System Design sponsored by MeitY, Gol Design and Implementation of Digital modules of on-Chip Speech Recognition System sponsored by MeitY, Gol.



Energy and Environment

Degree programme in this discipline focuses on individuals as a whole, society, and the interactions and behaviours that shape the world around them.

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.



Department	Program/Specialisation	Course Duration	Features
Department of Energy and Environment	Masters in Energy Engineering	2 Years	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, with the provisions of a mandatory summer internship, mini-project, and a short-term course, ensures the students obtain demand-based skills in Data Science, IoT, AI, etc.
Curriculum	System • High Voltage Direct Curren storage Systems • Design of Heat Tr Fuel Technologies • Refrigeration Utilisation • Wind Energy and Hydr	t • Microgrid Energy Sys ransfer Equipment • Ener and Air Conditioning • o Power Systems • Win	nics • Smart Grid Systems • Flexible AC Transmission stems Design • Design of PV, Wind Energy and Energy ergy Systems Modelling and Analysis • Advanced Fossil Power Source for Electric Vehicles • Solar Energy d Resource Assessment • Batteries and Fuel Cells • nmental Impact Assessment and Economic Analysis
Lab	Curriculum Labs • Computational Fluid Dynamics La (Ansys 2023 R1) • Solar Energy Lab • Energy Audit Lab • Calibration Lab • Environmental Engineering Lab	ab	Research Labs • Energy Storage Lab • Testing and Analysis Lab • Bioenergy-Algae and Bio-Technological Research lab • Waste water recovery lab • Experimental Simulation Lab
	Workshop • Renewable Energy Application P	ark (REAP)	
Projects	for enhancing Triacylglycerol conter • DST project under the scheme of S "Biomass driven trigeneration syster Yellagiri Hills, TamilNadu"	nt in marine microalgae science for Equity Empo m for improving the live automated prototype c	composites and metabolic engineering approach towards economic biodiesel production". werment and Development division titled - elihood of Scheduled Tribes at Athanavur Village, of the IITM Biomass generation system (GAIL

Instrumentation and Control Engineering

The scientist discovers a new type of material or energy and the engineer discovers a new use for it.

Established in the year 1993 to cater the needs of control and instrumentation engineers in industry, R&D organization and for other service sectors in the country. The department activities are focused into three major areas namely, Instrumentation & Sensor Technology, Control & Industrial Automation and Biomedical Engineering. Students have exposed to both academia and industry through courses, industrial lecture, internship and course project at outside organizations.



Department	Program/Specialisation	Course Duration	Features
Department of	M. Tech in	2 Years	Students have been exposed to various
Instrumentation	Industrial Automation		facilities in the department and institute
and Control			through hands on training in embedded
Engineering			systems, cyber security, AI programming,
			PLC and other required expertise. Students
			are familiar with the concepts of Machine
			Learning and Deep learning.

Curriculum	• Measurements in Manufacturing & Process Industries • Industrial Automation Systems • AI in Industrial Automation • Cyber Security in Industrial Automation • Embedded Systems • Industrial and Data Communications • Electric Drives and Control • Robotics in Industrial Automation • Industrial Internet of Things • Computer Vision and Image Processing • Network Control System • Process Instrumentation and Automation Lab • AI and Robotics Lab • Building and Infrastructure Automation
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	 Energy Efficient Water Distribution Management System, Ministry of Electronics and Information Technology. Development of an Integrated Health Monitoring System for Large Engineering Structures.

• Development of post-harvest handling and sensor-based smart packaging methods for the export of traditional banana varieties.















Mechanical Engineering

At it's heart, engineering is about using science to find creative practical solutions.

The Mechanical Engineering Department has the reputation of being amongst the finest in the country since its inception. The department strives to be at par with the latest developments in the field. With dedicated, and experienced faculty highly qualified members in all streams of Mechanical Engineering, the department aims at providing world-class facilities for education and research. An interactive relationship is maintained between the students and staff which ensures effective learning.





Department	Program/Specialisation	Course Duration	Features
Department of Mechanical Engineering	M. Tech in Industrial Safety Engineering	2 Years	A postgraduate program in Industrial Safety Engineering was started in 1985, with the support of BHEL-Trichy, as a multi-disciplinary program. The course is aimed at developing managerial and engineering skills to administer Health, Safety & Environmental functions. Continually updated curriculum addressing the current and future needs and faculty team consisting of practicing HSE professionals facilitate in transforming the students to competent professionals.
Curriculum	• Fire Engineering and Explosion control • Safety Management • Occupational Health and Hygiene • Human Factors and Ergonomics • Regulation for Health, Safety, and Environment • Computer Aided Risk Analysis • Material Handling and PPE • Safety in the Engineering Industry • Electrical Safety • Safety in the Chemical Industry • Environmental Pollution Control • Probability and Statistics • Industrial Safety Lab • Industrial Hygiene and Ergonomics Laboratory		
Labs	 PPE (Personal Protective Equipment) Lab Safety Helmets, Safety Shields, Safety Shoes, Safety Belts, Safety Gloves, Leather Hand Sleeve, Leather Leg Guard, Ear Muff, Earplug, Safety Apron, Safety Goggles, Safety Respirators, Dust Mask BAM Friction Tester • Impact Sensitivity Tester • DSC (Differential scanning Calorimetry) • Fume Test Chamber Personal Air Sampler • High Volume Sampler • National Model Centre for Occupational Health Services (OHS) an ILO/UNDP Project of BHEL-T Sound Level meters, Noise dosi Meters, Air samplers, WBGT Index meters & KATA thermometer, LUX Meter, Treadmill & ECG for measuring work capacity 		
Projects	 welding fumes (Sponsored by DS Development and Thermal An Systems (DST-SERB). Experimental Investigation of In 	T-TDT-AMT). alysis of Non-Azide Gas	ctrodes for reduction of hazardous constituents in Generating Compositions for Automotive Airbag Light emiting Pyrotechnic (Sponsored by ARMREB,
	 DRDO). Specific Electrical Conductivity of Safety Audit of Powermech proj 		





Department	Program/Specialisation	Course Duration	Features		
Department	M. Tech in	2 Years	This programme is designed to provide a		
of	Thermal Power		sound and in-depth knowledge in variou		
Mechanical	Engineering		aspects of design, manufacture, test		
Engineering	5 5		control and evaluation of therma		
			equipment .Thermal power plants have		
			been increasingly dominant in the powe		
			generation sector. The course conten		
			aims at developing the necessary		
			analytical and technical competence		
			among engineers in this area.		
Curriculum	• Fuels, Combustion and Emission	n Control • Advanced Flui	d Mechanics • Advanced Heat Transfer • Analysis c		
	Thermal Power Cycles • Analysis a	ind Design of Pressure Ve	ssels • Power Plant Instrumentation • Finite Elemer		
	Method in Heat Transfer Analysis	 Boiler Auxiliaries and Pe 	erformance Evaluation • Design and Optimization o		
	Thermal Energy Systems • Computational Fluid Dynamics • Advanced IC Engines • Heat Transfer Equipment				
	Design • Advanced Engineering S	imulation Laboratory			
Labs	• Thermal Lab: Advanced instruments like integrated thermal analyzer, Temperature calibration bath and				
	infrared thermometer				
	• Metrology Lab, Turbo ,Machines lab, Dynamics Lab, Heat and mass transfer Lab, Refrigeration and Ai				
	Conditioning Lab, Automobile Lab				
	• CAD Centre : Advanced Modeling and Analysis Packages , Auto CAD 2000 , Ansys, Unigraphics, Pro/ENGINEEI				
	,IDEAS and Catia				
	CFD packages like Fluent/Gamb	it, Pheonix, Online Hue G	as Analyzer and Hightech calorimeter		
Projects	• Experimental investigation of process (DST-SERB)	thermal cracking due to	o rewetting phenomena during metal quenchin		
	• Study on the heat transfer characteristics of low melt alloy encapsulated PCM for satellite avionics therma				
	management (ISRO RESPOND).				
	• 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 Proces				
	(MHRD –SPARC)				
		v and Dissemination Faci	lity (DTDDF) – installation and research(BARC).		



Metallurgical & Materials Engineering

NIT Trichy is a national leader in the study of the mind, behaviour, and language.

The Department of Metallurgical and Materials Engineering was established in 1967. Since its inception, It is one of the premier centers of excellence in the field of Metallurgical and Materials Sciences. It offers three PG programs with specialization in Welding Engineering, Materials Science & Engineering, and Industrial Metallurgy. All three courses have been at racing candidates with varied engineering backgrounds. Highly gualified faculty handles the lectures and in adding on, guest lectures are delivered by eminent professionals from premier organizations such as WRI-BHEL, DRDO, and IGCAR. The department also played a key role in the launching of CECASE. The department is accredited for 5 years by the National Board of Accreditation (NBA).





Department	Program/Specialisation	Course Duration	Features
Department	M. Tech	2 Years	This unique course ensures that the
of	in		student achieves the necessary technica
Metallurgical	Industrial Metallurgy		expertise as a practicing metallurgist in the
and Materials			field of manufacturing and service
Engineering			industries. Students undergo summe
Lighteening			training in industries like TATA Steel, Sain
			Gobain, UltraTech Cement, Cummins India
			Jindal Stainless Ltd., Defence Metallurgica
			Research Laboratory (DMRL), and ISRO to
			gain practical knowledge. The unique
			students of this course used to work and
			participate in multidisciplinary
			environments as well as to develop
			entrepreneur skills.

- 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
- 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



Department	Program/Specialisation	Course Duration	Features
Department of Metallurgical and Materials Engineering	M. Tech in Welding Engineering	2 Years	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.
Curriculum	• Welding Metallurgy • Welding Codes and Standards • Welding Processes • Welding Application Technolog Design of Weldments • Physical Metallurgy • Testing, Inspection and Characterization • Repair Welding ar Reclamation • Non Destructive Testing • Corrosion Engineering • Mechanical Behaviour of Materials • Desig 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 impro 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 gradue 		loys for Aerospace Applications

employability in India. A study on the properties of dissimilar weldments between P92 - S304H materials



Department	Program/Specialisation	Course Duration	Features
Department of Metallurgical and Materials Engineering	M. Tech in Material Science & Engineering	2 Years	This unique course ensures that the student achieves the necessary technological expertise required in metal fabrica. This unique course ensures that the student achieves the necessary technological expertise required in the fields of manufacturing, material development, and materials research. The students go through two semesters of course work learning various subjects related to Metallurgy / Material Science. The students are particularly encouraged to get a feel for the latest developments in Engineering Materials.
Curriculum	Properties of Materials • Cera and Composites • Non-Des	amic Science & Tech tructive Testing • N	Kinetics • Electrical, Magnetic and Optical nology • Additive Manufacturing • Polymers Metallic Materials • Testing Inspection and Is • 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 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.

• DST (Indo Russian Joint Project): Corrosion and Wear Resistant Ceramic Composite Coatings on Reactor Grade

Zircalloys by Plasma Electrolytic Oxidation for Nuclear Fuel Cladding Applications.

• SERB :Development of High Surface Area, Micro Porous Plasma Electrolytic Oxide Layers on Commercially Pure Titanium as Promising Systems for Photocatalytic Applications.

• ISRO: Strength Enhancement of AA2219 Aluminium Alloy Sheets/Plates by Cryo Rolling for Usage in Tankage Applications



Physics

Physics is not a subject, it's a reflection of laws of nature.

The course spans over a period of four semesters with equal emphasize on theory and hands on experience. The first two semesters are dedicated to theory, practicals and field work. The field work, where the students visit various laboratories and workshops of BHEL, exposes them to advanced NDT techniques. .



Department	Program/Specialisation	Course Duration	Features
Department	M. Tech in	2 Years	The final two semesters are dedicated for
of Physics	Non-Destructive		project work at prestigious industries and
	Testing		research institutions like CNDE IIT Madras,
			NAL - Bangalore, IGCAR - Kalpakkam, NML -
			Jamshedpur, BARC Mumbai, ISRO
		Trivandrum, WRI- BHEL	Trivandrum, WRI- BHEL and NDTL- BHEL.
			Students concurrently get qualified for
			ASNT Level 2, from ISNT chapter and get
			registered to ISNT as student members.

- Visual Testing Liquid Penetrant Testing Magnetic Particle Testing Eddy Current Testing Ultrasonic Testing
 Radiographic Testing, Radiation Safety Industrial Computed Tomography Phased Array Techniques Time of Flight Diffraction Ultrasonic Guided Waves Laser Ultrasonics Non-linear Ultrasonic Structural Health Monitoring Acoustic Emission Inspection Leak Testing Thermographic NDE Digital Signal and Image Processing Basics of Engineering Materials Materials Characterization Techniques Composite Technology
 Fabrication Technology Fracture Mechanics and Failure of Materials Corrosion Computational Techniques
- Conclaves
 Phased Array Ultrasonic Testing Time of Flight Diffraction Testing Thermography Inspection Pulsed Echo Ultrasonic Technique (Analog and Digital). C-scan Immersion Testing Machine. Eddy Current Testing Advanced Optical Inspection Liquid penetrant Testing Magnetic Particle Testing Table Top Magnetic Particle Testing X-ray Diff ractometer Friction Stir Welding X-Ray Radiographic Testing
- Projects
 Development of High Surface Area, Microporous Plasma Electrolytic Oxide Layers on Commercially Pure Titanium as Promising Systems for Photocatalytic Applications.
 Development of nanostructured Titanium implants with bioactive antibacterial composite for dental and maxillofacial application
 Deposition of earth abundant ternary CuZnS thin films and Fabrication of Cadmium free solar cells.
 Multiple Exciton Harvesting at Zero-Dimensional/Two Dimensional (ZnO/MoS2) Polymer Heterostructures.
 Conversion of Waste Energy into Useful Electricity for Wireless Sensor Nodes.

Production Engineering

To create products and procedures that effectively alter the course of history, engineers draw on thoughts and breakthroughs from a wide range of academic disciplines.

Production engineering is a professional practice of manufacturing technology with management science. The goal is to accomplish the manufacturing processes effectively and efficiently. The curriculum of Production engineering encompasses the contents with engineering materials, casting technology, machining technology, physical and mechanical joining processes, tool enigeering, metrology, manufacturing systems, automation and Rapid manufacturing.







Department	Program/Specialisation	Course Duration	Features
Department of Production Engineering	M. Tech in Industrial Engineering & Management	2 Years	This course intends to shape the students in tune with the advanced Industrial Engineering tools by imparting essential imports both on theoretical and practical exposures by the inputs in advanced topics like TQM, Computer simulation, Modelling and analysis of Modern Manufacturing Systems and Planning and Control of Manufacturing Systems.

- Curriculum
 Data analytics Industrial Engineering and Productivity Management Analysis and control of manufacturing systems Advanced operations and research Intelligent Manufacturing Systems Quality and reliability engineering Supply chain management Modeling, Simulation and Analysis Financial Management Design of Experiments Total Quality Management & Six Sigma Project Management Lean & Agile Manufacturing Advanced Optimization Techniques
- Labs
 Simulation Lab SimQuick, ARENA, WITNESS, flexsim
 Intelligent System Laboratory
 Operations Management —TORA, GAMS, CPLEX, OM Expert
 Data analytics Lab SYSTAT., GaBi, SPSS
 CAD/CAM packages Pro/ENGINEER Wildfi re, Ideas, Unigraphics, ANSYS 14.5
 Supply Chain Management Laboratory
 Ergonomics Laboratory
- Projects
 Development of tailor made spur gears for light weight and heavy duty power transmission systems sponsored by SERB Research work to establish HPTR brazing at GTRE sponsored by Defence Res and Dev organisation Research work for laser micro cladding of titanium and nickel based alloy shafts sponsored by Defence Res and Dev organisation Investigations on Modeling and implementation of Sustainable Manufacturing strategies in an automotive component manufacturing organization.• Investigation of Wire Electrical Discharge and Abrasive Water Jet Machining of Inconnel 617. Machinability studies on Incoloy 800H using carbide tools Experimental investigation on micro/nanolaser patterning for Anti-Refl ectance of Silicon.





Department	Program/Specialisation	Course Duration	Features
Department of Production Engineering	M. Tech in Manufacturing Technology	2 Years	This course intends to shape the students in tune with advanced methods of manufacturing technology by imparting essential inputs on practical and theoretical exposures vogue in present day industries with proper assistance of computer during 2 years tenure of the study, by imparting inputs by way of revising conventional topics of manufacture like CAD/CAM/CIM and FMS, inputs in allied topics like Management, Maintenance, TQM, TPM & communication.
Curriculum	-		Technology • Manufacturing Management • Heat

- Products Manufacturing Automation and Mechatronics Advanced Machining Technology Advanced Forming Technology • Advanced Welding Technology • Tribology • Additive Manufacturing • Advanced Optimization Techniques
- Labs
 CAD/CAM packages Pro/ENGINEER Wildfire, Ideas, Unig CAD/CAM/CIM Lab : Pro/ENGINEER 2000i, Unigraphics15.0, IDEAS master series 5.0, AutoCAD 2002, AutoCAD 2000, AutoCAD R14, MATLAB 7.8, Abaqus 6.09, ANSYS 14.5.
 Trainer & Advanced CNC Lab : Emco PC Turn 55, Emco PC Mill 55, Triac-3-Axis Milling Machine, EMCO Compact-CNC, HMT STC-15 Turning Centre, Hardford VMC, Leadwell CNC-Turning centre • Robotics Lab • Composite Processing Lab • Micro/Nano Engineering Lab : FIST • Mechatronics Lab • Rapid Prototype Lab • Surface engineering, Tribology and Machinability • Studies lab • Advanced welding lab • Machinability studies lab • Graphics, ANSYS 14.5
- Projects
 Development of tailor made spur gears for light weight and heavy duty power transmission systems sponsored by SERB Research work to establish HPTR brazing at GTRE sponsored by Defence Res and Dev organisation Research work for laser micro cladding of titanium and nickel based alloy shapes sponsored by Defence Res and Dev organisation Investigations on Modeling and implementation of Sustainable Manufacturing strategies in an automotive component manufacturing organization. Investigation of Wire Electrical Discharge and Abrasive Water Jet Machining of Inconnel 617. Machinability studies on Incoloy 800H using carbide tools. Experimental investigation on micro/nanolaser patterning for Anti-Reflectance of Silicon.



Management Studies

The NITT Department of Management is expanding future generation's entrepreneurial leaders.

Department of Management Studies, National Institute of Technology Tiruchirappalli (DoMS NIT Trichy) is among the oldest B-Schools in India, started in 1978. DoMS-NIT Trichy teaches not just the art and science of management, but instills in its students, virtues and skills needed to make a positive impact on tomorrow's world and transform it into a better future. The institute on has a strong industry relationship and the vast source of alumni is the biggest asset that DoMS-NIT Trichy can boast off . The concept of mentorship between the students and the alumni provides a lifeline for immense growth for the DoMSians.



Department	Program/Specialisation	Course Duration	Features		
Department of Management Studies	Masters in 2 Years Buisness Administration		This course at DoMS-NIT Trichy is a veritable treasure of learning and erudition. It emphasizes more on application of management principles and techniques in modern business through continuous industrial interactions and highlights decision making for controlling and applying management concepts. With a matured lineage of consultancy and research behind them, this exclusive group of academicians is responsible for grooming raw talents into performing prodigies.		
Curriculum	Management, Marketing Metrics, Commanagement, Production Planning	onsumer Behavior, Logistic: & Control, Personal Growth Analysis & Design and C/	rity Analysis and Portfolio Management, Strategic Brand s Management, Supply Chain Management, project system programme, Talent Management, Introduction to Busines ASE, Software Project Management, Basic Data Analytics anning		
Conclaves	 PRABANDHAN - The Guest Lecture Series by prominent industry leaders INACON (Industry Academi Connect) -Two-day General Management Conclave NISADYA – A 3-day Annual Management Fest specific t different domains of management. 				
Projects	 Inventory optimization for parts Intricacies of Forex Trade 		mpy demand through zero inflated forecasting line entity.		

















Clubs





Clubs, the word itself breathes creativity, lateral thinking, innovation and fun. The various hobby groups provide an opportunity for the students to exercise not only their grey cells but each and every talent hidden in them. Ranging from hi-tech inventions, from robots to building cars and gazing at the night sky, all things science and innovation form an integral part of this group.

They have done the college proud by producing prize-winning gadgets, artificial humans and knowledgeable speakers. They just simply define the aptest way to spend your free time in a useful Dance, Music, Drama and Visual Arts are all mediums of expression of feelings of the inner self. They consist of gifted people who display their talents from time to time. These groups conduct various events at regular intervals to propagate the spirit of expression. They have won accolades in several events conducted in different colleges around the country.

Anything that captivates the eye or that comes across as a pleasing sight, is a source of positive energy for the soul and calms the mind. The various clubs dedicated to Fine Arts in the Institute do just that.







Student Groups

At NITT, we firmly believe in producing well-rounded personalities, hence it isn't all work and no play at our campus. Numerous skills and talents have been unearthed from amongst our students and to allow these talents to flourish, numerous clubs have been started for like-minded individuals to meet and polish their skills. Along with that, there are social services clubs to allow students to get in touch with reality and do their bit for the upliftment of the human race. Subdivided into various categories, you'll find clubs catering to all tastes at this campus from the highly technical ones to the social ones.



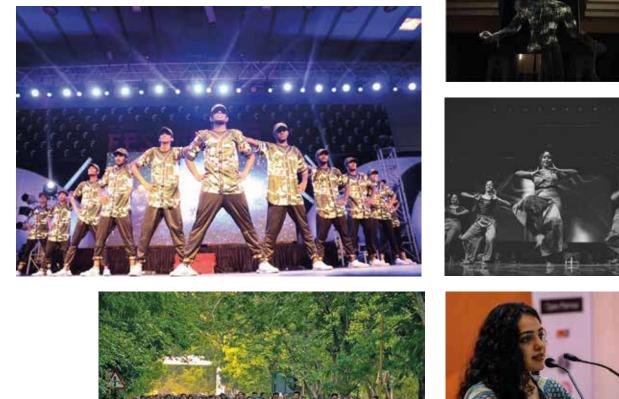








The College calendar is interspersed with numerous events whether technical or cultural, at inter departmental level or inter college level. The organisation and execution of most of these events is handled by students themselves guided by the faculty incharge. Here is a brief overview of the various events that form a part of the annual lifestyle of a NITTian.

















A Vibrant Students' Life







The life at the institute is a force which equips the students and prepares them for the challenges ahead. The students are the products of a transformation brought about by a rigorous academic curriculum, a healthy and interactive study culture and a broad-based orientation.

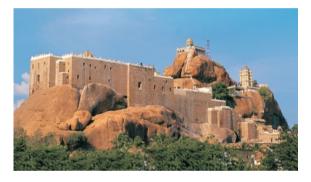
PLACES TO VISIT NEARBY

THANJAVUR

Trichy is home to the Brihadeeswara Temple, also known as the Big Temple, a stunning example of Chola dynasty architecture, renowned for its towering vimana (temple tower) and intricate carvings. This UNESCO World Heritage site, built in the 11th century by Raja Raja Chola I, stands as a testament to the grandeur and sophistication of ancient Tamil civilization.







The Rockfort Temple in Trichy, perched atop a massive rock outcrop, offers breathtaking panoramic views of the city and the Kaveri River. This ancient temple complex, which includes the Ucchi Pillayar Temple and the Thayumanaswami Temple, is a significant pilgrimage site and showcases remarkable Dravidian architecture.

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 Trichy's rich colonial heritage.



PLACES TO VISIT NEARBY

SRI RANGAM TEMPLE

The Srirangam Temple in Trichy, dedicated to Lord Ranganatha, is an architectural marvel featuring the world's largest functioning Hindu temple complex, with an expansive area of 156 acres. Renowned for its Dravidian style, the temple boasts 21 intricately carved gopurams (tower gateways), including the impressive Rajagopuram, which stands at 239 feet tall, making it one of the tallest temple towers in Asia.



KALLANAI DAM(GRAND ANAICUT)



The Kallanai Dam in Trichy, built by the Chola king Karikala in the 2nd century CE, is one of the oldest functioning water diversion structures in the world. This ancient engineering marvel, constructed across the Kaveri River, continues to play a crucial role in irrigation and agriculture in the region.

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 ambiance and the annual Urs festival, which celebrates the saint's legacy with great devotion and festivity



HOW TO REACH NIT TRICHY

BY AIR

From	То	Departure	Arrival	Flight No
Chennai	Trichy	05:45 AM	07:00 AM	6E7298
Chennai	Trichy	09:40 AM	10:40 AM	6E7191
Chennai	Trichy	01:05 PM	02:10 PM	6E7028
Chennai	Trichy	07:00 PM	08:05 PM	6E7238
Bengaluru	Trichy	06:05 AM	07:20 AM	6E7236
Bengaluru	Trichy	11:00 AM	12:15 PM	6E7711
Bengaluru	Trichy	05:25 PM	06:35 PM	6E7617
Bengaluru	Trichy	07:05 PM	08:25 PM	6E7165
Hyderabad	Trichy	04:25 PM	05:50 PM	6E2073
Mumbai	Trichy	01:10 PM	02:55 PM	6E542

HOW TO REACH NIT TRICHY

BY RAIL

From	То	Train Name	Departure	Arrival	Train No
Chennai	Trichy	Tejas Exp	06:00 AM	09:55 AM	22671
Chennai	Trichy	Guruvayur Exp	09:45 AM	03:00 PM	16127
Chennai	Trichy	Vandebharat	02:50 PM	06:40 PM	20665
Chennai	Trichy	Pearl City Exp	07:30 PM	12:45 PM	12963
Chennai	Trichy	MS QLN Exp	05:00 PM	09:50 PM	16101
Chennai	Trichy	Rockfort Exp	11:35 PM	04:55 AM	06547
Bengaluru	Trichy	SBC Vynk Spl	07:50 PM	03:50 PM	06547
Bengaluru	Trichy	TPJ Humsfar	01:35 PM	10:10 PM	22497
Bengaluru	Trichy	Velamkanni Exp	11:12 PM	08:20 PM	17315
Hyderabad	Trichy	Dwk Mdu Spl	11:20 AM	07:55 AM	06302

Training & Placement Cell



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

The department provides facilities for the visiting companies to conduct pre-placement talks, written tests, group discussions and interviews. Audio visual aids like laptops, LCD projectors for pre-placement talks and internet facilities for online tests will be arranged upon prior information. Conveyance from/to airport or railway station is arranged by the department. Accommodation and food is provided at the institute guest house for the company on prior intimation and the cost of these are borne by the institute. In case the company executives wish to stay outside the campus, all arangements for their accommodation will be made, but costs are to be borne by the company.



Placement Process

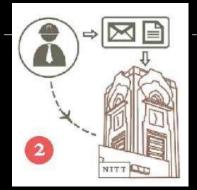


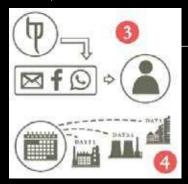
INVITATION

The Placement Office sends invitations to companies/organisationsns along with UG and PG brochures and Pre Visit Response (PVR) sheet through mail.

STUDENTS ARE NOTIFIED

Students are notified about the company requirements and the list of the interested candidates will be collected and forwarded to the company. Dates will be allotted for the selection process on campus.



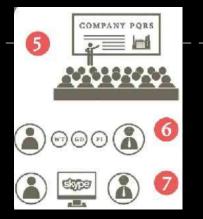


PPT AND PLACEMENT PROCESS

The Training and Placement Department will provide audio visual requirements such as laptops and LCD projectors for Pre- Placement talk before the placement procedure begins.Pre-Placement talk is followed by the placement process as per the company's requirements.

RESULTS & OFFER LETTERS

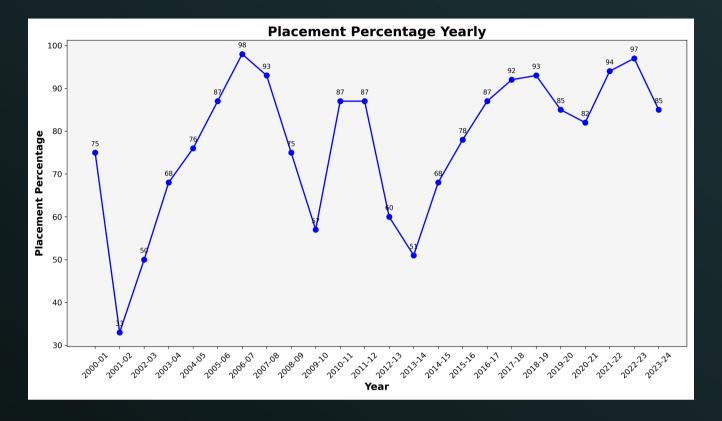
After the completion of the placement process, the company is required to give the list of the selected candidates to the Training and Placement Department on the same day itself.

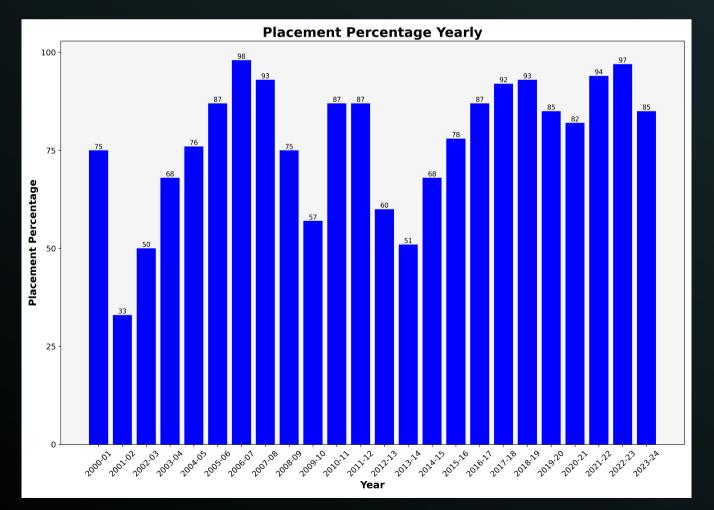




Offer letters can be sent to Training and Placement Department on mail or to the address mentioned in the last page of the brochure through courier.

Recruitment Statistics





Our Esteemed Recruiters













- https://www.nitt.edu/home/students/facilitiesnservices/tp/
 - 0431 2501081, 2503781, 2503788
 - tp@nitt.edu / tnp.nitt@gmail.com
 - 0431 2501081



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Scan QR Code for Location

Placement Team

RADJASRIS Department of Architecture

SIDHARTH J CHAND Department of Chemical Engineering

NIRANJANA S MAVELIL Department of Civil Engineering

ALA MANOJ Department of Civil Engineering

VIDIT TOMAR Department of Computer Applications

SHRIKANT ASHOK DANDGE Department of Computer Applications

JISHNU N M Department of Computer Science and Engineering

VAJA RAKSHIT NILESHBHAI

Department of Computer Science and Engneering

SINGH RAJAT HOTAMSINGH

Department of Electrical and Electronics Engineering **TEJASWI BOGARAPU** Department of Electrical and

Electronics Engineering

AGHILAN T

Department of Energy and Environment

AVINASH KISHOR VERMA Department of Electronics and Communication Engineering

RUCHIR LIMAYE Department of Instrumentation and Control Engineering

NIVED C Department of Management Studies

ADITYA SHAHBAJAJ Department of Mechanical Engineering

SMARANIKA MOHARANA Department of Metallurgical and Materials Engineering

ALOK KUMAR Department of Physics

VIGNESHWAR S Department of Production Engineering

Contact Info

DR. A. K. BAKTHAVATSALAM

Professor (HAG) & Head Department of Training and Placement National Institute of Technology, Tiruchirappalli Mobile: 9486001174 Tel: 0431-2501081, 2503781, 2503788 Email: tp@nitt.edu, tnp.nitt@gmail.com

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