

M. S. Ramaiah University of Applied Sciences

Bangalore - 560 054



Faculty of Engineering and Technology (FET)

The Faculty of Engineering and Technology (FET) was earlier known as the M.S. Ramaiah School of Advanced Studies (MSRSAS) and was established in 1999. The Faculty of Engineering and Technology offers undergraduate, postgraduate and doctoral programmes in the broad areas of Automotive and Aeronautical Engineering, Civil Engineering, Computer Engineering, Electrical and Electronics Engineering, Mechanical and Manufacturing Engineering.



Dr. H.K. Narahari
Dean, FET

Dean's Message

It has been a constant endeavour at MSRUAS, to innovate and evolve course content, method of delivery and evaluation in both under-graduate and post-graduate programmes. Some of the key differentiators of MSRUAS vis-à-vis other universities are that it follows the internationally recognised “outcome Based” learning methods followed by many universities in UK and USA. Lectures are delivered with the help of multimedia tools like power point slides, videos etc. These are accompanied by lab sessions where the students are exposed to latest software tools used in the industry. Faculty are actively encouraged to work on research projects from top scientific institutions and leading corporates. In essence, faculty is aware of the problems industry faces as well as latest theoretical developments, and this knowledge goes in the continuous improvement of module content and delivery. All these ensure that the students coming out of MSRUAS are well prepared to ‘hit the ground running’ from Day 1 when they join any company and the only training they need is on company specific processes.

Departments and Academic Programmes

The Faculty of Engineering & Technology has 6 departments

1. Department of Automotive and Aeronautical Engineering
2. Department of Civil Engineering
3. Department of Computer Science and Engineering
4. Department of Electrical Engineering
5. Department of Electronic and Communication Engineering
6. Department of Mechanical and Manufacturing Engineering

Each department is an independent entity headed by a Head of the Department reporting to the Dean of the Faculty. Each department has its own faculty members, teaching and learning resources and offers UG Programme leading to B. Tech., degree, PG Programme leading to M. Tech., degree and Doctoral Programme leading to Ph. D. degree. Each department offers Part Time PG programme and Doctoral Programme for working professionals; in addition they offer specially designed User Oriented PG Courses to Industries.

The various courses offered by the faculty are listed in the following table

Department	UG Courses : B. Tech. Degree	PG Courses : M. Tech. Degree
Automotive and Aeronautical Engineering	Nil	<ol style="list-style-type: none"> 1. Automotive Engineering 2. Automtoive Powertrain Design 3. Automotive Product Design 4. Aircraft Design 5. Turbomachinery Design
Civil Engineering	<ul style="list-style-type: none"> • Civil Engineering 	<ol style="list-style-type: none"> 1. Civil Structural Design 2. Construction Engineering and Management
Computer Science and Engineering	<ul style="list-style-type: none"> • Computer Science and Engineering 	<ol style="list-style-type: none"> 1. Automotive Electronics 2. Computer Science and Networking 3. Real Time Embedded Systems
Electrical Engineering	<ul style="list-style-type: none"> • Electrical and Electronic Engineering 	<ol style="list-style-type: none"> 1. Electrical Machinery Design 2. Sensors and Control Systems Engineering
Electronic and Communication Engineering	<ul style="list-style-type: none"> • Electronic and Communication Engineering 	<ol style="list-style-type: none"> 1. Biomedical Engineering 2. Digital Signal and Image Processing 3. Electronic Systems Design Engineering 4. Signal Processing and Communication Technologies 5. VLSI System Design
Mechanical and Manufacturing Engineering	<ul style="list-style-type: none"> • Mechanical Engineering 	<ol style="list-style-type: none"> 1. Advanced Machinery Design 2. Advanced Manufacturing Technologies 3. Engineering and Manufacturing Management



Departments and Academic Programmes

The courses and curriculum have been evolved, over the years, by the members of faculty based on their teaching experience and long standing interaction with various foreign universities and Industries. The curriculum offered is outcome based and each course is designed for students to develop knowledge and understanding of the subject area, critical thinking, analytical thinking, practical skills, problem solving skills, creative and innovation skills, research skills and transferrable skills. Students are trained to use modern industry standard design and simulation software tools and advanced engineering testing facilities in the laboratory.

Students are encouraged to work in teams and to do their projects in relevant areas of engineering. They are encouraged to: participate in global student competitions; do their internship in India or abroad depending on their preference; attend prestigious lectures, seminars and symposiums; participate in seminars, and workshops; interact with industry leaders and practicing engineers.

The alumni of the Faculty hold respected positions in industry and business in India and abroad.

The Faculty has set up a TIFAC-CORE in Digital Image Processing. It also works closely with DRDO Laboratories like GTRE, ADE, ADA, CVRDE, DARE, CAIR, NPOL, AR &DB, DRDO-IP & ER and DST on research projects and has actively participated in NP-MICAV and GATET programmes. The Faculty was involved in international projects under EU- FP6 and UKIERI and has received equipment grants from multinationals like Agilent Technologies, Texas Instruments, Xilinx etc. More than 100 papers are published annually and make contributions to the University publications - Book of Students Projects Abstracts, a student feedback magazine called Reflections and a biannual technical journal-SAS Tech.

Many members of staff act as Research Committee Members of various National Research Laboratories. Dr. S R Shankapal is a member of Research Committee of CVRDE, Defence Research Laboratory. Dr. Govind Kadambi, Dr. H K Narahari, Dr. M D Deshpande, Prof. Q H Nagapurwala are on various Research Committees of Govt. of India laboratories and many members of faculty act as reviewers of various international journals.



Research

Research, Publications and Patents

MSRUAS has a strong focus on Applied Research. The research programmes originate from industry, research establishments and business organisations. Students can opt for Doctoral Programme leading to the Ph.D. degree either through the full time or part time route. One of the main activities at FET is academic research. Normally, Research groups work on research problems with funding from various agencies. The faculty members of these groups supervise Ph.D., theses also. The faculty members of Research groups are assisted by other academic faculty of allied specialisation areas and research assistants. The research themes are:

Energy and Environment ; Biomaterials, Tissue Engineering and Implants; Robotics and Automation; Signal and Image Processing; Control Engineering; Materials Engineering; Biomedical Engineering and Biomechanics; Engineering Design and Rural Products Design; Fluid Dynamics and Aerodynamics; Automotive Technologies; Micro Air Vehicles; Manufacturing Technologies; Opto-electronics; Human Computer Interactions; Electric Motors, Drives and Electromagnetics; Sensors and Micro Electro Mechanical System; Microelectronics and CMOS Technology; Graphene and Carbon Nanotechnology; Graphics and Visualization; Software Engineering and ICT Networks and Distributed Systems; Plasma and Lasers; Construction Engineering and Management.

The Doctoral Programme offered at MSRUAS is well structured and motivated candidates will be able to complete their Ph.D. in the defined period. The faculties of the University have produced more than 30 Ph.D. scholars. Research at Doctoral and Post-graduate level has resulted in more than 100 publications and many patent filings. The Faculty publishes a Bi- Yearly Technical Journal "SASTech" which contains peer reviewed technical papers and also publishes a Book of Student Project Abstracts which contains the abstracts of projects executed by the PG students of the Faculty. Further details are available at http://www.msruas.ac.in/doctoral_research

Conference, Seminars and Workshops

The Faculty of Engineering and Technology actively conducts conferences, seminars and workshops. The faculty has conducted national level conferences and the conferences are conducted by each department of the faculty in a cyclic manner once in every 2 years. The faculty has helped the Directorate of Training and Life Long Learning to conduct more than 600 corporate training courses. More than 3,500 candidates and professionals have been trained under various programmes and more than 90 seminars and workshop have been conducted. The list of Corporate training programmes is available at : http://www.msruas.ac.in/training_learning/cpdtm/ctp and the list of workshops and seminars is available at http://msruas.ac.in/pdf_files/tll/List%20of%20Seminar%20&%20Workshop.pdf

Very good initiative by FET and a good form of industry & academic interaction. Event was really good. Would like to attend such events or sessions in near future. Seminar organized in professional manner.

Participant, attending "Unsteady Phenomena in Turbomachinery and Combustion System"



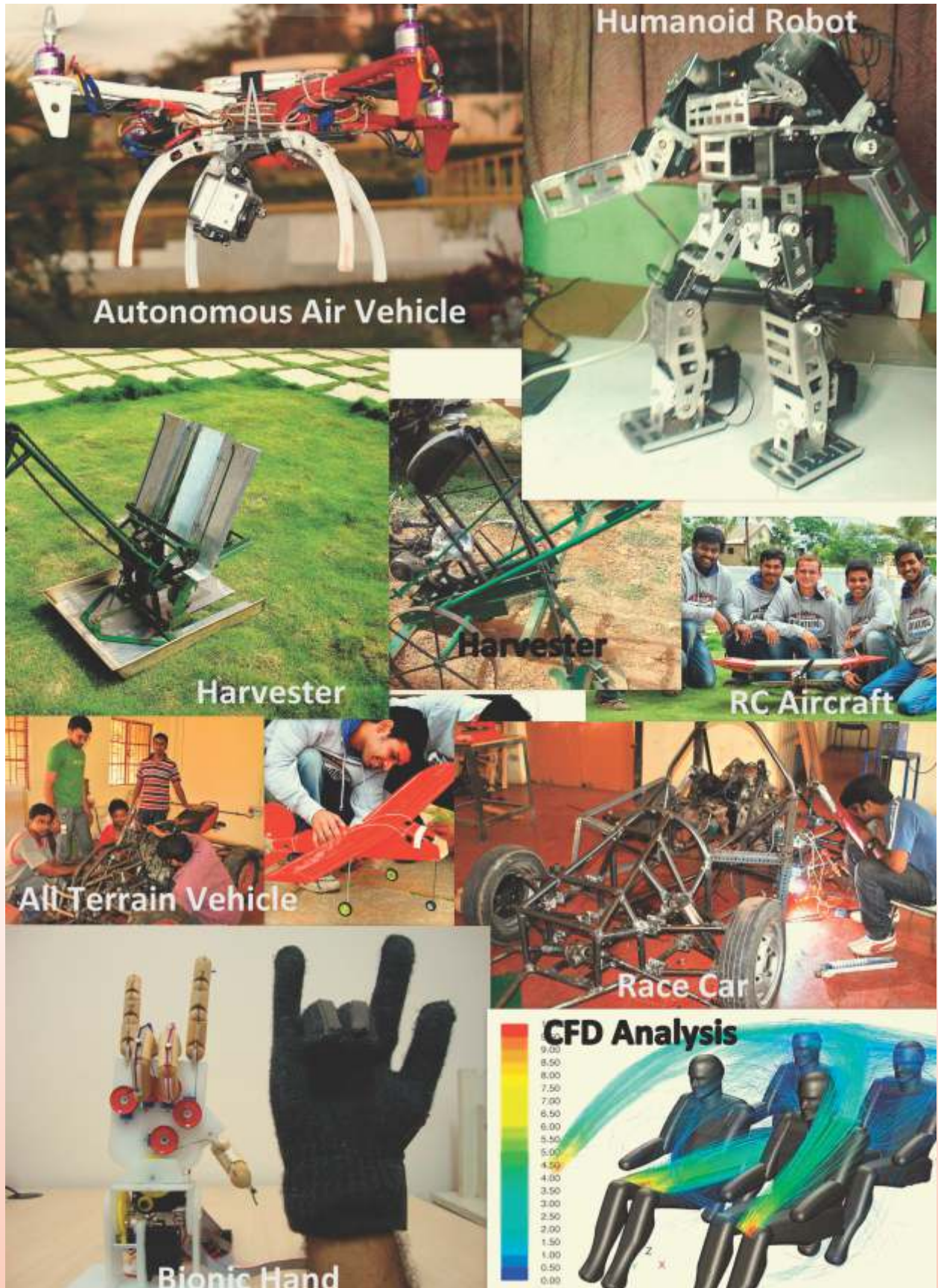
Collaborations, Student and Staff Exchange and Partnerships

The Faculty of Engineering and Technology has a long standing collaboration with the Coventry University of the UK. The Faculty has collaborative agreements with University of Pardubice, Czech Republic and has initiated discussions with Kazan Aviation University, St. Petersburg Civil Engineering and Architecture University, Samara Aerospace University, Volgograd Technical University all located in Russia; Nottingham Trent University of the UK; Ghent University in Belgium; Universities in France; Ghana Technology University College in Ghana and Airforce Institute of Technology, Nigeria and the Faculty plans to have collaborations with more than 40 international universities as it plans to encourage short-term international mobility of UG and PG students and Ph. D. scholars and faculty members.

The Faculty would like to develop partnerships with reputed universities for offering value added professional programmes in advanced technologies in India and Abroad.

Students Work

Every year students from the Faculty of Engineering and Technology carryout group projects and individual projects as part of their curriculum. The projects are critically reviewed and made sure they are technically relevant and academically of high standards. Most students get job opportunities based on their project work alone and many have published papers in peer reviewed journals.



Student Competitions and Exhibitions

The staff and students of FET, MSRUS have always been enthusiastic and strive hard to carryout challenging problems and achieve great results. They have been participating in National and International level competitions and bringing great accolades and name to the University. Be it designing new cars, low cost medical devices, Micro Air Vehicles or publishing papers, they have won it all and made their presence felt everywhere.



Design and Development of Pulse Wave Velocity Measurement System. The project was exhibited at the I3 National Fair conducted at IIT – Delhi by CII, DST and Agilent Technologies. Almost 1000 projects were enrolled and 52 projects were short listed for National Fair. This project exhibited by Kishore Rajendran, Preetham Shankpal and

Santosh R won third prize in the I3 National Fair – 2010. The inventors also received third prize in Young Indians Next Practices award category. The project is one among the 10 innovations that have been selected for mentorship by the CII for further development and commercialization.



Hari and Rajesh were among the top 10 positions in the All India SIAM Automotive Product Design Competition



Unmanned Ground Vehicle developed by students and faculty members of FET took part in Indo-US MAV competition held during October 2007 at Agra.

M S R S A S participated in First National Competition Micro-Air Vehicles (MICAV – 07) held at Agra 23-27 October 2007 and won



two awards; Best Innovative Design and Rotary Wing Category Award. The competition was held at Drop Zone of Indian Air Force at Agra and was organized by ADRDE and ARDB.

MSRSAS has been awarded the "TEAM TECH 2006 AWARD OF EXCELLENCE" in International Conference & Exhibition on Total Engineering, Analysis & Manufacturing Technologies (TEAM TECH) 2006 event held on 1st March 2006 at JN TATA Auditorium, IISc, Bengaluru.



The agro spray robot developed by members of faculty and students of FET was exhibited at Krishi Mela organised by the Agricultural University, Bangalore, GoK during November 2013.



Unmanned Air Vehicle (UAV) research team at FET developed a MAV that is capable of navigating itself from one location to another using GPS data. The team had participated in NP-MICAV - 2014 competition organized by DRDO - NAL and successfully demonstrated the flight capabilities. It was among the top 5 in the National level Competition.



A Two Seater Car exhibited by Automotive Engineering students during annual exhibition 2013

Student Placements, Alumni Feedback Employers Opinion

The Students passed out of the Faculty in the last few years have been working with multinational companies like General Motors, Volkswagen, Volvo, Robert Bosch, Delphi, Continental, Honeywell Technologies, IBM, Intel, Jaguar and Landrover, Tata Motors, Tata Technologies, Tata Consultancy Services, Mahindra and Mahindra, Volvo Eicher, TVS Motors, Wirpo, Infosys, L&T, HCL, General Electric, Schneider Electric, Altair Engineering, Siemens, Kyocera, Synopsys, Tageu Tech, KPIT, Toyota Kirloskar Motors, Mercedes Benz India, BMW India, Moog India Technology Centre and many more. Many of our alumni have occupied important positions in industry and located in Japan, Germany, UK, Australia, Singapore, Hongkong, US and many other European countries.

"My Master's program from FET has broadened my knowledge and opened the horizon in engineering and management to guide and lead an organization with confidence and zeal. I have attached my contribution to Volvo Buses India from my learning's taken from FET of MSRUIAS. The uniqueness about my project which I have taken has given a reduction of 54% in process time reduction which is unique by any industrial standard in manufacturing. In other words productivity improvement can go up to a maximum of block 100% since the production can be doubled. Generally productivity improvements are between 10% to 15%".

Cyril G. Xavier, Chief Operating Officer, Spheros Motherson Thermal Systems Limited

It is a great pleasure for me to introduce myself as an alumni of MSRUIAS. I did my PG in Engineering Management and Manufacturing. I Currently working as Manufacturing Support Engineer with Moog India Technology Centre, Bangalore, a growing aerospace company in motion control systems manufacturing for both aviation and space aircrafts. The systematic training I have undergone at FET helped me to step in to this platform. Masters in Engineering and Manufacturing Management (EMM) equipped me with in depth knowledge and skill sets and accelerated my carrier journey. I feel proud and happy to hold a post graduate degree in my hands from an esteemed University like MSRUIAS.

Rejula S. N.

A few bygone years, a few cherished memories, many memorable incidents and lots of earned knowledge. All this wouldn't have been possible without FET, the name that brings pride in me and shaped my career to a great extent. With inputs from the school alumni and friends, I decided to pursue my dreams of obtaining a PG degree at MSRUIAS. When I joined up for the RTES course, I was in doubt whether I could cope up with the growing trends and satisfy the industry demands once I complete my Masters. But with the expert and friendly faculty, I found the course exciting and less stressful. The courses are well framed and suffice the needs of the industry. FET not only provides theoretical knowledge, but it also exposes the students to practical scenarios thus giving the best of both worlds. The opportunity to work on group projects is something that I greatly appreciated in the course. Today, as a professional working at System Controls, when I am asked to work in a team, it is very easy for me to co-ordinate well with my team mates. It is only because I have already worked in a team at MSRSAS. I developed the habit of listening to the ideas of all the people working in a group and have an elaborate discussion among the team members to decide on what needs to be done. I am very grateful to MSRSAS for having given me the right motivation that developed in me a sense of great interest for the course. I give many a credit to the school for molding a beautiful career for me.

Deepika T.

Chintan Majithia

To the President, MSRSAS

Dear Sir,

How are you doing? Hope everything is fine.

With immense pleasure I am writing this email to share the details on my new venture of importing superbikes and custom bike designs, development and manufacturing.

For your perusal, the link to our website is www.supernitroo.in Before joining Ramaiah what I knew about automobile design is the data books, some formula's and theory calculations.

But Ramaiah opened doors to actual design and development process from sketches to complete manufacturing processes.

The group projects and thesis project boosted the confidence to do achieve something beyond numbers (exam scores).

All the teachings and exposure at Ramaiah has helped me to achieve this and am sure it will help me in long run for sure.

Thank you to you and the entire Ramaiah management and staff for bringing world class facilities in India and helping us grow.

Looking forward to hear from you.

Best Regards,

Chintan, Super Nitroo,



Contact

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