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ENGINEERING | MEDICINE AND HEALTH SCIENCES
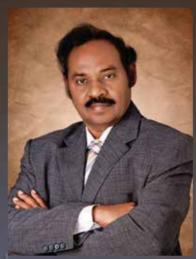MANAGEMENT | SCIENCE AND HUMANITIES

SRM
UNIVERSITY
(Under Section 3 of UGC Act 1956)

ENGINEERING
AND
TECHNOLOGY

SRM
UNIVERSITY
(Under Section 3 of UGC Act 1956)

FROM THE CHANCELLOR

" Engineering and
science can give you
the exhilarating power,
to become an active explorer,
maker, doer, and help invent
the future. "

SRM University's engineering programs endeavour to be at the forefront of innovation. They also foster multi-disciplinary collaborations aimed at solving the most pressing global problems.

Our mission is to seek solutions to global challenges by using the power of engineering principles, techniques and systems. We believe that engineers should not only possess deep technical excellence, but also nurture creativity, cultural awareness and entrepreneurial skills that come from exposure to science, business, medicine and other disciplines - all an integral part of the SRM experience.

Our goal is to deliver world class, problem driven programs that inspire curiosity and generate new knowledge and discoveries. Our collaboration with over 50 of the world's best universities and 215 corporates, strengthens our academic and research programs.

The University is committed to pioneering innovations in research, transferring discoveries to the broader community, and educating tomorrow's leaders and entrepreneurs.

Welcome to SRM!

T. R. Paarivendhar

Dr. T. R. Paarivendhar
Chancellor

Contents

School of
Civil Engineering

Department of Civil Engineering (CIVIL)

The Department of Civil Engineering strives to create outstanding engineers. Advanced teaching techniques and learning aids for undergraduate students and state-of-the-art research facilities for postgraduate and doctoral students not only make them experts in technical aspects but also in interpersonal skills - a vital ingredient to excel in this fast paced world.

Academics

Undergraduate

The curriculum is outcome based. The structure of the program includes basic foundation courses like mathematics, physics and chemistry; courses in Engineering Sciences and Technical Arts; foreign language courses like German, French, Japanese, Chinese and Korean.

State-of-the-art lab facilities make the learning process an enjoyable experience. Periodical guest lectures, technical competitions, student seminars and industrial visits ensure a holistic development of students.

Postgraduate

Postgraduate programs include civil engineering specializations like structural engineering, construction engineering and management, geotechnical engineering, water resources engineering and interdisciplinary programs like GIS and remote sensing and environmental engineering. The structure of the programs includes core courses, supportive courses, program electives, interdisciplinary electives, industrial training and project work. The projects are research oriented and socially relevant, leading to publications.

Research Focus

The department offers Ph.D programs in all major civil engineering disciplines, both full time and part time. Research areas include concrete technology, structural dynamics, GIS and remote sensing, soil mechanics, construction management and water resources.

Programs offered

Undergraduate: B.Tech. (Civil Engineering)

Postgraduate:
M.Tech. (Structural Engineering)
M.Tech. (Construction Engineering and Management)
M.Tech. (Remote Sensing and GIS)
M.Tech. (Environmental Engineering)
M.Tech. (Water Resources and Management)
M.Tech. (Geotechnical Engineering)

Doctoral: Ph.D

Careers

Many industry representatives visit the campus for recruitment. The campus placement centre provides additional support for securing employment with companies like L&T, Technip, Foster-Wheeler, Bechtel & Gammon, MAYHTAS, CCCL & Ltd., Shobha Constructions, Jain Housing Ltd., as well as several MNCs.
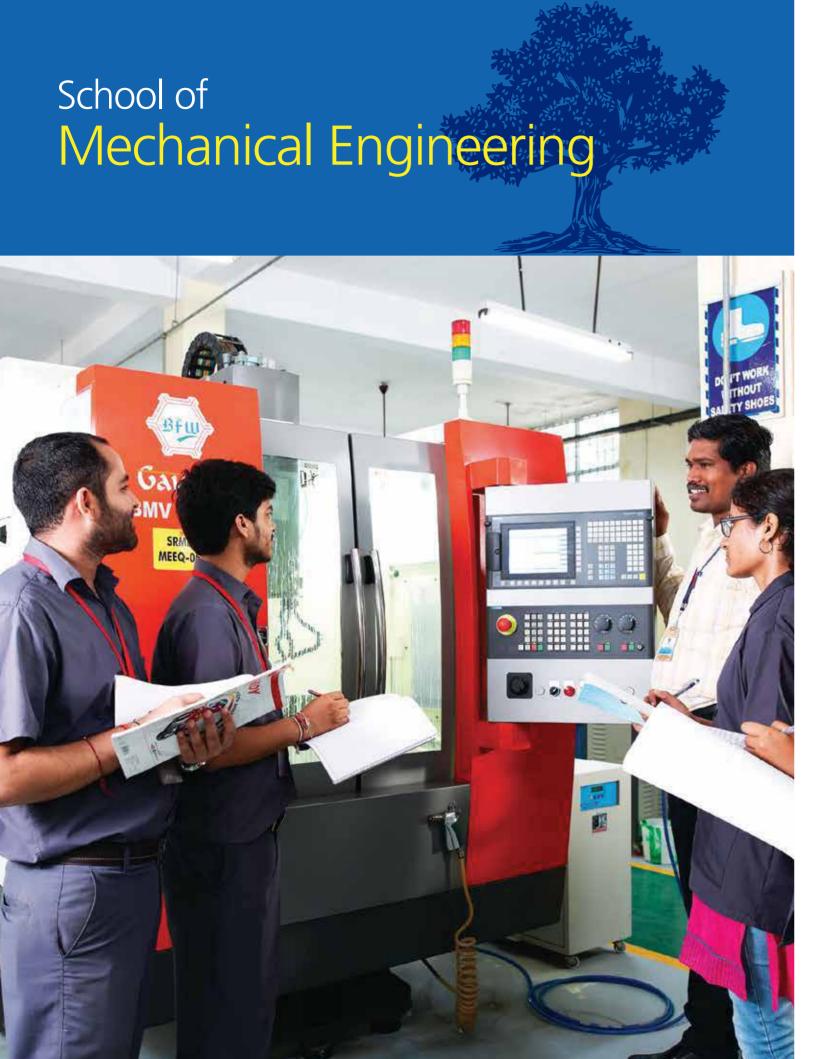
Interaction with University of Dundee, Scotland, for student exchange programs

Collaboration with **Queen's University, Canada**

10 well equipped labs covering 13,500 sq. ft.

Centre for sandwich testing panel, established as a tie-up with an industry in **Denmark**

Highly qualified faculty, with rich practical experience

School of
Mechanical Engineering

Department of Mechanical Engineering (MECH)

Mechanical engineers require a solid understanding of key concepts like mechanics, thermodynamics, energy and manufacturing. They use these principles in design, analysis, machinery and much more.

Academics

Undergraduate

The B.Tech. in Mechanical Engineering is a comprehensive degree program. The goal of the curriculum is to create a flexible undergraduate educational experience in design, mathematics, modeling, computing, management, engineering science, humanities, social sciences and fine arts. Principle study topics include fluid mechanics, thermodynamics and heat transfer, solid mechanics, materials engineering, manufacturing, energy systems, dynamics and control, Computer Aided Design (CAD), and Computer Integrated Manufacturing (CIM).

This broad and flexible program allows students to customize their programs to meet their objectives and particular career goals.

Programs offered
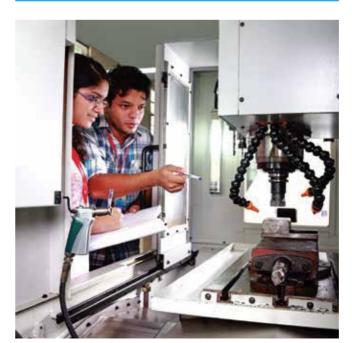
Undergraduate: B.Tech. (Mechanical Engineering)

Postgraduate:
M.Tech. (Computer Aided Design - CAD)
M.Tech. (Computer Integrated Manufacturing - CIM)
M.Tech. (Robotics)
M.Tech. (Solar Energy)

Doctoral: Ph.D

Traditional students can prepare for technological careers in industry, graduate school or management. The interdisciplinary students can utilize this program as a launching pad for professional careers in business or public service.

Postgraduate

These programs prepare students for design positions that require skilled and imaginative solutions to engineering problems in their specializations. Students in these programs are provided with good computational knowledge and exposed to mechanical engineering software. All the programs are interdisciplinary.

Research Focus

The department offers Ph.D. programs in major areas of Mechanical Engineering like design, thermal and manufacturing engineering in both full time and part time mode. Research areas include machining, bio-mechanics, bio-fuels, composites and energy.

Careers

The program enables the students to take up careers in a broad spectrum of industries. Many of the IT industries have CAD/CIM divisions, which increases the job potential of mechanical engineers. Around 70% of students are placed in reputed industries, practicing core and allied engineering through campus recruitment. The remaining 30% prefer higher studies in India and abroad.
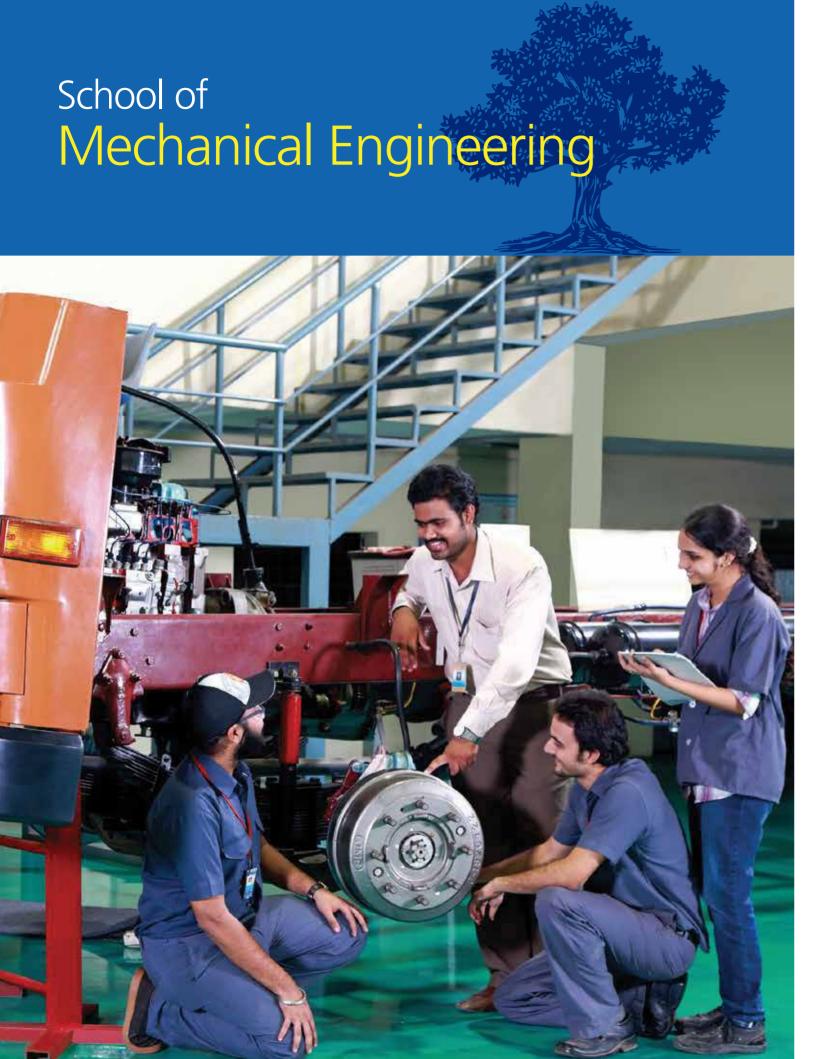
146 papers published in refereed international journals

Over **28** laboratories

Visiting professors from international universities

Rapid prototyping lab, CMM lab, robotics lab, bio-mechanics lab

Active learning laboratory along the lines of the **Discovery Laboratory at MIT, Boston**

School of
Mechanical Engineering

Department of Automobile Engineering (AUTO)

Automobile Engineering is a branch of engineering incorporating elements of mechanical, electrical, electronic, software and safety engineering as applied to the design, manufacture and operation of motorcycles, automobiles, buses and trucks and their respective engineering subsystems. Automobile engineering offers one of the most challenging careers today. Driven by the high demand for vehicles, automobile engineers have career opportunities across the world. The course gains significance for those who are passionate about automobiles, especially since Chennai is the automobile hub of India.

Academics
Undergraduate
The objective of the B.Tech program in Automobile Engineering is to give students a broad exposure in the design, development and testing of automobiles. Furthermore, the program trains them to meet the

technological challenges and diverse needs of the industry and society in various areas of automotive engineering, and equips them to excel in a truly competitive world.

Postgraduate
An intensive multidisciplinary 2 year program (first semester at SRM University and next three semesters at NFTDC, Hyderabad) covering EV and Hybrid vehicle design, batteries, propulsion systems, power electronics, power transmission, vehicle dynamics, Advanced CAD and thermal management. NFTDC fellowship for top applicants.

Research Focus
The department offers Ph.D programs in all major Automobile Engineering areas both full time and part time. Research areas include alternative fuels and vehicle dynamics.

Programs offered

Undergraduate: B.Tech. (Automobile Engineering)

Postgraduate: M.Tech. (Automotive Hybrid Systems Engineering)

Doctoral: Ph.D

Careers

Students get the opportunity to work in many top-notch automobile and IT companies like Mahindra & Mahindra, John Deere, Hyundai, Ashok Leyland, Renault Nissan, Royal Enfield, Ford India, AMW, Greaves Cotton Ltd., Puri Crawford, Keane India Ltd., Taegutec India, Rico Auto, Sharada Motors, Cholarisk Services, General Motors, Oracle, TCS, CTS, Infosys, Accenture, L&T Infotech, Wipro Ltd., Musigma, I-Gate, Patni & Capgemini India.

With the opening of R&D and manufacturing plants by global players in various parts of the country and the increase in demand for automotive experts in the domestic and international markets, graduates of automobile engineering have a bright future ahead.

Ford sponsored auto components laboratory

SRM-BOSCH joint certification training centre

Highly qualified and experienced teachers

National and international teams participating in various competitions

SRM University official teams:
The Conrods - Baja SAE India | Camber racing - Supra SAE India | 4ze racing - student formula (electric) | SRM WiRL - RC car racing | Infieon super mileage - Shell eco marathon Asia | Team full throttle - Go Kart racing | Hybrutous - Hybrutous racing | Enigmatic plodder - Quad-Bike(ATV)

School of
Mechanical Engineering

Department of Aerospace Engineering (AERO)

Aerospace Engineering is, according to the popular quote, "Mechanical engineering done better", as engineering design and analysis need to be more precise and use advanced materials. Manufacturing is always through the most advanced technologies that invariably focus on closer tolerance levels. With the explosive growth in civil aviation, satellite communications and space exploration, the demand for aerospace engineers has skyrocketed.

Academics
Undergraduate
The goal of the B.Tech. program in Aerospace Engineering is to train the students in a broad based manner with equal focus on applications in aircraft engineering, rocket and space technology. The curriculum is designed to impart engineering knowledge in topics such as structural mechanics, aerodynamics, propulsion and space dynamics.

Postgraduate
M.Tech. and M.S. programs in Aerospace Engineering will be introduced soon.

Research Focus
Ph.D programs with specialization in structural mechanics, aerodynamics and propulsion are good doctoral options for M.Tech. graduates in mechanical engineering or aerospace engineering with a flair for research.

Programs offered

Undergraduate: B.Tech. (Aerospace Engineering)

Doctoral: Ph.D

Careers

Graduates in Aerospace Engineering can seek employment in civil aviation, defense R&D laboratories, space research organizations, and CSIR laboratories. Aerospace graduates are also preferred by software industries engaged in engineering software developments. In addition to these, graduates can enter general fields like management and civil services. Those having a flair for higher education and research can pursue M.Tech. and Ph.D.

A four seater Cessna 172 aircraft is used for introducing the students to the subject of aircraft systems and maintenance

Experiments on high speed flow in a Supersonic wind tunnel with Mach number 2.5 is part of the undergraduate curriculum

Top notch faculty:
Former ISRO engineers and professors from IIT

School of
Mechanical Engineering

Department of Mechatronics Engineering

Mechatronics is a design process that includes a combination of mechanical engineering, electrical engineering, control engineering and computer engineering. It is a multi-disciplinary, exciting and emerging field of engineering. A mechatronic engineer unites the principles of mechanics, electronics and computing to generate a simpler, more economical and reliable system.

The B.Tech. program in Mechatronics was started under the umbrella of the School of Mechanical Engineering in 2005-06. The Department of Mechatronics is also engaged in other activities such as industrial consultancy, industrial training, research and conduct of seminars and conferences.

Undergraduate Program
B.Tech. in Mechatronics is offered full time and through part time modes of study. It has a highly interdisciplinary curriculum with many unconventional and sandwich courses with content integrated from the basic engineering disciplines. Most of the in the curriculum is developed with an intent of imparting research attitude.

Postgraduate Program
M.Tech. in Mechatronics Engineering will soon be offered at the university.

Research Focus
Ph.D. program with specialization in mechatronics, robotics, automated systems etc., are offered.

Careers

Modern machines in industry do not belong exclusively to any one branch of engineering, as they are interdisciplinary in nature. Mechatronics engineers have a unique specialization of system integration. The graduates passing out of the program have a bright future and career growth in interdisciplinary sectors like automobile manufacturing, engineering and electronics industries.

Well developed **infrastructure** facilities

Aura lab to incubate research talents

10 students visited **Tokai University, Japan** as part of **Sakana Program, JST**

Runner up in **Asia level solar** powered competition **ETROS16**

2nd place in static judgment round in **Roboboat 2016** conducted by **AUVSI Foundation, US**

Programs offered

Undergraduate: B.Tech. (Mechatronics)

Doctoral: Ph.D

School of
Electrical and
Electronics Engineering

Department of Electronics and Communication Engineering (ECE)

Electronics and Communication Engineering (ECE) is a rapidly advancing field, with new ideas emerging every other second. From mobile phones to fiber optics and remote sensing, there are exciting avenues to explore and create. The department prepares students for careers in this constantly evolving discipline.

Academics

Undergraduate

Students pursuing B.Tech. in ECE have a full and flexible undergraduate curriculum. Numerous streams can be tailored to match an individual's interests, skills and career goals. Students prepare for technology careers in industry, research, academia or management.

Postgraduate

Postgraduate study in ECE prepares students for leadership roles in research, development and design positions that require skillful and imaginative engineering solutions. The department offers several postgraduate degrees in the latest advanced technologies.

Research Focus

The department offers Ph.D program in all disciplines of ECE including mobile/wireless communication and networking, MIMO-OFDM techniques, optical communication, RF/Antenna designs, signal/image processing, VLSI, Nano electronics and embedded systems.

Programs offered

Undergraduate:
B.Tech. (Electronics and Communication Engineering)

Postgraduate:
M.Tech. (Embedded System Technology)
M.Tech. (VLSI Design)
M.Tech. (Communication Systems)

Doctoral: Ph.D

Careers

The Department prepares students to pursue leadership, technical and management positions in a rapidly growing industry. Students have been placed in prestigious and leading companies like Intel, Texas Instruments, Infosys, TCS, Keane, Mindtree, Wipro, Cognizant Technologies and Tata Elxsi. Many go on to pursue higher studies in prestigious institutions in India and abroad.

Partnership with **Nuvoton Technology Corporation (NTC),** Taiwan, a chip design company to enhance the power of embedded systems lab

20 laboratories: DSP, microprocessor, communication, optical, VLSI and embedded systems

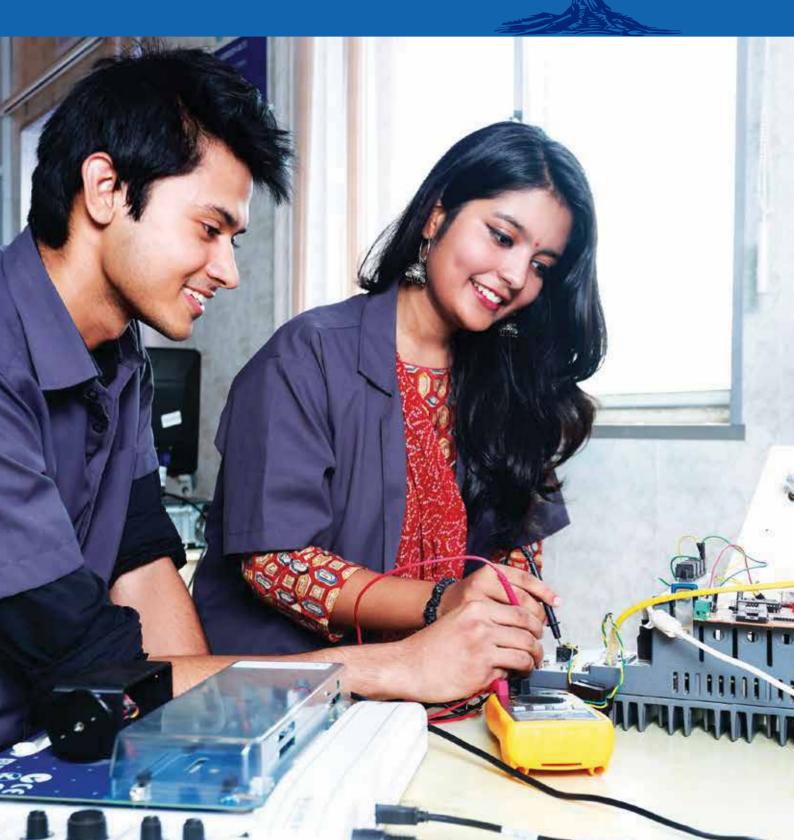Student project **'Smart Dustbin'** for Kodaikanal Tourism Center, is successfully installed and in use

Semester Abroad Programs
with reputed international universities like MIT, USA, University of California, University of Wisconsin, USA, Lille Catholic University, France, and University of Western Australia

Supported by FIST program of DST, Govt. of India and funded projects from **ISRO, DRDO, DBT** and other GoI agencies.

School of
Electrical and
Electronics Engineering

Department of Telecommunication Engineering (TCE)

The landscape of telecommunications is changing rapidly and undergoing tremendous growth. From ordering a pizza over a hotline to high tech radar on a jet, we see telecommunications working wonders. The convergence of IT and telecommunications technology promises innovative products and services that will revolutionize lifestyles and work practices. Keeping in view the importance and demand for telecommunication engineers in India and abroad, the Department plays a vital role in enabling the success of its students' in the domain of telecommunication.

Academics
Undergraduate
The B.Tech. Information and Telecommunication Engineering program gives students a firm grounding in specializations like electronics, information theory, digital signal processing, microwave and optical engineering, mobile/wireless communications, wireless information networks and software programming for telecommunications (Java, .NET and Android OS).

Postgraduate
The M.Tech. Telecommunication Networks program has been introduced from the academic year 2010-11 for students who wish to specialize in this branch of telecommunication.

Research Focus
The telecommunication engineering department offers Ph.D program in all disciplines of telecommunications including antennas & its applications, mobile/wireless communication networks, RF/Transceiver technology for new generation wireless networks, UWB and millimeter-wave wireless technology, Tera hertz communications, RF based opto-electronics, visible light communications and planning & deployment of wireless communications networks.

Programs offered

Undergraduate:
B.Tech. (Information and Telecommunication Engineering)

Postgraduate: M.Tech. (Telecommunication Networks)

Doctoral: Ph.D

Careers

Opportunities abound in the telecommunications sector. Students can build a career in mobile/wireless communications, networks, information technology, satellite communications, cable networks and communication device development. And, those with a flair for higher education can pursue ME, M.Tech., M.S. and Ph.D Engineers are in demand in both the public and private sectors. More than 90% of the students are placed in reputed IT and telecom companies through campus recruitment.

World class research activities in Smart Wireless Applications for Communication Networks (SWAN) utilizing RF and Antenna Application Measurements (RAMS) platform via funded research projects from DST/DRDO/ISRO/DBT, GoT.

Global exposure through international Student Exchange and Research Internships

Communication Skills, Analytical Thinking, Problem Solving and Entrepreneurship capabilities through **TESLA** (Telecom Engineering Students Learning Association), HAM Radio, IEEE COMSOC and International Conferences/Events.

School of
Electrical and
Electronics Engineering

Department of Electrical and Electronics Engineering (EEE)

Electrical and Electronics Engineering is a continuously evolving subject. As technology has advanced, so have the challenges facing the modern engineer. EEE is a subject that naturally partners with other disciplines to open whole new engineering avenues. Examples include Mechatronics with Mechanical Engineering, Bio-medical Sciences with Medicine, and Avionics with Aeronautics. The Department prepares students using new age information and computer intensive technologies.

Academics
Undergraduate

The B.Tech. degree program is designed to achieve a balance between depth of knowledge acquired through specialization and breadth of knowledge gained through exploration. The undergraduate degree courses provide a comprehensive foundation in the core topics of EEE coupled with an area of specialization relevant to emerging engineering challenges. The flexible credit system based curriculum has been designed to create professional electrical and electronic engineers, who can serve in the fields of core electrical engineering, information and communication systems, and other related fields.

Postgraduate

In EEE, there is growing awareness that the future training and education of electrical engineers in the industry needs to be in the area of highly efficient, industry relevant skills formation. Hence, the postgraduate programs in power electronics and drives, and in power systems were evolved.

Reasearch Focus

The department offers Ph.D programs, both full time and part time in all major areas of Electrical and Electronics. Research areas include Power Electronics and Drives, Power Systems, High Voltage Engineering, Power System Protection, Renewable Energy Sources, Drives and Controls, Soft Computing in Power System and Power Electronics.

Programs offered

Undergraduate: B.Tech. (Electrical and Electronics Engineering)

Postgraduate:
M.Tech.(Power Electronics and Drives)
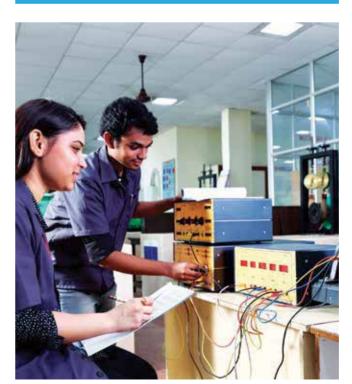M.Tech (Power Systems)

Doctoral: Ph.D

Careers

Graduates of the university consistently appear as the first choice of employers. Studying EEE will lead to potential careers in the areas of Research & Development (R&D), design, systems analysis, installation and commissioning, process engineering, control and maintenance, manufacturing, quality assurance and testing, information technology, programming, consultancy, management and software engineering.

Faculty as visiting professors in foreign universities in USA, France, South Africa and Malaysia

15 laboratories with modern equipment supported by special purpose software packages

392 research papers published in referred international journals

Project designed by students 'Solar Grid Connected Systems' won prize of USD 1200 in Texas Instruments Innovation Challenge: India Analog Design Contest

Consistent placement record of more than 90% in the past few years

University Rover Challenge 2016 - Student team RUDRA bagged 1st in Asia and overall 9th position worldwide, a Rover competition conducted by MarSociety/NASA/ USA

School of
Electrical and
Electronics Engineering

Department of Electronics and Instrumentation Engineering (EIE)

Electronics and Instrumentation engineers carry out the task of measuring, installing, developing, testing, maintaining and designing various instruments used in continuous process industries. With computer processes and automation techniques, the engineers formulate ways to control these systems. In other words they aim to 'measure the world accurately and to control it precisely'.

Academics
Undergraduate
This program combines academic and motor skills necessary to carve out a path in the field of electronics measurement, control and understanding of complex industrial processes. The highlight of this program is the dual purpose approach of learning key concepts and engaging in practical experience. The students are trained to plan, design, install, operate and maintain complex instruments and at the same time ensure the highest quality. The department consists of an experienced and energetic team of experts in fields like Embedded Systems, Signal Processing, Image processing, VLSI Design, Power

Electronics and Drives, Biomedical Instrumentation and DSP controllers, Process Control Instrumentation etc.,

Postgraduate
With the instrumentation and control sector experiencing major technological advancements in recent years, the program is directly relevant to the needs of any type of industry. It aims at developing academic and professional excellence for fresh graduates as well as practicing engineers who wish to enhance their knowledge and skills in the fields of instrumentation and control systems.

Research Focus
The department offers Ph.D program in all major Electronics and Instrumentation Engineering areas, both full time and part time. Research areas include MEMS Control and Instrumentation and applications of Instrumentation Engineering in the fields of Biomedical, Aerospace, Automotive and Robotics and Automation systems.
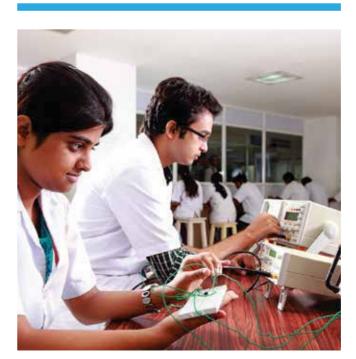
Programs offered

Undergraduate:
B.Tech. (Electronics & Instrumentation Engineering)

Postgraduate:
M.Tech. (Electronics and Control Engineering)

Doctoral: Ph.D

Careers

On completion of the degree, students will be prepared for careers in Industries that manufacture and apply instrumentation for all types of power plants, and embedded systems, robotics, aerospace and various other automation industries.

Intensive training in DCS, PLCs, SCADA, LabVIEW, PRODOK, CONVAL, MATlab, COMSOL, Intellisuite, Coventorware, L-Edit etc.

Large student placement in top companies such as ABB, Yokogawa, Saipem, Siemens, Mahindra & Mahindra, Essar Steels, L&T, Johnson Control, KPIT Cummins, Rockwell, Ford etc.

Students contributed in various projects like in development and launching of SRM Nano Satellite 'SRMSAT', International competition "CANSAT" organized by NASA, ROBOCON, TEXAS Instruments, CAMBURG racing etc, Students have done internship in various reputed organizations like Process Industries, FORD, Department of Space, Petrofac, Renault Nissan, IITM Research park, various Research centers etc.

School of Computing

Department of Computer Science and Engineering (CSE)

The future of computing and IT systems begins here. The department's mission is to advance, evolve and enhance computer science and computing engineering fundamentals to build the intellectual capital of the nation. The department endeavors to become an important regional, national and international resource centre for the development of computing, IT systems and applications. This is a period of exciting growth and opportunity for the department, propelled by the placements and recognition it achieved recently. CSE has a vibrant student body of undergraduate and postgraduate students and a stellar faculty of professors and assistant professors.

Academics

Undergraduate

The B.Tech. in CSE is a broad and flexible degree program with the curriculum specially designed to reflect the depth and breadth of Computer Science and Engineering. Under the Semester Abroad Program (SAP) and dual degree program, many students spend a semester in foreign universities. To further enhance the quality of the programs, the Department has entered into an academic collaboration with the prestigious Carnegie Mellon University, Pittsburg, USA and an academic affiliate of Institute of Engineering and Technology (IET), UK.

Postgraduate

The postgraduate program prepares scholars to become leaders in knowledge driven professions by providing an enabling environment focused on collaborative and interdisciplinary research. Students learn to reach across traditional academic boundaries to seek the knowledge and resources needed to solve important technological problems. Students with eligible GATE scores are given monthly stipends.

Research Focus

The Department offers Ph.D programs in all major Computer Science and Engineering disciplines, both full time and part time and more than 120 are pursuing their research. Research areas include artificial intelligence, data mining, wireless sensor networks, biometrics, IOT, web services, software defined networking and natural language processing. High encouragement is given for research publications in international journals with high impact factor. Research Guides and faculty members of Small Working Groups are encouraged to setup special labs. Special labs such as Wireless Sensor lab, Brain Computer Interface lab, SRM-TEJAS SDN Test Bed, SRM-PURA lab, NLP, Image Processing lab are utilized by the UG/PG/Ph.D scholars effectively. Government funded research/projects like DRDO are carried out in such labs.

Programs offered

Undergraduate: B.Tech. (Computer Science and Engineering)

Postgraduate: M.Tech. (Computer Science and Engineering)
M.Tech. (Internet of Things)
M.Tech. (Software Defined Networking)
M.Tech. (Wireless Communication and Mobile Computing)

Doctoral: Ph.D

Careers

The department prepares students to pursue leadership, technical and management positions in various industries. Starting from the second year, students are encouraged to undergo internship trainings with or without stipend in various well known companies as well as start-up companies. Many undergraduate and postgraduate students of final year are offered internship by Amazon and Philips India Ltd. for a duration of one year.

Later, through placement, many are recruited by Cognizant, TCS, Infosys, Wipro, Accenture, IBM, Thought Works - Works Application, Microsoft, Capital IQ, SAP Labs, Honeywell, Hexaware and many more. The Department maintains the record of placing highest number of students, above 95 percent for many years. More than 5% of students do higher studies abroad every year. Many of the alumni are successful entrepreneurs in India and abroad.

Special clubs such as IET student chapter, Microsoft student club, Google student club, Mobile-App development club, SRM-AUV team, SRM- Search Engine team and CSE association work enthusiastically under the mentorship of CSE department faculty members.

- Many faculty members with over 20 years of experience
- 600+ high performance computers and 14 laboratories to fulfill the academic requirements
- Accessibility to Research Zone and five different special laboratories for research activities and projects, after the working hours
- Six special student clubs to encourage students and their potential academic activities
- Maximum internship stipend amount received by final year students is ₹60,000 per month
- Maximum of 12 placement offers received by CSE student last year, through off and on campus drives
- Highest salary package of ₹32 lakh per annum offered to our students for three consecutive years

School of
Computing

Department of Information Technology (IT)

The Web has changed the way the world looks at information. The expanding role of IT in business, science, government, social structures and personal lives is obvious in the current generation. As an academic discipline, IT focuses on meeting the needs of users within organizational and computing technologies.

Academics
Undergraduate
The B.Tech. program provides graduates with the skills and knowledge for appropriate professional positions upon graduation and grow into leadership positions or pursue graduate studies and research in the field. The program is developed in such a way that the student develops a practical understanding of programming languages, web technologies, networking technologies, information management and cybernetics. The courses on virtualization and cloud computing enable the students to keep abreast of the latest technologies and tools used in the IT industry.

Postgraduate
The Department offers M.Tech. programs in Information Technology, Information Security and Cyber Forensics, Cloud Computing and Big Data Analytics. All these specialized programs are designed to meet the present and future needs of the industry and prepare the students for a research career. The cloud computing program is extensively supported by EMC Corporation.

Research Focus
The Department offers Ph.D programs in specialized areas and leading disciplines of Information Technology. Thrust areas of research include Big Data Analytics and Cloud Computing, Semantic Web Mining, Wireless Sensor Networks, Information Security and Cyber Forensics, IoT, Natural Language Processing and Formal Algorithms. The department also houses a Centre of Excellence in data science and big data analytics to aid the researchers in their work.

Programs offered

Undergraduate: B.Tech. (Information Technology)

Postgraduate:
M.Tech. (Information Technology)
M.Tech. (Information Security and Cyber Forensics)
M.Tech. (Cloud Computing) – in association with EMC Corporation
M.Tech (Big Data Analytics)

Doctoral: Ph.D

Careers

Students get to work in many top notch IT companies like IBM, TCS, Microsoft, Oracle, SAP Labs, Wipro, HCL, Capital IQ and Payoda through campus recruitment. The trend of a sizeable number of graduates travelling to USA, Canada, UK, Australia and Singapore for MS programs is increasing.

Curriculum and syllabi designed according to IEEE/ACM guidelines

14 laboratories

Department organizes International and National Conferences

Expert guest faculty from industry deliver lectures on contemporary topics

Tie-up with NEC(Japan), EMC Corporation, IBM, Accenture, TCS, Oracle, Cisco and Mahindra Satyam

School of Computing

Department of Software Engineering (SWE)

The software industry revolution has created a new wave, adapting to the new age and encompassing the most excellent features of Computing, Information Technology and Management coupled with experts' opinion from the software industry has emerged into a new stream of Software Engineering. Leadership in software is important for any country's economy, security and quality of life. Much of the economy depends upon highly secured computer software, either for incorporating into products, manufacturing products or for designing competitive products. Through the curriculum, the department aims to offer diverse areas of computing to create a platform towards achieving a higher degree of knowledge, global competency and excellence in design, development and application of various emerging technologies in software systems.

Academics

Undergraduate

The B.Tech. in Software Engineering (SWE) persistently strives to build a technological base and achieve excellence in the arena of various domains of Software Engineering. The relentless effort is to produce Software Engineering graduates with potential to design and develop effective software systems. This involves analyzing the requirements of the problem, understanding the complexities and applying the appropriate software technologies, pertaining innovative approaches to programming and integrating the software and hardware components, there by elevating the software development skills of the students. Through these, students will implement and deploy software applications to develop and control the quality of existing software systems to meet current trends.

Postgraduate

The postgraduate program has been designed to cater to the changing needs and demands of the software industry. The objective is to train students in advanced software management, technical skills and direct them to carry out research activities. The practical aspect of the curriculum ranges from amalgamating the requirement elicitation through advanced concept of knowledge engineering, overseeing the project work by applying software project management and agile methodologies, uplifting their skills in other specialized areas like Software Quality Management, Metrics, Reliability and Reuse, where they apply the acquired knowledge in the latest web based and industry oriented projects.

Research Focus

The department offers Ph.D programs in all major Software Engineering disciplines both full time and part time. Research areas include software estimation, e-learning system design, software project management, software metrics, multimedia, agile software development, performance evaluation of computer systems and networks, image processing, and pattern recognition. Various faculty members are pursuing their doctorate programmes in fields like bandwidth management, image analysis, web services, cloud computing, software quality management, software estimation, fuzzy logic and data mining.

Programs offered

Undergraduate: B.Tech. (Software Engineering)

Postgraduate: M.Tech. (Software Engineering)

Doctoral: Ph.D

Careers

The Department has consistently strived to train students for careers in technical, management and leadership positions in the Software industry. As a result the department has successfully placed 95% of its students in leading companies like Capital IQ, Payoda, SAP Labs, TCS, Accenture, Wipro, Robert Bosch, Capgemini, Tech Mahindra, Newgen, Sourcebits, MindTree, Piqube and Works Association (Thought Works). Many students go abroad for higher studies. The department also provides a platform for young entrepreneurs to start their own business.

- Collaboration with Carnegie Mellon University
- Curriculum and syllabi framed under IEEE/ACM guidelines
- Active academic- industrial collaboration through guest lectures, internships, conferences and workshops to keep in pace with recent technologies and trends
- Student internships at prominent companies like NEC-Japan, Microsoft, SAP Labs, Amazon, Cisco
- Special student clubs like SRMKZILLA (Mozilla) to encourage student academic activities
- Adjunct Faculty certified by CMU, Pittsburg under MSIT-ESE Program
- Software Engineer Association- active platform to showcase and enrich students technical and managerial skills

School of
Bio Engineering

Department of Biotechnology (BT)

Globally, the domain of biotechnology is changing rapidly and dynamically. The department therefore focuses on imparting current advances and knowledge about biotechnology along with the basics of research, thereby instilling confidence about the subject to students. The department keeps abreast of the latest developments in the fields of pharmaceutical, bio-pharmaceutical, drug discovery, healthcare, diagnostic and therapeutics, plant and animal sciences, and environmental sectors.

Academics
Undergraduate
B.Tech. Biotechnology is focused on bridging bio-sciences with engineering. Multiple paths have been embedded in the design of the curriculum to create a flexible educational experience comprising bioscience credentials like microbiology and immunology, biochemistry, molecular biology and genetic engineering, plant and animal cell and tissue culture, genomics and proteomics, IPR and bioethics, and bioengineering like bioprocess technology, downstream processing unit operations along with chemical engineering, mathematics and basic engineering subjects.

Postgraduate
The main thrust of the programme is on research support leading towards scientific excellence, development of new products or processes, large scale demonstrations and validation of R&D leads. This advanced course covers various sub-disciplines of biotechnology such as medical, plant, environmental and bioprocess engineering and is designed to suit both manufacturing, and R&D programs. Students are given strong insights into both theoretical and practical aspects of individual courses and subjects.

Research Focus
The department offers Ph.D programs in all major biotechnology disciplines, both full time and part time. Research areas include tissue engineering, immunology, neurobiology, metabolic diseases, plant biotechnology, microbial technology, marine biotechnology, environmental biotechnology, bionanotechnology, and bioprocess engineering.

Programs offered

Undergraduate: B.Tech. (Biotechnology)

Postgraduate: M.Tech. (Biotechnology)

Doctoral: Ph.D

Careers

Students are trained to work in the bioscience industry in areas like Research & Development in vaccine production, biofertilizers production, clinical testing, and diagnostic work. Potential employers include biotechnology and pharmaceutical companies, as well as laboratories in hospitals, government, universities, horticultural industries, conservation organizations, beverage and agricultural industry.

Experienced faculty with advanced academic degrees and postdoctoral training from reputed universities and hospitals in USA, UK, Germany, Japan and South Korea

Research funding from government: DBT, DST, ICMR, and CSIR

After graduation, B.Tech and M.tech. Students are pursuing higher studies in reputed institutions and universities in India and abroad with merit scholarships

Twinning program 2+2 pattern with universities abroad: B.Tech. from SRM and BS from overseas university

School of
Bio Engineering

Department of Biomedical Engineering (BIO-MED)

Biomedical Engineering is the application of classical engineering principles to solve clinical problems in medicine and surgery. Biomedical engineers work with other healthcare professionals as members of a team. Employment opportunities for biomedical engineers exist in the industry, government organizations, universities, medical schools and hospitals.

Students have access to advanced research facilities through an MoU with Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam and Bharat Scans, Chennai. Its main objective is to provide knowledge based, timely, cost effective and high quality service to clinicians in a professional and responsible manner in order to improve and enhance patient care by supporting all aspects of care related technology.

Academics
Undergraduate
The B.Tech in biomedical engineering trains the students to plan, design, install, operate, and maintain complex systems that help medical practitioners in the diagnosis and treatment of various diseases.

Postgraduate
The M.Tech in biomedical engineering includes core courses as well as a wide range of electives related to patient care and rehabilitation.

Research Focus
The department offers Ph.D programs in all major areas of biomedical engineering, which include applications of medical thermography in diagnosis of diabetes mellitus, breast cancer, cardio-vascular diseases and rheumatoid arthritis.

1. M.Tech Biomedical Engineering student won "BWH Bright Future Research Award 2014". The Bright Future Research Award is a prestigious award with a cash prize of $100,000.
2 Biomedical Engineering department has research collaborations with IGCAR, Mtab Engineers Pvt Ltd., Chennai and Materialise.
3. Our students have done semester abroad program in various foreign universities such as Harvard Medical School, USA, National University of Singapore, Singapore and Queensland University, Australia.

Programs offered

Undergraduate: B.Tech. (Biomedical Engineering)

Postgraduate: M.Tech. (Biomedical Engineering)

Doctoral: Ph.D

Careers

According to a recent survey in IEEE's Spectrum magazine, Biomedical Engineering is one of the most preferred areas to work in. Biomedical engineers have an employment growth that is faster than the average for many other occupations. The aging of people and the focus on health issues will drive demand for better medical devices and equipment designed by biomedical engineers. Career options include manufacturing units of medical equipment, medical R&D institutions, super speciality hospitals and state/central government medical college and hospitals.

- Student interaction with 45 Corporate Advisory Board Members from reputed biomedical MNCs
- Advanced medical imaging lab: medical thermography, pDXA, BIA, periscope
- Close partnership with SRM Medical College Hospital and Research Centre located within the campus
- Enriched curriculum with career based elective subjects
- Campus placement and Industry paid internships

School of
Bio Engineering

Department of Genetic Engineering (GENETICS)

The world has come to realize and appreciate the miracles of Genetic Engineering: in agriculture, higher yields and better varieties of crops, and in medicine, diagnostics and cures that were only a dream a few years back. Genetic Engineering forms the backbone of biotechnology. The opportunities for a genetic engineer in clinical and applied genetics are boundless.

Academics
Undergraduate
The B.Tech. program in Genetic Engineering comprises foundation courses in biology and engineering. Unique courses like recombinant DNA technology, human genetics, gene therapy, stem cell biology and nanotechnology in healthcare are offered by experienced faculty. Students are required to conduct research as part of their curriculum and submit a project report.

Postgraduate
SRM is the only university in India where postgraduate training in Genetic Engineering is provided to global standards. Specialization is offered in human genetics, microbial genetics and plant genetic engineering.

Research Focus
Research scholars can work in the areas of whole genome sequencing, transcriptome sequencing, molecular diagnosis, genetic engineering of plants, cancer stem cells, metabolic engineering, developmental biology, cancer biology, zebra fish disease models, DNA repair mechanisms, molecular cloning, algal biology, RNA interference and DNA barcoding.

Programs offered

Undergraduate: B.Tech. (Genetic Engineering)

Postgraduate: M.Tech. (Genetic Engineering)

Doctoral: Ph.D

Careers

Genetic engineers are employed worldwide. In India alone, there are over 300 R&D companies, National Research Institutions and International Research Centres. Apart from students going abroad for higher studies and jobs, genetic engineers can also start their own consultancy or start-up companies and labs.
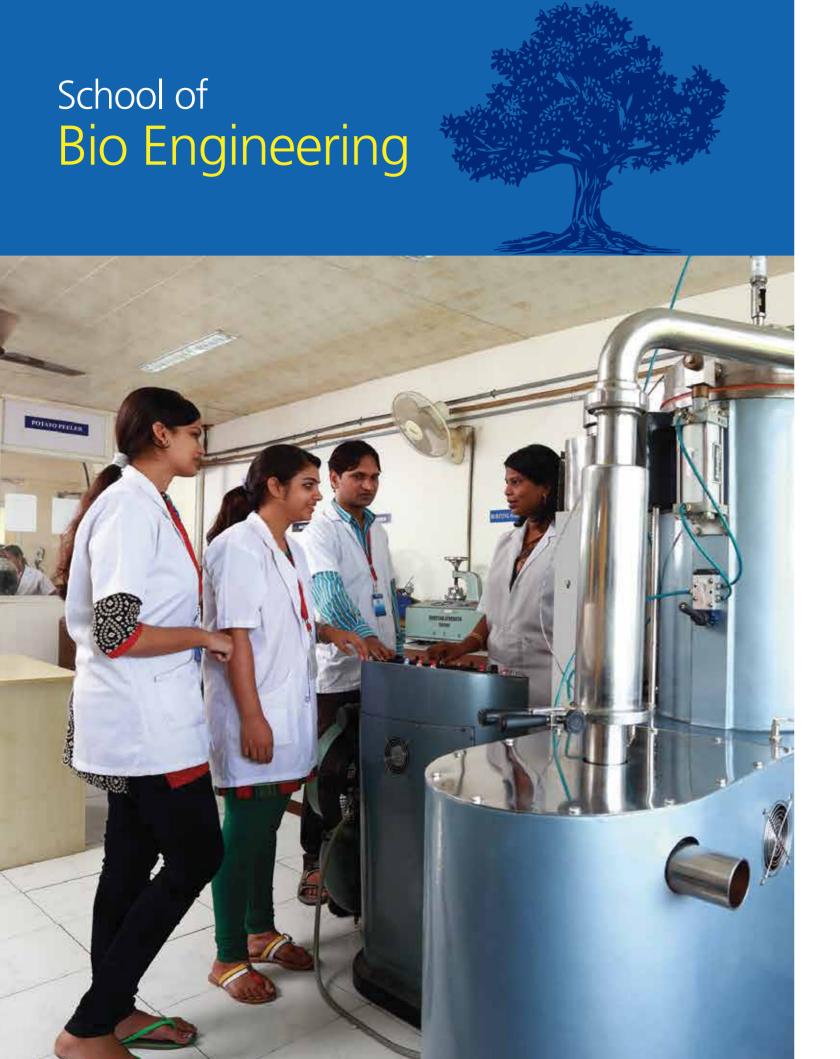
An alternate career to medicine to become Certified Genetic Counsellors in super speciality hospitals in India and abroad

Semester Abroad Program: 147 students sent to universities of repute around the world like Harvard and Yale

28 faculty members with Ph.D. doing cutting edge in frontier areas including genomics and genome editing

Research funding: ₹4 crore from government agencies and industries

Higher studies abroad: MS and Ph.D in USA, fellowships upto 64,000 USD per year

School of
Bio Engineering

Department of Food Process Engineering (FP)

Food processing has an important role to play in linking Indian agriculture to consumers in the domestic and international market. Food Process Engineering integrates engineering, basic sciences and technology to develop skills in engineering analysis, design and development of food processing and preservation systems. This helps in value addition of foods, agricultural resource utilization and environmental conservations. The importance of Food Process Engineering lies in the fact that it has the capability of serving the rapidly growing Indian food industry, to provide food to our population through scientific conservations, create technologies to eliminate post-harvest losses and making balanced and nutritious food available.

Academics
Postgraduate
The two postgraduate programs prepare candidates to become knowledge driven professionals, by providing a strong foundation and environment that is focused on collaborative and interdisciplinary research. The program fosters in students global and holistic understanding of the inter-relationships, among human nutrition, wellness, food safety and its systems.

Research Focus
The Department offers Ph.D programs, both full time and part time. Research areas include non-thermal methods of food preservation, micro encapsulation techniques, pre-biotic food preparations, value added products from grains, fruits, milk, vegetables and meat products, food industry waste and by-product utilization, nutraceuticals and functional foods.

Programs offered

Postgraduate:
M.Tech. (Food and Nutritional Biotechnology)
M.Tech (Food Safety and Quality Management)

Doctoral: Ph.D

Careers

The well designed curriculum prepare students for leadership, technical and management positions in a variety of national and international food industries and research institutions. Students have obtained prestigious placements in leading companies such as ITC foods, Lotte, Hatsun, Britannia, Perfetti, Pepsi, Aachi masala, Parikshan, Parry Sugars, Parle Agro & Hector Beverages. Also students gain employment in various government sectors (FSSAI, FCI) and private organizations as food safety officers, food inspectors, lead auditors and designated officers for various food industries.

Research papers published in international journals with high impact factor

Semester Abroad Programs in reputed international universities like UC Davis, Curtin University, Nottingham University, Illinois Institute of Technology

Paid Student Internships in top companies like Parle Agro & Hector Beverages

Expert guest faculty from different industries and institutions to deliver lectures on contemporary topics
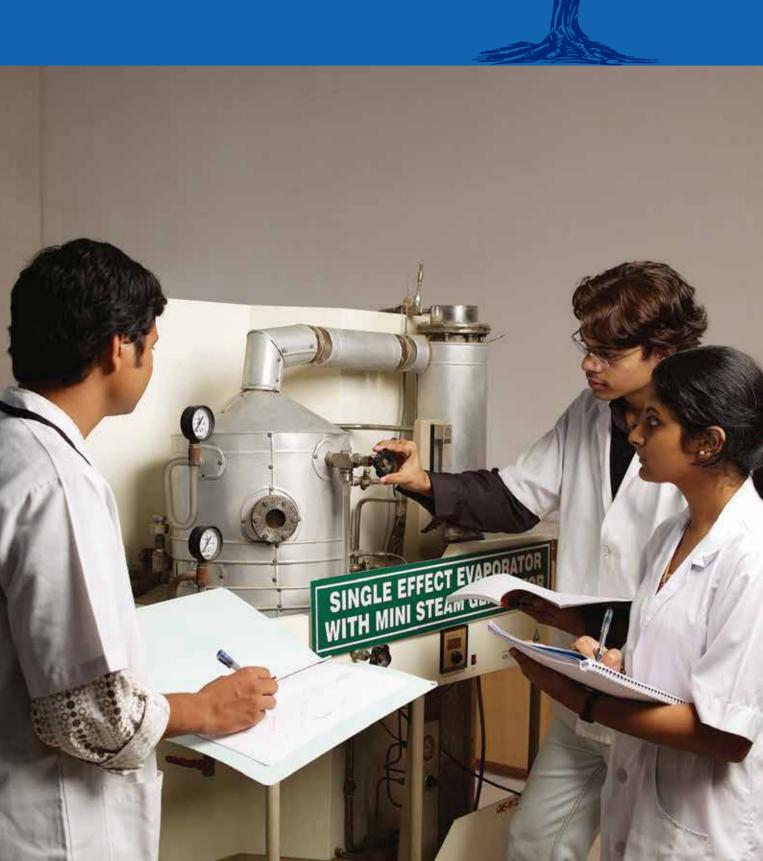
Conducts International and National level conferences, symposia and workshops

Internal Auditor training offered as a part of M.Tech (Food Safety & Quality Management) program

Externally funded collaborative projects: DST, Adithya Birla Group - Thailand

School of
Bio Engineering

Department of Chemical Engineering (CHEMICAL)

Do you know that many of our everyday products are manufactured using chemical engineering? These products have one thing in common: they have made the difficult transition from the research laboratory to drawing board to industrial application and finally to the commercial market.

This transition has to be facilitated by specialists called "Chemical Engineers". Chemical engineers have the know-how to develop chemical processes (Process Engineering) and deliver innovative products (Product Engineering) to the market in a quick, efficient and economical manner.
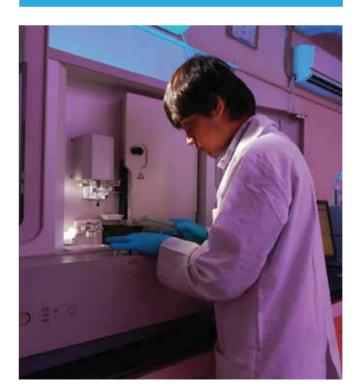
Chemical Engineering integrates concepts from physical sciences (Chemistry, Physics), life sciences, mathematics, economics and uses engineering principles to "Deliver In-demand Products to Market" through the conversion of raw materials (Chemicals) to useful products. It deals with the design and development of equipments and processes for the manufacturing of chemical products.

Academics

Undergraduate

The undergraduate B.Tech. in Chemical Engineering is a focused program designed to understand and solve industry related chemical engineering problems through a balanced understanding of the theory and principles of the subject. With its emphasis on problem-solving skills, quantitative analysis and teamwork the program provides an excellent foundation for future careers in chemical and allied engineering fields.

Postgraduate

The postgraduate M.Tech. and Ph.D. programs are designed to prepare students for a research and development career in a wide range of specializations such as oil and gas, bio-chemical engineering, food technology, fertilizers, and petrochemicals.

Research Focus

Research focus areas include industrial waste-water treatment, solid waste management, membrane separations, modeling and simulation of processes, computational fluid dynamics, fermentation and bioprocess technology.

Programs offered

Undergraduate: B.Tech.(Chemical Engineering)

Postgraduate: M.Tech. (Chemical Engineering)
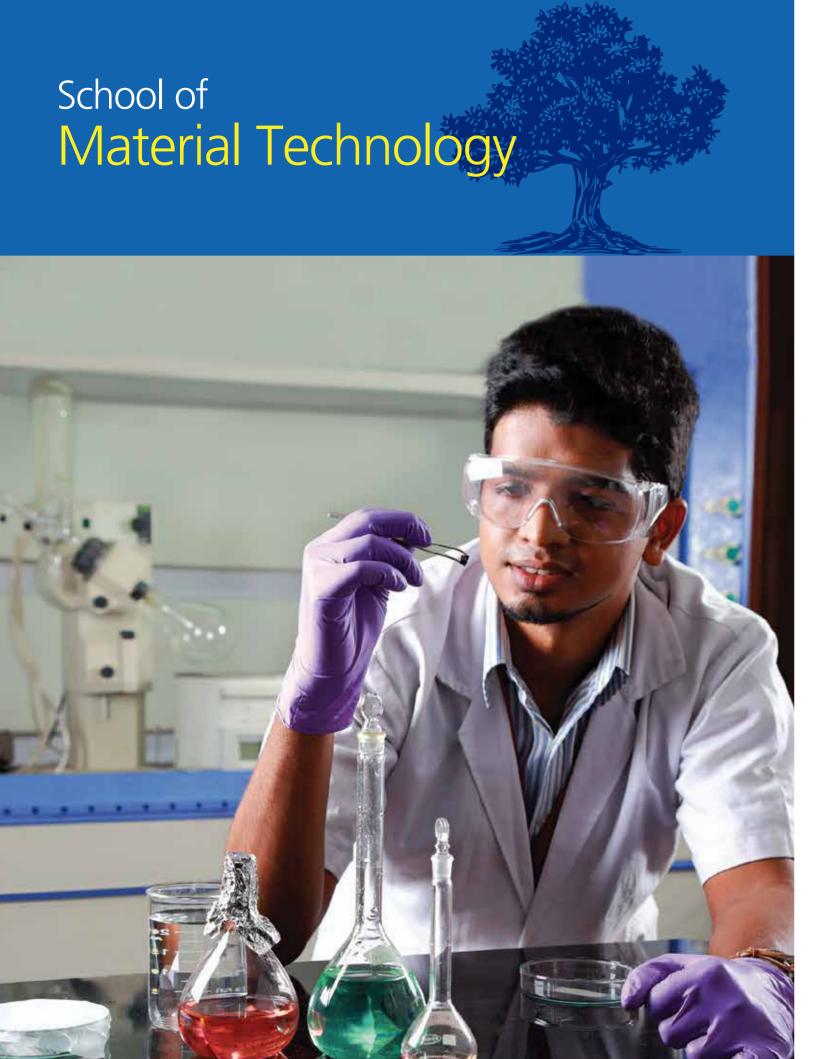
Doctoral: Ph.D

Careers

Employers are as diverse as the products they produce and cover a broad range of industrial sectors involving conversion of raw materials into a product such gas and oil prospecting and extraction, oil refining, renewable energy generation, pharmaceuticals, fine and heavy chemical, agrochemicals, electronic and hi-tech materials (semiconductor industry), food, pulp and paper, plastic and metals, fibers and polymers etc. Many chemical development engineers also work for engineering consultancy firms.

State-of-the-art experimental and computational modeling laboratory facilities

More than 75 international publications in reputed journal houses such as Elsevier, Springer, American Chemical Society, etc.

Semester Abroad Programs in Universities such as University of California-Davis, Massachusetts Institute of Technology and University of Wisconsin-Madison

Advanced process modeling and simulation based curricula with ASPEN PLUS, ANSYS CFD software

School of
Material Technology

Department of Nanotechnology (NANO)

The Department of Nanotechnology is widely recognized as a center for excellence in research and academics. Nanotechnology is an inherently interdisciplinary field that deals with the latest developments in disciplines like material science, micro(nano) electronics, manufacturing of miniaturized electronic and optical devices, quantum computing, computational nanotechnology, nanomechanical engineering and sensors, nanolithography and nanointerface engineering, and nanomagnetism. Nanotechnology is expected to greatly impact biotechnology.

Academics
Undergraduate

The four year B.Tech. program is designed to prepare the students for careers or graduate study in fields covering a spectrum ranging from medicine, electronics surface catalysis - even at the atomic and molecular scale.

Postgraduate

The M.Tech. program is designed to prepare students from different disciplines to take nanotechnology as a career. The curriculum is prepared in such a manner that the students can choose their own specialization like nanomedicine, nanoelectronics, and nanomaterials. Students get to understand current frontier developments in nanotechnology, to recognize and develop innovative ideas using a range of laboratory methods, specifically the fabrication and characterization of tools used in nanotechnology, surface modifications and molecular level construction. It also provides training and research opportunities for university graduates.

Research Focus

Nanotechnology has developed into a major research area that often interacts strongly with other disciplines like materials science, life sciences and electronics. Research activities in the department include top notch areas like nanosensors and actuators, molecular electronics, nanomedicine and drug delivery. About 165 research papers have been published in various international and national high impact factor journals in the last few years. The department has received funded projects from various agencies such as DST, DST-FIST, ISRO-ARFI, and RESPOND, to the tune of ₹1.27 crores. Research in nanotechnology at SRM University is expected to play a key role in the development of nanotechnology R&D in the country.

Programs offered

Undergraduate: B.Tech. (Nanotechnology)

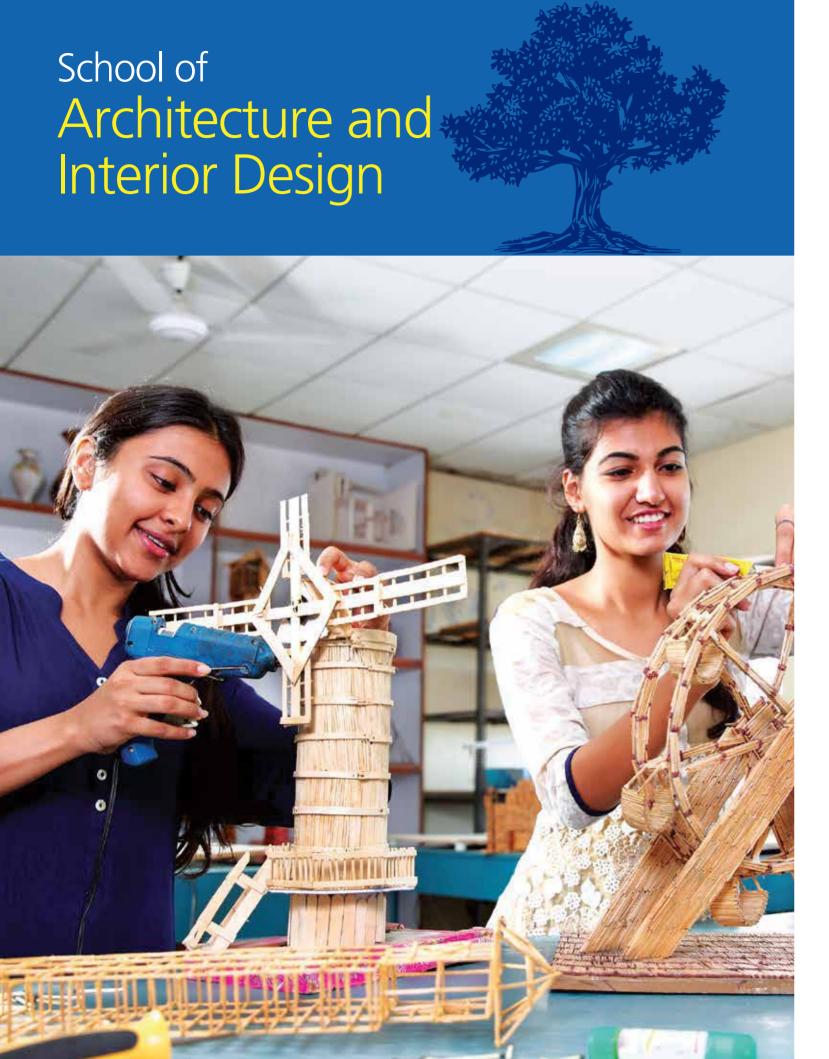**Postgraduate:** M.Tech. (Nanotechnology)

Doctoral: Ph.D

Careers

The department provides comprehensive guidance to career aspects along with many helpful hints on choosing the right career and landing a well paying job that is best suited to one's skills and interests. There is a huge demand in Europe, Far East Asian countries, USA, Canada and in India. This enables students to pursue their higher studies in India as well as in well established centers abroad.

- Collaboration with R&D institutions and organizations: research grants of ₹1.27 crores
- Research Center with the latest state-of-the-art equipment
- 165 research papers have been published in international and national journals
- Internships in International Research Laboratories GNS, New Zealand, Research Institute of Electronics, Japan

School of
Architecture and
Interior Design

Department of Architecture and Interior Design

Architecture is the imaginative blend of art and science in the design of environments for people. People need places to eat, work, live and play. Architects transform these needs into concepts and then develop the concepts into building images that can be constructed by others.

Academics
Undergraduate

The school offers two degree programs for undergraduates
B.Arch. (Bachelor of Architecture)
B.Des. (Interior Design)

B.Arch.

The Bachelor of Architecture program of ten semester duration is recognized as one of India's premier and most comprehensive programs in architecture due to the thrust on contemporary issues like sustainability, urban redevelopment, and housing. It also offers a large number of elective studies, ensuring flexibility and a choice based education tailored to students' area of special interest which may be urban design, landscape architecture, housing or project management. Students are also well exposed to current software techniques like Autodesk Revit and Google Sketch Up. The program is approved by the Council of Architecture, New Delhi and was the first one in South India to be accredited by the National Board of Accreditation, in 2001.

B.Des. (Interior Design)

The Bachelor of Interior Design program is of eight semester duration and is one of the rare professional degrees offered by the school since 2006. It specializes in the design of interiors for various buildings like star hotels, office buildings, shopping malls, and apartments. The primary goal of the program is to equip budding designers with the theoretical knowledge, technical skills and professional ethics needed to practice interior design. Graduates of the program have a strong grounding in aesthetics and design. They also possess highly developed problem solving skills and the ability to bring together the various elements of interiors to produce works of art.

Interdisciplinary research through research groups

Exclusive building with a built-up area of 3000 sq.m.

State-of-the-art computerized library with 3000 titles, and a multimedia section, subscribes to 6 international and 9 national journals

Annual conferences and symposia

Department of Architecture and Interior Design

Postgraduate
M.Arch.

The four semester M.Arch. (Architectural Design) degree is one of the most innovative programs in India. It prepares graduates to meet the challenges thrown up by the ever changing needs of contemporary society. This professional degree is structured to educate those who aspire to create masterpieces of complex architecture including large scale infrastructure projects and metro level urban facilities. It aims to train students specifically in the design and construction of tall buildings, airports, mass rapid transportation terminals, stadiums and environmental planning projects for large areas.

Research Focus

The School of Architecture and Interior Design offers both full time and part time Ph.D programs in all major areas of architecture and interior design such as architectural conservation, urban design, landscape architecture, housing studies, project management, interior design, digital architecture and environmental planning.

Programs offered

Undergraduate:

B.Arch. (Bachelor of Architecture)
B.Des. (Interior Design) - 4 years

Postgraduate: M.Tech. (Architectural Design)

Doctoral: Ph.D

Careers

The School is renowned for its distinguished alumni with nearly 40% of each graduating batch going abroad for higher studies or employment since 1997. Nearly 75% of the undergraduates go on to become leading architects and designers, who are gainfully employed in leading architectural firms in the country and abroad. About 25% of the students pursue higher education to earn a masters degree in architecture and allied subjects. Students are employed not only as architects, but also as project managers, contractors, developers, and in fields outside the construction industry. The school boasts of a placement record of over 90% for the last 5 years.

Sophisticated workshop for making architectural models with imported Korean machines for cutting, milling, planning and lathing

Extensive interaction with the design community and architects in particular

Enviable placement record: 90% and growing

Nanotechnology Research Center

NRC NANOTECHNOLOGY RESEARCH CENTRE

The Nanotechnology Research Centre (NRC) was established in 2006. The Research Centre focuses on research on multidimensional growth for the development of science and technology in the institution and the country. The research program of the centre is focused on both thematic areas of national importance and basic research with importance to Nanoscience and Nanotechnology. The excellent success of the centre can be seen in the form of 29 publications and 3 patents. The centre is also on the verge of transferring a patented environmental nanotechnology product to the industry.

Research areas of interest

Research Focus Nanostructured Materials and Nanomagnetism: This involves fabrication and application of magnetic thin films and heterostructures to develop high density magnetic storage devices and other nanostructured materials for a wide variety of applications.

Advanced Drug Synthesis, Drug Delivery and Controlled Release Systems: A dynamic team of researchers along with doctors from SRM Medical College are engaged in the synthesis of site specific drugs for various ailments along with an effective drug delivery system based on Nanotechnology. Controlled drug release based on polymer micro-nano beads is also a focus of the team's research.

Nanomaterials for Sensor Applications: The focus is to develop size specific nanomaterials such as iron oxide, silica, and polymer based nanoparticles. This specific area of sensors are intended for medical, biological and environmental applications. The faculty members and the research scholars are working in tandem with research supervisors spanning three departments.

The centre has been funded by the Department of Biotechnology, Govt. of India on the project "**Development of Nanofilters for Water Purification and Removal of VOC's from contaminated air using supported nanoparticles**". The nanofilter product is ready for industries to take up for mass production.

NRC is currently pursuing active research in:
• Nanofilters for water purification and removal of VOC's from contaminated air • Membrane based filtration • Transition metal chalcogenides analogous to graphene. • Bit patterned media • Magnetic tunnel functions for TMR and GMR applications • Magentically controlled drug release systems for cancer treatment and nanotoxicology • Basic research on multiferroic thin films • Electron beam lithography • Topological insulators.

Programs offered

M.S. linked Ph.D
Ph.D

Careers

As nanoscale science and technology come to have an increasing impact on several aspects of our daily lives, the opportunities for careers are expanding rapidly. Many exciting careers await graduates in this field, in industries as diverse as electronics and semiconductors, polymers, auto and aerospace, biotechnology, medical and allied fields, environmental, military, and energy.

Collaborative research program: Queens University, Canada for research on fuel cells

State-of-the-art infrastructure: ₹15 crore research facility

Foreign faculty from prestigious institutions like Trinity College, UK, Caltech, USA, and IIT Madras, India

Innovations: 29 publications and 3 patents