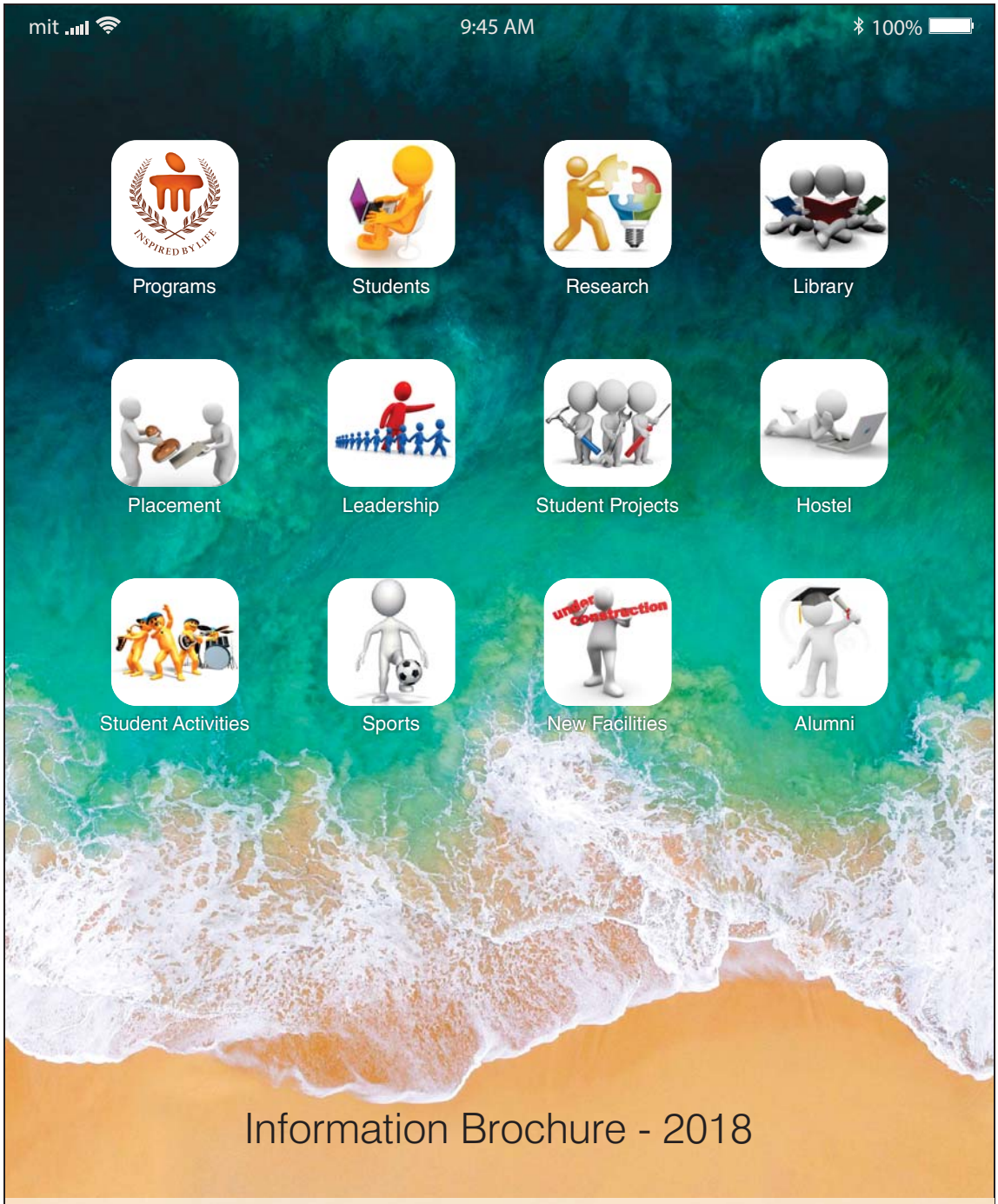


Information Brochure - 2018

MANIPAL INSTITUTE OF TECHNOLOGY

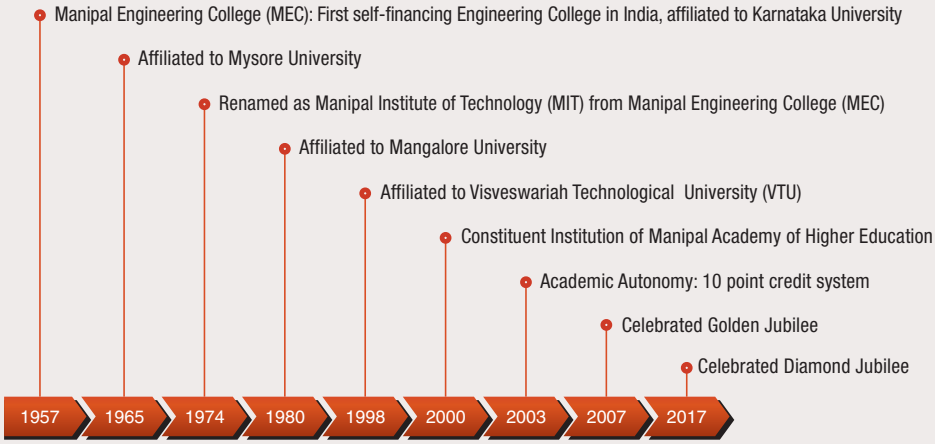
MANIPAL

(A constituent unit of MAHE, Manipal)

Manipal Institute of Technology

Manipal Institute of Technology (MIT), Manipal was established in the year 1957 as one of the first pioneering self-financing engineering colleges in the country. In the year 2000, it became a constituent institute of the Deemed University - Manipal Academy of Higher Education (MAHE). With a total student intake of about 2000 per year, and around 10,000 students, over 625 faculties, over 1000 support staff, over 30,000 alumni, the Institute provides the right ambience and platform for the students' all round development. It has the requisite student to teacher ratio of 15:1. MIT has 16 undergraduate programs, 25 Masters Programs and Doctoral programs in all streams of Engineering and Science under 18 different departments. To promote innovation, incubation and entrepreneurship the Innovation Centre at MIT houses Manipal University Technology Business Incubator and Central Instrumentation Facility. The institute undertakes sponsored research programmes supported by funding agencies such as DST, CSIR, AICTE and the Ministry of Environmental Sciences. It has collaborative research programs in association with premier research laboratories and institutes in India and abroad. The institute has an innovative flexible syllabus based programs that involve participation of all stakeholders like management, academia, students, alumni, industry to discuss updating of the course contents in a continual process. With state-of-the-art facilities and experienced faculty members, MIT is certainly one of the most preferred technical institutes in India.

MILESTONES



Founder and Builder of Manipal

Padma Shri awardee Dr. T. M. A. Pai

30-04-1898 to 29-05-1979

Manipal is a place born out of one man's dream - Dr. Tonse Madhav Ananth Pai. It is a testimony to the fact that no matter how big a dream is, it can always turn into reality. The once barren hillock is now India's largest education township with more than 24 institutions of learning.

Manipal Academy of Higher Education is the result of the single-minded dedication of the founder Dr. T. M. A. Pai. It was his vision to see the bare hilltop of Manipal transformed into one of the premier centres of learning.

Manipal Academy of Higher Education was founded on one principle; one unshakeable belief - that it must make available the best of education to its students. The last 58 years, have seen institutes at Manipal taking meticulous, small steps to build reservoirs of intellectual wealth and academic excellence.

In the process, Manipal Academy of Higher Education has created some of the country's best institutes across diverse streams like medicine, dentistry, engineering, pharmacy, hotel management and communication.

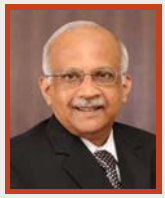
Each institution at Manipal Academy of Higher Education is geared to meet the same demanding standards to create great professionals and citizens by inspiring them in many ways.

Leading the way...

Manipal Academy of Higher Education

Dr Ramdas M Pai
Chancellor

Dr H S Ballal
Pro Chancellor



Dr H Vinod Bhat
Vice Chancellor

Dr Surendra Shetty
Pro Vice Chancellor
Mangaluru Campus

Dr Abdul Razzak M S
Pro Vice Chancellor
Melaka Campus, Malaysia

Dr Poornima Baliga B
Pro Vice Chancellor
Health Sciences

Dr C S Thammaiah
Pro Vice Chancellor
Corporate Academia Engagement

Dr P L N G Rao
Pro Vice Chancellor
Quality Assurance

Dr Narayana Sabhahit
Registrar

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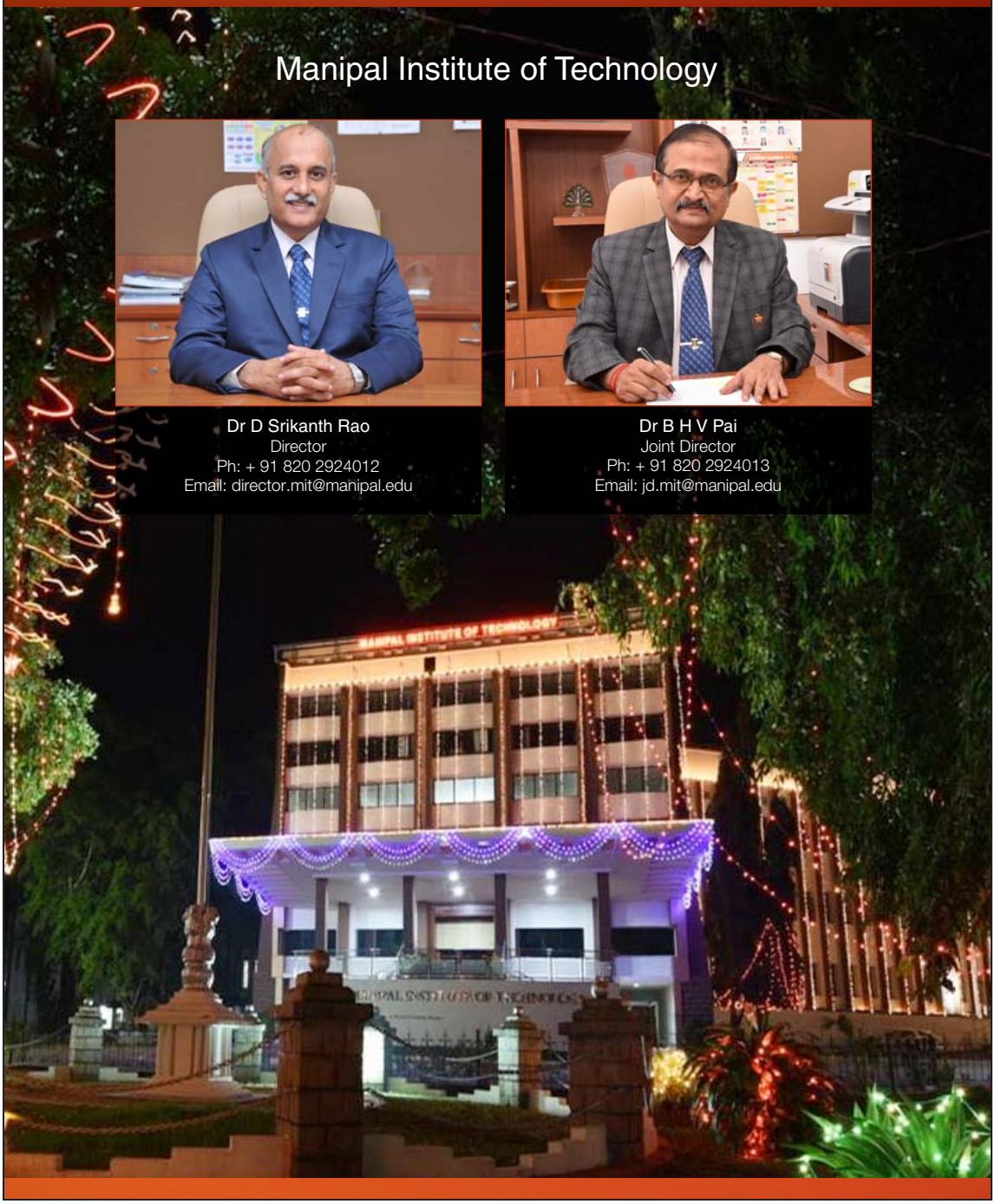

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Academics

Manipal Institute of Technology has full academic autonomy from 2003 with 10 point relative grading system. The curriculum offers academic flexibility in terms of Program Electives which enables the student to get a Minor specialization within his/her domain. The Open Electives enables the student to get a flavor of the other domains of his choice as well.

Curriculum Design and Development

- Curriculum design is aligned with institutional objectives – vision, mission statements and Outcome Based Education (OBE) guidelines of NBA
- Complete curriculum revision is done on periodic basis - once in four years
- Academic Audit has been initiated with academicians from premier institutions to get the feedback on curriculum structure, content and relevance
- "Curriculum Conclave" is conducted by inviting all stakeholders – academicians, industry partners, teachers and students
- Feedback from alumni is obtained on continuous basis to enrich the academic contents
- Involving industry officials as members of Board of Studies in the curriculum development to ensure the content relevance.

Curriculum Enrichment

- New academic programs are launched in emerging thrust areas
- Impact of the new curriculum is measured in terms of attainment parameters (as per NBA guidelines)
- Increased flexibility in terms of Program Elective, leading to Minor specialization, and Open Electives
- Audit Courses
- Digital Paperless Examination
- Student mobility
  - Practice School
  - Semester abroad with credit transfer
- Access to valued-added programs:
  - QEEE Direct to Student program and availability of NPTEL resources (IIT)
  - Online Courses through Coursera and other similar platforms
- Industry Initiated programs for students
  - Campus connect of Infosys
  - CISCO certification program
  - Electives from EMC^2, Schneider
  - Bosch-Rexorth supported Laboratories
  - Shell support for research Laboratories and other academic facilities
- Adjunct Faculty from Industry and Academia
- Alumni support in academics: MIT-KEF Research Center

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Department of
Aeronautical and Automobile Engineering

The Department of Aeronautical and Automobile Engineering was established in 2008 with the objective of offering world-class education and cutting-edge research environment. The department strives for a healthy balance between teaching, research & development. Faculty of the department draws upon a long history of technical excellence, innovation and teaching performance, preparing graduates to contribute to the society with technically imaginative and commercially viable solutions. The mission is realised through its commitment to educational excellence, to the creation, development and application of the technologies critical to aerospace and automobile engineering. This program aims to promote aeronautical & automobile engineering by establishing close linkages between education, industry and research activities. The department has highly successful Centres of Excellence program to research best practices in unified approach to teaching and learning.

The students will have abundant opportunities for working on projects and internships across the globe, taking advantage of established relationships with aeronautical & automobile companies and research institutes. The students showcase their talent by developing several working models and presenting them in various prestigious national and international events. The students have won various awards at national and international level.

Programs offered

Under Graduate Programs

- B.Tech in Aeronautical Engineering (2008)
- B.Tech in Automobile Engineering (2008)

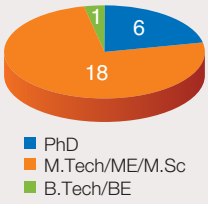
Post Graduate Program

- M.Tech in Automobile Engineering (2016)

PhD

Faculty Strength

Qualification-wise



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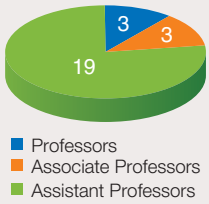

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Department of
Biomedical Engineering

Biomedical Engineering is a fascinating multidisciplinary field in which the principles of engineering are applied to solving problems in medicine, & gaining a deeper insight into life-sciences, towards providing an overall enhancement to health care. The Biomedical Engineering program was started at the MIT in 1989 with a P. G Program (M. Tech.), and subsequently a U.G. program (B. Tech.) was added in 1992. The proximity of the reputed Kasturba Medical College under the same umbrella of Manipal University offers a unique platform for training students in several fields, and renders the Biomedical Engineering program a very special one. Currently, the Department provides a variety of modern facilities to help the students acquire an in-depth technical knowledge in various topics in the field of Biomedical Engineering. The department encourages research activities and a Research Lab including a physiological signal acquisition lab and a medical devices lab are provided for the purpose. Areas of interest of the Faculty at the department include: Medical Imaging, Image Processing, and Physiological Signal Processing, Biomedical Instrumentation, Medical Devices, Nanotechnology and Biomaterials. In sumary, it has something to offer to everyone. Presently, the Headquarters of the Biomedical Engineering Society of India (BMESI) is at the Dept. of Biomedical Engineering.

Programs offered

Under Graduate Program

- B.Tech in Biomedical Engineering (1992)

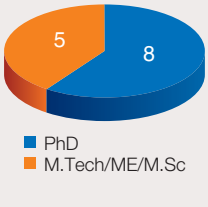
Post Graduate Program

- M.Tech in Biomedical Engineering (1989)

PhD

Faculty Strength

Qualification-wise



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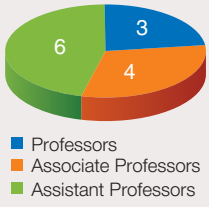

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Department of Biotechnology

Department of Biotechnology in MIT was started in the year 2005 with a vision of imparting quality education in the field of biotechnology and to produce engineers who are competent to join any Biotech industry or to go for further studies in the field. The course has been designed to provide the students with both theoretical knowledge and practical skills. To keep pace with the latest developments and to cater to the needs of industry and research, major areas for study include biochemical engineering, molecular biology, enzymology, bioinformatics, etc. The students are encouraged to select areas that fit to their aptitude and interest. Genetic engineering, process development, computer application in bioprocess, design and development of materials and equipment in bioprocess etc.

With agricultural heritage and high technology, India provides a wide range of opportunities for biotech engineers. The students have a wide range of options to choose from after finishing the course like design and operation of fermentation systems, development of novel food processing operations, upstream and downstream strategies, design of new approaches to monitor and control biological processes, design of alternative bioprocesses to the existing chemical processes, design of the biological waste water treatment systems for chemical and bioprocess industries, development of bioinformatics tools for novel applications, production of cost effective biofuels, developing new drug delivery system etc.

Programs offered

Under Graduate Program

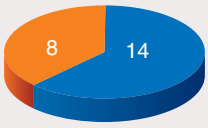
- B.Tech in Biotechnology (2005)

Post Graduate Programs

- M.Tech in Industrial Biotechnology (2009)

Faculty Strength

Qualification-wise



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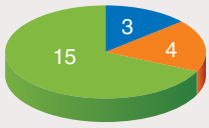

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Department of
Chemical Engineering

Chemical Engineering explores the processing of materials and the production or utilization of energy through chemical and/or biochemical routes. Chemical engineers play a key role in petroleum, fertilizers and plastic industries, and in the production of antibiotics, soft drinks and cosmetic products. Chemical engineers make use of their expertise to find solutions to environmental hazards such as pollution and harmful chemicals delivered by several other industries. Chemical engineering graduates typically work in chemical process industries, biotechnology, environmental remediation, food processing, pharmaceuticals, energy and plastics.

The department of Chemical Engineering established in the year 1969 and the first batch of Chemical Engineers graduated in 1974. Till date, 45 batches of students (about 2200 Chemical Engineers) have been graduated from the department. The department is having MoU with University of Nottingham and University of South Alabama for the post graduate studies.

Core Competencies of the Department are:

- Process Modelling & Simulation
- Drug Delivery Systems
- Catalysis and Nanotechnology
- Process Control
- Fluid & Fluid-Solid Operations
- Environmental Pollution Control
- Computational Fluid Dynamics
- Renewable Energy

Programs offered

Under Graduate Program

- B.Tech in Chemical Engineering (1969)

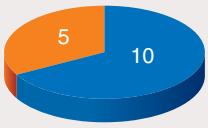
Post Graduate Programs

- M.Tech in Chemical Engineering (2009)

PhD

Faculty Strength

Qualification-wise



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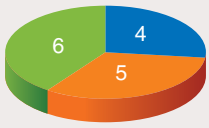

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Department of
Civil Engineering

Civil Engineering Department was established in the year 1957 with the inception of Manipal Institute of Technology. In the 60 years of its glorious existence, the Civil Engineering Department has evolved into one of the most matured and full-fledged departments in the institute.

The course curriculum has been designed aptly to cater to the ever expanding demands of research and industry, by zealously congregating the views of all stake holders. The department upholds excellent interaction with reputed academics in specialized areas, and also with industry professionals at national and international levels.

The department has created a platform for exchanging the research ideas by organizing Nationallevel conferences, workshops, seminars from time to time. The department ardently fosters the industry-academia collaborations by conducting invited lectures by eminent industry professionals. Department has got accreditation by National Board of Accreditation in the year 2001 for a period of 5 years, 2008 for a period of 3 years and 2016 for a period of 3 years.

Programs offered

Under Graduate Program

- B.Tech in Civil Engineering (1957)

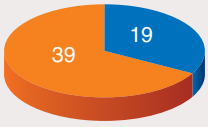
Post Graduate Programs

- M.Tech in Construction Engineering and Management (1989)
- M.Tech in Structural Engineering (1992)
- M.Tech in Environmental Engineering (2010)
- MSc in Geology (2015)

PhD

Faculty Strength

Qualification-wise



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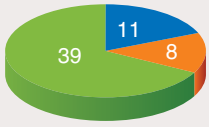

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Department of
Computer Science & Engineering

The B.Tech degree program in Computer Science and Engineering was started in the year 1985 under the Dept. of Electronics and Communication. The Department of Computer Science & Engineering (CSE) came into existence as an independent department in 1988. Over the years, the department has developed to become a center of excellence providing in-depth technical knowledge and opportunities for innovation and research with well-equipped computer facilities and dedicated faculty. The department has tie-up with various industries and offers electives in collaboration with the industries. The department has strong research interest in diverse areas of Computer Science and also offers a PhD Program. Great emphasis is given on the emerging, interdisciplinary, cutting edge areas of research in the department. The focus areas of research are High Performance Computing System, Computer Vision, Software Engineering, Knowledge Engineering, Computer Networks and Security and Machine Learning. The research activities of the faculty members and the students have resulted in more than 400 publications in International Conferences as well as Journals. Students are encouraged to participate in co-curricular and extracurricular activities. The department coordinates the activities of the student clubs IE(CSE), Linux Users Group and ACM student Chapter. Students are placed in reputed industries like Microsoft, Amazon, Deloitte, Goldman Sachs, Oracle, Cisco, Samsung etc.

Programs offered

Under Graduate Program

- B.Tech in Computer Science and Engineering (1985)

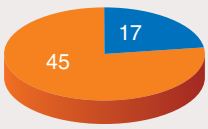
Post Graduate Programs

- M.Tech in Computer Science and Engineering (1989)
- M.Tech in Computer Science and Information Security (2010)

PhD

Faculty Strength

Qualification-wise



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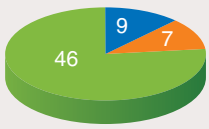

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Department of
Electronics & Communication Engineering

Established in the year 1972, the department of Electronics & Communication Engineering has developed itself as a center of excellence in academics and research. The department has been working primarily on imparting basic knowledge and essential skills in Electronics and Communication Engineering to the students.

The department has facilities such as MEMS design center for device simulation, fabrication and testing; ATMEL MCU Center; NOVOTON ARM Processor boards; development boards for embedded system; campus wide license for MathWorks tool; and CADENCE tool for VLSI design. To support the co-curricular and extra-curricular activities, at the department level we have IE, IEEE, ISTE student chapters.

In addition to regular teaching learning activity, faculty and student are involved in active research in the area of Image, Audio, and Speech Processing; Biomedical Instrumentation; Soft Computing Techniques; Source and Channel Coding; Cipher System; Sensor Networks; Plasmonics; Analog and Digital VLSI; Embedded Systems; MEMS and Nano technology, Carbon Nano Tubes, and Thin Film Technology. Student research and project work in these domains has resulted in Journal and Conference publications at National and International levels; and has brought laurels at national and International level technical competitions. About 60 to 70 students from every passing out batch go abroad for their masters in reputed universities.

Programs offered

Under Graduate Program

- B.Tech in Electronics and Communication Engineering (1972)

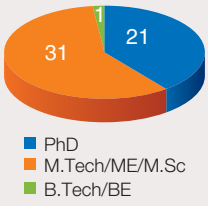
Post Graduate Programs

- M.Tech in Digital Electronics & Advanced Communication (1999)
- M.Tech in Microelectronics (2008)

PhD

Faculty Strength

Qualification-wise



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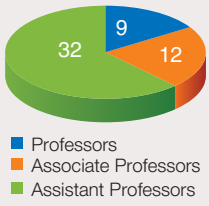

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Department of
Electrical & Electronics Engineering

Established in the year 1960, the Department of Electrical & Electronics Engineering has been at the forefront to produce well-groomed graduates, possessing sound technical skills and innovative ideas to cater to the ever growing demands of the industry. The department is backed by a team of motivated, dedicated and experienced teachers with expertise in key domains such as Power Systems, Power Electronics, Signal Processing, Illumination Technology, Renewable Energy etc.

The undergraduate program of the department offers a unique blend of core and elective courses. The laboratory exercises and mini projects are carefully designed to ensure synchronism with the curriculum, and exposure to relevant Software & Hardware packages related to the field of learning. The curriculum design enables the graduates to embark on a professional career or pursue higher studies in their area of interest.

The department also offers two post – graduate programs ;M.Tech in Energy Systems & Management &M.Tech in Power electronics & drives.The department has well equipped and state of the art laboratories, such as Advanced Energy Systems Lab (sponsored by Schneider Electric), Power Electronics Lab, Solid State & Drives Lab, Lighting Lab. Research and Consultancy takes place in core competency area of the department such as Lighting & Energy Studies, Power & Control Systems, Power Electronics & Drives, Embedded Systems.

Programs offered

Under Graduate Program

- B.Tech in Electrical & Electronics Engineering (1960)

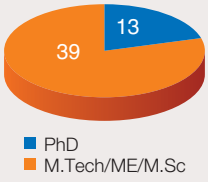
Post Graduate Programs

- M.Tech in Energy Systems & Management (1989)
- M.Tech in Power Electronics & Drives (2008)

PhD

Faculty Strength

Qualification-wise



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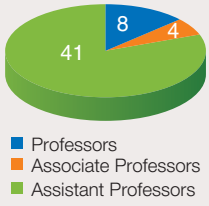

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Department of
Instrumentation & Control Engineering

The Department of Instrumentation and Control Engineering was established in the year 2001, with a B.Tech course in Instrumentation & Control Engineering. From the academic year 2018-19 the program Electronics & Instrumentation Engineering will be offered instead of Instrumentation & Control Engineering. The course deals with Electronics, Control system and Instrumentation subjects. The department has state-of-the-art laboratories in the areas of Instrumentation, Process Control, Control Systems, Microcontrollers, Soft Computing, Industrial Automation and Space Engineering Lab. All the department programs are AICTE approved.

The Department has expertise available in the field of Sensors, Robust Control, Neural Network and Fuzzy Logic, Bio-medical Instrumentation, Digital Signal Processing, Image Processing, Adaptive Control, MEMS, Electronic Instrumentation, Embedded Systems, Hybrid Systems, Automation etc. The Department is involved in numerous active research works in the aforementioned emerging fields. The department also organizes various research workshops and conferences. Control Instrumentation System Conference (CISCON) is an annual event organized under the auspices of Instrumentation and Control Engineering Department.

Programs offered

Under Graduate Program

- B.Tech in Electronics & Instrumentation Engineering (2018)

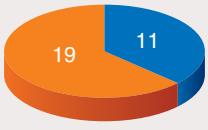
Post Graduate Programs

- M.Tech in Control Systems (2005)
- M.Tech in Aerospace Engineering (2016)

PhD

Faculty Strength

Qualification-wise



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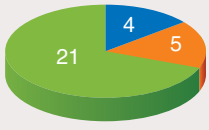

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Department of
Information & Communication Technology

Established in the year 2001, the department has developed itself as a center of excellence, providing opportunities for innovation and research, with well-equipped computer laboratories and dedicated faculty.

The students are given freedom to organize workshops or seminars and are encouraged to take part in co-curricular and extra-curricular activities without compromising the quality of learning. The academic curriculum for the courses offered in the Department and the technical skills of the students have been appreciated by the industries who have visited MIT. Our alumni are working as Software Professionals in top industries like Google, Microsoft, Oracle, Cisco, IBM, Intel, Samsung R&D, Honeywell, Flipkart, Toshiba, KPIT Cummins, Deloitte etc., and such higher job offers per student testify the quality and excellence of the department.

Programs offered

Under Graduate Programs

- B.Tech in Information Technology (2000)
- B.Tech in Computer and Communication Engineering (2013)

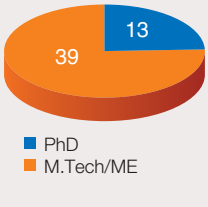
Post Graduate Programs

- M.Tech in Computer Networking and Engineering (2005)
- M.Tech in Software Engineering (2006)

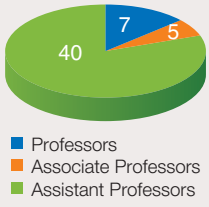
PhD

Faculty Strength

Qualification-wise



Cadre-wise



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Department of
Mechanical & Manufacturing Engineering

The Department of Mechanical and Manufacturing Engineering, established in the year 1960, offers two Under Graduate courses, three Post Graduate courses and also PhD programmes. The department is also recognized as a QIP center for post graduate courses and PhD. The department consists of experienced faculty members, who are also constantly engaged in undertaking research work and subsequent publications. The department conducts workshops, seminars or conferences every year. The department has very good industry – institute interaction and has conducted several short courses for working professionals from industry. The department provides ample laboratory facilities and hands-on training to the undergraduate students both in the conventional subject as also in the modern trends.

The department has well established Computer Aided Design laboratory with state – of – the – art hardware and software. The basic laboratories such as Heat engines laboratory, Metrology laboratory, Heat transfer laboratory, Fuel testing laboratory, Machine tools laboratory, Material science laboratory, Vibration laboratory and Industrial engineering laboratory, Energy Laboratory have advanced equipments so as to impart quality education. The department has sprawling workshop situated on a 30000 sqft area comprising of machine shop, CNC shop, foundry, smithy, sheet metal, plumbing, welding sections. The practice school and internship opportunities provide an excellent student industry exposure.

Programs offered

Under Graduate Programs

- B.Tech in Mechanical Engineering (1960)
- B.Tech in Industrial and Production Engineering (1975)

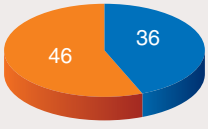
Post Graduate Programs

- M.Tech in Computer Aided Analysis and Design (2003)
- M.Tech in Manufacturing Engineering (2005)
- M.Tech in Thermal Sciences and Energy Systems (2013)
- M.Tech in Tribology and Maintenance (2018)

PhD

Faculty Strength

Qualification-wise



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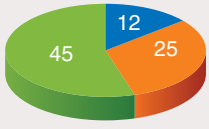

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Department of
Mechatronics Engineering

Mechatronics is a multidisciplinary field of Engineering with a rich knowledge base formed by various disciplines of Engineering. Hence an integrated curriculum is designed to provide a broad based education in the basic principles of Electrical, Electronics, Computing, Mechanical and Control Systems. Such a varied and diverse program is gaining much recognition and importance with every passing day and has become an engineering discipline high on demand. The main objective of the department is to enable students with the potential to address challenges which are interdisciplinary in nature by laying a strong foundation of multidisciplinary knowledge in their intellect.

The department is well equipped with laboratories set up in collaboration with Bosch Rexroth India Pvt. Ltd, Festo & ABB which includes some of the finest automation labs like, Modular Production Systems, Hydraulics and Pneumatics, Programmable Logic Controllers, Drives and control, Sensorics and Robotics. The main objective of this industry- academic partnership initiative is to transfer current technology to the students and to bridge the technology gap that exists between industry and academic. The necessity of a seamless integration of different disciplines has been effectively managed by a multidisciplinary team of young, dynamic and well-motivated faculty.

Programs offered

Under Graduate Program

- B.Tech in Mechatronics (2006)

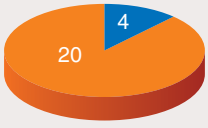
Post Graduate Program

- M.Tech in Industrial Automation & Robotics (2015)

PhD

Faculty Strength

Qualification-wise



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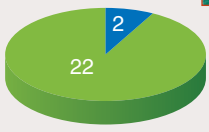

Dr Chandrashekhar Bhat
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Department of
Media Technology

Global communication sector has propelled us into the new millennium with engineering innovations and newer technologies. Electronic Publishing, Audio Visuals, Multimedia, Digital Data Transfer and Social Media are creating a new world of media market. The printing industry sees itself as media service and information processor. Born out of this niche is B.Tech in Media Technology at MIT, Manipal, an applied engineering course that deals with the comprehensive study of print and electronic media technologies. Along with the B. Tech degree, students can also be entitled to a minor certification in Film Production, Packaging Technology or Business Management. Department also offers M. Tech in Printing and Media Technology and a Joint Double Degree Masters' Programme in Collaboration with Chemnitz University of Technology, Germany.

Since 1992, Department has built a strong edifice to become one of the leading Print and Electronic Media Institute of the country and has one of the best infrastructures available for Print and Electronic Media Technology. The key feature of the department is its Collaboration with Chemnitz University of Technology, Germany for joint research and development, joint projects, faculty exchange, student projects, and the availability of DAAD Scholarship for students exchange programme at Germany. Students have added advantage of getting hands on training & exposure on state of the art equipment in Manipal Technologies Limited, Manipal one of the leading Print and Media Organizations in the world. Students after successful completion of the course can get job in printing companies and media houses across countries. Generally, students are recruited by the major commercial printers, advertising agencies, newspapers/magazines, machine manufacturers, packaging industries, media houses. Students can also try placement at various government departments and banks. Student can also explore the possibility of entrepreneurship in Print and Electronic Media Sector.

Programs offered

Under Graduate Program

- B.Tech. in Media Technology (1992)

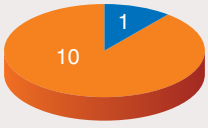
Post Graduate Program

- M.Tech in Printing and Media Technology (2008)

PhD

Faculty Strength

Qualification-wise



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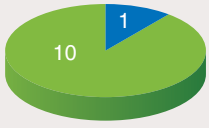

Dr Amrutharaj H Krishnan
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mediatechnology@manipal.edu

Department of Physics

The department offers a compulsory course on Engineering Physics and Engg. Physics Lab (PHY1001/PHY1011) to all branches of first year B.Tech. and also offers open electives to students of B.Tech. and M.Tech. The department offers P.G. program in Physics leading to M.Sc. (Physics) in five specializations viz. Condensed Matter Physics, Optoelectronics, Nuclear Physics, Electronics & Theoretical Physics. The Department offers PhD program in Physics in different areas like Condensed Matter Physics, Radiation and Nuclear Physics, Nano-materials, Thin film based devices, Solar cells, Spectroscopy, Non-linear optics and High Energy Physics. The department has received several externally funded projects from Government of India and State Governments (Rs. 400 in lacs). Currently 25 Research Scholars are perusing their PhD in Physics. The departmental laboratories are equipped with sophisticated instruments like vacuum coating units (PVD and Sputtering), SILAR, spin coating unit, spray pyrolysis coating, crystal growth unit, Optical closed cycle variable temperature cryogenic system, He: Ne laser-Scan System, XRD, UV-visible and UV-visible NIR spectrophotometer, Keithley source/multi-meters and particle detectors and thickness profilometer.

Programs offered

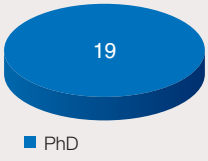
Post Graduate Program

- M.Sc in Physics

PhD

Faculty Strength

Qualification-wise



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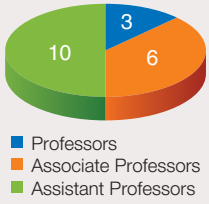

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Department of Chemistry

Chemistry department started its functioning since the inception of MIT. The department has made significant contribution in education and research in all areas of chemistry and allied branches. It offers M.Sc. and Ph.D. programs in major areas of chemistry. Dept. offers engineering chemistry for undergraduate students of engineering. Students are provided with comprehensive practical and theoretical exposure of the subject. Research in the areas such as synthetic chemistry, medicinal Chemistry, Green Chemistry, Corrosion control, Polymers, Natural Products, Liquid crystals are being pursued. The faculty members have published large no. of research articles in Scopus indexed journals.

Programs offered

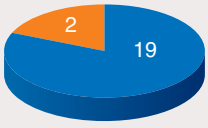
Post Graduate Program

- M.Sc in Chemistry (since 2009)

PhD

Faculty Strength

Qualification-wise



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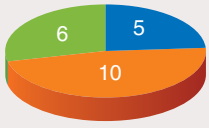

Dr Prakasha Shetty
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Department of Mathematics

The Department of Mathematics at Manipal Institute of Technology was initiated in 1957 with a mere strength of three faculty members. Currently the department has grown and developed into a status of eminence both in terms of number and quality of its academic output. The department has a long tradition of excellent teaching and supporting environment for students and it is a resourceful academic department among others at MIT, with highly qualified, experienced and motivated faculty members who are committed for the advancement in every field of Mathematics. The department has 42 faculty members with 7 Professors, 13 Associate Professors and 22 Assistant Professors of which 27 members have Ph.D.'s. Research strength of the department include Numerical Methods, Graph Theory, Fluid Dynamics, Algebra, Topology, Number Theory, Functional Analysis, Fuzzy logic and Complex Analysis. Further, a substantial number of faculty members are pursuing their Ph.D. degree. A few faculty members have also obtained Post-Doctoral fellowship in specialized areas of Mathematics.

The faculty of Department teaches Mathematics to UG/ PG students of all constituent institutions of Manipal Academy of Higher Education. The M.Sc. programme in Applied Mathematics and Computing was started in the year 2009. The curriculum designed by the department provides a sound grounding in underlying mathematical theory, emphasizes a variety of useful mathematical techniques, and helps students to develop proficiency in using computers and computational methods.

Programs offered

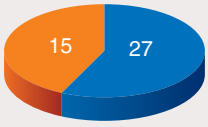
Post Graduate Program

- M.Sc in Applied Mathematics and Computing (2009)

PhD

Faculty Strength

Qualification-wise



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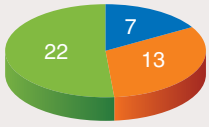

Dr Pradeep G Bhat
Professor & Head
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Email: maths@manipal.edu

Department of
Humanities & Management

The Department of Humanities & Management, MIT was founded in May 2009. The department has two disciplines: Management and English. The department has expertise in System Dynamics Modeling and Simulation, Organizational Behavior, Econometrics and Marketing, Research Methodology, Linguistics, English Literature, German Language, Cultural Studies, and English Communication.

The modules delivered at the undergraduate and post-graduate courses aim at making the engineering students develop an awareness of social, cultural, economic, ethical and human values. The Department of Humanities & Management plays a distinctive role in moulding the careers of engineers, as it provides an opportunity for students to learn managerial skills, communication skills and group dynamics so as to make them fit into the multi-cultural environment of the industry.

Programs offered

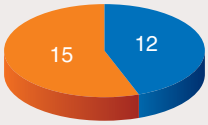
Post Graduate Program

- M.Tech in Engineering Management (1989)

PhD

Faculty Strength

Qualification-wise



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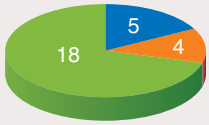

Dr Lewlyn L Raj Rodrigues
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Department of
Computer Applications

The department of Computer Applications was started in 1998 as a part of the department of Mathematics, affiliated to Mangalore University. Subsequently, it was a part of the Information and Communication Technology department, Manipal Academy of Higher Education. Since 2009, this department has been functioning as an independent department at MIT offering the 2-year Master of Computer Applications program, located strategically in the Innovation Center of MIT. Over the years, the department has evolved into a centre for excellence providing opportunities for innovation and research with well-equipped computer facilities and dedicated faculty, who apart from their regular teaching schedule, are actively involved in pursuing research in various areas like Data Mining, Video Coding, Network Security, Knowledge Engineering and Cloud Computing. The department has a good record of research activities with many publications in conferences and journals. The department has three research groups namely Data and Knowledge Discovery, Multimedia Computing and Communication and Computer Vision. The groups are active and are conducting various activities such as workshops, seminars etc. Students of the department have successfully carried out final semester internship with the Cerner Healthcare, Sapient, Deloitte, Wipro, Accenture, Philips BOP, MDS, MDN, TCS, Accolade, Robosoft apart from in-semester summer internship projects The department has an international exchange program as part of IAESTE for MCA students. To ensure their holistic development of students, department has various activities such as the Open Source Technology Forum Club with technical sessions including hands on experiences conducted by students/faculty and the flagship Annual National Level Technical department fest: Techno Melange.

Programs offered

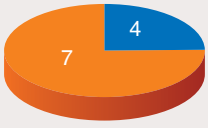
Post Graduate Program

- Master of Computer Applications (1998)

PhD

Faculty Strength

Qualification-wise



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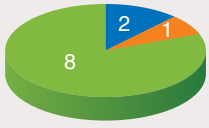

Dr Karunakar A. Kotegar
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Email: mca@manipal.edu

POST GRADUATE PROGRAMS - M.Tech./MCA

MECHANICAL STREAM

- Manufacturing Engineering
- Computer Aided Analysis and Design
- Thermal Sciences and Energy Systems
- Printing & Media Technology
- Industrial Automation and Robotics
- Automobile Engineering
- Tribology & Maintenance

COMPUTER STREAM

- Computer Science & Engineering
- Computer Science & Information Security
- Software Engineering
- Computer Networking and Engineering
- Master of Computer Applications

BUILDING SCIENCE STREAM

- Construction Engineering & Management
- Structural Engineering
- Environmental Engineering

ELECTRICAL STREAM

- Energy Systems & Management
- Power Electronics & Drives
- Digital Electronics & Advanced Communication
- Microelectronics
- Control Systems
- Aerospace Engineering
- Biomedical Engineering

CHEMICAL STREAM

- Industrial Biotechnology
- Chemical Engineering

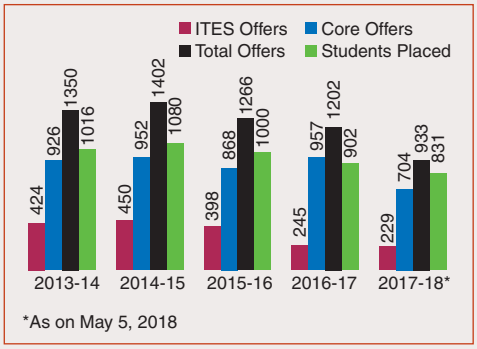
MANAGEMENT STREAM

- Engineering Management

Office of Industrial Liaison, Placement & Practice School (ILP&PS)

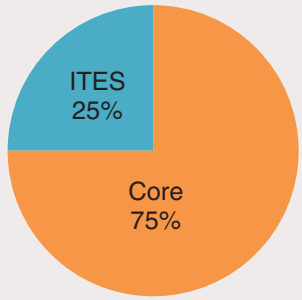
Manipal Institute of Technology (MIT) has always been very proactive in placing students in the preferred profiles. The institute has a well-organized placement team headed by the Associate Director (Industrial Liaison, Placements & Practice School) and comprising of faculty & student coordinators from each department. On an average, 200+ recruiting teams visit MIT Manipal for UG (B.Tech)& PG (M.Tech, MCA) campus placements & internship recruitment every year.

B.Tech. Placement Offer Statistics

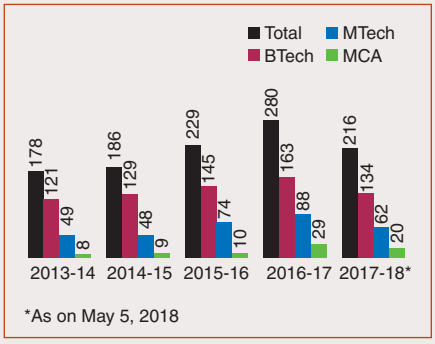


*As on May 5, 2018

Amongst the 993 students placed



Recruiting Team Visits



*As on May 5, 2018

Program	Max CTC	Min CTC	Avg CTC	Median CTC
BTech	22.38	2.04	7.24	6.52
MTech	7.0	2.04	5.49	5.5
MCA	6.2	3.5	4.54	4

* 150+ UG (B.Tech), 110+ PG (M.Tech, MCA) students have internship offers and their Internship to FTE (full-time employment) conversion results are awaited

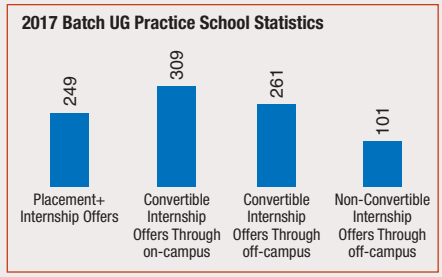
Practice School

The unique feature of our curriculum is that the students have the opportunity to spend quality time in the industry. The UG (BTech) students have 4-6 months in their final semester (8th) while PG (MTech) students have 10-12 months in their 2nd year, to gain valuable industry exposure by being part of teams handling live & challenging projects. Students get to work in the area of mutual interest, improve their self-confidence & core competence. Getting to experience a first-hand feel of working in a competitive environment and dealing with real-time problems, students can further their ability to develop their problem-solving skills and demonstrate their knowledge of professional & ethical responsibilities. Not only do they get to adapt to the industry environment better & faster, it also enables them to be productive from day 1 of their professional working career. This concept has been well appreciated by industries, thus they have regularly recruited our students for internship in increasing numbers over the years.

Major International & National Organizations offering final semester / year internships under UG (BTech) & PG (MTech, MCA) Practice School

Adarsh Developers, Aerx Labs, Airbus, AKS Software, Altair Engg, Amadeus Labs, Amazon, Amec Foster Wheeler, Analog Devices, ARAI, ARM, Array Storm, Ashok Leyland, BARC, Bharat Forge, Beckman Coulter, BHEL, Biocon, Black Rock, Bosch, Brigade Group, Capgemini, Cerner Healthcare, Cipla, Cisco, Citrix, Commvault, Continental Automotive, Crompton Greaves, CSIR (CFTRI, CIMFR, IGIB, IICT, NAL, NIIST), Cummins, DAE – IGCAR, Dell, Dell – EMC, Deloitte, Delphi, DRDO (CAIR, DIPR, GTRE, INMAS, RCI), EFI, Ericsson R&D, Festo, GE, Genpact, Glaxo Smith Kline, Goldman Sachs, GVK Bio, HAL, Honda 2 Wheelers, Honeywell, HPE, Hyundai CE, IIA Bengaluru, IISc Bengaluru, IIT (B, C, D, H, J, K, M), Infineon, Intel, ISRO, Jacobs Engg, Jindal S&P, Juniper Networks, Kennametal, Kirloskar Electric, KPIT Tech, KPMG, Krohne Marshall, L&T (Engg, Metro Rail, Tech Services), Mahindra (Automotive, Comviva, Susten), Maruti Suzuki, Maini Materials, Mercedes Benz RDI, Microchip, Microsemi, Microsoft, Misys, Monsanto, Moog, NHPC, NIIT, NIT (J, R, S), Nokia, Novartis, NTU Singapore, NXP Semiconductors, Oracle, Philips Innovation, Philips Lighting, Prestige Group, Prueba Software, PWC, Raman Research Institute, Reliance, Robert Bosch, Sabre, Samsung, San Disk, SAP, Sapient Corp, Schneider Electric, Seagate Tech, Shell, Siemens (Engg, Healthcare, Tech), Skanray, Springrole, ST Microelectronics, Statkraft BLP, Sterling & Wilson, Sunlux Tech, Suzlon, Syncolite, Syngene, Syngenta, Synopsys, Tata (Autocomp, Motors, Projects, Technologies), TE Connectivity, Tech Mahindra, TechspanEngg, Texas Instruments, Textron, Titan, TUM Germany, Unisys, UOB Germany, UOS Germany, VmWare, VSSC, Whizchip, Wipro (Lighting, Tech), Yokogawa, Your Storyetc

Most of the UG & PG students convert their convertible-internship opportunities in private organizations into a full-time employment (FTE) offer.



*As on 5 May, 2018

Dr Harish Kumar
Associate Director (ILP&PS)
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Email: placement.mit@manipal.edu

Placement Statistics
2016 - 17

Company	UG (B.Tech.) Branches																	
	Offer Type	Total	CV	BT	CH	CC	CS	IT	BM	EC	EE	IC	AE	AU	IP	ME	MT	PM
ABB	P	3								1	2							
Accolite	P+I	3				3												
Altair Engineering	I	7				2	3	2										
Amada	P	1															1	
Amadeus Labs	P+I, I	16				8		6		2								
Amazon	PPO, P+I, P, I	18	1		1	5		1			5			2	2	1		
Amity Software	P+I	4				2	1	1										
Ashok Leyland	I	6								2						4		
Avalon Labs	I	11				1	2	2								2	3	1
Barsys	P+I, I	9				1		1		2	1					1	3	
BEL	P	4								2						2		
Bennett Coleman	P	3									1					2		
BlackRock	I	17				11		5		1								
BluBirch	PPO, I	4				3	1											
Bosch	PPO, P+I, I	16					1							2	2	7	4	
Byjus	P+I	33	6		3		3	1	2	3	2	3	1	2	4	3		
CenturyLink	P	9				3		2		4								
Cerner	P+I	19				8	7	4										
Cipla	I	2														2		
Cisco	P+I, I	13				6	1	3		2						1		
Citrix	P+I, I	17				8	2	7										
Dell	PPO, P+I	5				2	1	2										
Deloitte	PPO, P+I, P	97	7		3	19	7	14	1	16	18	4	1	1		4	2	
Deltax	P+I	1				1												
EFI	I	4																4
Ericsson	I	5				2	2	1										
EXL Services	P	6						1		2	1	1				1		
Exxon Mobil	P	6			2								1			3		
FIAT	P+I	4												1			3	
Fire Eye	P	2				2												
Fractal Analytics	P	6	1			1	1	1			2							
Futures First	I	4					2			1	1							
Gandhi Fellowship	P	5	1								2		1			1		
GE	I	6									2	4						
GetPostman	I	1				1												
Glatt Systems	P	11									1	3			4	2	1	
Goldman Sachs	PPO, P+I, I	24	1		3	4	4	3		3	2				1	3		
GSK	I	3		3														
Gyan Lab	I	5								3	1					1		
Hero MotoCorp	P	2														2		
Honda Cars	P	6												1	1	4		

Company	UG (B.Tech.) Branches																
	Offer Type	Total	CV	BT	CH	CC	CS	IT	BM	EC	EE	IC	AE	AU	IP	ME	MT	PM
Honeywell	I	18			1	9	2	5		1								
HPE	P+I, P, I	19				6	5	6		1	1							
HSBC Software	P	1				1												
IBM ISL Labs	I	3				1	1	1										
Impact Analytics	P, I	5	2		1						1						1	
Increff	P+I	1						1										
India Reads	I	2					1	1										
Infosys	P	20				6	1	2			1		2	2		6		
Intel Tech	P+I, I	24								18	5	1						
Jacobs Engg	P	20	3		1							3				13		
Juniper Networks	I	8				6		2										
KPIT Technology	P	7								2	4	1						
KPMG	P+I, P	33	3			4	5	1		4	12	1				3		
L&T	P	21	2			2		1		4	5	2		1		4		
Mahindra & Mahindra	P	1									1							
Mahindra Comviva	P	4				1	1	2										
Mahindra Susten	I	3									2					1		
MAQ Software	I	2				1	1											
Maruti Suzuki	P	8				1				3						4		
McAfee	I	4					1	3										
Media IQ	P+I, I	5								2						3		
Mercedes Benz	P	1					1											
Microsoft	PPO, P+I, P	18				14	1	3										
Mphasis	P	18	1		1		4	1	1	6	2	2						
MU Sigma	P+I, P	18						1		10					2	5		
National Instruments	I	1										1						
NIIT Technologies	P	2				1	1											
Novartis	I	3						2		1								
NSE Tech	P	1				1												
Optum Global	P	2				1		1										
Oracle	P+I, I	10				5	3	2										
Osram	I	6									6							
Philips	P+I, I	30				7	9	9		3		2						
Power2SME	P+I	1					1											
Quest Global	P	4											2			2		
Quintiles	P	6					2	4										
Reliance	P	20			5		2			1	3	3				6		
Renault Nissan	P	1														1		
Rescon Partners	I	2										1		1				
Robert Bosch	P+I	22				1	1	2		10	6	2						
Sabic	I	8			8													
Sabre	P+I	4				1		1		1	1							
Samsung	P+I, P, I	17				11		4		2								

Company	UG (B.Tech.) Branches																
	Offer Type	Total	CV	BT	CH	CC	CS	IT	BM	EC	EE	IC	AE	AU	IP	ME	MT	PM
SanDisk	PPO, P+I, I	10				3	1	2		2	2							
SAP	P+I, I	7				6	1											
Schneider Electric	P	3				1	1									1		
Shell India	P+I	7				4	2	1										
Siemens Tech	P	6				2		3	1									
SocieteGenerale	P	5				2		1		2								
Springrole	I	3					3											
StatKraft	I	6	1								5							
Suez Water	P	4			3											1		
Symantec	I	2				2												
Synopsys	P+I	1					1											
Tata Hitachi	P	2									1						1	
Tata Motors	P	10														7	3	
Tata Power DDL	P	4									4							
TE Connectivity	P	1													1			
Tejas Networks	P	1				1												
Temenos	P	4			2		1			1								
TetraPak	P	2									1						1	
Textron	P, I	8											3		2	3		
The Math Company	P	3			1					1	1							
TIF Labs	I	3					1									1	1	
Tolaram (Dufil)	P	3		1								2						
Toshiba	I	2								2								
Total Environment	P	4	4															
Ugam Solutions	P+I	3				1		2										
Vedanta Sesa Goa	P	13	2		1					2	2	2			1	3		
VM Ware	P+I, I	4				1	1	2										
Wipro	P+I, P	30				7	3	3		12	4	1						
ZS Associates	P+I, P	16			1	1		1		2	3		1		3	3	1	
Accenture	P	123	13	4	6	3	1	4	3	16	20	13	1	4	4	23	6	2
Atos	P	12								2						4		
CGI	P	12				2	4			6								
TCS	P	114	4	1	3	15	9	6		28	18	14	1	1		9	5	
Total Placement Offers		**1250**	52	9	46	111	224	137	8	191	158	67	14	18	27	145	36	7
Total Students Placed		**831**	47	5	27	62	140	84	5	133	111	43	12	11	20	105	24	2
Total Students Eligible for Placements		**1460**	132	17	52	103	195	115	13	190	157	73	51	44	43	200	64	11
Self-Employment and Higher Studies		**150**	16	16	9	14	9	3	5	15	9	4	7	5	9	18	4	7
2014-18 Batch Size		**1777**	158	40	64	127	223	126	27	221	182	92	64	56	54	247	77	19

Note: P+I: Placement + Internship Offer, P: Placement Offer, I: Internship Offer, PPO: Summer Internship converted to Pre-Placement Offer

Summer Internships: *Each student has to undergo summer internship for a minimum period of 4 weeks on their own. This may be taken in a phased manner during the vacation starting from the end of third semester. Office of Industry Liaison, Placements and Practice School facilitates summer internships for few of the students through the recruiters that comes on campus. Few such companies are Microsoft, Microsoft -GSMO, Amazon, Goldman Sachs, WDC (Sandisk) etc.*

Student Testimonials

Serving as the President of MIT Student Council has been one of the greatest learning experiences I have had so far. In the 4 year stint at MIT, you begin to inspire a style of life which is not just self-satisfying but is unique to this beautiful University town. Studying here turns one into a well-rounded person as learning is beyond the four walls of classroom. The MIT culture helped me find new dimensions and realize my full potential. These four years would definitely be one the best times of my life.

Darshan Nandekar

Diverse students, plethora of technical and cultural events, great infrastructure, a beautiful campus and an awesome administration, MIT has it all. Joining MIT was the best decision of my life. MIT has surely played an important role in transforming me into a much more sorted and a confident human being. The college has always provided us with the best that can be expected in every sphere.

Being a part of the Student Council for two consecutive years and serving as the President for one year was definitely the best part of my college life. The change it brought in me is just amazing and can't be put into mere words. It made me a lot more responsible, optimistic and overall helped in developing a better me. I can never stop thanking my parents for sending me to Manipal and giving me the best four years of my life.

Aakar Jain

To be honest, I chose Manipal because of the beach. Yes, I was a naïve kid, but that naïve kid helped me make the most serendipitous decision of my life. I met people from all over the country, even from different parts of the world, coming from various backgrounds and molded by infinite unique experiences. While it is true that most colleges can boast about diversity, MIT stands apart in its colorful culture. Isolated from the urgency and inflexibility of urban cities, Manipal supports a climate which is nurtured by its students alone. A place where each person can find a comfortable niche for themselves, build on their strengths, improve on their weaknesses and embrace their individuality.

The college is a treasure trove of opportunities, available to students who wish to embellish their skills, be it academically, culturally or professionally. I am proud to say I used its resources to my advantage. I was vigorously involved in the activities in and around the college which eventually led up to my post in the Student Council as the Technical Secretary. The four years here, gave me invaluable experiences teaching me how to manage and lead a team, plan and execute large scale projects, and live in a diverse community.

Siddharth Bharteeya

Student Testimonials

MIT has been educational inside and outside the classroom. The opportunities available to one in every aspect of life are innumerable. Each day builds you into a wholesome individual ready to take on life head first.

Manipal exposes you to people from all walks of life and builds a mini world around you to navigate through. Manipal, for me, has been a colorful barrel of lessons, responsibilities and unfaltering support in the form of people I've met. The memories made here make us all brand ourselves as proud MITians.

Aruna Baijal

Being a part off the Manipal heritage was the best decision I have ever made. 4 years that I spent in Manipal were by far the best of my life. From being an introvert in school to completely transform into an outspoken and confident individual, I have seen the positive impact of this place and this institute in all my peers. Manipal offers you innumerable opportunities to learn and apply your knowledge through its academic and co-curricular approach. MIT is also a home to vast number of cultural clubs and provides excellent platform for extracurricular activities. The diverse student base in Manipal helps you in understanding different culture throughout India and the world, thus making you adaptable to a more cosmopolitan world. My most memorable experience in Manipal has been the time I was a part of the Student Council, when we got to work with our peers in organizing national level events for the academic year 2015-16. With utmost pride, I write Manipal Institute of Technology as my alma mater.

Kshitij Verma

Engineering is a field of uniqueness and innovation, the passion for which comes within an individual. Being a student of Manipal Institute of Technology is to know your individuality. I came to Manipal as a very shy person. Terrified by the changing circumstances, I was thrown into a diverse global student community. Little did I know that it was the best thing that had ever happened to me. The guidance and support from my mentors and faculty was unbelievable. They are welcoming, informative, and always ready to help and clearly dedicated to the students. My potential was harnessed, skills were developed, confidence was boosted and dreams were realized. The college prepared me to leverage my strengths as a leader and apply my critical thinking to workplace challenges. MIT is “A home away from home”. It gives me great pleasure to say that I have completed my undergraduate studies in Mechanical Engineering from MIT. I have a lot of respect and gratitude for this college.

Laksh Sanghavi

Alumni and International Relations

It is the endeavor of the Alumni Relations of Manipal University to bring all the Alumni on one platform to create a global group of Manipalites. We at Manipal are working towards creating opportunities to network, share nostalgic moments, help the juniors and be partner in the growth of the Alma Mater.

With ever growing importance of Alumni in the development of the Institute, the Alumni Relation Office was set up at MIT in the year 2004. The objective is to gather the information of our Alumni and to create a database that will serve to improve interaction between the Alumni and the Institute.As on date, MIThas produced over 49 thousand graduates. The Office of alumni relations tries to maintain an abiding life-long relationship among the faculty, Alumni and Alma matar.

Maintaining relations with the Alumni is one of the foremost responsibility of the Office and it does by sending regular Emails informing the developments going on in their Alma matar and "Manipal Matters" the "E"-magazine of the University.The Office hosts Annual Reunions for the graduates who have completed 50 years & 25 years after graduation. In December 2017, 1200 Alumni attended the meet to be a part of "Diamond Jubilee" of the institute. Till date 15 annual meets have been held. The meets are gaining recognition from the alumni and the number attending is increasing steadily.

MIT is proud of its several distinguished Alumni who have graduated from the portals of the Institution. Mr. Satya Nadella (CEO Microsoft), Mr. Rajeev Suri (CEO Nokia Global), Mr. Banmali Agrawala (President - Infrastructure, Defence and Aerospace, Tata Sons) are just a few names from more than a thousand that can be quoted to beginwith. All our alumni are spread across the globe and are well placed. With the higher education space changing rapidly, it is essential that the Institute keep up with the new technology, to achieve this objective, our alumni participate actively in the "Academic Conclave" held every four years to overhaul the curriculum as required by the Industry. Many of our Alumni provide large amount of scholarship to our students. A few of our alumni also provide support in improving our research efforts by providing funding for setting up high end laboratories. Internships in Industry is a part of our syllabus and our alumni support this by assisting the students obtain internships either in their own firm or through their connects. Our alumni also interact with our current students as mentors for major projects. They also extend a helping hand to these projects by providing high end machining facilities.

The office of the International relations strives to support and achieve the goals of Manipal University by providing both outbound and incoming opportunities for our students.

The institute provides these prospects in several alternatives:

For outbound programs for our students

- Semester Abroad Program
- 3 + 2 program (Integrated Masters')
- Summer Schools
- IAESTE
- AISEC

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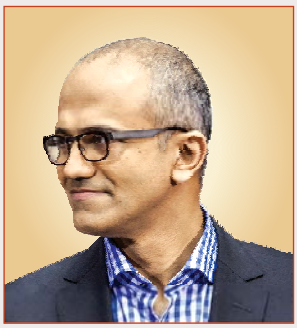
Nurturing Global Leaders Since 1957



Satya Nadella
[E&C '88]
CEO, Microsoft Corporation

Rajeev Suri
[E&C '89]
CEO, Nokia Siemens Networks

Banmali Agrawala
[MECH '84]
President - Infrastructure, Defence and Aerospace, Tata Sons

Sandeep Sinha
[I&P '96]
Managing Director, Cummins India

Faizal E Kottikollon
[CIVIL '86]
Chairman, KEF Holdings, Dubai

George Muthoot
[MECH '71]
Chairman, Muthoot Group

Manipal University Technology Business Incubator (MUTBI)

Manipal University Technology Business Incubator (MUTBI) is an initiative of Manipal Academy of Higher Education, Manipal to provide services to students, faculty, alumni as well as people of the region to start their own Venture, nurture entrepreneurship skills, create self-employment, product development and manufacturing in line with the social objectives of Government of India. MUTBI is operational from March 2010.

Objectives of MUTBI

- Nurture entrepreneurship skills of students, faculty and people of the region
- Provide seed funding for feasible ideas
- Provide resources to incubatee startups
- Facilitate market survey, product marketing, financial and legal services
- Facilitate patenting services
- Arrange funding from external agencies and venture capitalists.

Areas of Companies Incubated under MUTBI

- Renewable energy: Manufacturing Paper pencils and pens by utilizing the waste & recycled papers.
- Organic Photovoltaic: Cost effective, light weight and flexible printed Organic Solar cell polymers.
- IT: App development, Website development, Social media management, game development, Locator and Communicator Device for School Buses/Call Centre Cabs.
- Manufacturing: Fused deposition model type 3D printers.

Healthcare related startups

- Developing Intelligent Vision care solutions for effective public health delivery to meet eye care needs.
- Design and development of sensor based insole for early detection of abnormal plantar pressure distribution in type 2 diabetes mellitus peripheral neuropathy
- Development of an Automated Rehabilitation device for Oral Cancer Patients
- Providing voice for the voiceless-An Artificial Larynx for voice restoration in post-operative throat cancer patients
- Developing 3D diagnostic and treatment planning tool for the spinal disorders
- Development & Validation of Indigenous Dialysis Cartridge
- Sanjivani: Vaccine carrier
- A Hand in Need – A Self Driven Rehabilitation Device for Stroke and Neuro-muscular Deficit Patients

Details of the startups since year 2010

- Number of companies graduated: 19
- Number of companies presently incubated in MUTBI: 07
- Number of teams / projects in Pre-incubation stage: 05

Financial support available during the incubation

- Technology Development Board (TDB): Soft loan /equity participation up to 25 Lakhs.
- National Science & Technology Entrepreneurship Development Board (NSTEDB): Soft loan /equity participation up to 25 Lakhs.
- Grant support to budding startups as fellowship from Rs 10,000 to Rs 30,000 per month under the program, National Initiative for Developing and Harnessing Innovation (NIDHI) - Entrepreneurs in Residence (EIR).

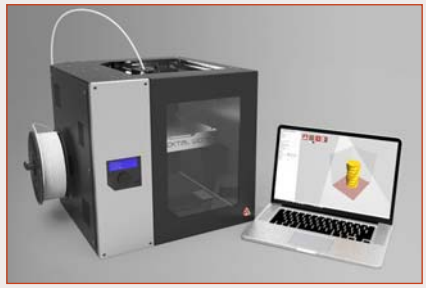
NIDHI-EIR Scheme

In 2017, MUTBI was selected as one of the Programme Execution Partner (PEP) under NIDHI-EIR scheme. Through this scheme a graduated student is given a fellowship for one year. Present NIDHI- EIR recipients at MUTBI are working on projects such as an App for medical consultancy, Vehicle tracking device, Travel bag with added features, Automating the seed sowing machine, Drug delivery system as a treatment for Cataract patients, Purification of contaminated water, Crowd funding for the researchers. Two other recipients working on vaccine carrier and safety device for women have moved out as they received funding under the BIRAC - BIG scheme.

Process of incubation in MUTBI

- Students groups who are interested in pursuing their business idea are expected to submit an “Executive Summary” and “Detailed Business Plan” to MUTBI.
- Based on the business potential of the idea the team will be provided a dedicated space to work either at the Pre-incubation or Incubation space.
- MUTBI will provide necessary support for converting ideas into a business venture.

More details can be obtained from:
MUTBI office, Ground Floor,
Innovation Centre, MIT, Manipal.
Ph: + 91 820 2925055,
E-mail: mutbi.mit@manipal.edu,
Web: http://www.mutbimanipal.org/



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Innovation Centre

The Innovation Center @ MAHE was established in 2007 to nurture Innovation and Entrepreneurial skills in our students, faculty and citizens of the region.

The Innovation Center provides a variety of resources to promote innovation. The newly opened Idea Café encourages interdisciplinary student teams to meet and brainstorm complex problems. We will also have a Friday evening seminar series for innovators and entrepreneurs to gather and share their ideas and challenges.

Teams formed during ideation are provided collaborative space at the Excelerate co-working space in the Innovation Center. Removed from the hustle and bustle of hostel life, here students from different MAHE Institutions develop and test their ideas and turn them into viable projects.

At the Makerspace we provide innovators with a wide range of tools and equipment to develop prototypes. Training seminars are conducted and most commonly used materials are provided free of cost to MAHE students.

When you are ready to start your own company, our Incubator (MUTBI) provides our budding entrepreneurs with will the resources and expertise needed to help them succeed.

Starting in July 2018, the Innovation Center will also host a brand new, State-of-the-Art Apple's iOS Development Lab to go with the new course offered to MIT students.

The Innovation Centre also hosts a well-resourced Central Instrumentation Facility (CIF) to support multi-disciplinary research areas like material sciences, bio-sensors, organic photovoltaic and other emerging frontier fields. CIF includes large instruments such as Scanning Electron Microscope, Energy Dispersive analysis (EDAX), Nuclear Magnetic Resonance (NMR), X-Ray Diffractometer, Ion Chromatography, NIR-VIS Spectro photometer. These equipment support interdisciplinary research and innovation in Emerging areas of Material Science, Biotechnology, Printed photovoltaic, Plasmonic biosensors, etc..

Innovation Center encourages student innovations with several events

We conduct a large number of Hackathons, Makeathons, and competitions to inspire students to participate in innovation. During the past year we conducted the following events:

1 CamTech Jugaadathon: The Innovation Center was selected by Boston-Based CamTech as one of five centers in India to host the multi-city CamTech-X Jugaadathon with a goal to improve healthcare for the urban poor.

2 Toys Makeathon: inspiring students to explore their creativity and come up with unique toys.

3 Wearable Devices Hackathon: was conducted in collaboration with the Kasturba Medical College, Manipal to conceptualize and develop the next generation of medical devices.

4 Innovation Challenge: a preliminary event to showcase innovations developed by MIT students.

5 Innovation Day: is our annual event to inculcate the spirit of innovation among MAHE students & faculty, and create a common platform to showcase their innovation. Nearly fifty innovations were presented during this day-long gala at the Innovation Center.

6 IC Open House: a platform to showcase innovation facilities to all students. Our student teams demonstrated various projects as well as products developed by

our startups. Bosch tools conducted a training seminar for our technically minded students.

7 **Grand Challenge Udupi:** The District Administration of Udupi and the Innovation Center jointly conducted this first of a kind hackathon. While our students compete in national and international events, we encouraged them to use their creativity in developing innovative solutions to address local problems identified by the district administration.

8 **Provenance 2018** - MAHE's Annual Business plan competition. It is the largest business plan competition in the region with prizes over 10 lakhs. Our primary goal is to encourage and foster the new generation of entrepreneurs.

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Research Profile

Manipal Institute of Technology (MIT), Manipal encourages research, innovation, research publication, patent filing and technology commercialization at undergraduate and postgraduate level.

MIT has collaborative research programs in association with premier research laboratories and has secured more than INR 4.45 crores worth of research grants. The faculty members are working on multiple research projects supported by a number of funding agencies such as Department of Science and Technology (New Delhi), Ministry of Environment and Forests (New Delhi), Department of Atomic Energy, AICTE (New Delhi), Vision Group on Science and Technology (VGST) Karnataka, Department of Biotechnology (New Delhi), Defense Research and Development Organization (New Delhi), Industries and Manipal Academy of Higher Education, Manipal.

Research Output

No. of PhDs awarded (after 2005)	144
No. of PhD guides	234
No. of research scholars (ongoing)	233
Sponsored research (ongoing) (2016-18)	31
Research grant received (2016-18)	INR 4.45 crores
No. of patents filed	25
No. of patents granted	10
Total no. of Scopus indexed publications (last 5 years)	1561

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MIT Central Library

The Institute has a sprawling air conditioned and Wi-Fi enabled central library with a total area of about 70,000 sq.ft. and a seating capacity of 950, catering the needs of all the academic programmes. Modern technologies like access controlled gate and CCTV surveillance has been implemented in the library.

The library has more than one lakh twenty thousand books and 40,500 e-books both technical and general. Library subscribes to more than three hundred print and nearly 2,500 online full text journals, magazines and standards for the use of faculty members and students.

Digital Library

Online journals, e-standards, e-question papers, NPTEL Video lectures, and Institutional repository are available in the digital Library. All electronic resources can be accessed remotely by using EZproxy technology. All the library activities are automated with the help of EASYLIB software. Books, bound volumes and book bank books all are bar coded. College ID Card cum Library ID cards issued to all library members are also bar coded.

A student can check his/her dues, and search the availability of library resources using the title, author or any key words through library OPAC search anywhere in the campus.

A Link to access all library e-resources is given in Manipal Academy of Higher Education intranet portal http://muportal.

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MIT Hostels

MIT is a residential institute with adequate hostel facilities for students studying in B.Tech./B.Arch. courses and various post graduate courses.

MIT hostels provide accommodation for about 5907 boys and 2220 girls in 26 separate blocks. Single/double/triple occupancy AC/Non AC rooms are available. Boarding facilities include 6 messes and 3 Food Courts which can cater to 8000 students.

Hostel Facilities

All hostels provide 24 hour electricity and water supply, solar heated water, cold & hot water with Aqua Guard filters, common telephone, common TV room and Sports facilities. All hostels are online and have 24x7 Wi-Fi in all the rooms.

Excellent mess facilities (being provided by Chef on Wheels) are available for all students in different messes (Food Court/ Annapoorna/Aditya/ Ashraya/ Aradhana/ Ananya Mess). Students can choose to be members of any one of these messes. Membership in any one of these messes is compulsory for all students in hostels during the first year. 24x7 housekeeping is available in all the hostels.

All hostels have indoor games (carom, table tennis, chess etc.) facilities and some hostels have gymnasium, volley ball, basketball, throw ball, badminton courts and synthetic tennis courts.

Swimming pool, basketball courts, well lit stadium, football grounds and hockey grounds are available for all. International standard Gymnasium (MARENA) is available for students. Excellent Medicare is available in Kasturba Hospital, Manipal.

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Chief Warden
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Email: chiefwarden.mit@manipal.edu

Department of Physical Education

Sport is an important part of college life and MIT Manipal caters to the needs of everyone - from the recreational to highly competitive persons. It aims to develop the following in the students and staff of the college:

- Health
- Social interaction
- Personality Development
- Stress relief
- Leadership
- Sense of discipline
- Fair play
- Team spirit

The campus has its own swimming pool and a gymnasium for those who wish to enjoy recreational sport in their free time. Students interested in gaining competitive experience in these events can avail excellent coaching facilities from well qualified trainers.

There are both indoor and outdoor sports facilities available in the campus which include athletics, aerobics, badminton, basketball, chess, cricket, football, hockey, squash, swimming, tennis, table tennis and volleyball. All the sports events are administered by the department of Physical Education, MIT Manipal.

The new indoor sports complex "MARENA" is perhaps one of its kind in Asia. The complex has five Howa badminton courts, four squash courts, four table tennis courts, two tennis courts, a basketball court, gymnasium, steam bath, Sauna bath, five a side football court and a jogging track.

Besides the sports facilities available on campus, the sports council organizes sporting activities throughout the year, such as:

- All India Inter engineering college sports meet - REVELS CUP
- Inter-collegiate sport events
- Inter-section, Inter-branch, Inter-year sport events and many other fun activities
- MIT Football league

Besides improving fitness, sports help to create new and lasting friendships, develop teamwork skills and bring laurels to the institution.

The players of our institute represented the university team in cricket, chess, table tennis, squash, handball, badminton and tennis in South Zone Inter and All India Inter University tournaments.

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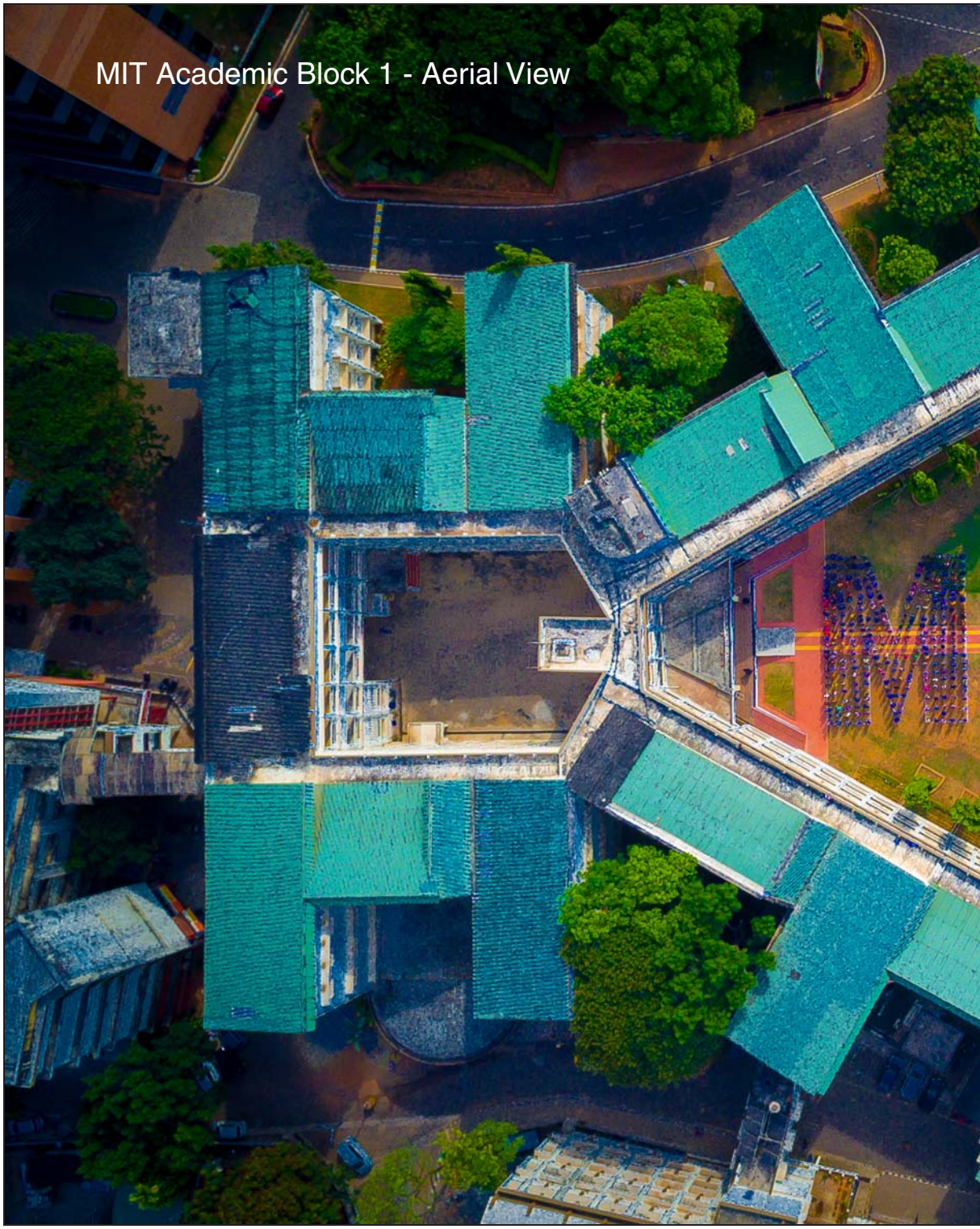
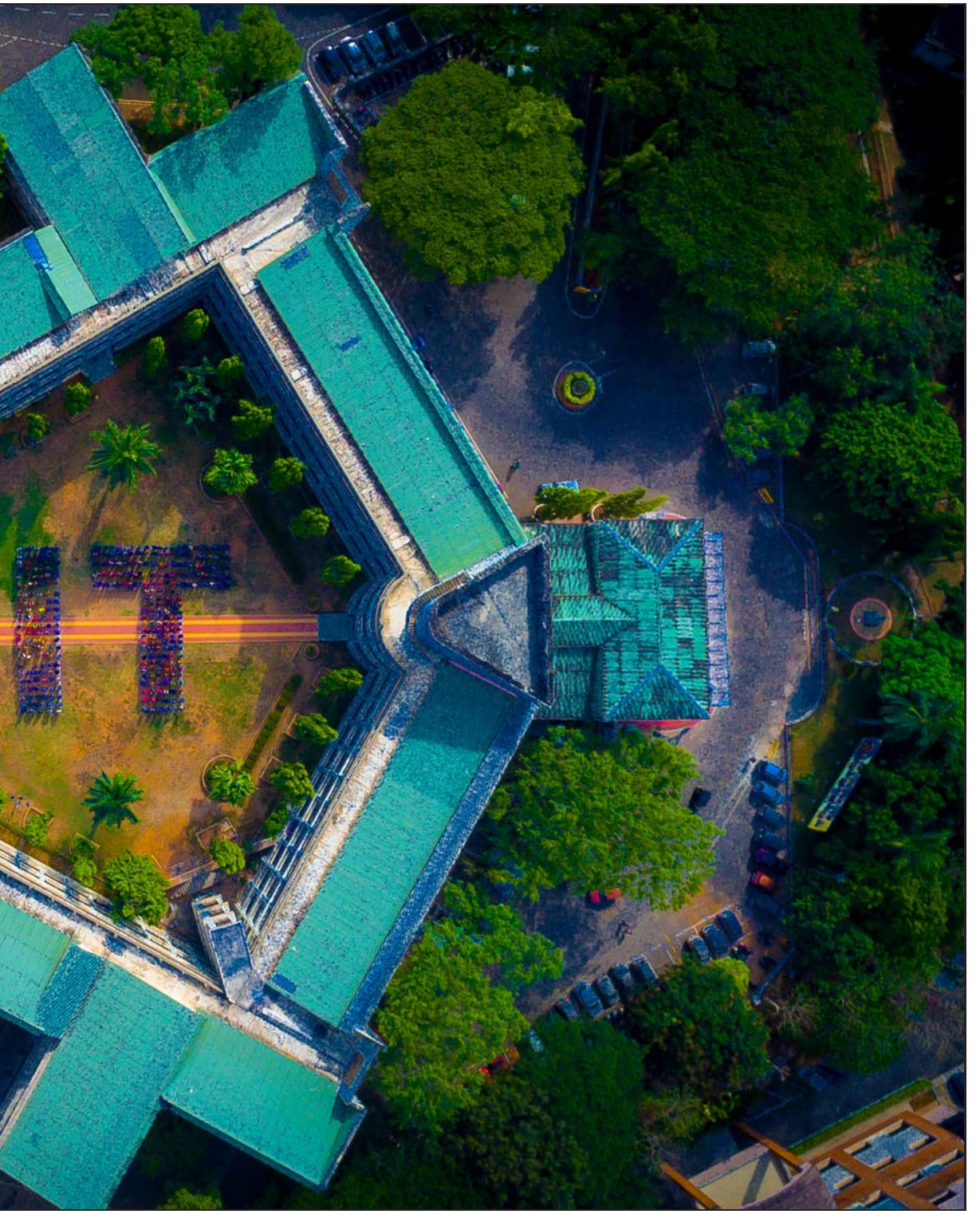
Email: shridhar.h@manipal.edu


MIT Academic Block 1 - Aerial View



B.Tech Program Highlights

- Duration of the program is 8 semesters
- Credit requirement for the award of degree: 170 credits. Credits used for CGPA Computation: 157
- Semester I & II: Common for all branches
- Optional change of branch in semester III against vacancies based on First Year performance
- First Year course materials available on Intranet
- VII Semester only electives and open electives
- VIII semester fully dedicated for Project work
- Live project experience through Practice school caters student mobility.
- Flexible curriculum: more elective courses including open electives from IV to VII Semester
- Minor Specialization based on electives chosen
- Continuous assessment: Equal weightage of in-semester & end-semester assessment
- Student Life Cycle Management System to provide seamless access to academic information through internet to all stake holders
- BTech (honours) for meritorious students

Physics Group

First Semester

Engineering Mathematics - I
Engineering Physics
Mechanics of Solids
Basic Electronics
Basic Mechanical Engineering
Communication Skills in English
Engineering Physics Lab
Workshop Practice
Engineering Graphics – I

Second Semester

Engineering Mathematics - II
Engineering Chemistry
Biology for Engineers
Basic Electrical Technology
Problem Solving Using Computers
Environmental Studies
Engineering Chemistry Lab
PSUC Lab
Engineering Graphics – II

Chemistry Group

First Semester

Engineering Mathematics - I
Engineering Chemistry
Biology for Engineers
Basic Electrical Technology
Problem Solving Using Computers
Environmental Studies
Engineering Chemistry Lab
PSUC Lab
Engineering Graphics – I

Second Semester

Engineering Mathematics - II
Engineering Physics
Mechanics of Solids
Basic Electronics
Basic Mechanical Engineering
Communication Skills in English
Engineering Physics Lab
Workshop Practice
Engineering Graphics - II

Computer Science Stream

Program Structure

Computer Science & Engineering

Third Semester
Engineering Mathematics – III
Computer Organization & Architecture
Data Structures and Applications
Digital System Design
Object Oriented Programming
Data Structures Lab
Digital System Design Lab
Object Oriented Programming Lab
Open Source Technologies Lab

Fourth Semester
Engineering Mathematics – IV
Database Systems
Design and Analysis of Algorithms
Embedded Systems
Formal Languages and Automata Theory
Open Elective – I
Algorithms Lab
Database Systems Lab
Embedded Systems Lab

Fifth Semester
Essentials of Management
Compiler Design
Computer Networks
Operating Systems
Software Engineering
Open Elective – II
Compiler Design Lab
Computer Networks Lab
Operating Systems Lab

Sixth Semester
Engg. Economics and Financial Management
Distributed Systems
Parallel Computer Architecture and Programming
Program Elective – I
Program Elective – II
Open Elective – III
Distributed Systems Lab
Internet Technologies Lab
Parallel Programming Lab

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work /Practice school

Minor Specializations
Computer Graphics & Visualization
Computational Intelligence
Computer Networks and Security
Data Analytics
Material Science
Business Management
Computational Mathematics

Third Semester
Engineering Mathematics – III
Object Oriented Programming
Digital Systems
Data Structures
Principles of Data Communication
Object Oriented Programming Lab
Digital Systems Lab
Data Structures Lab

Fourth Semester
Engineering Mathematics – IV
Operating Systems
Computer Organization and Microprocessor Systems
Design and Analysis of Algorithms
Computer Network Protocols
Open Elective – I
Operating Systems Lab
Microprocessor Systems Lab
Algorithms Lab

Fifth Semester
Essentials of Management
Embedded Systems
Cyber Security
Database Systems
Software Engineering
Open Elective – II
Embedded Systems Lab
Network Programming and Simulation Lab
Database Systems Lab

Sixth Semester
Engg. Economics and Financial Management
Distributed Systems
Data Warehousing and Data Mining
Program Elective – I
Program Elective –II
Open Elective – III
Data Warehousing and Data Mining Lab
Advanced Technology Lab
Internet Tools and Technology Lab

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work / Practice School

Minor Specializations
Data Analytics
Computational Intelligence
Software System Design
Computer Graphics and Visualization
Material Science
Business Management
Computational Mathematics

Program Structure

Computer & Communication Engineering

Third Semester
Engineering Mathematics – III
Object Oriented Programming
Data Structures
Principles of Data Communication
Digital System Design
Object Oriented Programming Lab
Data Structures Lab
Digital System Design Lab

Fourth Semester
Engineering Mathematics – IV
Operating Systems
Design and Analysis of Algorithms
Computer Network Protocols
Database Systems
Open Elective – I
Operating Systems Lab
Algorithms Lab
Database Systems Lab

Fifth Semester
Essentials of Management
Network Programming and Advanced Communication Networks
Data Mining and Predictive Analysis
Information Security
Software Design Technology
Open Elective – II
Network Design and Programming Lab
Data Mining and Predictive Analysis Lab
Advanced Programming Lab

Sixth Semester
Engg. Economics and Financial Management
Wireless Communication and Computing
Embedded Systems Design
Program Elective – I
Program Elective –II
Open Elective – III
Network Simulation Lab
Embedded Systems and IoT Lab
Mobile Application Development Lab

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective- V
Program Elective- VI
Program Elective- VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work / Practice School

Minor Specializations
Advanced Network Systems
Data Analytics
Computational Intelligence
Computer Graphics and Visualization
Material Science
Business Management
Computational Mathematics

Electrical Stream

Program Structure

Electrical & Electronics Engineering

Third Semester
Engineering Mathematics - III
Electrical Circuit Analysis
Digital System Design
Electrical Machinery – I
Electromagnetic Theory
Analog System Design
Analog System Design Lab.
Digital System Design Lab

Fourth Semester
Engineering Mathematics – IV
Linear Control Theory
Electrical Machinery – II
Generation Transmission & Distribution
Microcontrollers
Open elective - I
Electrical Machinery Lab
Microcontroller Lab

Fifth Semester
Essentials of Management
Digital Signal Processing
Power System Analysis
Communication Systems
Measurements & Instrumentation
Open elective -II
DSP Lab
Measurements & Instrumentation Lab

Sixth Semester
Engg. Economics and Financial Management
Power Electronics
Switch Gear & Protection
Program Elective -I
Program Elective -II
Open Elective - III
Power Electronics Lab
Power Systems Lab

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work / Practice school

Minor Specializations
Power & Energy Systems
Illumination Technology
Computational Intelligence
Signal Processing
Embedded Systems
Control Systems
VLSI Design
Sensor Technology
Material Science
Business Management
Computational Mathematics

Program Structure
Electronics & Communication Engineering

Third Semester
Engineering Mathematics III
Analog Electronic Circuits
Digital System Design
Network Analysis
Signals and Systems
Computer Organization and Architecture
Digital System Design Lab
Signals & Circuits Simulation Lab

Fourth Semester
Engineering Mathematics IV
Electromagnetic Waves
Linear Integrated Circuits
Digital Signal Processing
VLSI Design
Open Elective I
Electronic Circuit Design Lab
VLSI Lab

Fifth Semester
Engg. Economics & Financial Management
Linear Control Theory
Microprocessors
Analog and Digital Communication
Microwave Engineering
Open Elective II
Microprocessor Lab
DSP Lab

Sixth Semester
Essentials of Management
Communication Networks
Wireless Communication
Program Elective-I
Program Elective-II
Open Elective-III
Communication Networks Lab
Communication Systems Lab

Seventh Semester
Program Elective-III
Program Elective-IV
Program Elective-V
Program Elective-VI
Program Elective-VII
Open Elective IV

Eighth Semester
Industrial Training
Project Work /Practice school

Minor Specializations
Embedded System
Signal Processing
Telecommunication
VLSI Design
Computational Intelligence
Control Systems
Sensor Technology
Illumination Technology
Material Science
Business Management
Computational Mathematics

Third Semester
Engineering Mathematics – III
Analog Electronic Circuits
Digital Electronic Circuits
Electronic Measurements
Network Analysis and Signals
Sensors and Transducers
Digital Circuits Lab
Measurement and Transducers lab
Virtual Instrumentation Lab

Fourth Semester
Engineering Mathematics – IV
Digital System Design
Industrial Instrumentation
Linear Control Theory
Linear Integrated Circuits
Open elective - I
Analog Circuits Lab
Circuit Simulation and HDL Lab
Instrumentation lab

Fifth Semester
Essentials of Management
Control System Components
Microcontrollers
Modern Control Theory
Process Instrumentation and Control
Open elective-II
Micro-controller Lab
Process Control Lab

Sixth Semester
Engg. Economics and Financial Management
Digital Signal Processing
Industrial Automation
Program elective -I
Program elective -II
Open elective -III
Automation Lab
Control System Lab
DSP Lab

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work /Practice school

Minor Specializations
Computational Intelligence
Control Systems
Embedded Systems
Illumination Technology
Sensor Technology
Signal Processing
VLSI Design
Material Science
Business Management
Computational Mathematics

Program Structure
Biomedical Engineering

Third Semester
Engineering Mathematics – III
Network Analysis
Analog Electronics
Anatomy & Physiology
Digital Electronics
Signals & Systems
Electronics Lab
Circuit Simulation Lab

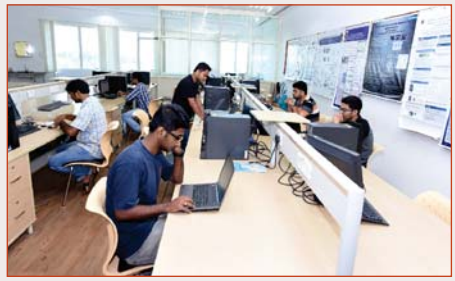
Fourth Semester
Engineering Mathematics – IV
Integrated Circuit Systems
Digital System Design
Biomechanics
Biomedical Instrumentation – I
Open Elective – I
IC Systems Lab
MATLAB & Simulink

Fifth Semester
Engg. Economics and Financial Management
Microcontroller Based Systems
Digital Signal processing
Basic Clinical Science I
Biomedical Instrumentation – II
Open Elective – II
Microcontroller Lab
Biomedical Instrumentation Lab-1

Sixth Semester
Essentials of Management
Digital Image Processing
Basic Clinical Sciences II
Program Elective – I
Program Elective – II
Open Elective – III
Signal and Image Processing Lab
Biomedical Instrumentation Lab – II

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work /Practice school



Minor Specialization
Biomaterials
Signal & Image Processing
Material Science
Business Management
Computational Mathematics

Program Structure
Media Technology

Third Semester
Engineering Mathematics – III
Digital Graphic Design
Material Science
Offset Technology
Audio Video Studios
Electronic Media
Material Quality Analysis Lab
Digital Graphic Design Lab

Fourth Semester
Engineering Mathematics – IV
Flexography, Gravure and Screen Printing
Digital Photography
Animation Technology
Digital Print Systems
Open Elective – I
Digital Photography lab
Machine Lab

Fifth Semester
Essentials of Management
Sound Engineering
Color Science and Technology
Industrial Book Binding and Print Finishing
Video Codecs and Standards
Open Elective – II
Sound Engineering Lab
Color Analysis Lab

Sixth Semester
Engg. Economics and Financial Management
Video Production
Packaging Design and Testing
Program Elective – I
Program Elective – II
Open Elective – III
Video Production Lab
Binding and Packaging Lab

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work/Practice School

Minor Specializations
Packaging Technology
Film Production
Material Science
Business Management
Computational Mathematics

Third Semester
Engineering Mathematics – III
Thermodynamics - I
Kinematics of Machinery
Strength of Materials
Material Science and Metallurgy
Manufacturing Technology
Computer Aided Mechanical Drawing And Modelling (CAMDAM) Lab
Workshop Practice – I

Fourth Semester
Engineering Mathematics – IV
Thermodynamics - II
Dynamics of Machinery
Fluid Mechanics
Metrology and Measurements
Open Elective - I
Strength of Materials Lab
Workshop Practice – II

Fifth Semester
Engg. Economics and Financial Management
Turbo Machines
Mechanical Design - I
CAD - CAM
Finite Element Methods
Open Elective - II
Mechanical Lab - I
Metrology Lab

Sixth Semester
Essentials of Management
Heat Transfer
Mechanical Design - II
Program Elective - I
Program Elective - II
Open Elective - III
Finite Element Methods (FEM) Lab
Mechanical Lab – II

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work /Practice school

Minor Specializations
Design Engineering
Materials and Manufacturing Engineering
Thermal Engineering
Material Science
Business Management
Computational Mathematics

Industrial & Production Engineering

Third Semester
Engineering Mathematics – III
Science and Mechanics of materials
Manufacturing Process Engineering
Thermal Engineering
Facilities Planning and Design
Metrology and Measurements
Computer Aided Mechanical Drawing
Material Testing Lab
Workshop Practice – I

Fourth Semester
Engineering Mathematics – IV
Manufacturing Automation Engineering
Theory of machines
Fluid Mechanics and Machinery
Work Systems Engineering
Open elective - I
Thermo-fluid lab
Metrology Lab
Workshop Practice – II

Fifth Semester
Engg. Economics and Financial Management
Operations Research
Total Quality Management
Design of Machine Elements
Simulation Modeling and Analysis
Open elective-II
Automation Engineering Lab
Work Systems Engineering Lab
Operations Research Lab

Sixth Semester
Essentials of Management
Operations and Supply Chain Management
Tool Engineering and Design
Program elective -I
Program elective -II
Open elective -III
Simulation Modeling and Analysis Lab
Quality Engineering Lab
Operations Management Lab

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work /Practice school

Minor Specializations
Industrial Management
Manufacturing
Material Science
Business Management
Computational Mathematics

Third Semester
Engineering Mathematics – III
Sensors and Instrumentation
Microcontroller based System Design
Digital System Design
Robotics - I
Data Structures and Algorithms
Sensors and PLC lab
Microcontroller Lab
Robotics Lab - I

Fourth Semester
Engineering Mathematics – IV
Linear Integrated Circuits and Applications.
Design of Machine Elements
Linear Control Theory
Automated Manufacturing Systems
Open Elective – I
Integrated Electronics Lab
CAD and Kinematics' Simulation Lab
Manufacturing Processes Lab

Fifth Semester
Engg. Economics and Financial Management
Digital Signal Processing
Electric Drives
Theory of Machines
Hydraulics and Pneumatics Systems
Open Elective – II
Robotics Lab - II
Drives, Controls and Modelling Lab

Sixth Semester
Essentials of Management
Energy and Heat Transfer
Automobile Engineering
Program Elective – I
Program Elective – II
Open Elective – III
Hydraulics Lab
Pneumatics Lab
IIoT Lab

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work /Practice school

Minor Specializations
Robotics and Automation
Industrial IoT Systems
Electric Vehicle Technology
Material Science
Business Management
Computational Mathematics

Third Semester
Engineering Mathematics – III
Aircraft Structures
Aerospace Materials and Manufacturing Technology
Introduction to Aerospace Engineering
Thermodynamics *
Fluid Dynamics
Fluid Mechanics Lab
Structures Lab

Fourth Semester
Engineering Mathematics – IV
Aerodynamics
Aircraft Propulsion
Flight Mechanics
Linear Control Theory *
Open Elective – I
Aerodynamics & Propulsion Lab
Numerical Computational Lab - I

Fifth Semester
Engg. Economics and Financial Management
Flight Dynamics
Gas Dynamics
Aircraft Design
Avionics and Navigation Systems
Open Elective – II
Geometric Modelling Lab
Numerical Computational Lab - II

Sixth Semester
Essentials of Management
Theory of Vibrations*
Finite Element Method*
Program Elective – I
Program Elective – II
Open Elective – III
Avionics Lab
Structural Analysis Lab

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work / Practice School

Minor Specializations
Aerodynamics
Material Science
Business Management
Computational Mathematics

Automobile Engineering

Third Semester
Engineering Mathematics – III
Thermodynamics*
Fluid Mechanics
Automotive Engines
Materials science and Metallurgy
Strength of Materials
Automobile lab – I
Geometrical modelling lab -I

Fourth Semester
Engineering Mathematics – IV
Linear control theory*
Automotive transmission systems
Manufacturing Engineering and Technology
Theory of Machine elements
Open Elective – I
Automobile lab – II
Materials testing lab

Fifth Semester
Engg. Economics and Financial Management
Metrology and Digital Manufacturing
Automobile chassis and suspension systems
Design of Machine Elements
Combustion and Heat Transfer
Open Elective – II
Numerical simulation lab
Automobile lab – III

Sixth Semester
Essentials of Management
Theory of Vibrations*
Finite Element Method*
Program Elective – I
Program Elective – II
Open Elective – III
Automotive design lab
Vehicle aerodynamics lab

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work/Practice School

Minor Specializations
Automotive system design
Electric and Hybrid vehicles
Material Science
Business Management
Computational Mathematics

Third Semester
Engineering Mathematics – III
Fluid Mechanics
Mechanics of Structures
Highway Engineering
Surveying
Water Supply Engineering
Surveying Practice –I
Material Testing Lab

Fourth Semester
Engineering Mathematics – IV
Water Resource Engineering
Engg. Geology
Waste water Management
Basic Reinforced Concrete Design
Open Elective –I
Building Material Technology
Building Design and Drawing
Fluid Mechanics Lab

Fifth Semester
Essentials of Management
Geotechnical Engg.
Basic Structural Steel Design
Analysis of Indeterminate Structures
Construction Management
Open Elective -II
Soil Mechanics Lab
Environmental Engg. Lab
Computer Applications Lab

Sixth Semester
Engg. Economics and Financial Management
Applied Soil Engineering
Railway and Airport Engineering
Program Elective –I
Program Elective –II
Open Elective – III
Estimation, Costing and Valuation Practice
Structural Design and Drawing
Surveying Practice – II

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work /Practice school

Minor Specializations
Building Construction and Management
Environmental Engineering
Transportation Engineering
Water Resources Engineering
Structural Engineering
Geotechnical Engineering
Material Science
Business Management
Computational Mathematics

Chemical Stream

Program Structure
Chemical Engineering

Third Semester
Engineering Mathematics – III
Physical and Organic Chemistry
Chemical Process Calculations
Momentum Transfer
Particle Technology
Chemical Engineering Thermodynamics-I
Physical & Organic Chemistry Laboratory

Fourth Semester
Engineering Mathematics – IV
Chemical Engineering Thermodynamics-II
Heat Transfer Operations
Mass Transfer-I
Chemical Process Industries
Open Elective – I
Numerical Methods for Chemical Engineers Laboratory
Momentum Transfer & Particle Technology Laboratory

Fifth Semester
Engg. Economics and Financial Management
Mas Transfer-II
Chemical Reaction Engineering
Transport Phenomena
Process Modelling and Simulation
Open Elective – II
Process Modelling and Simulation Laboratory
Heat Transfer Laboratory

Sixth Semester
Essentials of Management
Design and Drawing of Chemical Process Equipment
Process Dynamics and Control
Program Elective – I
Program Elective – II
Open Elective – III
Mass Transfer Laboratory
Reaction Engineering and Process Control Laboratory

Seventh Semester
Program Elective – III
Program Elective – IV
Program Elective – V
Program Elective – VI
Program Elective – VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work/Practice School

Minor Specializations
Petroleum Engineering
Pollution Control Engineering
Environmental Biotechnology
Material Science
Business Management
Computational Mathematics

Third Semester
Engineering Mathematics – III
Bioprocess calculations
Fluid flow operations
Biochemistry
Microbiology
Cell Biology
Biochemistry lab
Microbiology lab

Fourth Semester
Engineering Mathematics – IV
Chemical and Biochemical Engineering Thermodynamics
Principles of Heat and Mass transfer operations
Downstream processes
Molecular Biology & Genetic Engineering
Open Elective – I
Molecular Biology and Genetic Engineering Lab
Unit Operations Lab

Fifth Semester
Engg. Economics and Financial Management
Bioreaction Engineering
Separation processes
Bioinformatics
Bioprocess Engineering
Open Elective – II
Bioinformatics lab
Downstream and separation processes lab

Sixth Semester
Essentials of Management
Animal,Plant Biotechnology and Bioethics
Bioprocess control and instrumentation
Program Elective - I
Program Elective - II
Open Elective – III
Bioreaction Engineering and Bioprocess control Lab
Animal, plant Biotechnology and Bioprocess Engineering lab

Seventh Semester
Program Elective - III
Program Elective - IV
Program Elective - V
Program Elective - VI
Program Elective - VII
Open Elective – IV

Eighth Semester
Industrial Training
Project Work /Practice school

Minor Specializations
Environmental Biotechnology
Pharmaceutical Biotechnology
Material Science
Business Management
Computational Mathematics

Students' Major Projects – A Manipal Model for Experiential Learning

An Engineering graduate, on graduation, is expected to have a skill set to find solutions to problems of the society. Along with the domain specific knowledge, other basic skills that are expected are: Communication, Leadership, Teamwork, Problem Solving, Planning, Motivation and Enthusiasm, Adaptability and Flexibility, and Ability to Build Relationships. All these mandates engineering education to be experiential, practical, relevant, and up-to-date.

Also, in India, entry into engineering Institutions is highly competitive, due to which at the entry level all the students have a built-in competitive spirit. Keeping this in mind, as an experiment, in 2007 Institute came up with an idea of Major Student Projects, wherein, institute provides infrastructure to build a technical project to compete in an international competition. Such an initiative in 2007 was 'Formula Manipal', a student engineering project comprising of a group of undergraduate students aiming to design, conceptualize, fabricate, test and race a single seater, open-wheel Formula Style race car. Since its first competition in 2008, the team has participated in competitions in Italy, UK, Austria, Germany and Czech Republic.

The success of this has led to initiation of many more student teams. 2008 saw the start of 'Team Manipal Racing', off-road racing club to design and fabricate All-Terrain Vehicles according to the rules laid by SAE BAJA. Year 2009, AeroMIT was initiated to design, manufacture, and fly a complex, stable, and portable model aircraft with minimal empty weight, maximum payload carrying capacity; RoboManipal was started with an aim of taking part in robotics competitions like Robocon. Parikshit Student Satellite Team started in 2010 aims to build nanosatellites. Year 2011 was the beginning of 'Solar Mobil' with an aim of research & development of solar powered electric vehicle. Project Manas, aiming to develop an 'autonomous drive system for vehicles' optimized for Indian road and traffic conditions; Mars Rover Manipal, with a primary objective of building a Rover for University Rover Challenge was established in the year 2014.

Thrust MIT - working in the field of rocketry; R.U.G.V.E.D. Systems - A.I. Defence Robotics team to develop autonomous UGV for defence forces; DRONAID - building India's fast trauma response and pre-medical healthcare infrastructure combining Drones, AI, and Medical Science; MotoManipal - to build an efficient and environment-friendly electric Superbike; VISION - developing Augmented Reality headset and AR based applications; S.W.A.R.M. - working towards development of Smart Wireless Autonomous Robots are the recent additions to this list.

All these teams are interdisciplinary in nature, having student representation from first to final year. In the process of getting into the team, and selecting the members to the team, students learn to face and conduct interviews. With the team size ranging from 25 to 50, students learn to work in group. By working under tight deadlines, they learn to meet deadlines. By submitting weekly progress report, by presenting weekly progress and scheduling the task, they hone their documentation, presentation, and planning skills. To generate the financial support, they need to sell their idea to possible sponsors. In the process, they learn the marketing, budgeting, and accounting skills.

Projects being innovative in nature, these activities have seen many publications and start-ups coming out of these projects. Institution is also seeing more scope for publication and IPs. To enable this, teams have added a research wing. Institution is also framing guidelines for crediting these activities, thus making it part of main stream academic activity.

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MAJOR STUDENT PROJECTS
Formula Manipal

Formula Manipal is a student engineering project based in Manipal, Karnataka. It comprises of a group of undergraduate students studying at Manipal Academy of Higher Education, Manipal who aim to design, conceptualize, fabricate, test and race a single seater, open-wheel Formula style race car. Since its first competition in 2008, Formula Manipal has come a long way. The team has participated in competitions at FS Italy, FS UK, FS Germany, FS Czech, FS Austria and Formula Bharat. Being one of the highly-rated student project of Manipal University and one of the best FSAE teams in India, Formula Manipal has scaled several heights on the student racing circuit.

- In 2008, the FM08 at Italy, received the Farthest travelled team award.
- 2009 saw the FM09 go to the UK, where the team stood 10th in the cost report.
- In 2010, the FMX team came 4th in the cost event in FS Austria and was the lightest India FSAE car that was also given the award of 'Most Motivated Team'.
- The FMXI team, which went to Italy in 2011, stood 16th in the cost event.
- FMX3 set the tracks blazing as FSG and FS Czech in 2013. With a personal best of 0-45m in 4.51 seconds, the FMX3 was the fastest Indian FSAE car. The team stood 2nd in the cost event at FSG, making Formula Manipal the first Indian team to achieve a podium finish at the competition. It was also the only Indian team to complete Endurance with Electro-pneumatic shifting.

- FMX4, the season 2014 scaled new heights at Formula Student India 2015 winning seven trophies and making two national records in all, after its show in FSG and FS Czech 2014.
- The season 2016 car, FMX6 came 3rd in the Design event at Formula Bharat 2017 after the events at FSG and FS Czech in 2016.

Currently the team is in making of its 8th car FMX8 and flying to Austria to compete in FSA - 2018 competition to be held at end of July 2018. The team is also in making of its first electric car and getting ready to participate in 'FSG 2018 Electric' at Germany during the beginning of August 2018.

Apart from these awards, the cars have also been commended by big names from the world of automotive and racing, such as Claude Rouelle and Michael Royce. Having so much to match up to, the team is full of energy and enthusiasm and embodies the philosophy of our tagline-'ENGINEERED WITH PASSION'.

Formula Manipal Team

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Faculty Advisor

Dr Dayananda Pai K.
Dept. of Aeronautical and Automobile Engg.

http://www.formulamanipal.in
https://www.youtube.com/user/formulamanipal96/videos
https://www.facebook.com/FormulaManipal/
https://twitter.com/formulamanipal

SolarMobil

SolarMobil

Imagineering the Future

SolarMobil is a student solar car team from Manipal Institute of Technology, based in Manipal, Karnataka which is a constituent Institution of the Manipal Academy of Higher Education, Manipal. They are a team of undergraduate students of various disciplines of engineering and aims to build solar vehicles for a clean future and abides by the team motto of "Imagineering the future".

Vision

To be a leading center of research and development in the field of solar automobiles as a student project with a focus on innovations in the next 5 years.

Mission

To design and fabricate a high-performance cruiser class solar electric vehicle and at the same time focus on practicality and reliability.

Ever since the humble beginnings in 2011, the team has been undertaking in-house designing, fabrication and manufacturing of most of the car's components. The car is designed and tested rigorously by a team of talented engineering students.

The team has built three prototypes in the past, namely-The Freyr1, SERVe, SM-S1 and is currently working on SM-S2. SolarMobil has earned attention and acclaim from industry experts and media as is evident from the extensive coverage received from reputed newspapers and online publications such as Times of India, NDTV Auto, BBC Auto.

Team Achievements

- With Freyr1, SolarMobil became the third Indian team to completely design and fabricate a solar car team from scratch.
- Freyr1 achieved the consolation prize at the Manipal University Innovation Day.
- In QuEST Ingenium'15 SERVe secured the 1st prize amongst 5794 entries.
- In the CII India Innovation Challenge SERVe secured 3rd prize amongst 1500 entries.
- SERVe also secured 1st Prize under the category UJJWAL at IIT Bombay's Tech fest.

- 1st place in ASME SLDC (Student led Design Challenge) - 2016
- 3rd place in Anveshan (Inter-University South Zone Student Research Convention) organized by Tumkur University, under Association of Indian Universities (AIU), New Delhi under the category Engineering Technology in 2017.
- First Indian team to completely design and fabricate a 4-seater solar powered car.

Current Project

The team is currently working on its fourth project SM-S2 (SolarMobil-Series 2) solar car project. The next car is intended to be a two-seater solar racing car. The car will be competing in the South African Solar Challenge (SASOL) in September 2018. The salient features of the next project are as follows:

- An estimated top speed of 97kmph
- A range of 300 km on a single charge

SM-S2 will be launched in Manipal in the presence of our proud sponsors and University as well as Institution dignitaries.

Solar Mobil Team

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Project Manas

"Manas" as quoted in Sanskrit scriptures means higher intelligence. The project aims to develop an autonomous drive system for vehicles optimized for Indian road conditions. With over 259 applicants across the country from the finest educational institutions and professional startups applying for the "Driverless car challenge" as a part of Mahindra's Spark the Rise event, Project MANAS qualified several stages of the competition and is proudly holding its position among the top 13 teams today. The team is the only undergraduate team among the top 13 teams.

Even as driverless cars gain popularity worldwide, India has a long way to go in this. The globalization of this technology has raised questions regarding the safety of these cars on Indian roads. It also raises the question if the other road users are safe on the road. It all began in 2014 when Mr. Kumar Ranjan came across Mahindra's one million dollar challenge in which he wished to participate. The university has been very supportive and has provided a seed fund of 12 lakhs. Mahindra has also provided the Reva e2o on which the technology will be implemented. The car is expected to reach level-1 autonomy by July 2018.

The team is also participating in the International Ground Vehicle Competition to be held in Michigan, USA in June 2018, making it the third Indian team to do so. By utilizing the technical knowledge acquired in building the driverless car, Manas is building a fully autonomous robot for this competition.

Project Manas Team

1. **Dheeraj R Reddy** (Team Leader)
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Mars Rover Manipal

Mars Rover Manipal (MRM) is a multi-disciplinary team of engineering undergraduate students working on building a next generation Mars Rover that will work alongside humans and assist astronauts in Mars exploration. The team takes part in an annual competition called University Rover Challenge (URC), organized by Mars Society, USA, conducted at Mars Desert Research Station, Utah, USA.

The team started in September 2014, by Atharva Gupta, Saurabh Kumar and Akshay Saxena, developed the rover which successfully participated at URC 2016. The team cleared the Critical Design Review of URC 2016, by standing in top 30 teams across the globe among 63 from over 12 countries and team were invited to the onsite competition held in June 2016. Since then the team has gone on to finish 8th in URC 2017 out of 82 teams, finishing 1st in Science task and 2nd in Critical Design Review.

The current team went on to win the inaugural edition of Indian Rover Challenge held in 2018 and is preparing URC 2018. The team has cleared the System Acceptance Review of URC 2018 by standing in top 36 out of 95 global teams and is all set to take part in URC 2018 to be held in June 2018. Over the last 3 years team size has increased from 9 to 23 students.

Mars Rover Manipal Team

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RoboManipal

RoboManipal is the official student robotics team of Manipal Institute of Technology, comprising of a faction of strong, smart and capable students from different disciplines of engineering to cater to the diverse needs and challenges of building a robot. The team specializes in robotic technology and works in synergy to continuously engage in the process of learning and effectively applying the so acquired knowledge to constantly innovate.

Every year RoboManipal represents the college nationally and internationally in various robotics competitions. These robot enthusiasts brainstorm, design, construct and test robots based on unique problem statements derived from a variety of fields. The team participates in the biggest robotics competition in the Asia Pacific region: ABU Robocon. The event, organized by Asia - Pacific Broadcasting Union, calls for multiple robots to work in synchrony in a given arena to finish a predefined task in a stipulated

period of time. This being the main agenda of the team receives the majority of the team's intellectual prowess and undivided attention. The team works on this project for a period of 6 months.

Over the years Robomanipal has won several laurels, commendations, and has always persevered to improve on its outlook and success. Apart from competitions, the members are also involved in a lot of personal projects and are constantly incubating their unique ideas. Fracktal Works, Xes Automation, Virld, Strange Matter etc. are some student startups that originated from Robomanipal. The team has come a far way since its inception, integrating innovative solutions for complex problems to produce effective solutions

RoboManipal Team

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MotoManipal

MotoManipal is a team of passionate, selfless and dedicated undergraduate students of MIT who have devoted themselves towards making an efficient and environment-friendly Electric Superbike. The team is composed of members from various engineering disciplines. The team which consists of nine members at present had cleared its first SPSB on 24th March 2018. However, the members were working unofficially in a collaborative manner under the tutelage of the Faculty Advisors from September 2017 itself.

The rise in global temperatures and the depletion of the ozone layer has caused a paradigm shift in global concerns for humanity's future. Here, at MotoManipal we hope to do our bit for the environment and are inspired to build a vehicle based on a different technology using power-cells and BMS system, making it a rich tool for R&D and help shape the future of clean transport technologies.

The team aims to participate in the E-bike racing challenge 2018, which is an engineering level competition held in Madhya Pradesh in which students pursuing engineering in any field can participate. The students must design and subsequently test the bike for efficient and reliable performance

and at the same time take into consideration the market compatibility of the vehicle manufactured, cost efficiency etc. The competition will be held towards the end of 2018.

In the future, we wish to participate in the Motostudent Competition which is a multidisciplinary university challenge that allows students to develop a real industrial project in the motorsport sector. The participating students have to design and develop a racing motorbike project (electric or petrol) which will be evaluated and tested in a Final Event to be held at the MotorLand Aragón facilities in Alcañiz (Teruel), Spain.

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Team Manipal Racing

Team Manipal Racing is the official off-road racing club of Manipal University. We design and fabricate All-Terrain Vehicles(ATVs) according to the rules laid by SAE BAJA. The three words "INNOVATE. INITIATE. INCARNATE" shape the work at Team Manipal Racing. We not only conceptualize ideas but also substantiate them into reality. TMR took up its first project at the SAE BAJA which was held in Wisconsin, USA. It was the first Indian team to qualify for the competition and one of the two teams representing Asia. From the V1 to the V7, Team Manipal Racing has come a long way in making efficient and light ATVs. Team Manipal Racing participates in various BAJA events. Each team in the competition works as a pseudo company and is judged on several static and dynamic events. The static events include sales presentation, cost report and design report and the dynamic events include Endurance, sprint event, acceleration and manoeuvrability. It allows the students to be industry ready, as they already have an experience of working as a team towards a common goal, and develop their technical as well as managerial skills.

In 2017, Team Manipal Racing participated in Enduro Student India, organized by Delta Inc. The next car, the V9 would participate in Enduro Student India 2019 and BAJA SAE India 2019.

Team Manipal Racing Team

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AeroMIT

AeroMIT is one of the many successful projects under the department of Aeronautical and Automobile Engineering of Manipal Institute of Technology. It is a team of over 20 interdisciplinary undergraduate students of Manipal University that conceptualize, design, fabricate, manufacture, test and fly a complex, stable and portable model aircraft with minimal empty weight, maximum payload carrying capacity and high endurance. AeroMIT was found by 4 Mechanical Engineering Students from MIT, Manipal in 2009 and today is Manipal University's official team for SAE AeroDesign. Since its inception, the team has participated 7 times.

The latest season has ended with several laurels and a World Rank of 4 for the team. The team also has the following trophies under its belt:

- 1st in Highest Payload Lifted
- 2nd in Highest Payload Fraction
- 3rd in Final Flight Score

Since 2009, AeroMIT has evolved into a much bigger team with several more sub-systems and research divisions:

The Avionics and Drone Research Division concentrates on developing innovative solutions to modern day problems using modern day drone technology. As of now the

team is currently focusing on developing geo-fencing software, variable multirotor systems, surface mapping equipment, autonomous medical drones for expedited organ transfer and long range telemetry systems for reconnaissance. Several research papers based on these projects are currently being formulated. It also participates in the TATA Protean UAV Challenge and has recently acquired a funding of over a thousand dollars for their project.

The Materials and Analyses Division has recently developed its own in-house composite lay-up capabilities and plans to expand further into more refined technologies. On obtaining CFW Enterprises as sponsors, AeroMIT has had access to several types of raw materials for layup of composites.

A lot of importance is given to maintain and propagate the essence of the RC culture on which the team was first created for. This stimulates several quirky projects called "fun-flies" that delve into the more extravagant and joyful aspects of aeromodelling.

AeroMIT Team

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Parikshit

Parikshit – A Student Nano Satellite Project:

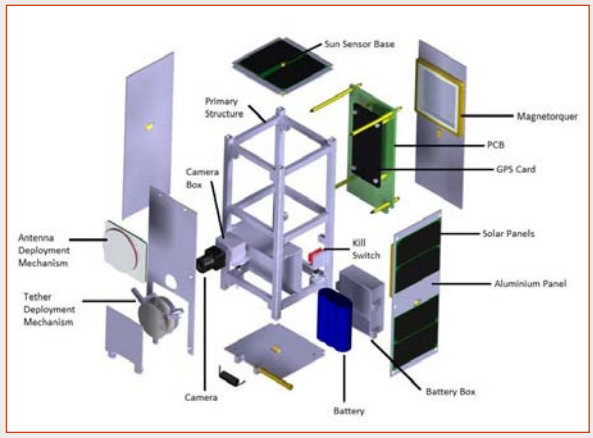
Nanosatellites, or nanosats, are a relatively recent term used to describe artificial satellites with a mass of 1 to 10 kgs. The term "nanosatellites" has been introduced by NASA around 2004. Nanosatellites are appealing because of their small size which makes them affordable and opens up the potential for a swarm of satellites. From a military perspective, nanosatellites may be useful for the redundancy it could offer.

The Parikshit Student Satellite Team was formed in September 2010 with 40 members. Their aim was to explore the fields of space science, and specifically, work on experiments that could be performed in space. It was a brave thought, an ambitious venture, but the team forged ahead doggedly. Satellite De-orbit using Electrodynamic Tether, conceptualized by Aditya Palta was termed "ingenious" by ISRO, the first of its kind experiment by an Indian satellite in space, and was reviewed by Dr DVA Raghava Murthy, Director of Small

Satellites, ISRO. After much thought, terrestrial thermal imaging was adopted as the satellite's primary payload. In April 2011, Dr BN Suresh of ISRO reviewed the team's progress.

Parikshit has 6 subsystems constituting its team. They are, Payload-which is the purpose that the satellite will serve once it's in orbit; Attitude Determination and Control System, Power, Communication, On-board Computers, and Structure & Thermal.

MIT student Adheesh Boratkar represented the University for testing Parikshit's Tether Deployment System in a zero-gravity parabolic flight at NASA. The team got a total of four flights of 30 parabolas in zero-G to experiment with the payload; deployer testing is a crucial phase, and to do it at NASA was a great achievement for the team. At present the team is about to go for environment test and qualification model review. Afer the successful completion of the same is likely to handover the final flight model to ISRO in near future. Parikshit makes it easy to believe that Manipal students not only aim for the sky, but are just as capable of reaching it.



Parikshit Team

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thrustMIT

One of India's first rocketry teams, thrustMIT was formed in October 2015. A group of friends with a mutual interest in rocketry decided to build rockets and participate in the Spaceport America Cup to be held in New Mexico, USA. The team will be participating in the competition this year from June 19th to June 23rd. The Spaceport America Cup is designed around IREC- The Intercollegiate Rocket Engineering Competition for student rocketry teams from all around the globe. Teams participating can build solid, liquid or hybrid rockets to target altitudes of 10,000 feet or 30,000 feet.

The team has been designing and building sounding rockets. Sounding rockets are designed to probe atmospheric conditions and structure at heights beyond the reach of airplanes and balloons, but impractical to explore by means of artificial satellites. A sounding rocket usually has a vertical trajectory as it travels through the upper atmosphere carrying a payload of scientific instruments.

thrustMIT has developed a series of prototype rockets called Lapwing. These rockets use in-house researched and

developed propulsion, avionics, and recovery system.

Today, thrustMIT is ready with their first sounding rocket, Vyom. Vyom is derived from the Sanskrit word Vyoman meaning atmosphere (sky, wind or air). Vyom will be around 9 feet tall and can reach an altitude of 10,000 feet. It will carry a payload of 4 kgs with a solid propellent for propulsion.

thrustMIT's work was acknowledged by a proud alumnus of Manipal Institute of Technology, the CEO of Nokia, Rajiv Suri. He was impressed with the project and had a few words of praise for the team. thrustMIT was also featured on various prestigious platforms like India Times and Bangalore Mirror.

thrustMIT Team

1. **Amogh Govil** (Team Leader)
2. **Surya Nittur** (Team Manager)

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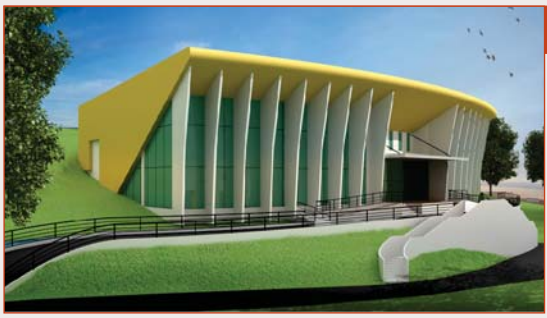
New Facilities



MIT Food Court - 2

Considering the increasing in number of students in campus, second Food Court construction has already started nearer to hostel blocks. Area: 32,270 SFT; capacity 1500 students and estimated cost of INR 9 Crores. Expected to complete by June / July 2018.

MIT Ladies Hostel Block

With the increase in the number of girl students in campus, new hostel block for ladies has been constructed.

Area: 1,00,890 SFT,

Capacity: 500 students

Estimated Cost: INR 27 Crores

Student Plaza

Student Plaza (near Kamath Circle, MIT) is a place earmarked for cultural and extracurricular activities. It is expected to take the vibrant life of MIT to the next level with amenities such as the amphitheater and the student corner. Area: 26,000 SFT. Estimated cost INR 7 Crores and expected to complete by July 2018.

New Facilities

MIT-KEF R & D Center

This is with support from one of MIT's distinguished alumni, Mr Faizal Kottikollon. In a move that will work towards providing a cutting edge research & development facility to upcoming civil engineering and architecture students, MIT has tied up with KEF Holdings, a Singapore-based multinational holding company that specializes in innovative offsite construction technology, to set up a state of the art R&D Center. The R&D Center will provide budding engineers with practical know-how about offsite construction and would enrich the research and academic curriculum. Area: 28,000 SFT with a cost of INR 16 crores, with an equal contribution from both partners. Expected to be ready by July 2018.

MIT TechShop

To encourage experiential learning, a new facility is proposed to house student major projects (like, Formula car, all- terrain vehicle, etc). This will also host industry competency center in the area of automobile engineering. Area: 91,000 SFT, cost: INR 30 Crores.

Student Welfare

The department of the Student Welfare is set up to look after the overall welfare of the students at MIT. With over 9500 students on the rolls at any given time, at MIT, it is imperative to have such a support group to look after their interests both inside and outside the classroom.

The activities of the department cover wide ranging areas such as counselling, guidance and general wellness. It is constantly evolving ways to support and foster students' interest in the campus. A number of activities are held every year to ensure that the growth of students is not limited to class rooms alone. The major activities of the office of the Associate Director (Student Welfare) are:

- Facilitate need based counselling to the students
- Mentoring and monitoring of students through Teacher-Guardian Scheme
- Motivating and enhancing the student achievements at individual and group level inside and outside the campus
- Annual Technical, Cultural & Sports fests of the college
- Formation of Student Council and Publishing College Year book
- Encouraging and facilitating Student activities and events through students clubs.

Note:

There are three kinds of student clubs – Technical, Non-technical and Student Chapters. Membership in the clubs will help students to gain invaluable skills related to leadership and personal growth.

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Student Clubs / Chapters

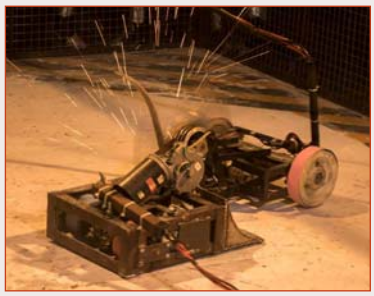
Technical Clubs

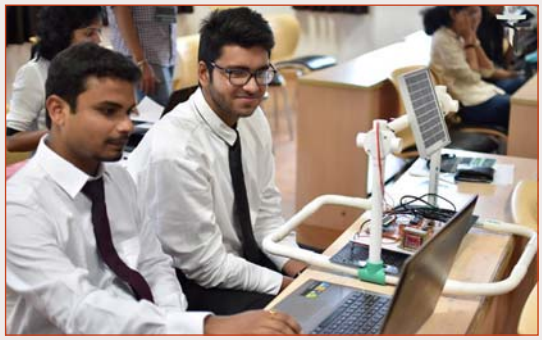
- ACM Manipal
- AeroMIT
- Akshay Urja Club
- American Society of Civil Engineers
- ASME
- BMESIIMC (Biomedical Engineering Society of India,Manipal Chapter)
- Engineers Without Borders
- Formula Manipal
- GDG Manipal
- IAESTE/AIESEC
- IE Aerospace
- IE Civil
- IE E&E
- IE Mechanical Students' Chapter
- IE Mechatronics Student's Chapter
- IEBt
- IECSE
- IE-E&C
- IEEE SBM
- Indian Institute of Chemical Engineers Manipal Students' Chapter
- ISA Manipal Student Section
- ISOI Manipal
- ISTE
- Linux Users' Group Manipal
- Manipal Information Security Team
- Mars Rover Manipal
- MEGA
- MIT Gaming
- MUTBI Student Entrepreneurship cell (SEC)
- Open Source Technology Forum
- Parikshit Student Satellite Team
- Project MANAS
- RoboManipal
- Robotics and Circuits: Technical Students' Chapter
- SAE-IM
- SolarMobil
- Team Manipal Racing
- The Astronomy Club, Manipal
- thrustMIT
- Verde Manipal
- TechCroft

Non Technical Clubs

- Aaina Dramatics
- ADA
- Blank-101
- Blitzkrieg Dance Crew - INDIA
- Burning Ice
- CurioCity
- E.C.H.O. Manipal
- Economics and finance society of Manipal
- Ek Sangharsh
- Glam and Glitz
- Goonj
- LDQ
- Leaders of Tomorrow
- Manga and Anime Club, MIT
- MiT Live
- Music and Fine Arts Club (MAFIA)
- Naqaab Filmmaking
- Placement Club
- RedX
- Scio Foundation
- Sports Club
- The Photography Club Manipal
- The REAPERS Dance Crew
- The ShowStoppers
- The Think Tank
- Human Powered Endeavors
- Yes!+ Club, Manipal
- Chords & Co
- The Psych Club, Manipal
- Rotaract Club of Manipal

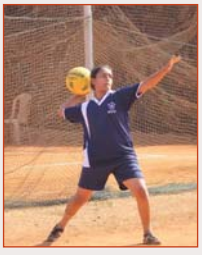
Students' Technical Fest - TECHTATVA





Students' Cultural Fest - REVELS

Students' Sports Fest - REVELS CUP



MANIPAL
ACADEMY of HIGHER EDUCATION
(Deemed to be University under Section 3 of the UGC Act, 1956)

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INSPIRED BY LIFE