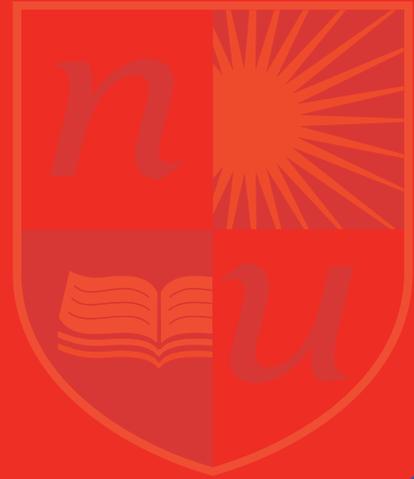




तमसो मा ज्योतिर्गमय



# INSTITUTE OF TECHNOLOGY

THE FUTURE IS HERE



## PROSPECTUS

UNDERGRADUATE PROGRAMMES 2018

Email ID : [ugadmissions.it@nirmauni.ac.in](mailto:ugadmissions.it@nirmauni.ac.in)

## Vision

Shaping a better future for mankind by developing effective and socially responsible individuals and organizations.

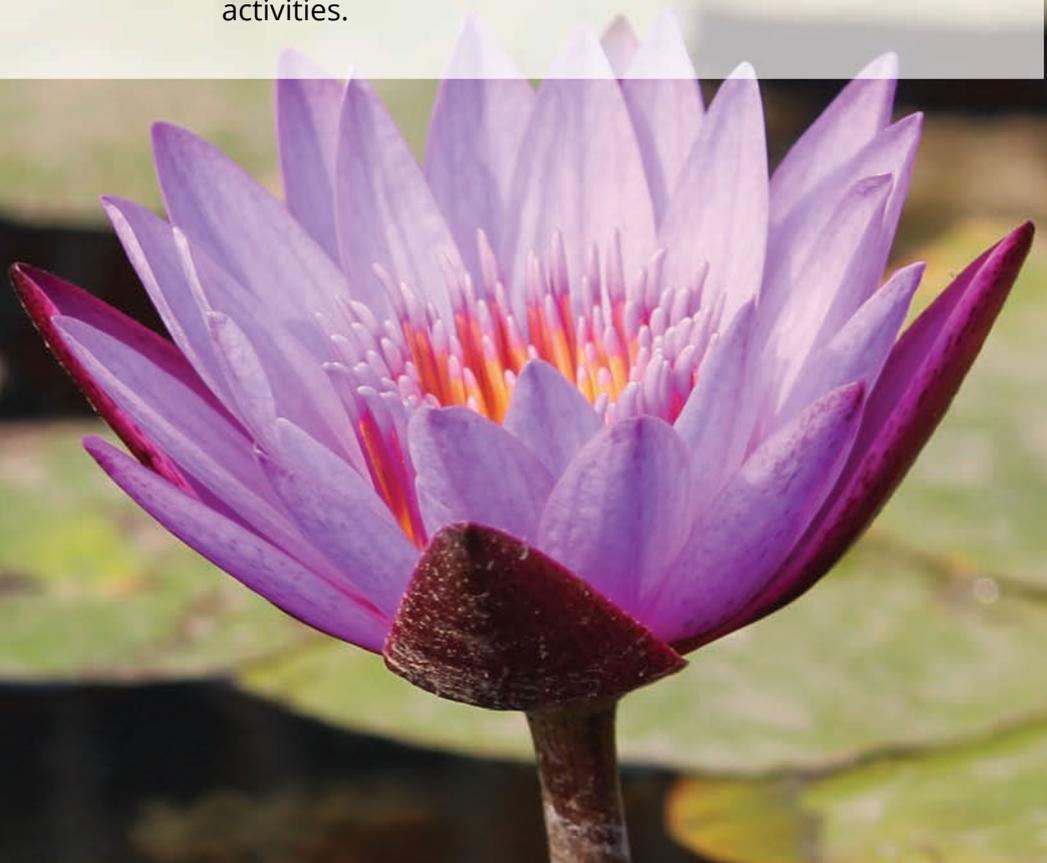
## Mission

Institute of Technology emphasizes the all-round development of its students. It aims at producing not only good professionals but also good and worthy citizens of a great country, aiding in its overall progress and development.

It endeavours to treat every student as an individual, to recognize their potential and to ensure that they receive the best preparation and training for achieving their career ambitions and life goals.

## Quality Statement

To develop high quality professionals who reflect and demonstrate values that the University stands for, through innovation and continuous improvement in facilitation of learning, research and extension activities.



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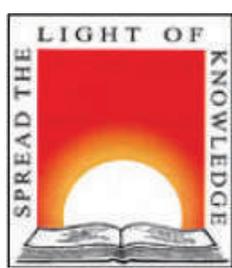
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समसो मा ज्योतिर्गमय





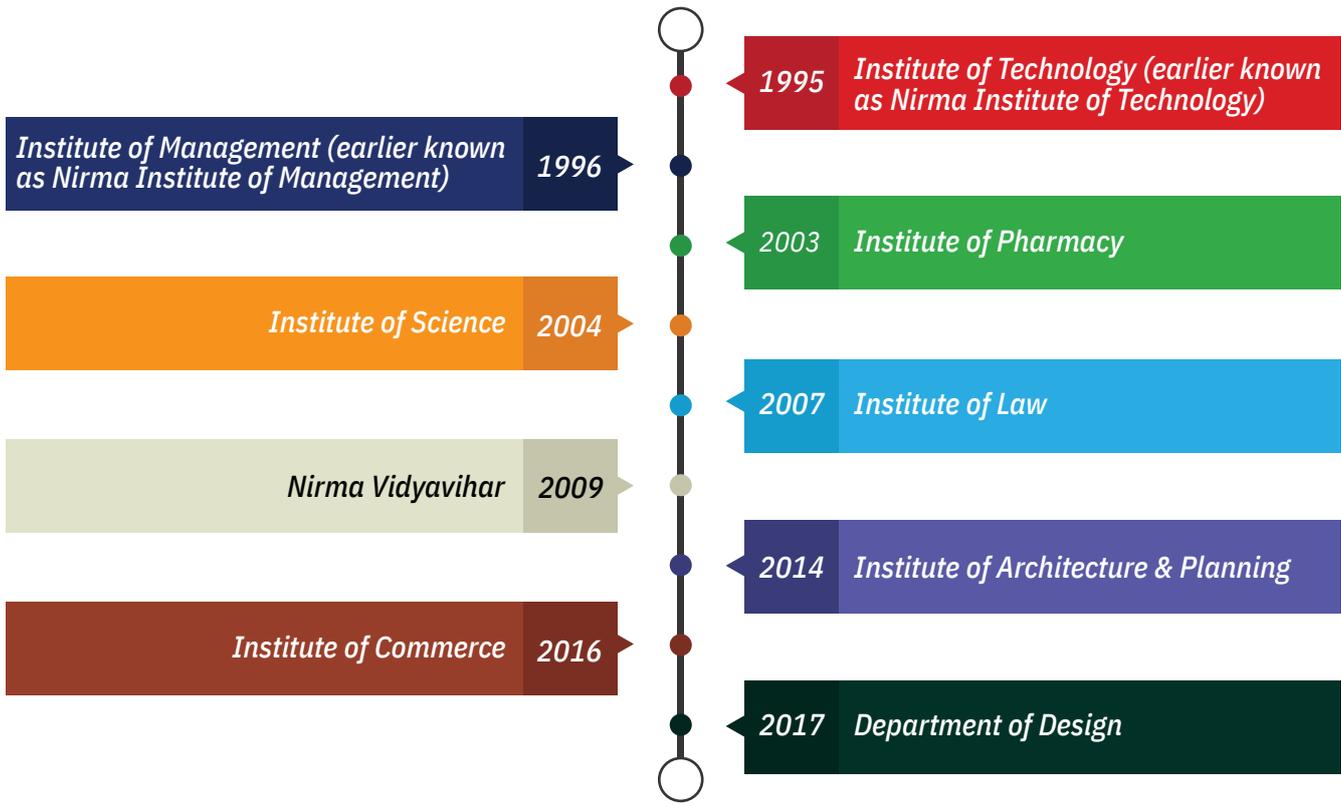
## Nirma Education & Research Foundation (NERF)



Nirma University was established by the initiative of Nirma Education and Research Foundation (NERF). The renowned industrialist and philanthropist Dr. Karsanbhai K. Patel, the founder of Nirma Group of Industries, established the NERF in 1994 with a view to promote and support higher education in India.

The NERF chaired by Dr. Karsanbhai K. Patel is a trust that crystallized his long cherished dream of providing world-class education and inculcating the spirit of social relevance among the young students of the country.

### THE NIRMA FAMILY



## Board of Governors

The beacon of exceptional practice and experience

### Dr. Karsanbhai K. Patel

Chairman, Nirma Limited,  
Chairman, Nirma Education and Research Foundation,  
President, Nirma University

### Shri Ambubhai M. Patel

Educationist & Chairman - Emeritus  
Kalupur Commercial Co-operative Bank Ltd.

### Dr. Anup K. Singh

Director General, Nirma University

### Shri Rakeshbhai Patel

Vice Chairman, Nirma Limited

### Ms. Anju Sharma, IAS

Principal Secretary, Higher and Technical Education,  
Education Department,  
Government of Gujarat, Gandhinagar

### Shri Hirenbhai K. Patel

Managing Director, Nirma Limited

### Shri R. D. Shah

Chartered Accountant, Trustee  
Nirma Education and Research Foundation

### Shri J. P. Joshipara

Academician

### Prof. N. R. Madhava Menon

Hon. Director, Bar Council of Kerala,  
M.K. Nambyar Academy for Continuing  
Legal Education, Kochi

### Dr. P. N. Bhagwati

Industrialist and Educationist,  
Chairman, Bhagwati Sphero Cast Limited

### Shri Kamalbhai Trivedi

Advocate General  
Gujarat High Court, Ahmedabad

### Dr. Pankajbhai Patel

Chairman and Managing Director  
Zydus Cadila Health Care, Ahmedabad

### Shri Vipinbhai S. Parikh

Advocate

### Dr. Alka Mahajan

Dean, Faculty of Technology and Engineering,  
Nirma University

### Prof. Utpal Sharma

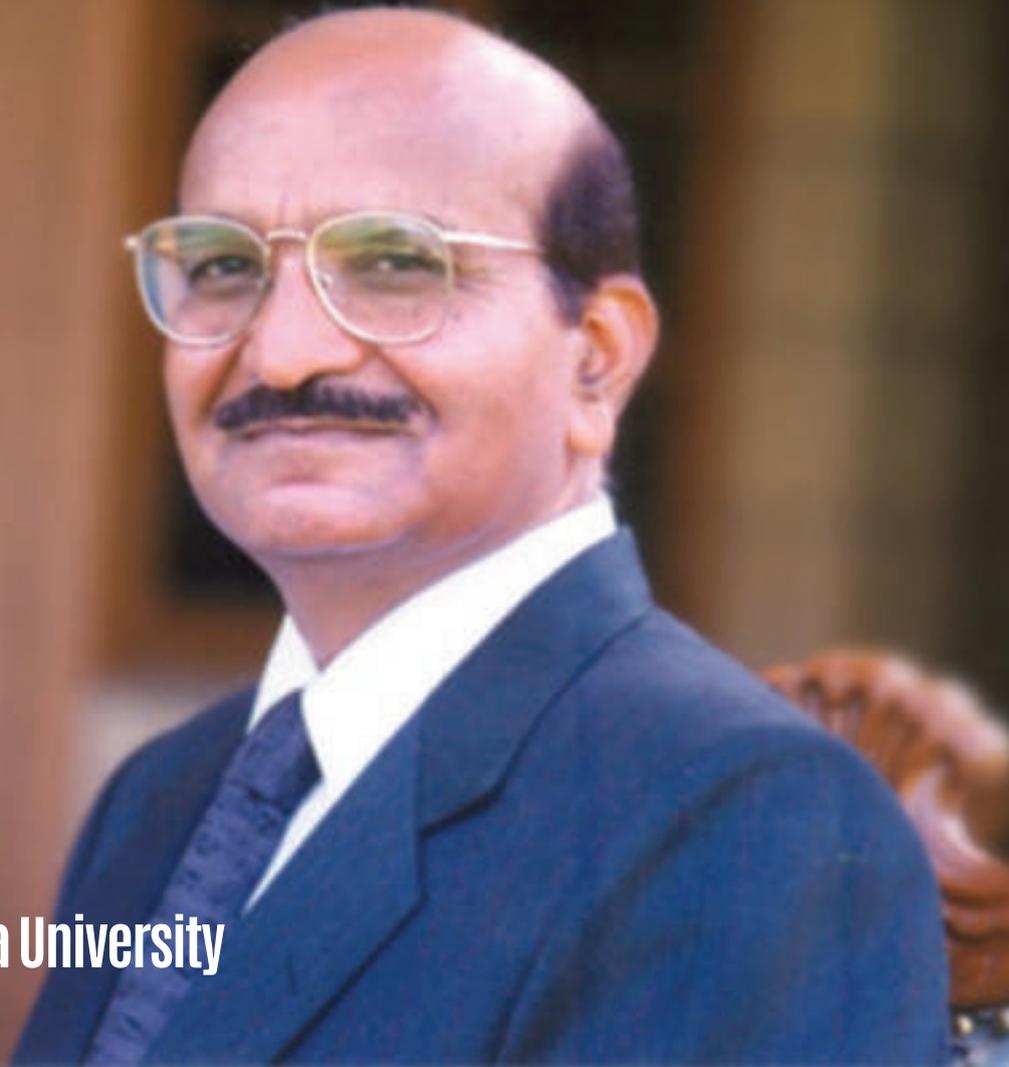
Dean, Faculty of Architecture and Planning,  
Nirma University

### Shri G. Ramachandran Nair

Executive Registrar (Secretary)

**Dr. Karsanbhai K. Patel**

**President**



## The Visionary Behind Nirma University

“  
*Education is a potent driver of change. It empowers the learner with the most powerful weapon which can change the world. It makes life worth living. Education, particularly higher education is the need of the hour.*  
”

—Dr. Karsanbhai K. Patel

The Institute of Technology draws much of its inspiration and strength from its founder, **Dr. Karsanbhai K. Patel**, Chairman, Nirma Ltd. Dr. Patel was conferred with Padma Shri in 2010. He is also the recipient of the Udyog Ratna Award-1990, Gujarat Businessman Award-1998, Ernst & Young Lifetime Achievement Award-2006, Sardar Vallabhbhai Patel Vishwa Pratibha Award-2009 and The Baroda Sun Lifetime Achievement Award 2009. He is best known for his contributions to industrial development in the country.

Dr. Patel was awarded the Honorary Doctorate of Humane Letters by Florida Atlantic University for business and marketing acumen and Philanthropy. Dr. Patel has also been awarded another Honorary D.Litt by Devi Ahilya Vishwavidyalaya, Indore.

In the last 24 years, Dr. Patel has turned his attention to the growing challenges in the field of education. In the year 1994, he set up Nirma Education and Research Foundation which is a stellar example of his commitment to the needs of the society.

Dr. Patel firmly believes that, to withstand global competition and to satisfy the growing need for quality professionals, an academic institution must constantly grow, innovate, build strength and strive to become self-reliant.



## About the Vice President Nirma University

### Man with a Mission

Shri K. K. Patel is a versatile personality. He completed his education from USA. He has been actively involved in the establishment and development of Nirma University since its inception. He has broad based experience across various areas as, in addition to the existing profile at Nirma University, he is also Joint Managing Trustee, Nirma Education and Research Foundation; Director, Kalupur Commercial Co-operative Bank Limited, a scheduled bank having 58 branches and President, Gozaria Kelavani Mandal, Gozaria, Mehsana District-an Educational Public Charitable Trust managing ten different educational institutes. He is also serving as a trustee in many charitable institutions.



Shri K.K. Patel



# Message from the Director General, Nirma University

Welcome to Nirma University, a not-for profit professional education university, known for its commitment to academic excellence and creation of intellectual capital.

India is fast emerging as a knowledge society and becoming integrated with other knowledge societies of the world. A university is the engine of a knowledge society. Higher education is a significant contributor of national development and growth. Indian youth are increasingly participating in higher education. The Indian talent is today internationally sought for providing leadership to business organisations.

Nirma University develops leaders in different fields who would provide leadership to different organisations. We inculcate global competencies among them and help them realise their potential. Our rankings and achievements are testimony to our commitment to academic excellence and student centricity. We endeavour to develop employable and entrepreneurial graduates, who would not only be outstanding achievers, but would also be known for their contribution to the society. Our curricular, co-curricular and extra-curricular activities are designed to help students meet their personal and career ambitions.

I am confident that all our stakeholders would find their relationship with us as value adding and satisfying. Prospective students will get high quality education and employability and recruiters would get industry ready graduates. Society at large would receive socially responsible citizens, and peer organisations would get rich intellectual capital at the University.

I urge you to join the community of Nirma University and contribute to creating a better society.

**Dr. Anup K. Singh**



**Dr. Anup Singh**



“*Education is what remains after one has forgotten what one has learned in school.*”

”

-Albert Einstein



**Dr. Alka Mahajan**

Greetings from the Institute of Technology, Nirma University!

This quote from Einstein sums up entirely our vision for the nature of knowledge that we wish to impart to the fresh, unadulterated minds that enter the campus of Nirma University's prestigious Institute of Technology. We wish to focus entirely on developing these minds, nurturing them into absorbing much more than what our well planned and detailed course work offers. We want these minds to also learn the values that will make them well rounded, principled and ethic driven professionals than just engineering graduates.

As India steps into a never seen before phase of globalization - with the government offering support to entrepreneurs and professionals alike; it is imperative that our students are ready to face this new world of emerging technology with not just aptitude, but also the right attitude. We want our students ready for the challenges and opportunities that this world of globalization has to offer. Being in a university system gives students an opportunity to pursue their interest in management, law, biological sciences, pharmacy and many other streams by opting from a variety of minor specializations and university/institute level electives. The interdisciplinary minor specialization program allows you to pursue your interest in another branch of engineering while pursuing degree program in one.

We constantly review our programs to update and improve while making sure that students gain problem solving skills, analytical frameworks, interpersonal and communication skills which will stand them in good stead in the future. Monitoring and assessment of every subject taught is done to ensure no weaknesses remains in the system and that timely-measures are taken to address students' concerns/ problems, if any. Every student matters to us and we are totally focused on helping every one of our students to succeed and enjoy their learning experience.

This prospectus is to guide you through the most critical choice of your career and provides a small flavor of the very special atmosphere which makes the IT-NU, a unique institute in which to study.

Welcoming you to the Nirma family, with best wishes for a bright future,

**Dr. Alka Mahajan**





## Nirma University

Nirma University is one of India's leading universities based in Ahmedabad (Gujarat). The University was established in the year 2003 as a Statutory University under a special act passed by the Gujarat State Legislative Assembly. It is recognized by the University Grants Commission (UGC) under Section 2 (f) of the UGC Act. The University is duly accredited by National Assessment and Accreditation Council (NAAC). The University is a member of Association of Indian Universities (AIU) and the Association of Commonwealth Universities (ACU). Dr. Karsanbhai K. Patel, Chairman, Nirma Group of Companies and Chairman, NERF is the President of the University.

**NAAC 'A' GRADE**



Functioning under the aegis of NERF (Nirma Education and Research Foundation), the University consists of Faculty of Engineering and Technology, Faculty of Management, Faculty of Pharmacy, Faculty of Law, Faculty of Science, Faculty of Architecture & Planning, Faculty of Commerce and Faculty of Doctoral Studies and Research.

The eight constituent institutes, spread across the sprawling lush green 125 acre campus of the University, have set the bar high in delivering quality education. The graduate, postgraduate and doctoral level programmes offered by these institutes are rated highly by accreditation agencies, industry, business magazines and students.

The University is acclaimed for its holistic education that strives to develop not only academic competence but also human character. Today, it is identified with cutting edge research, robust academic programmes, quality teaching-learning process and over-all personality development interventions of its students. The state-of-the-art campus provides refreshing environment, stimulates intellectual growth and creativity.

# About The Institute



Institute of Technology, Nirma University, earlier known as Nirma Institute of Technology, started in 1995 by Nirma Education and Research Foundation (NERF), was the first self-financed engineering college in Gujarat. Within 23 years of its inception, the institute today is a leading hub of education, offering multidisciplinary undergraduate, postgraduate and Ph.D. programmes in engineering.

The institute is ranked in the top 25 self-financed engineering colleges of India in the survey conducted by various rating agencies.

The Institute gives ample opportunities to its students and strives to equip students by providing the skills, ability and knowledge required for life-long learning and success.

Some of the major strengths of the Institute include:

- Excellent local and regional reputation with well-established national recognition
- Young, dynamic and dedicated faculty and staff members aligned with institutional goals
- Learner centric approach along with personalized attention to the students
- Focus on synergy between teaching and all-round development of the students
- Meritorious students with geographical diversity in undergraduate programmes
- Well placed closed-loop feedback system for curriculum development encompassing all the stake holders
- Globally compatible academic credit system with emphasis on continuous evaluation
- Transparent management policies with well-defined procedures
- Well-disciplined conducive academic environment and ambience
- ICT usage for enhancing various academic activities
- Active linkages with industries and research organizations
- Continuous emphasis on faculty and staff development
- Strong commitment and dedicated efforts towards continuing education and pedagogy

## Accreditation

The Institute of Technology is a constituent Institution of Nirma University. Nirma University and Its constituent Institutions are accredited by National Assessment and Accreditation Council (NAAC), an autonomous institution of the University Grants Commission, Government of India with 'A' grade.

The letter grade 'A' is the highest grade awarded to an institution of higher education by NAAC. This accreditation status indicates that Nirma University and all its constituent Institutions meet the standards of quality as set by NAAC, in terms of its performance related to educational processes and outcomes; covering the curriculum, teaching-learning, evaluation, faculty, research, infrastructure, learning resources, organisation, governance, financial well-being and student service.

## Academic Programs



THE  
FUTURE  
IS  
HERE



NIRMA  
UNIVERSITY  
[www.nirmauni.ac.in/ITNU](http://www.nirmauni.ac.in/ITNU)

Email:  
[dy\\_registrar.it@nirmauni.ac.in](mailto:dy_registrar.it@nirmauni.ac.in)



### B. Tech. (Four years, Eight semesters)

- Chemical Engineering
- Civil Engineering
- Computer Science and Engineering
- Electrical Engineering
- Electronics & Communication Engineering
- Instrumentation & Control Engineering
- Mechanical Engineering



### M. Tech. (Two years, Four semesters)

- Civil Engineering (Computer Aided Structural Analysis & Design)
- Computer Science and Engineering (Information & Network Security)
- Computer Science and Engineering (Computer Science & Engineering)
- Computer Science and Engineering (Networking Technologies)
- Electrical Engineering (Power Electronics, Machines and Drives)
- Electrical Engineering (Electrical Power Systems)
- Electronics & Communication Engineering (VLSI Design)
- Electronics & Communication Engineering (Communication Engineering)
- Electronics & Communication Engineering (Embedded Systems)
- Mechanical Engineering (CAD/CAM)
- Mechanical Engineering (Thermal Engineering)
- Mechanical Engineering (Design Engineering)



### M. Tech. (Three Years, By Research)

M Tech (By Research) is a 3 year programme which emphasizes on multidisciplinary and rigorous learning and research work.



### MCA (Three Years, Six Semesters)

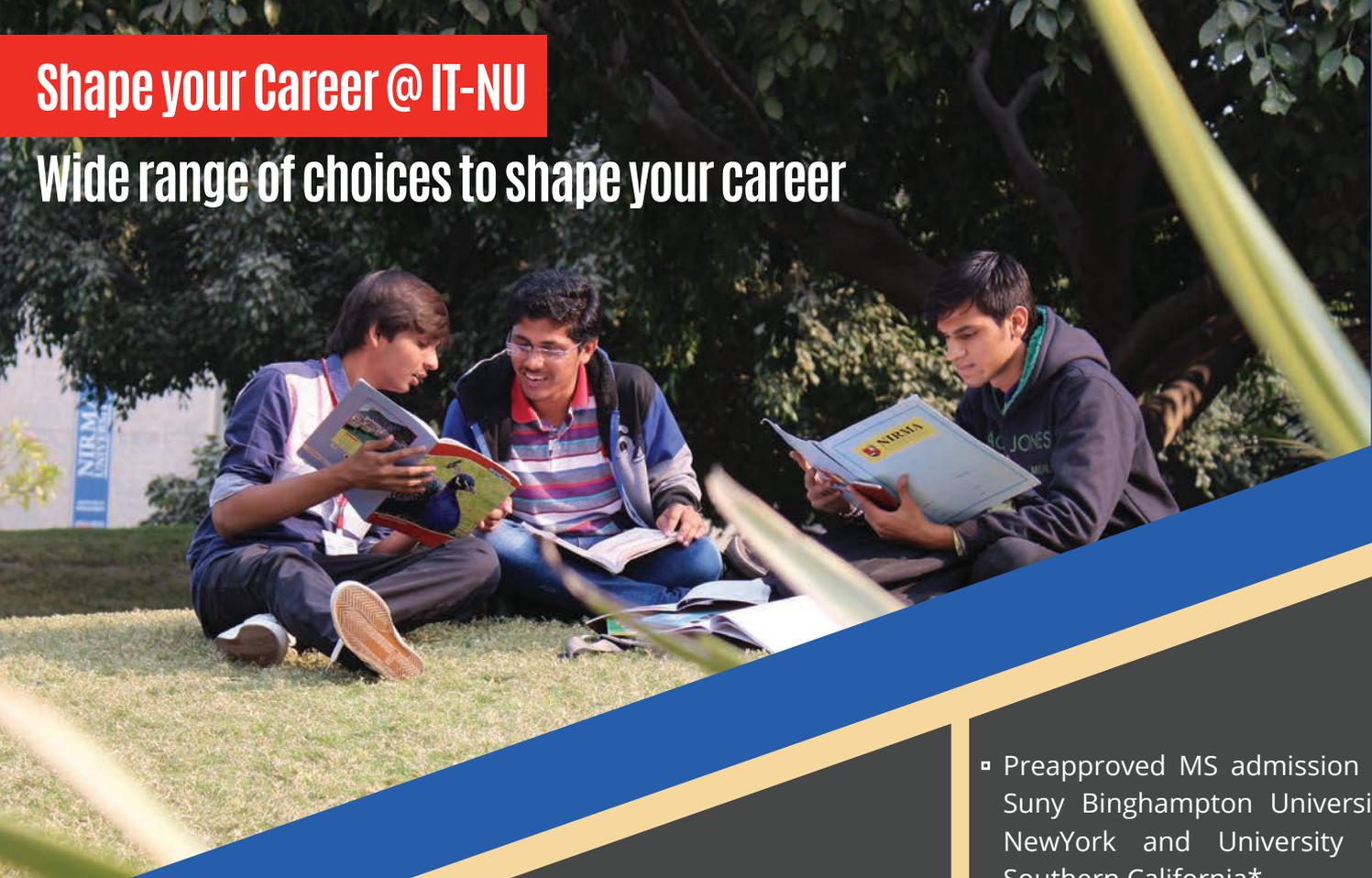
Masters in Computer Applications is a three year programme imparting comprehensive knowledge of computer applications through emphasis on theory and practice and is designed to meet the growing demand for qualified professionals in the field of Information technology.



### Ph. D. Programmes

Ph.D Programmes in Engineering are offered by all the departments on full-time and part-time basis.

## Wide range of choices to shape your career



### ▫ Minor Specializations

- Take additional 15 credits and get a specialization in Computer Science and Engineering along with the B.Tech degree in your chosen discipline.
- On the same lines, opt for Interdisciplinary minor specializations in Marketing, Finance, Robotics, Entrepreneurship Development and more

▫ Large basket of Electives leading to specialization in a chosen area within the discipline

▫ Work with your Professor on funded research projects from DST/ISRO/IPR and others

▫ Get certified at National level through the NPTEL study center

▫ Choice of Internship in the industry / foreign university or R & D organization for six months or alternatively Avail the opportunity to do minor specializations, extend your major project or work on your start-up idea in the 8th semester

▫ Audit and Special Audit Courses through MOOCs

▫ Value added courses like Law and Engineers, Design Thinking, Cyber Security, Yoga and Meditation, Critical and Creative thinking, Applied literature and many more.

▫ Do your internship at University of Southern California, Suny Binghamton, New York, Florida Atlantic University, IOWA\* State University, Carleton University, Ottawa, and others.

▫ A flexible, continuously updated curriculum will keep you tuned to the advancements in Technology.

▫ Preapproved MS admission in Suny Binghamton University NewYork and University of Southern California\*

▫ Interested in entrepreneurship? Pursue your dream through the IDEA lab; a NU funded initiative to do a feasibility study, build a prototype and get mentored for your startup idea.

▫ A community service internship at the end of first year will help you touch base with societal problems and help the society through social innovation

▫ The expertise and facilities built over years through our participation and continued success at ROBOCON, SAE-BAJA, and Mitsubishi Cup will provide an opening to pursue your interest in automobiles, automation and artificial intelligence.

# Networking Initiatives

## Memorandum of Understanding

### MoU with Industries

- J K Lakshmi Cement Limited
- Building Energy Efficiency Project (BEEP)
- INFOSYS Technologies, Bangalore
- enti INNOVATIONS Pvt. Ltd.
- Mitsubishi Electric India Pvt. Ltd.
- NORD Drive Systems Pvt. Ltd.
- Tata Consultancy Services iON
- Gujarat Industrial Development Corporation
- IBM Technologies
- Dr. Fixit Institute of Structural Protection & Rehabilitation
- InspirOn Engineering Pvt Limited

“ An extensive network to bring you opportunities ”

“ Work with them on innovative ideas and build your skills ”

“ Work on research projects, Be an intern with them ”

### MoU with Educational Institutions / Research Organizations

- Central Building Research Institute, Roorkee
- Ahmedabad Textile Industry's Research Association
- Institute of Plasma Research
- Indian Institute of Technology, Gandhinagar
- Piramal Pharmaceutical Development Services Pvt. Ltd
- Intas Biopharmaceuticals Ltd
- Cadila Pharmaceuticals Ltd.
- B.V. Patel Pharmaceutical Education & Research Development (PERD)
- Indian Space Research Organization
- Physical Research Laboratory

### MoU with Foreign Universities

- University of Southern California
- Binghamton University, New York
- Florida Atlantic University
- Carleton University, Canada
- University of Georgia, Athens, Atlanta
- Columbia University
- Royal Melbourne Institute of Technology
- IOWA State University\*, US
- University of Houston, US

“ Be an intern, realize your dream of doing MS in US / Canada through our preapproved admission programs with .. ”



The institute makes use of an appropriate mix of pedagogical tools to train students. This includes lectures from in-house and visiting faculty and experts, seminars, discussions and industrial visits. Continuous evaluation and counselling are important features of each academic program.

## THE APPROACH TO LEARNING

The institute synthesizes traditional methods of learning with interactive teaching-learning aids like field-based projects, interaction with practitioners, use of computers and multimedia, creative co-curricular activities for a holistic development of students. The institute lays emphasis on continuous evaluation and credit-based system with weightage of different components of study.



## DISCIPLINE- THE KEYWORD

The academic calendar for the whole year of study is notified in the beginning of each year and is strictly adhered to. Student's attendance is compulsory and students are expected to conduct themselves with discipline both inside and outside the classroom.



## TEACHING LEARNING PROCESS

The institute has a credit-based evaluation system which motivates students for systematic and continuous study and appraises students on the basis of project work, problem solving, classroom assessment methods, examinations and other tools to evaluate both cognitive as well as applied learning. Self-development, communication skills, societal and environmental awareness, project-based learning are salient features of the teaching learning process. Through projects and internships, students are given sufficient opportunities and support to apply their learning in real life situations.



## COUNSELLING

Each faculty is assigned about 15 students with whom the faculty meets periodically and reviews their attendance, submissions and academic performance and provides necessary guidance. The services of a professional psychological counselor are also available for the students.



# RECOGNITIONS

#1

**Ranked 1<sup>st</sup> among all Engineering Colleges in Gujarat**

Source: *CSR - GHRDC, 2017*

#3

**Ranked 3<sup>rd</sup> in Top 10 T-Schools in the West Zone**

Source: *DataQuest CMR T-School, 2017*

#29

The Institute **Ranked 29<sup>th</sup> in Top Private Engineering Colleges (All India)** as per survey conducted by the The Week - Hansa Research Survey 2017.

#7

**Ranked 7<sup>th</sup> in Top 10 Engineering colleges in India for Placement**

Source: *Higher Education Review, 2017*

#9

**Ranked 9<sup>th</sup> among Top Engineering Colleges of Super Excellence in India**

Source: *CSR - GHRDC, 2017*

#11

**Ranked 11<sup>th</sup> in Top 25 Engineering College for Placements, USP, Social Responsibility, Networking & Industry Interface**

Source: *CSR - GHRDC, 2017*

#11

**Ranked 11<sup>th</sup> among Top 100 Private T-Schools across the country**

Source: *Outlook, 2017*

#26

**Ranked 26<sup>th</sup> among Top 100 Private Engineering Colleges in India**

Source: *CSR - GHRDC, 2017*

#15

**Ranked 15<sup>th</sup> amongst National Ranking by Digital Learning and is listed AAAA category**

Source: *Digital Learning Engineering Survey, 2017*

# ROBOCON Awards

**2017** *Best Innovative Design award  
for the unique design of Robot*

*Toyota Award in  
Robocon event* **2015**

**2018, 2015, 2014, 2011,  
2008, 2006, 2003, 2002**

*Eight times National Championship at ROBOCON event organized by Doordarshan and Represented **India** in **International ROBOCON** events hosted by Japan, Thailand (2 times), India (2 times), Malaysia, Indonesia and Vietnam.*

## All-Terrain Vehicle (ATV) BAJA SAE India Awards

**2018**

*First Position in the  
Endurance Test for m-BAJA  
& won Rs. 1,00,000 cash prize*

**2018**

*Overall third position for m-BAJA  
&  
won Rs. 75,000 cash prize*

**2018**

*BAJA Dronacharya Award for  
the valuable guidance &  
support to the team.*

## Other Awards

**2018\*, 2017\***

*\*1st Runner up and  
cash prize of Rs 75000*

*Mitsubishi Cup-MECUP a National level Automation Competition for Students organised by Mitsubishi Electric India Pvt Ltd. The team "CON-SL-E" of IC Department from Institute of Technology, Nirma University become winner of Silver Cup*

**2018\***

*\*1st Runner up and  
cash prize of Rs 12000*

*"UltraTech Sparkling Star" organized by Ultratech Cement Ltd. for UG and PG student of Civil Engineering branch*

# Academic Infrastructure



## THE CAMPUS

The institute is situated in the Nirma University campus which is on the Sarkhej-Gandhinagar highway, Ahmedabad. The 125-acre campus is Wi-Fi enabled and is nestled amidst green, refreshing environment and an ambience that motivated students to grow. The campus has five buildings (A, B, D, W and PG Block), modern sports facilities and an atmosphere that is distinguished by serenity.



## CLASS ROOMS

The classrooms are well ventilated, spacious and equipped with modern audio-visual equipment and internet connectivity to facilitate effective learning and promote maximum interaction between faculty and students.



## COMPUTATIONAL FACILITIES

The computing facilities at the campus includes

- 1300 + computers with latest configurations, modern software and high speed servers
- Wifi campus with 432 Mbps state of the art Gigabit network.
- 17 High End NVIDIA GPU servers and workstation with K-20, K40, K-80 and P-100 GPU cards.
- Wireless Sensor Motes and various CISCO networking components to simulate real time networking scenarios



# Departments

## Role of Departments

- Departments play a pivotal role in developing and implementing academic programmes. There are eight departments viz: Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Electronics and Communication Engineering, Instrumentation and Control Engineering, Mechanical Engineering, and Mathematics and Humanities.
- Each department has different sections according to the programmes/specialties handled by it.
- The institute has evolved a participatory model of administration through which all proposals of budgetary allocation, academic development, curricular reforms, laboratory updates etc. first originate at the section level and then finalized at the department and higher level. In this context the role of the faculty in the total process of teaching-learning assumes great importance.

## Faculty

- Through a judicious recruitment policy and enlightened approach, University has ensured that the institute is staffed by a well-qualified and competent faculty to shoulder the responsibilities of maintaining high standards of education in the institute.
- In keeping with the aims outlined in the mission statement, the faculty members remain fully conscious of their dual role both as teachers to impart efficiently technical knowledge to students and counselors to guide them for their overall development.

## Faculty Development Programmes

The teachers are encouraged to update their knowledge and skills through various training and learning modes. Constant efforts are being made by the Management to achieve this aim. Some of the initiatives taken in this direction are listed below.

- Deputation for higher studies for M. Tech and Ph.D. in India and abroad.
- In-service registration to pursue Ph.D. programmes.
- Participation in reputed conferences and seminars on technical subjects.
- Participation in collaborative research projects.
- Promotion of consultancy.
- Training in industries and specialized testing work etc.
- To organize and conduct national / state level training programmes for professionals.



# What can I Study at Institute of Technology, Nirma University?

<http://www.nirmauni.ac.in/ITNU/CH/About>

## CHEMICAL ENGINEERING

The formula for success



### ROLE OF CHEMICAL ENGINEERS IN ENGINEERING PROFESSION

From the foods we eat to the clothes we wear, from different automobiles to day in day out utensils, chemicals play a major role in our life. Chemical Engineers convert scientific discoveries in to marketable products. Chemical Engineers are involved in many aspects of chemical production, research and design as well as construction and operation of chemical plants. They play a vital role in curbing environmental pollution and plant safety. Chemical Engineers also are main team players in improving the efficiency of a process plant.

Chemical Engineers design chemical plant equipment and devise processes for manufacturing chemicals and products, such as gasoline, synthetic rubber, plastics, detergents, cement, paper, and pulp, by applying principles of chemistry, physics, and engineering. Chemical Engineers run the industries and are present in every field of engineering.

### CHEMICAL ENGINEERING: WHERE WOULD I BE WORKING?

Gujarat is known as the Chemical Engineers Paradise with big Industries like Reliance, GSFC, GNFC, and plethora of pharmaceutical industries present. Multinational firms like Linde, UOP, Mott MacDonald, L &T and more are always looking for process engineers. Apart from industrial placements, Chemical Engineers also find themselves in banking, finance, insurance, R & D organizations and other sectors.

### PROGRAMMES OFFERED WITH INTAKE

- B.Tech: 60
- M.Tech (By Research)
- Ph D in Chemical Engineering

The four-year curriculum leading to the B.Tech in Chemical Engineering enables the graduate to enter professional practice as an engineer or to continue his or her studies in programs leading to advanced degrees in the following broad fields of specialization:

- |                                     |                                    |                                 |
|-------------------------------------|------------------------------------|---------------------------------|
| ▫ Reaction and Separation processes | ▫ Catalysis                        | ▫ Process Synthesis             |
| ▫ Pollution abatement               | ▫ Process Simulations              | ▫ Renewable Energy Engineering. |
| ▫ Process integration               | ▫ Process Control and Optimization |                                 |

### PROGRAM SPECIFIC OBJECTIVES

A graduate of Chemical Engineering Programme will have an ability to

- model, simulate and validate the chemical engineering problems.
- design or develop chemical processes incorporating impact of economic, environmental, social, health, safety and sustainability.
- practice or apply chemical engineering principles, communication and other skills in a wide range of industrial and professional employment areas.

# Chemical Engineering

The formula for success

## STRENGTHS OF THE DEPARTMENT

- Well established laboratories and state of the art computational facilities
- Well established Research Culture
- Funded projects on waste water treatment, air pollution control, simulation studies, hydrogen production to name a few.
- Pool of electives in curriculum so that a student can mould his/her career in various relevant fields.
- Department has a blend of highly motivated, young and experienced faculty members. There are total 14 faculty members (4 Professors, 3 Associate Professors and 7 Assistant Professors) in the department.
- Expertise in Environmental Auditing



Chemical Engineers contribute to the industrial sector the most; keeping this in mind the department emphasizes project work at all levels and exposure to the students through industrial tours, industrial internship and projects.

## MAJOR STUDENT ACTIVITIES

- Chemical Engineering Students' Association (ChESA) is a student organization in Chemical Engineering Department. ChESA is in its 18th year, and organizes co-curricular and extracurricular activities throughout the year.
- Team of students from the department are very active in SAE BAJA competition and always are front runners in getting the "Go Green" prize for reduction in air pollution.



# CHEMICAL ENGINEERING

The faculty members are highly qualified and involved in the collaborative/joint projects with Industry / R&D institutes and also undertake funded research projects from various agencies like DST, GUJCOST, Green Environment Services etc. A good number of research papers are published in referred international as well as national journals of repute by faculty members and research scholars. Department is having Fifteen Ph.D. students working in the thrust area of Chemical and Environmental Engineering area.

Apart from the regular academic work, the faculty members of Chemical Engineering Department are also actively involved in the consultancy such as:

- Environmental Audit [GPCB recognized Schedule -I Auditor]
- Energy Audit [BEE Certified Energy Auditor]
- Process Problem Solutions & Process Modification
- Process Equipment Design
- Determination and prediction of Phase Equilibrium and other thermodynamic properties
- Cleaner Production and Cleaner Technology
- Petroleum Product Testing and Characterization
- System Analysis & Modelling and Simulation
- Water & Waste Water Testing and Analysis
- Effluent Treatment Plant Design
- Analytical Chemistry based Testing
- Software development



# What can I Study at Institute of Technology, Nirma University?

<http://www.nirmauni.ac.in/ITNU/CL/About>

## CIVIL ENGINEERING

The building blocks of your future



Civil engineering is all about creating sustainable infrastructure facilities for the upliftment of society and development of a nation. One cannot imagine modern day marvels like the Sea link, Sardar Sarovar Dam, metro network, Burj Khalifa, modern airports etc or the age old wonders like the China Wall, London Bridge or the Tajmahal without the role of Civil Engineers.

Civil engineers become global leaders through innovation, entrepreneurship, problem solving skills. They look into the future and invent the technologies to meet the challenges that come with the progress of the civilization.

### CIVIL ENGINEERING CAREERS

A civil engineering degree provides a foundation to move into leading positions in planning and design, construction, research and development, operations, and maintenance with a wide scope for entrepreneurship. A graduate civil engineer may pursue further specialization in various sub-disciplines of civil engineering like structures, geotechnical, construction project management, transportation, environment, water resources and irrigation, material science, urban planning, geomatics etc. One can also choose to pursue MBA after civil engineering.

### CIVIL ENGINEERING DEPARTMENT OFFERS

- B. Tech. in Civil Engineering since 1996 with intake of 120
- M. Tech. in Civil Engineering (Computer Aided Structural Analysis and Design)
- M. Tech. by Research
- Ph.D. programme in Structural Engineering and Geomatics.

### PROGRAM SPECIFIC OBJECTIVES

A graduate of Civil Engineering programme will have an ability to -

- apply principles of Civil Engineering to propose application-centric solutions utilizing modern tools and techniques.
- plan, design and construct sustainable infrastructures satisfying economic, environmental, social, ethical and safety constraints.
- communicate effectively with stakeholders and add values to multi-disciplinary domains in addition to Civil Engineering.
- Get specialized in Structural Engineering, Construction Technology & Management, Transportation Engineering through judicious choice of electives.

# Civil Engineering

The building blocks of your future

## MAJOR STUDENT ACTIVITIES

Organisation of Civil Engineering Students (OrCES), is formed to organize various technical and non-technical activities/competitions for students' enrichment and value addition. A team of students secured 2<sup>nd</sup> position in National level Competition 'Lightest Concrete Canoe' organized by IIT Madras in year 2015. Many students have participated in National level events and won prizes.



## HIGHLIGHTS OF THE DEPARTMENT

- Full semester major project at construction site/ consultancy/R&D organization during last semester for better practical exposure
- Laboratory facilities for static and dynamic testing and good computing facilities
- Collaboration with reputed R&D organizations such as SERC, CBRI, ISRO, ISR, BARC etc. and foreign universities like University of Victoria, Carleton University etc.
- Involvement of faculty members in funded research projects from various funding agencies like SERB-DST, ISRO, ISRO-RESPOND, GUJCOST and collaborative research projects from agencies like IC-IMPACTS etc.
- Close interaction of faculty members with industry by offering consultancy and testing services



## PLACEMENT

Civil engineers can get opportunity in Central and State Government departments like road and building department, water resources and irrigation department, Water supply and sewerage department, Private sector companies like L&T, Tata consulting engineers, Shapoorjee and Palonjee, Simplex, Hindustan Construction, IRB, GMR, Public Sector Units like ONGC, EIL, HPCL, GAIL etc. and many Multi National Companies like BECHTEL, Flour, Linde, etc.

# CIVIL ENGINEERING

The Department is actively involved in Research and Consultancy activities and is currently undertaking research in diversified areas of Civil Engineering like Analysis and Design of Structures, Concrete Technology, Earthquake Engineering, Remote Sensing and GIS and Environmental Engineering. Department has successfully undertaken research projects funded by SERB-DST, ISRO, GUJCOST, Institution of Engineers etc. Some of the projects carried out at department are as listed below :

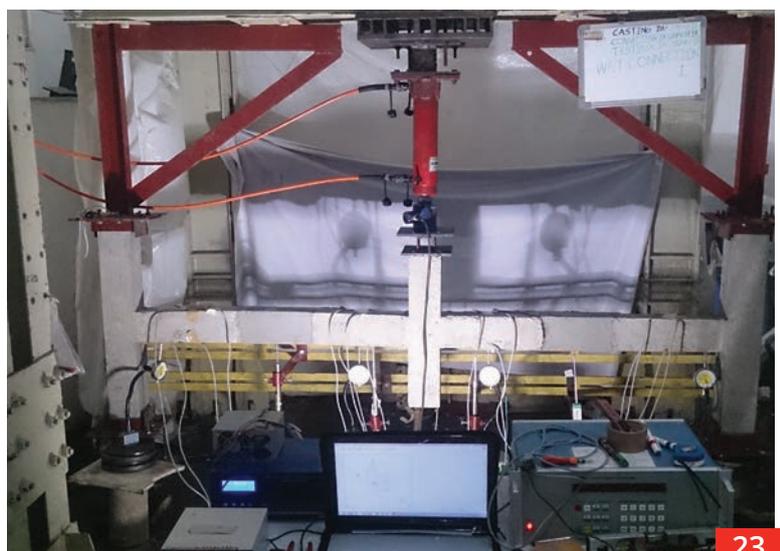
- Calibration and Validation of RISAT-SAR Satellite funded by SAC, ISRO
- Use of Marine Sand in Concrete Construction funded by Adani Projects
- Study the behavior of precast beam-column junction under progressive collapse scenario - An experimental and analytical investigations funded by DST-SERB
- Dynamic Characterization of Shock Table funded by GUJCOST
- Development of Passive Damping surface coating for Advance Material Based Structural System Using PZT(Piezo) Power funded by ISRO-RESPOND Programme
- Application of precast products made using bottom ash and fly ash for rural pavements and other infrastructure in India funded by IC-IMPACTS
- Development of Reinforced Aerated Blocks with Innovative Composite Ingredients as Compression Members for Structural Applications with Stringent Design Specifications funded by ISRO - RESPOND
- Identification of Existing Road Material, Condition and Potential Parking Area of Ahmedabad City using AVIRIS Data and Updation Plan of Undeveloped Road funded by SAC-ISRO
- Development of Low Cost Methodology for Surveying and Mapping with IRNSS - NavIC funded by SAC-ISRO(under NavIC-GAGAN Utilization Programme)



Department has well-developed laboratory facilities. Consultancy and Testing services are offered by the Department to various professional organizations in areas such as Structures, Foundation, Environment and Transportation. Following are the area in which consultancy services have been offered:

- Proof checking for structural Design
- Damage Assessment of Fire affected buildings
- Non - destructive Evaluation of Structures
- Structural Health Monitoring of Structures
- Seismic Analysis and Design of Structures
- Repair and Retrofitting of Structures
- Finite Element Analysis of Structures
- Environmental Engineering and Pollution Control
- Environmental Analysis and Monitoring
- Environmental Audit of Industries
- Soil Investigation, Foundation Design and Ground Improvement Techniques
- Quantity Surveying
- Surveying and Geodesy work

MOU's have been signed with several research & professional organizations in order to enhance research contributions and to conduct continuing education programmes.



# What can I Study at Institute of Technology, Nirma University?

<http://www.nirmauni.ac.in/ITNU/CE/About>

## COMPUTER SCIENCE & ENGINEERING

Program your life



Computer Science and Engineering has revolutionized the world and has brought the world closer. The digital age needs more and more Computer Scientists and Engineers. Through this programme, learn and explore the design and applications of computing systems, ranging from hardware and software components to networking, intelligent systems and multimedia.

### COMPUTER SCIENCE AND ENGINEERING CAREERS

As a Computer Science and Engineering graduate, you have an excellent scope of interdisciplinary careers and prospects with a flavour of entrepreneurship and/or research. Students have an opportunity to develop their career path through a blend of elective courses leading to opportunities like -

- Data Analyst
- Database Administrator
- Network Administrator / Designer
- Application Developer
- Security Auditor
- Software Testing
- Firmware developer
- Hardware Interface Designer
- System Analyst

PROGRAMMES OFFERED	INTAKE
▪ B. Tech. in Computer Science and Engineering	240
▪ M. Tech. in Computer Science and Engineering	18
▪ M. Tech. in Computer Science and Engineering with specialization in Information and Network Security	18
▪ M. Tech. in Computer Science and Engineering with specialization in Networking Technologies	18
▪ Master of Computer Applications	60
▪ Ph. D. in Computer Science and Engineering	

# B. Tech. Computer Science & Engineering

Program your life

## PROGRAMME SPECIFIC OUTCOMES

A graduate of Computer Science and Engineering Programme will have an ability to -

- apply the theoretical concepts of computer engineering and practical knowledge in analysis, design and development of computing systems and interdisciplinary applications
- work as a socially responsible professional by applying computer engineering principles and management practices

## STRENGTHS OF THE DEPARTMENT

- Skill development based curriculum design incorporating contemporary ICT technologies and tools pertaining to application development and data analytics
- Research and Academic collaboration with MNCs and Research Organizations like Infosys, ISRO, TCS, IPR etc.
- Industry collaboration through Infosys Campus Connect, TCS and NVIDIA
- Specialized Laboratories for High Performance Computing, Networking, Security and more
- Large pool of highly qualified faculty members with diversified and specialized skill sets
- Dedicated project based learning laboratory with modern hardware and software
- IEEE and CSI student chapters
- Specialized PG Programmes in Computer Science and Engineering with specialization in Information and Network Security and Networking Technologies

## MAJOR STUDENT ACTIVITIES

- Industry exposure through industry visits, internships, workshops, seminars etc.
- Active engagement through Competitive coding competitions, Hackathon, technical festivals
- Remarkable campus placement records
- Global opportunities through summer internships and projects.
- Infosys Campus Connect Program



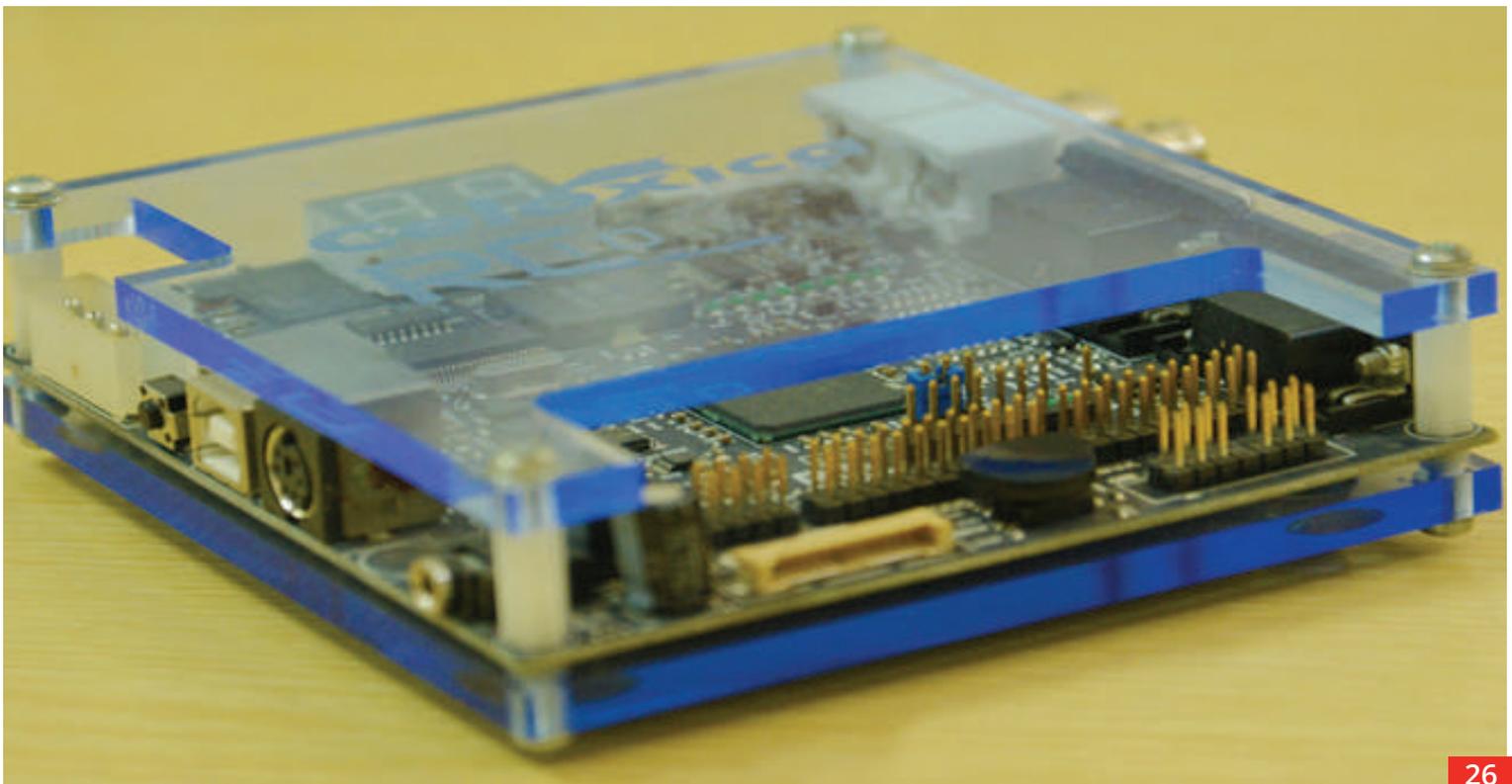
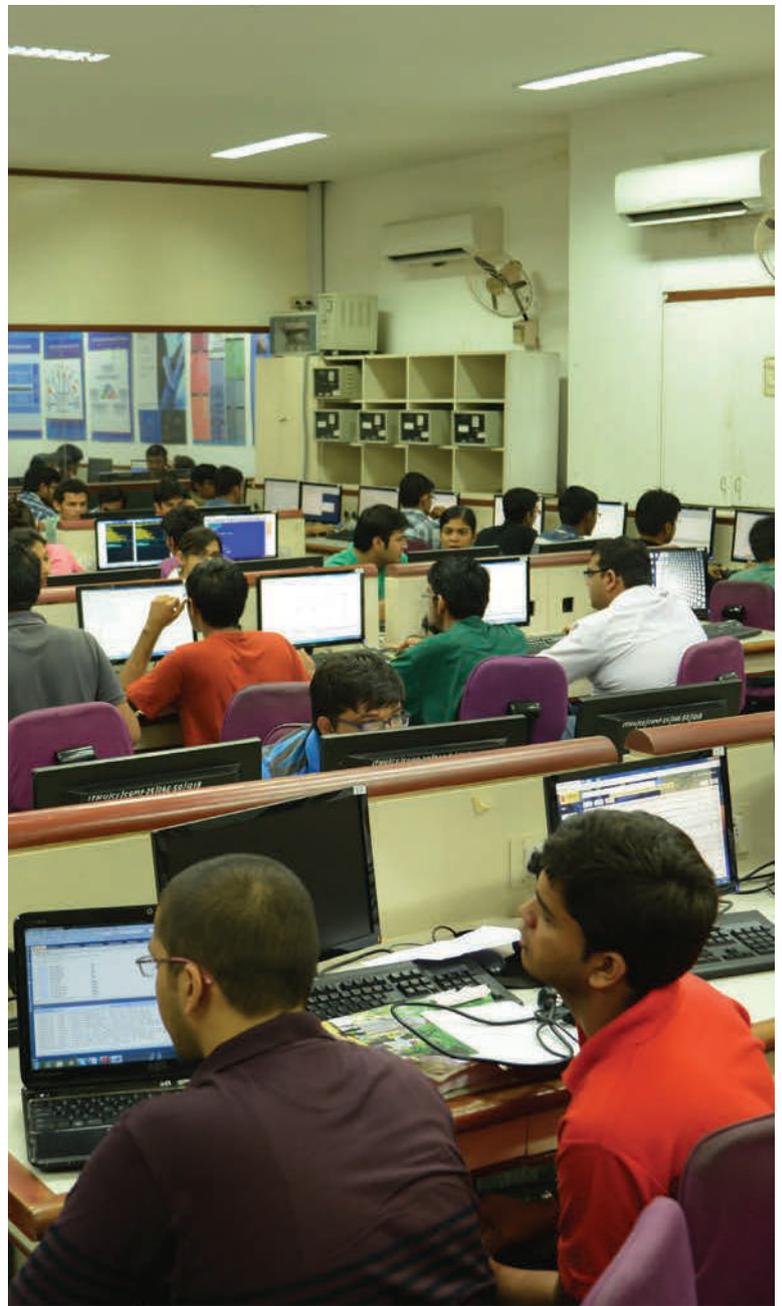
## MAJOR CAMPUS-PLACEMENT RECRUITERS

- Amazon
- Morgan Stanley
- MAQ Software
- Mu Sigma
- Goldman Sach Services Pvt Ltd.
- Oracle
- Samsung
- Searce
- HSBC
- Future First Info Services
- Creast Data Systems
- Infosys
- Cognizant
- Wipro
- TCS

# COMPUTER SCIENCE & ENGINEERING

The faculty members are actively involved in various research areas in the field of Computer Networking, Machine Learning, Mobile Computing, High Performance Computing, Hardware/Software Co-design, Multimedia Systems, Autonomic Computing, Image Processing, Data & Knowledge Engineering. Research publication of papers/book chapter/articles at International level also adds to the credit of the department. The department is also actively working on various projects funded by National / International funding agencies like ISRO BRNS - DAE, DST & GUJCOST.

Consultancy facilities are available in the department for Website and Mobile App Development, Software Quality Assurance, System Tuning, Visual Control Systems etc. Department imparts training in various state of the art technologies to students/corporate personnel.



# What can I Study at Institute of Technology, Nirma University?

<http://www.nirmauni.ac.in/ITNU/EC/About>

## ELECTRONICS & COMMUNICATION ENGINEERING

Chip into your Future



### VISION

To lead in developing cutting-edge knowledge & technology and producing globally competent professionals in Electronics and Communication Engineering

B.Tech in Electronics & Communication engineering degree provides a foundation to move into creative management positions in planning and design, Engineering Analysis Design & Creation, Product Development, Research and Development, operations, and maintenance with a wide scope for entrepreneurship.

Electronics and Communication engineering continues to dominate the world of entertainment, automation technology, IT, Health Care Systems, Automotive Electronics, Home Automation ,Internet of Things , Robotics, and global communications.

Department offers Specializations in:

- VLSI Design
- | ▫ Wireless Communication & Networking
- | ▫ Embedded Systems

### PROGRAM SPECIFIC OBJECTIVES:

A graduate of Electronics & Communication Engineering programme will have ability

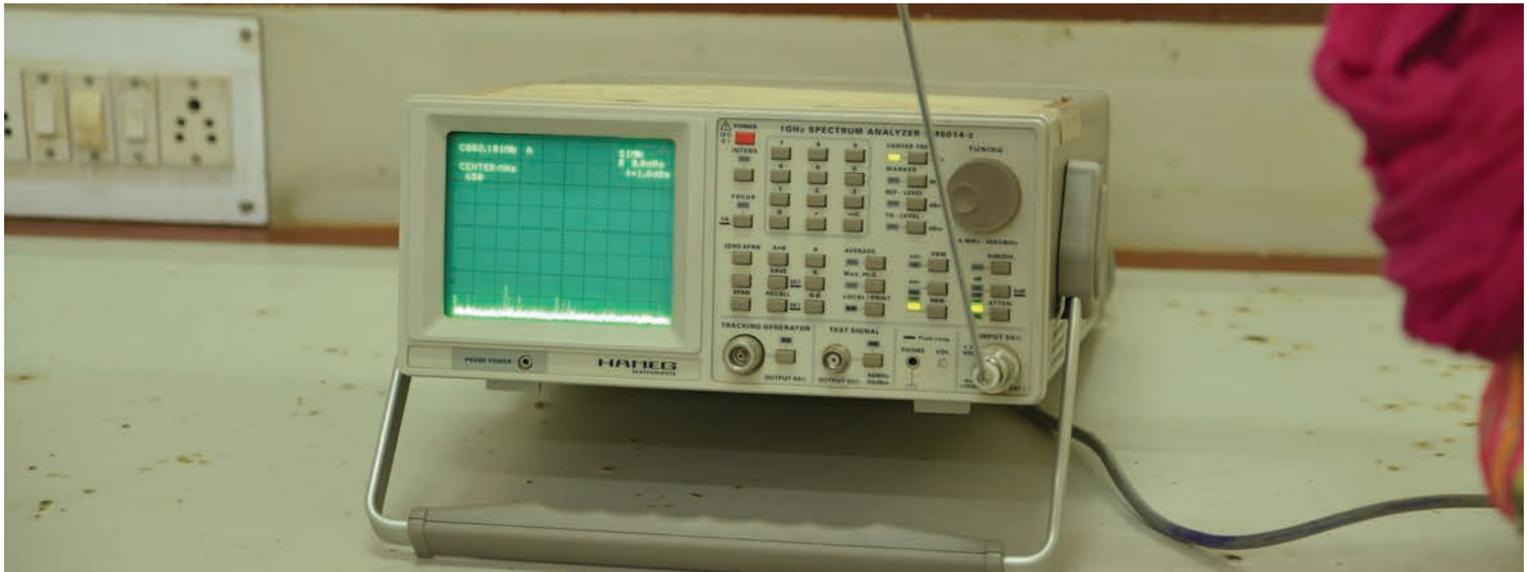
- To understand and analyse principles of electronics devices, circuits, communication systems, tools and techniques.
- To apply knowledge acquired in Electronics and Communication Engineering domain in design and development of electronic circuits and systems with specific end utility.
- To do research in Communication Engineering and Electronics System Design.

The department has large number of research projects from funded agencies like SAC-ISRO, IPR, DRDO, GUJCOST in the field of Embedded Systems, VLSI Design, MIMO Communication Technology, Optical Systems, RF & Microwave Engineering



# Electronics & Communication Engineering

Chip into your Future



The faculty members in the departments are experts in their respective fields and take extreme care to shape the young talents. The department has well qualified faculty members having Post doc, PhD, M.Tech from Foreign Universities, IITs, NITs and R & D Organizations.

## CAREERS

- R & D Engineer
- Entrepreneur
- Analysis & Design
- Product Developer
- Software/IT
- Application Engineer
- Innovator
- Problem Solver
- Leader
- Govt. Public Services
- Higher Studies



## SPECIALIZATION

- VLSI Design
- Modern Communication
- Healthcare
- Automation
- Internet of Things
- Robotics
- Cyber Physical System
- Automotive Electronics

Major student activities: Students are having social and technical platforms for their all round Development, Electronics & Communication Organization-ECO (Student club) is active in curricular and extracurricular activities. They are active partner in annual Technical Festival NUTECH. Students are encouraged to take part in various international and national project competitions like ROBOCON, Freescale Cup, Texas Instrument Contest, iCreate, SAE BAJA and have won many awards.

The department has state of art laboratories and all necessary facilities to enhance the quality of teaching-learning process. The department is enriched with latest equipment like DSP kits and Emulator, NVIDIA GPUs, Spectrum Analyzer, Network Analyzer, Logic Analyzer, DSO, INTEL-ARM-ATMEL-PIC Mi-crocontroller kits and Software Packages like MATLAB, Genesis, Multisim, NS2, Xilinx, ALTERA Quartus Pro, Mentor Graphics, FPGA Advantage, Cadence, TCAD and Modelsim.

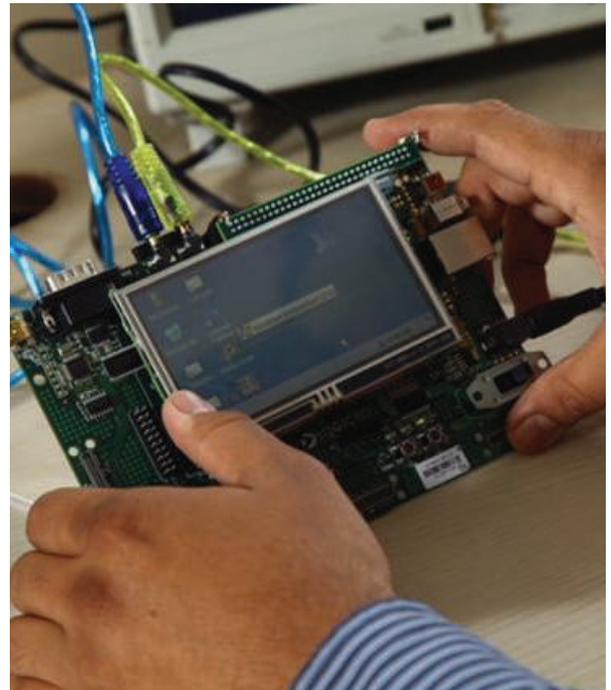
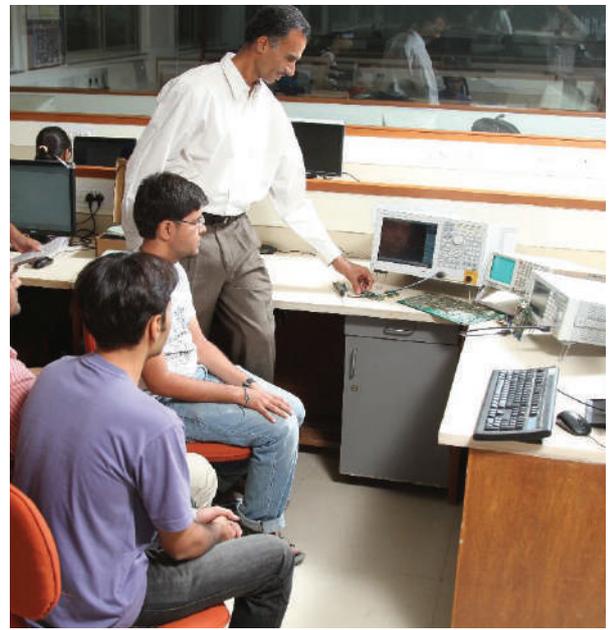
## RECRUITERS

- INTEL ▫ ARM ▫ XILINX ▫ NVIDIA ▫ ST Micro ▫ NXP ▫ Cadence ▫ Broadcom ▫ DSP Group ▫ GE
- Bosch ▫ Nokia ▫ eInfochips ▫ Bombardier ▫ ISRO ▫ PRL ▫ IPR ▫ DRDO ▫ BSNL

# ELECTRONICS & COMMUNICATION ENGINEERING

The faculty members of Electronics and Communication Engineering Department are actively involved in research and development. Many faculty members have pursued their Ph.D. from renowned institutes like IITs and NITs, and at the same time, many of the faculty members are pursuing Ph.D. Following are some of the areas in which faculty members have expertise and consultancy assignments have also been successfully undertaken in the same:

- PCB Designing
- Electronics Circuit Simulation, Analysis, Design and Testing
- Microprocessor and Microcontroller Related Developments
- Digital Signal Processing Hardware and Software Design
- Digital Logic Design on FPGA
- Wireless Communication and Networks
- RF Circuits Design and testing
- Antenna System Design and Testing
- Optical Communications and Networks
- Analog and Digital VLSI Design
- Image Processing
- Testing and Verification of VLSI Design
- Embedded System Design



## *Radiation Hardened Chip designed by the EC department*

The Professors of EC department successfully designed radiation hardened test chip under ISRO-RESPOND PROJECT. The chip has been fabricated at SCL, Chandigarh. This chip is designed for SAC-ISRO which will work in radiation environment of space.

# What can I Study at Institute of Technology, Nirma University?

<http://www.nirmauni.ac.in/ITNU/IC/About>

## INSTRUMENTATION & CONTROL ENGINEERING

Accuracy is Everything



Instrumentation & Control engineering is an interdisciplinary branch which includes, measurement, control and automation of every important system or process that governs modern life. “You Build, We Control” – Instrumentation and Control is undoubtedly the backbone behind the existence of technological marvels. The concept of control itself is the gift of instrumentation to the world which has turned many dreams into reality. Instrumentation & control engineers are innovators, entrepreneurs, problem solvers and global leaders. They look into the future and invent the technologies to convert the ideas into reality.

### INSTRUMENTATION & CONTROL ENGINEERING CAREERS

An Instrumentation & Control engineering degree provides a foundation to have a successful career in a widespread domain of innovation, research and developments, manufacturing, designing, operations and maintenance in various industries ranging from petrochemicals to biomedical, building construction to space programmes. Entrepreneurs to provide customized solutions in the field of automation are high in demand.

The B.Tech programme in Instrumentation & Control Engineering offers expertise in:

- |                          |                               |                     |
|--------------------------|-------------------------------|---------------------|
| ▫ Control engineering    | ▫ Industrial Instrumentation  | ▫ Robotics          |
| ▫ Process Automation     | ▫ Sensors & smart instruments | ▫ Industrial Drives |
| ▫ Biomedical Engineering |                               |                     |

Programmes offered by Department of Instrumentation & Control Engineering:

- B.Tech. : Intake : 60 | ▫ M.Tech (By Research) | ▫ Ph.D. in Instrumentation & Control Engineering

The four-year curriculum leading to the B.Tech in Instrumentation & Control Engineering enables the graduate to enter professional practice as an engineer or to continue his or her studies in programs leading to advanced degrees in the following areas of specialization:

- |                                       |  |
|---------------------------------------|--|
| ▫ Control and Automation              | ▫ Biomedical Instrumentation & Engineering |
| ▫ Industrial Engineering & Management | ▫ Power Electronics                        |
| ▫ Robotics                            | ▫ Sensors                                  |

Instrumentation & Control Engineers contribute to the society in numerous way; thus the philosophy of the department is to lay a strong foundation of core subjects and offer a large basket of electives that mould students as interdisciplinary experts for the industries.

# Instrumentation & Control Engineering

Accuracy is Everything

## PROGRAM SPECIFIC OBJECTIVES

A graduate of Instrumentation & Control Engineering will have an ability to-

- understand, analyse, design and develop control system for industrial automation applications
- select, commission, troubleshoot and maintain various instruments and associated systems
- prepare an individual with foundation knowledge for the research areas (but not limited to) e.g. advanced control, sensor technology, biomedical engineering, industrial automation, navigation and control

## STRENGTHS OR HIGHLIGHTS OF THE DEPARTMENT

- Instrumentation & Control engineering is an interdisciplinary branch.
- Blend of well qualified, experienced and dynamic pool of faculty members.
- Equipped with state-of-art laboratories and provides excellent facilities to carry out teaching and research.
- ISA student scholarship awards of 350USD-5000USD (2001-2018)
- Active MoU with Mitsubishi Electric India Pvt. Ltd.
- Department won silver cup in the prestigious national level automation competition: Mitsubishi Electric Cup [2017 & 2018]
- International recognition/awards [ISA Chapter] received by faculty members

## LABORATORY FACILITY

- Measurement & Control Techniques Laboratory
- Project Laboratory
- Process Control Laboratory
- Advanced Factory Automation Laboratory
- Computerized Process Control Laboratory
- Applied Electronics Laboratory
- Virtual Instrumentation Laboratory
- UG Software Laboratory



**PLACEMENT:** Students got opportunities for the placement in the following companies:

- Tata Chemicals Limited
- GE Research Center
- Xylem
- Mitsubishi Electric India Pvt. Ltd.
- Essar
- Optimized Solution
- KHS Machinery
- Infosys
- Tata Consultancy Services
- Hindustan Unilever Limited
- GSFC
- National Instruments
- Xion Multiventures Pvt. Ltd
- Future First Info Services
- PI Industries Ltd.
- Linde
- L & T Limited
- Reliance Industries Ltd
- Coromandel
- GSPL
- Kloeckner Desma India
- Transasia Bio-Medicals Ltd.
- Mu Sigma
- Torrent Power

## STUDENT ACTIVITIES

Student Association of Instrumentation and Control Engineering, under ISA (International Society of Automation) organizes various extra and co-curricular activities regularly. ISA Students Chapter and IC department successfully organized MECUP2018 – a National level automation competition during 15th-17th February, 2018 where in 35 Best teams from entire India showcased their technical excellence. Team CONSOLE from Nirma University won the Silver Cup, successively for the 2nd time. Every year, ISA student's chapter, IT, NU, organizes its flagship annual event "TECHNOFORA", the national level technical festival with various events. ISA's other flagship events include SPRINTZ and ROBOSAPIANS.

# INSTRUMENTATION & CONTROL ENGINEERING

The faculty members of Instrumentation and Control Engineering Department are actively involved in activities related to research and development. Three faculty members have pursued their Ph.D. from renowned institutes and at the same time, other faculty members are pursuing Ph.D. Over the years, department has become one of the top IC working group with strong and consistent engagement with process & manufacturing industry and government R&D labs via students' internship projects, campus placements, invited lectures by industry experts, industrial visits, industry participation in board of studies/ academic council in curriculum design, alumni etc.

Following are some of the areas in which faculty members have expertise and consultancy assignments have also been successfully undertaken:

- Industrial Automation
- Control and Optimization
- PLC and SCADA based Systems
- Electronics Circuit Simulation, Analysis, Design and Testing
- Microprocessor and Microcontroller based circuit Design
- Digital Signal Processing Hardware and Software Design
- Digital Logic Design on FPGA
- Image Processing
- Embedded System Design
- Sensor Design and Measurement Techniques



# What can I Study at Institute of Technology, Nirma University?

<http://www.nirmauni.ac.in/ITNU/EE/About>

## ELECTRICAL ENGINEERING

### Watt is Power



Electrical Engineering is a discipline that encompasses visualization, conceptualization, design, analysis and operation of the small electrical circuits to large power plants. The per capita electrical energy consumption is now considered as unit of measuring the quality of life across countries and providing electricity to each corner uninterruptedly is the focus of the engineering studies. The ways of utilizing this electrical power supply, operating electrical machines and controlling it through power electronics is an integral part of the electrical engineering course.

#### ELECTRICAL ENGINEERING CAREERS

The Electrical Engineering degree offers a wide range of opportunities in research, consultancy services, planning, operations and maintenance; energy auditing; or jobs in the utility sector, engineering and administrative services, product design and manufacturing.

The B.Tech programme in Electrical Engineering offers possibilities to explore

- Electrical Power Systems
- Power Electronics
- Electrical Machines and Drives
- Digital and Analog Electronics
- Micro-Controllers and Digital Signal Processors
- Smart Grids and Electric Vehicular Technology

#### PROGRAMMES OFFERED

#### INTAKE

▫ B.Tech in Electrical Engineering	120
▫ M.Tech in Electrical Engineering (Power Electronics, Machines & Drives)	18
▫ M.Tech in Electrical Engineering (Electrical Power Systems)	18
▫ Ph. D in Electrical Engineering	

A well-crafted curriculum leading to B.Tech in Electrical Engineering enables the graduate to enter professional practices as an engineer or to continue his or her studies in programmes leading to advanced degrees in the domains of core electrical engineering as well as in the interdisciplinary domains of computer science and electronics engineering.

#### PROGRAM SPECIFIC OBJECTIVES

A graduate of Electrical Engineering will have an ability to -

- demonstrate dexterity in the domains of Electrical Engineering viz. network analysis, control systems, electrical machines, electronics and electrical power systems.
- understand specifications and requirements, apply laws, analyze, simulate circuits, interpret results and design appropriate solutions in various areas of electrical engineering with evident validation.
- contemplate and contribute for energy efficient use of electricity through acquired knowledge.

# Electrical Engineering

## Watt is Power

### HIGHLIGHTS OF THE DEPARTMENT

The department of Electrical Engineering was established in 1995 and has been ranked high since then. Dedicated faculty members and rich laboratory facilities are behind the success of motivated and industrious students. Many faculty members have pursued their Ph.D. from renowned institutes like IISc, NITs, and are involved in research, development and consultancy. The faculty members are well-recognized across the fraternity and have won accolades at the national and international levels.



### LABORATORY FACILITIES

Well-developed laboratories, having latest equipment being used by various industries are available. High-end tool like OPAL – RT and D-space are available for advanced research work. The high voltage laboratory and switchgear and protection laboratory are built with latest equipment explaining schemes of over current, distance, and differential protection relaying system, synchronization of alternators, and high voltage generation. The software laboratory is equipped with latest computing facilities including software tools like ETAP, PSCAD, MATLAB, NEPLAN, ANSYS, MAGNET, PSIM, Motorsolve, and SPEED etc.

The following laboratories are existing with the latest equipment.

- Switchgear and Protection Lab
- High Voltage Lab
- Electrical Machines Lab
- Power Electronics and Drives Lab
- UG Software (Computer Centre) Lab
- Advanced Microprocessor and Instrumentation Lab
- UG Project lab

The electrical engineering students are placed through campus placements in leading industries like Infosys, Wipro, Cognizant, TCS, Deloitte, Torrent Power Ltd., Reliance Ltd., L & T Technology Services Ltd., Johnson Controls Ltd., Adani Port Ltd., Tata Chemicals Ltd., Bosch, Hyundai Motors, MG Motors Ltd., Ford India, Secure Meters, Electrotherm (I) Ltd., ERDA, and others. The alumni of Electrical Engineering have pursued their higher studies in top universities of US, Germany and Australia, and several other countries across the globe.

### MAJOR STUDENT ACTIVITIES

The department extends its support in well-rounded development of students. The students involve themselves in various clubs to hone their extracurricular skills like photography, writing, debating and innovations. The EESA, a students' association of Electrical Engineering, focuses on technical activities like guidance for competitive examinations, sessions on selecting career options, etc. It organizes an annual technical symposium "Scintilla" encompassing technical events like technical quiz, circuit debugging, workshops, mock placements etc. EESA offers a basic robotic workshop "Gyan Aarambh" in which the newly inducted students are taught to make autonomous robot.

# ELECTRICAL ENGINEERING

The faculty members of Electrical Engineering Department are actively involved in research, training and development. Many faculty members have pursued their Ph.D. from renowned institutes like IISc, NITs, and at the same time, many of the faculty members are pursuing their doctoral research. Following are some of the areas in which faculty members have expertise and consultancy assignments have also been successfully undertaken in the same:

- Software Development for Various Industrial Applications
- Power Electronics, Industrial Drives, Industrial Process & Control
- Switched Mode Power Supplies, UPS, Control of Converters and Inverters
- Energy Conservation, Power Factor Improvement, Load Calculations
- Power Quality, Active and Passive Power Filters
- Electrical Machines and Component Designs
- Transmission Line Design
- Power System Analysis, Congestion Management
- Impact Analysis of Renewable Source Penetrations
- Optimization Studies
- Microprocessor and Microcontroller Related Developments
- Testing: Induction Motor upto 5 HP Rating, Transformers upto 11 kV, Insulators upto 33 kV, LV Cable,
- Relay Testing, Transformer Oil Testing



# What can I Study at Institute of Technology, Nirma University?

<http://www.nirmauni.ac.in/ITNU/ME/About>

## MECHANICAL ENGINEERING

Ahead in top gear



Mechanical engineering is among the most diverse and versatile of the engineering disciplines and is the innovative application of science and technology to the design, production and operation of mechanical devices, machinery and systems. The stream of Mechanical engineering touches virtually every aspect of modern life, from mobile phones and biomedical devices, to aircrafts and power plants and involves designing things, especially complex items like racing yachts, robots, sawmills and aircrafts, industrial machinery and processes, etc. It also involves the efficient design and use of energy and energy conversion systems such as a heating, refrigeration and air-conditioning systems, turbomachines, etc.

If you are intrigued by how things work, fascinated by fully automated robots and high speed automobiles, mega-machines that can dig mountains or spaceships that crosses boundaries of planets to the tiniest machines like nanobots then mechanical engineering is the profession for you. In addition to physics and mathematics, it encompasses key elements of aerospace, electrical, civil, chemical and even materials science and bio-engineering. Since mechanical engineering is involved in almost every design imaginable, one finds mechanical engineers associated with almost any field of interest.

### ABOUT THE B.TECH PROGRAM IN MECHANICAL ENGINEERING

The Mechanical Engineering Department offers B.Tech Program in Mechanical Engineering (with a sanctioned intake of 120), M.Tech Program in Design Engineering, CAD/CAM and Thermal Engineering (with a sanctioned intake of 18 in each Program). The Department also offers M.Tech (by Research) and PhD Program in Mechanical Engineering.

The four years of curriculum aims to develop a broad set of skills and apply that knowledge into varied fields of mechanical engineering. The program is designed to develop practical, analytical, creative and design skills in the students through interactive classroom sessions, hands on experiences at workshops, design and creative skills at laboratories and major projects.

The B.Tech Mechanical Engineering Program Specific Outcomes enables the students:

- To apply the concepts of material science and engineering, computer aided engineering, thermal engineering and manufacturing technologies for design, development, analysis and maintenance of mechanical systems or processes.
- To work as a professional or as an entrepreneur by applying mechanical engineering principles and management practices.

# Mechanical Engineering

Ahead in top gear

## ABOUT THE DEPARTMENT

- The Department is a blend of highly motivated and experienced faculty members possessing research qualifications and/or industrial exposure. The faculty members regularly update their knowledge and skills through various training and learning modes and keep themselves abreast with the state-of-the-art knowledge and emerging trends in science and technology.
- The Department has well established laboratories in areas such as Dynamics of Machines, Fluid Mechanics and Fluid Power, Heat Transfer, Alternate Energy Sources, Refrigeration and Air Conditioning, I.C. Engines and Automobile Engineering, Materials Technology, Metrology and Instrumentation, Production Technology, Manufacturing Processes, Workshop, CAD/CAM Center, Robotics, etc. along with a unique Thermal Insulation Testing Laboratory. The Computer Center with all terminals connected to network includes softwares such as Creo, ANSYS, AutoCAD, Design Studio, Hyperworks, HTRI, Solidworks, Robocell, SciLab, CATIA, Automation Studio, MathCAD, Originlab, DynaForm, EES, TecPlot, etc.

## STUDENT ACTIVITIES

The student activities are vibrant in the Department and conducted through a dedicated club of Mechanical Engineering Students' Association (MESA) run by the student fraternity which organizes national level competitions, symposiums and extension activities. The student teams of Society of Automotive Engineers (SAE India Nirma Univ Chapter), regularly participate in the All Terrain Vehicles (ATV) competitions and have won prizes in various categories of the national level event SAE BAJA. The robotic team has won the National level robotics competition ROBOCON for a record eight times and has represented India at the international robotic event. The ASHRAE Western India Student Chapter at Nirma University is also active and conducts various activities for the promotion of refrigeration and air conditioning engineering.



## CAREERS FOR MECHANICAL ENGINEERS

The Mechanical engineering graduates are sought by employers in almost all sectors of the engineering industry. These include the industries involved with aerospace, automotive, chemicals, construction, defense, consumer goods, marine, materials and metals, oil and gas, pharmaceuticals, power generation, rail, utilities, automation etc. among several others.

The students have found placement in industries such as: Larsen & Toubro Ltd., Elecon Engineering Co. Ltd, Tata Consultancy Services, ABB Limited, Linde India, Mahindra & Mahindra Ltd, Jyoti CNC Automation Pvt. Ltd., Siemens Ltd., Ingersoll Rand (I) Ltd., KHS Machinery, INOX, Zeppelin and many more.

# MECHANICAL ENGINEERING

The Department offers consultancy and testing services to the industries in the various areas such as

- Redesign of Heat Setting Chambers for Stenter machine
- Design of Transportation System for Stenter machine
- Thermal Insulation Properties Evaluation.
- Materials of Construction for Ammonia / Urea Plant
- 3D Geometric Modelling using Solid Works
- Re-design of the Flyer (a component in Roving Frame of Textile Machine).
- Testing of Thermal Conductivity and Flammability for cement based insulation.
- Thermal Conductivity Determination of Thermal Insulations as per ASTM/ISO Standards.
- Testing of various properties of Thermal Insulations such as Compressive Strength, Water Absorption, Vapour Transmission, Thermal Resistance, Linear Shrinkage, etc. as per ASTM/BIS Standards.
- Finite Element Analysis of Machine components and systems such as Cryogenic Vessel, Gate Valve, Ball Valve, etc.

The Department has also undertaken various research projects funded by ISRO, Dept. of Science and Technology, Govt. of India and GUJCOST. Few of them are

- Process development for minimization of springback deformation and enhancement of profile accuracy of CFRP reflectors.
- Experimental investigation on ultrasonic single point incremental forming
- Understanding of immersed friction stir welding of aluminum alloys.
- Experimental Investigation of life cycle analysis and combustion characteristic of CI Engine operating on Esterified Oil and its blends with Bio Additives.
- Experimental Investigations on Pump as Turbine (PAT) for Micro Hydropower Plants.
- Experimental and Theory studies on Effect of Particle Size of Lignite on Kinetics, specific Gasification Rate, Calorific Value of Gas and Conversion Efficiency of Gasifier Fueled with Lignite.



## NATIONAL LABORATORY FOR TESTING AND DEVELOPMENT OF THERMAL INSULATIONS

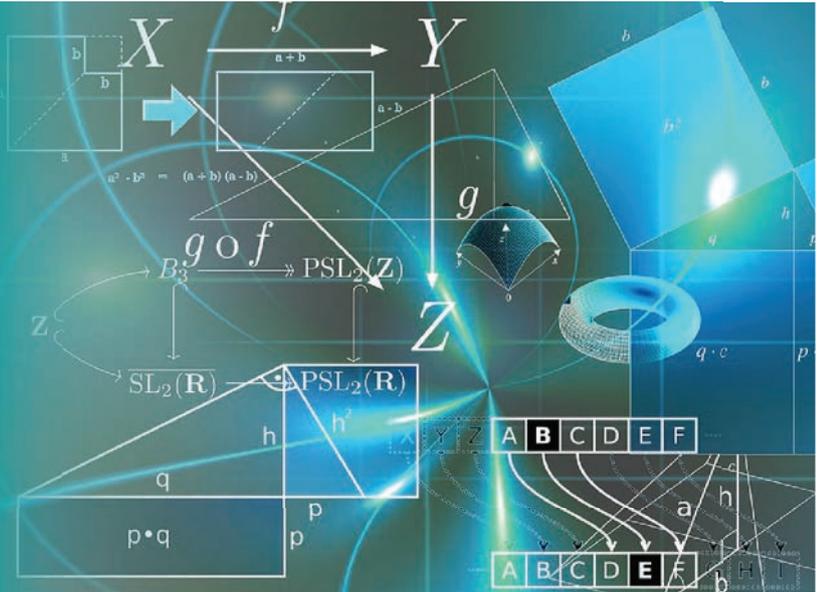
This laboratory is first of its kind in the country established for the testing and development of thermal insulations as per various National and International Standards. The Laboratory is the outcome of a project under the National Facilities in Engineering and Technology with Industrial Collaboration (NAFETIC) Scheme of the All India Council for Technical Education (AICTE), New Delhi. The Laboratory has MoUs with more than twenty-five industries associated with thermal insulations for the utilisation of the test facilities. The total cost of the project is approximately Rs. 160.0 Lakhs. The Nirma Education and Research foundation (NERF) has funded the major expense of the Laboratory besides providing all the infrastructure needed for the establishment of the Laboratory. The prestigious setup in the Laboratory include a Guarded Hot Plate System used for thermal conductivity determination in the temperature range of -20°C to 550°C according to ASTM C177 and ISO 8302. The laboratory facilities are being actively utilized by various industries for the testing of the quality of thermal insulations.

# What can I Study at Institute of Technology, Nirma University?

<http://www.nirmauni.ac.in/ITNU/MH/About>

## MATHEMATICS & HUMANITIES

Add Values



The Department plays a pivotal role in ensuring holistic development of the students. The department is home to a set of committed, talented, well qualified teaching faculty members with considerable research and academic experience. Most of the faculty members have completed their doctorates and are published authors.

The Mathematics section offers compulsory mathematical courses comprising of fundamentals as well as applications which are a prerequisite for studying any engineering program. Humanities section offers value added courses such as English Literature, Applied Literature, Ethics and Values, Creative & Critical Thinking and Communication Skills among other ancillary courses. Law for Engineers, Organizational Behaviour, Economics, Elements of Marketing management, Human Resource management, and Entrepreneurship are a few more courses which add value for a corporate career. The department also offers a minor specialization in Entrepreneurship which covers the knowledgebase required for a start-up.

The Humanities section uses very engaging pedagogy like role-plays, case studies, games, active learning, ICT based learning which make for interesting teaching and give an assurance of learning.

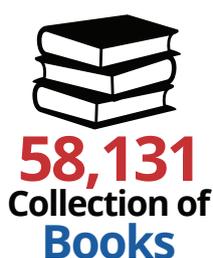
The department is instrumental in enabling students in honing their communication and life skills. The faculty members are actively involved and mentor activities like TEDx talks, Storytelling sessions, motivational lectures by experts and many more such activities.



# Library Resource Center



The Library aims to facilitate learning, teaching, research, training and consultancy activities at the Institute. The Institute of Technology Library is one of the best engineering libraries in the State. Web based open source library software called KOHA has been adopted to make the resource center fully automated.



The center has adopted latest information technology mediums like CD, DVD, text as well as graphic scanners and biometric readers. The Library portal gives access to journals, magazines, videos, CDs and along with linking the Central Library Resource Center of the university.

## THE LIBRARY OFFERS THE FOLLOWING SERVICES

Circulation, reference, online catalog access, audio visual resources viewing, users' personal profile access, In-house reading, reprography, orientation programs, Media Clipping, Resources sharing via Inter library loan across the country, current awareness service for new arrivals and new happening, worldwide access via remote login, Dspace Knowledge Repository

## RESOURCES

The Library has print resources collection of over 58, 131 Books, 5,070 Bound Volumes, 214 current subscriptions of print Journals and Magazines, 22 Newspapers, 2020 Standards, and 52 Ph.D Thesis. Online resource collection of 165, 000 e-books, 25, 131 NPTEL video lectures, 750 e-journals (like IEEE/IEL Electronic Library, Science Direct, ACM ASCE, ASME), 4000 CDs/DVDs, 546 audio-visual resources, knowledge repository and many more resources enriches the learning and teaching activities.

## INSTITUTIONAL MEMBERSHIP

The Library is an Institution Member of:

- The British Library – Ahmedabad,
- Institute of Engineers – Kolkata,
- Indian Society for Earthquake Technology (IETE),
- Developing Library Network (DELNET),
- Indian Geotechnical Society (IGS),
- American Information Resource Center – Mumbai.

## DIGITAL LIBRARY

Keeping in tune with global developments, we create Knowledge Repository, archival of Intellectual property of NU Community by use of Dspace where the collection like faculty publication, Masters Dissertations, Ph.D Thesis etc. are available in PDF format and can be access and download from anywhere in the campus.



## STUDENT SECTION

The student section looks after admission, registration, student records, semester end examinations, scholarships, concessions, issue of identity cards, bonafide certificates, provisional passing certificate etc.



## STUDENTS STORE

A student's store, which is run on a no-profit-no-loss basis, provides all necessary study material, stationery, instruments etc. to the students.



## CANTEEN

The Institute also houses a large canteen offering wholesome and nutritious lunch, breakfast, dinner, snacks and beverages.

## TRANSPORTATION

The Institute provides transport facility for the convenience of students from the area of their residence to the Institute and back on payment basis. For this, the Institute has its own fleet of 39 buses that ply on pre-decided routes.



## HEALTH CENTER AND AMBULANCE

The Institute has made special arrangement to provide Medical Facilities on the campus by appointing a fulltime doctor who is available at Health Centre, and the campus has 24x7 Ambulance facility.

## BANKING AND ATM SERVICE

To serve the banking needs of the students within the campus, full-fledged bank branch of The Kalapur Commercial Co-operative Bank Limited, a scheduled bank operates. Along with this, for the convenience of the students, ATM facility is also provided within the campus.



## SAFETY & SECURITY

To ensure proper safety & security in the campus, a team of trained guards and supervisors remains available round the clock within its premises. The university under 24x7 surveillance with the help of hi-tech CCTV Cameras.

## EDUSAT NETWORK

ISRO has taken the initiative to launch a state of the art Communication satellite to provide communication channels dedicated to education and training. Institute of technology has installed a Satellite Interactive Terminal (SIT) to participate in AICTE's Expert lectures and courses which are delivered through EDUSAT channel. The SIT terminal is interfaced with the Intranet so that the lectures received can be viewed on any PC across the campus giving students the vide accessibility to such programmes.

## REMOTE CENTRE OF IIT-BOMBAY

Under an MOU signed with IIT Bombay in May 2004, the institute has set up a remote centre of the Distance education Programme of IIT Bombay, The programme is now known as Centre for Distance Engineering Education Programme (CDEEP) of IIT-Bombay. Under this programme some of the courses of PG level, senior UG level and expert lectures being delivered at IIT Bombay are transmitted live via VSAT network and received at the institute. Students attend these lectures in specially designed class room with facility to have audio and video interaction with the faculty. The network supports two way audio and video interaction. The students of the institute benefit immensely from good quality expert lectures.

## ISRO'S INDO -US UNIVERSITY PROGRAMME

ISRO has signed MOU with several Ivy League Universities of US like Harvard, Yale Princeton, and Cornell etc. to provide distance higher learning to engineering institutions in India. According to this MOU, renowned professors from these universities will come to India and deliver courses. Institute of Technology, Nirma University is among the first few institutes selected to participate in this programme. Under this MOU, lectures will be beamed through EDUSAT network and projected live to the students in specially equipped class room. There will be two way i.e. audio and video communication for interaction with speaker.

## EKLAVYA CHANNEL

Eklavya is an Educational channel of Govt. of India where lectures (live and recorded) are broadcast using INSAT satellite. Regular courses are broadcast from different IITs. A well-equipped classroom has been set up where direct satellite broadcast of lecture is received and projected to the students.



## IDEA LAB

Institute of Technology of Nirma University has started an innovative program called the "Idea-Lab" to support, nurture and cultivate amongst the students the spirit of innovation, design, and research towards technology for meaningful purposes. The idea-lab provides a small seed-funding for early-stage exploration of an innovative R&D project idea which can be used to build quick and simple proto-types. The ideas funded are mainly technical, exploratory, innovative in nature with a potential to impact science and society. Many of these ideas are multi-disciplinary, involving students from different departments and institutes. Some of our idea projects have been presented at national level, winning accolades and awards in national level competitions held by Wipro, awarded and further funded by national scientific journals or international organizations IEEE or winning national level competition. In this endeavor, the students are guided technically and logistically by faculty-members as mentors.

The Idea-Lab thus serves as a "Technology Incubator" and also aims to support ideas with good technology product and commercial potential to the next business incubation stage through interested entrepreneurs via external funding.



## OTHER FACILITIES

A separate Yoga Hall is situated at Student Activity Center, 2nd Floor NIM Mess Building. In order to provide round the clock electricity, two generators sets of 500 kVA each and one generator of 250 kVA, remain operational in the campus. Cleanliness in the campus is given importance & maintenance activities are continuously monitored by the estate department. Campus also has sewage treatment plant and also uses its canteen waste to generate compost for gardening purposes.



# Looking Beyond Curriculum

## STUDENT ASSOCIATIONS

Throughout the year, student associations serve as a pivot, around which diverse activities revolve and play a significant role in the development of students through co-curricular and extra-curricular activities.

These association conduct several events like expert lectures, competitions, blood donation camps, awareness programmes etc. all round the year. The institute also encourage these association to conduct state/national level technical festivals including a national level mega event NU Tech.

The objectives of the student associations are as follows:

- To promote disciplined corporate, intellectual, civic and cultural life amongst the students.
- To foster activities to bring out the creative talents of the students and to promote the study (including discussion) of subjects of national and international importance.
- To encourage amongst students, the awareness of the responsibilities of an individual in a democratic society.
- To promote social service activities and to know the latest developments.

The following associations are presently functioning:

<b>ACES</b> <i>Association of Computer Engineering Students</i>	<b>AMS</b> <i>Association of MCA Students</i>	<b>CHESA</b> <i>Chemical Engineering Student Association</i>	<b>CSI</b> <i>Computer Society of India</i>
<b>ECO</b> <i>Electronics &amp; Communication Organization</i>	<b>EESA</b> <i>Electrical Engineering Student Association</i>	<b>MESA</b> <i>Mechanical Engineering Student Association</i>	<b>ORCESS</b> <i>Organization of civil engineering students</i>
<b>ISA</b> <i>(The International Society of Automation) STUDENTS' CHAPTER</i>	<b>IEEE</b> <i>Institute of Electrical &amp; Electronics Engineering</i>	<b>GSAC</b> <i>Google Student Ambassador Club</i>	<b>IL<sup>2</sup></b> <i>Invincible Leaders' League</i>
<b>INFOCRATS</b>	<b>ISTE</b> <i>Indian Society for Technical Education</i>	<b>SOCIETY OF AUTOMATIVE ENGINEERS</b> <i>(SAE Nirma Collegiate Club)</i>	<b>ROBOTECH CLUB</b> <i>Mechanical Engineering Student Association</i>
<b>ER</b> <i>Enchanted Rhythm</i>			

## CO-CURRICULAR ACTIVITIES

The institute hosts industrial visits, training, seminars, conferences for the overall development of students. National level competitions like ROBOCON, SAE-BAJA, etc. gives students opportunities to work beyond the classroom and engage in interdisciplinary areas. Such engagement enhances the students researching, reading, writing, critical thinking and presentation skills.

The campus has a cricket and football ground, volleyball court, lawn tennis court and basketball ground. The other facility consists of indoor games such as table tennis, chess, carom etc. can avail by students. The Annual Sports Day is a regular feature. A full-fledged gymnasium with modern equipment is also available for students.



Volleyball, Football, Cricket, Table Tennis, Carom, Chess, Tug of War, Athletics.



## SPORTS COMPETITIONS

- Institute Level
- Inter Institute - University Level
- Abhimanyu - State Level Intercollegiate

## ATHLETICS EVENTS

100mtr., 400mtr., 800mtr., 1500mtr. Run, 4 X 100mtr. Relay Long Jump, High Jump, Discuss Throw, Shot Put, Javelin Throw



# Cultural & Other Activities

**VAUDEVILLE & NUZEAL** are the two biggest and the most sought after annual cultural festivals of the Institute of Technology, Nirma University. Every year, these festivals mark the confluence of music, dance, art, culture, literature and loads of talent. The fests include events like solo-duet classical singing, solo-duet-group dance, debate, extempore, drama, mono acting, cartooning, Mr. and Ms. ITNU.



The events of the Cultural Festival are:

- Drama
- Cartooning
- Skit
- Group Dance
- Mime
- Solo Dance
- Mono Acting/Mimicry
- Folk Dance
- Debate
- Singing – Solo
- Elocution
- Singing - Duet
- Collage
- Group Song
- Vocal
- Rangoli
- On the spot painting
- Instrumental

**Ramzat:** Ras-Garba is organized after Navratri festival. All students, staff members, faculty members, HODs and HOIs of constituent institutes of Nirma University and officers of the University participated in this festival. The Winner in different categories are awarded trophies.



## FRESHER'S ORIENTATION

The Institute organizes a unique orientation programme of five days for the new entrants to foster interaction between students and ensure a smooth transition from an environment of school life to professional studies. Various lectures on Time Management, coping with stress, Human relations, Positive attitude, Communication skills, etc. are delivered by eminent speakers to the students.



## SOCIAL ACTIVITIES

- Blood Donation camp
- Literacy campaign in slum area
- Educational campaign in nearby schools

## OTHER ACTIVITIES

- National Days Celebration
- International Yoga Day
- Special days Celebration like Flag Day, Communal Harmony Day etc.
- NSS for Girls and Boys

## ADVENTURE ACTIVITIES

- Mountaineering activities
- Trekking in Himalaya
- Basic rock climbing course
- Desert trekking camp
- Trekking in the forest of Gujarat.
- Know Your Border Programme (On Motorcycle)





Amtech Electronics (India) Limited

GSFC [Gujarat State Fertilizers Corporation]

Samyak InfoTech Private Limited

BGR Energy Systems Limited, Chennai

Real Soft (Intl) Private Limited

Crompton Greaves Limited

Aqua Gel Chemical Private Limited

Indusa Infotech Pvt Limited

**IBM India (P) Limited**

**Gujarat State Petronet Limited**

JMC Projects India Limited

**Siemens Limited**

Sasken Communication Technologies Limited

**Reliance Industries Limited**

**Tata Consultancy Engineers Private Limited**

CSSI [Computer Solutions & Software International]

Bhagwati Associates Pvt. Limited

Argusoft India Limited

DOLPHIN Steel Construction LLC

InfoStretch Solutions Pvt Ltd

ICICI Bank Limited

**Hewlett Packard India Sales Private Limited**

EMCO Limited

Jubilant Organosys Limited

Solu-Soft India Private Limited

Satyam Computer Services Limited

Asea Brown Boveri Limited [ABB]

Linde Engineering Pvt. Ltd.

**Tata Consultancy Services Limited**

Cybage Software Private Limited

**Cadila Healthcare Limited**

Thermax Limited

Doshi ION Exchange & Chemical Industries Limited

**IFB India Private Limited**

Emerson Process Management (I) Private Limited

Jyoti Limited

Schneider Electric India Private Limited

Hindustan Construction Company Limited

Maharshi Electronics Private Limited

Tata ELXSI Limited

Schneider Electric India Private Limited

RFID-Radio Frequency Identification

Thorogood Associates

Dresser Rand India Private Limited

Cyberverx Software Solutions Private Limited

I-Flex India Private Limited

Secure Meters Limited

Evolutionary Systems Pvt. Ltd.

Entity Solutions Limited

KABRA Extrusion Technik Limited

Ingersoll Rand

Caterpillar India Pvt. Ltd.

Modiarc Electrodes Co. Limited

**Mahindra & Mahindra Limited**

**Tata Motors Limited**

Synopsys (India) Private Limited

I-many Software Private Limited

**Torrent Pharmaceuticals Limited**

eClinical Works

**Deloitte Consulting India Private Limited**

**Shapoorji Pallonji & Co. Limited**

Unigraphics Software

Erhardt + Leimer (India) Limited

KAEFER Punj Llyod Limited

**Intel India Pvt. Limited**

Cinemeta Entertainment (India) Private Limited

FAG Bearings India Limited

Mahindra Gears & Transmissions Pvt. Ltd.

Tata Power Company Limited

Syntel Limited

Impetus InfoTech (India) Private Limited

Mother Dairy India Limited

**Torrent Power [AEC] Limited**

Eicher Motors Limited

Denag Cranes & Components India (P) Ltd.

Sheladia Associates

# Information About Alumni Association

## Nirma Institute of Technology Alumni Association (NITAA)

NITAA has been established by Nirma Institute of Technology for the contacts with Alumni and subsequent interaction with students and institute faculty. Active participation of Alumni members is the strength of NITAA. It is note worth that the Alumni are spread all across globe for higher studies as well as for jobs.



10,000 +

Members on AlmaConnect

₹ 20 Lacs +

Worth Scholarship Given

(Till Date) 101 +

Gives Student Scholarships

Since Year  
2002

Publishes SETU Magazine

## Testimonials



"I got opportunity to study at Nirma Institute of Technology during the year 2002-2004 to pursue my Master of Electrical Engineering. We got benefited with excellent infrastructure & systematic approach in education. We got opportunity to have hands on experience on latest softwares related to Electrical Engineering and that had helped us to get different identity wherever we had worked. We are very much thankful to Nirma."

*Chirag Chauhan (M.E. EE Alumni, 002-2004)*

Owner, Enlec Solutions, Ahmedabad, Gujarat, India



"The five years that I spent as at student at NU have been crucial in shaping the person I am today. NU provided me with dedicated faculty, excellent resources, and a learner friendly environment where I could discover my strengths and work on them. My entrepreneurial aspirations were encouraged and supported by the institute. Apart from this, I made lifelong friends and professional connections from my time at NU. For anyone with a thirst for learning and innovation, NU is an ideal place."



*Royson Rajan*

Founder / Managing Director, Atlas SoftWeb Pvt Ltd.



"I never knew the experience and education at Institute of Technology, Nirma University would be such an integral building block of my success today. Starting from curriculum to discipline to the focus on overall growth - every element designed in the journey of Nirma has played a crucial role in my career and I cannot be any more grateful to my alma mater for all that I am today."



***Dhruvil Sanghvi***  
Chief Executive Officer,  
Loginext

Currently, I am an Assistant Professor in the School of Computing and Electrical Engineering at IIT Mandi. It was my dream to pursue higher studies from IIT Kharagpur. Nirma Institute of Technology (NIT) is the one, who gave me strong foundation in Engineering.



***Dr. Hitesh Shrimali***  
PDF (Università degli Studi di Milano),  
PhD (IIT Delhi), MTech (IIT Kharagpur), B.E.

"Nirma University has not only made me a better engineer but also a better person in life. It is one of the best institutes of the world where we developed technical skills and also learned attitude for solving real-life problems. After graduating from Nirma university, we are clearly able to stand out among the best engineers in the world."



***Dhaval Upadhyay***  
Present Affiliation: Space Applications Centre,  
ISRO Ahmedabad since 2010.

At an important juncture of my life the Institute of Technology, Nirma University provided a wide platform for me to realize my ambition. The education here provided me an understanding of various aspects of software Design and Detailing, and enhanced my communication & Presentation skills. The time I spent at ITNU was well worth, as I gained a new perspective of Structural Engineering and developed my latent managerial skills.



***Harish Jakhmola***  
Project Manager,  
SGS India Pvt. Ltd.  
Ahmedabad

# Industry Institute Interaction (III) Cell

The Institute of Technology emphasizes the importance of linkages at national and international levels in order to cater to the core areas of research and development in the form of transfer of technology, curriculum development, continuing education programmes, testing and consultancy, development of industrial manpower, expert lectures by industry experts, students' projects, Industrial visits, internships, training and placement, student and faculty exchange etc.

With this view in mind, the III Cell was envisaged to be a dedicated cell for Industry Institution Interaction facilitating all the training, career counseling and placement related activities.

## INFRASTRUCTURE AND AMENITIES

The III cell is fully equipped with all modern amenities. The rooms are air-conditioned and equipped with multimedia and audio-visual equipment to facilitate effective interaction. Additionally, the following facilities are also available for Recruiters on campus:

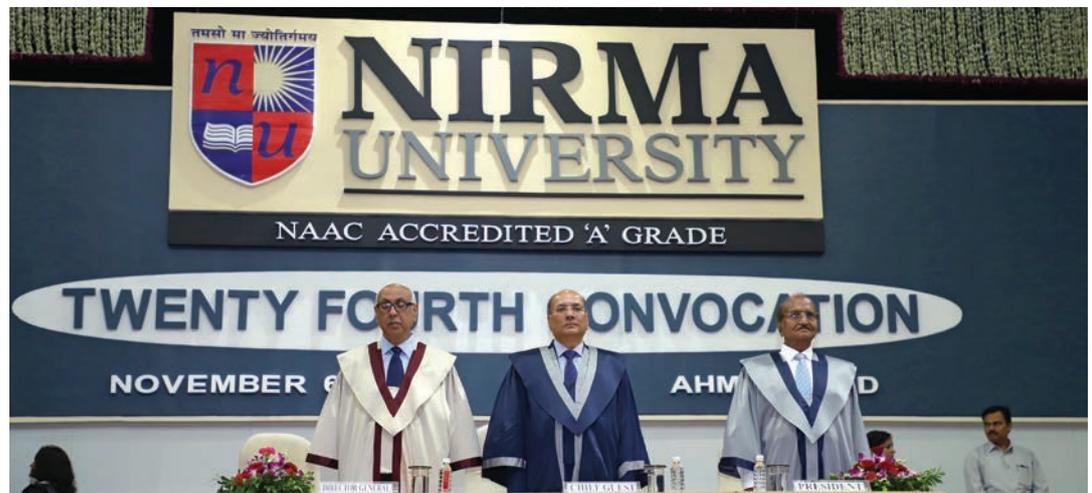
- Dedicated access to Computer Lab for conducting online tests
- Air-conditioned halls for presentations
- Conference Rooms
- Interview Rooms
- Skype / Video Conferencing
- Internet / Wi-Fi access
- Guest House for Corporate Visitors
- Food Court
- ATM Facilities
- Health Club and Gym

## TRAINING AND CAREER COUNSELING

III Cell organizes periodic training / workshops to orient students about industry expectations. Additionally, students undergo soft skills training to improve learning in areas like Communication, Resume writing, Presentation Skills, Group discussions and Personal Interviews. Counselor at Institute level also assists students to address career aspirations.

## CAMPUS PLACEMENTS

On Campus Placement Process is organized by inviting leading organizations from diverse fields. To be a part of the socioeconomic development of the nation and to strengthen the vision of our institution, professional and growth-oriented organizations, we lay emphasis on Institute-Industry interaction during the placement process, which ensures a mutually beneficial outcome. This process enables students to explore new avenues while laying the foundations of their careers. On one hand it helps in not only placing students in their aspirational sectors but also helps organisations avail the best talent available in the campus.



### Ragging – Zero Tolerance

Ragging is strictly prohibited inside and outside the University campus. The Anti-Ragging Committee constituted for this purpose by the Institute is empowered to take immediate action against any untoward action and also to counsel the fresher. Students seeking admission shall have to furnish an undertaking in this regard. To enhance familiarity and to acclimatize the fresher to the academic and social environment of the campus, the Institute organizes an orientation session in the first week of the new academic calendar.

As per guideline of the UGC, ragging is strictly prohibited inside and outside the University campus. The Anti-Ragging Committee constituted for this purpose by the Institute is empowered to take an immediate action against any untoward incident and also to counsel the fresher. Students seeking admission shall have to furnish undertaking in this regard. To enhance familiarity and to acclimatize the fresher to the academic and social environment of the campus, the institute organizes an orientation session in the first week of the new academic calendar.

### Prevention of Sexual Harassment of Women at Work Place

In pursuance of the directions of the Hon'ble Supreme Court of India, the University has constituted a Complaints Committee for the solution, settlement or prosecution for the acts of sexual harassment to women. The sexual harassment includes:

- Physical contact and advances
- A demand or request for sexual favours
- Sexually coloured remarks
- Showing pornography
- Any other unwelcome physical, verbal or non-verbal conduct of sexual nature.

Any such act will be viewed very seriously and stern action will be taken against the person concerned.



### Women's Development Cell

In pursuance of the directions issued by the UGC and MHRD, Govt. of India the Nirma University has set up a Women Development Cell (WDC) and prescribed norms to sensitize the community with regard to gender related issues and create a gender friendly environment at the campus.

### Equal Opportunity Cell

Equal Opportunity Cell is set up with an aim to ensure equality and equal opportunities to the disadvantaged group through proper implementation of policies, skills and programmes. The Cell works under the guidance of University level Advisory Committee and follow the framework and guidelines prepared by the Advisory Committee.

# Eligibility & Admission Procedure

## ELIGIBILITY

Candidate must have passed Std. 12<sup>th</sup> (Science) with minimum 45% for open (40% for SC/SEBC) of theory or (theory and practical) marks of Physics & Maths with (Chemistry or Biology or Computer or Vocational Subject) from single board and appeared in JEE (Main) 2018 and GUJCET-2018 for admission to B. Tech. Programmes.

Seats (including NRI/NRI Sponsored) will be filled-in by the institute as per the guidelines of Government of Gujarat.

**Fees details** (excluding NRI/NRI Sponsored and International Students) **are as follows:**

No.	Particulars	Amount (in Rupees)	
		Sub Total	Total
1	*Fee (Per Annum)		₹167000
2	<b>Other Fees</b>		
a	Initial Enrollment Fee (One Time)	₹1000	
b	Examination Fee, Semester Grade Report (Per Annum)	₹7000	
c	Seminar, Orientation, Welcome Kit (One Time)	₹1200	
	<b>Total Other Fees (a+b+c)</b>		₹9200
3	<b>Deposits</b>		
	Other Deposit (Refundable)	₹1500	
	Library Deposit (Refundable)	₹5500	
	<b>Total Deposits 3</b>		₹7000
	<b>Total (1+2+3)</b>		₹183200
4	<b>Eligibility certificate (if required)</b>	₹1000	
	<i>* Fees are subjected to revision due to implementation of 7th pay commission While paying Fees Cheques or DD should be as per CTS-2010.</i>		

Transportation charges as prescribed will be extra, if applicable.

## International Students

15% supernumerary seats are available for admission to PIO (Persons of Indian Origin) & foreign students. Out of this about one-third i.e. 5% is reserved for Children of Indian Workers in Gulf Countries and South East Asia.

Candidate seeking admission to these seats should also meet the eligibility criteria. Admission will be done on the merit basis. For further details, please contact the Assistant Registrar (Academic), Nirma University.

## ADMISSION PROCESS

### 1. Govt. Seats-ACPC (50% of Intake)

50% seats of the total intake will be filled in by the Admission Committee for Professional Courses (ACPC, GoG). Candidates should apply to ACPC, GoG, separately. For eligibility and admission process please visit website: [jacpcldce.ac.in](http://jacpcldce.ac.in) of ACPC.

### 2. All India Seats (35% of Intake)

Candidates must register and apply online on the Institute website.

#### Eligibility

- These seats shall be filled from the candidates who have passed the qualifying examination from the schools located in India (including Gujarat State) and have appeared for JEE (Main) 2018 examination.
- Candidates must have passed 12<sup>th</sup> Science Examination with Physics, Chemistry and Mathematics with the percentage of marks as decided by the Government of Gujarat (GoG) under the rules of admission.

### 3. NRI / NRI-Sponsored Seats (15% of Intake)

Candidates must register and apply online on the Institute website.

#### Eligibility

##### NRI Candidates

- The candidates who have passed the Qualifying Examination from the schools located abroad are exempted from appearing in the JEE (Main)-2018 Entrance Examination.
- The candidates who have passed the Qualifying Examination from schools located in India (having NRI status) must have appeared for JEE (Main)-2018 Entrance Examination.

##### NRI-Sponsored

- Candidates must have passed the qualifying examination from the schools located in India (including Gujarat State) and must have appeared for JEE (Main)-2018 Entrance Examination.

Candidates under NRI / NRI-Sponsored quota are required to be present in person to submit the application form. A printed copy of duly filled application form, along with necessary documents mentioned on the website, and cheque/demand draft of applicable fees must be submitted. Incomplete applications and those without required supporting documents will not be accepted.

#### Application Form Fee for all India & NRI / NRI Sponsored Seats

- **Rs.413/- (Rs.350/- + 18% GST - non-refundable)** for the candidates who have appeared for the 12<sup>th</sup> board examination from a school located in the State of Gujarat (including Daman and Diu or Dadra Nagar Haveli (UT).
- **Rs.1416/- (Rs.1200/- + 18% GST - non-refundable)** for the candidates who have appeared for the 12<sup>th</sup> board examination from a school located outside the State of Gujarat / India.

#### PAYMENT MODE

All India Seats (35% of Intake)	Online Payment through Credit Card / Debit Card / Net Banking.
NRI / NRI-Sponsored Seats (15% of Intake)	By Cheque (payable at par) or demand draft drawn in favour of "Institute of Technology, Nirma University" payable at Ahmedabad.

All admissions are purely on merit and Merit list will be prepared as per the guidelines of ACPC.

Candidates are required to follow admission procedure and schedule, declared from time to time at the office of the Institute and Website. (URL :- [www.nirmauni.ac.in/ITNU/BTECHAdmission](http://www.nirmauni.ac.in/ITNU/BTECHAdmission)).

#### IMPORTANT DATES

35% All India Category Seats	
Online Application Starts from	12th April 2018
Last date for online application	31st May 2018
15% NRI/NRI-Sponsored Category Seats	
Online Application Starts from	12th April 2018
Last date for submitting application in person	26th June 2018



# Scholarship Schemes

To encourage the meritorious students and help the meritorious students on the basis of merit –cum-means the University provides scholarships as under:

## A. Category – I (Based on merit only)

Sr. No.	Details	Amount (p.a.)
1	Top 5 students	Rs. 1,00,000/- each
2	Other 20 students	Rs. 90,000/- each
3	Another 25 students	Rs. 50,000/- each

## B. Category – II (Merit cum Means)

Sr. No.	Details	Amount (p.a.)
1	25 Top students whose parents' total annual income is up to Rs. 2.5 lakh	Rs. 90,000/- each
2	Other 25 students whose parents' total annual income is up to Rs. 4.0 lakh	Rs. 50,000/- each
3	Another 25 students whose parents' total annual income is up to 6.0 lakh	Rs. 25,000/- each

**The above scholarships will be subject to the following conditions:**

- All the conditions narrated under Category – I above will be made applicable
- The students should be within top 500 in the merit list of the students admitted.

**Two different merit lists will be prepared and the number of scholarships will be distributed proportionately to each category. The merit list will be as under:**

- The list of the students admitted on the basis of the merit of JEE only which is 35%
- The another merit list will be prepared on the basis of the students admitted through ACPC

The number of scholarships as mentioned above is maximum and may vary from year to year depending upon the number of NRI seats filled – in every year.

The students admitted under the Non Resident Indian (NRI) or Person of Indian Origin (PIO), Foreign Nationals (FN) or Children of Indian Workers in Gulf Countries (CIWGC) categories will not be eligible for such scholarships.

The President will have power to make any exception in the above rules framed. However, in case of doubt, if any, in interpretation of any clause, the decision of the President will be final.



# Financial Assistance

## INTEREST FREE LOAN SCHOLARSHIP (IFLS)

The Nirma University offers financial assistance, by way of loan, to the needy students of the Institute of Technology. The main purpose of this service is to help the needy meritorious students.

- Assistance of 100 % interest subsidy on the loan, limited to the amount of tuition fees, obtained from the scheduled bank to a maximum of 5% of the total intake of students, and to the students whose family income does not exceed Rs.3.00 lacs per annum.
- Assistance of 50% interest subsidy on the loan, limited to the amount of tuition fees, obtained from the schedule bank to a maximum of 5% of the total intake of students, and to the students whose family income does not exceed Rs.5.00 lacs per annum.



## NITAA SCHOLARSHIP

Since 2008-09 NITAA provides Scholarships to needy students of the Institute from the NITAA fund.



## BOOK BANK SERVICE

The Library Resource Center also provides book bank facility to the students of Institute of Technology. The main purpose of this service is to help the needy meritorious students.



## EARN WHILE U LEARN SCHEME

- Enable meritorious and needy student to earn a reasonable amount every month to meet their expenses.
- Explore the potential of student as a valuable human resource.
- Gives students hands on experience and develop them for future job.
- Encourage students for diversification of activities beyond syllabus to needy students.



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## CONTACT DETAILS

### Admission Officer

UG Admission Committee 2018  
PG Building  
Institute of Technology, Nirma University,  
Ahmedabad - 382481.

### Phone No. (admission officer)

079 - 3064 2583 / 84 / 85 / 86  
02717 - 241 271

### Email ID

ugadmissions.it@nirmauni.ac.in

### Website URL

<http://www.nirmauni.ac.in/ITNU/BTECHAdmission>

### Office Timings

11.00 a.m. to 4.00 p.m. (Monday to Friday & Odd - Saturdays)

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