Mangalore Institute of Technology and Engineering
(An ISO 9001:2015 Certified Institution)
(Affiliated to Visveswaraya Technological University, Belgavi)
Badaga Mijar, Moodabidri, 574225, Karnataka

1.2.2 Number of Add on/ Certificate programs offered during last five years

Brochure for Add on/ Certificate Program

DOCUMENTS ENCLOSED

BOSCH REXROTH - CENTRE OF COMPETENCE IN AUTOMATION TECHNOLOGY

MITE

Invent Solutions

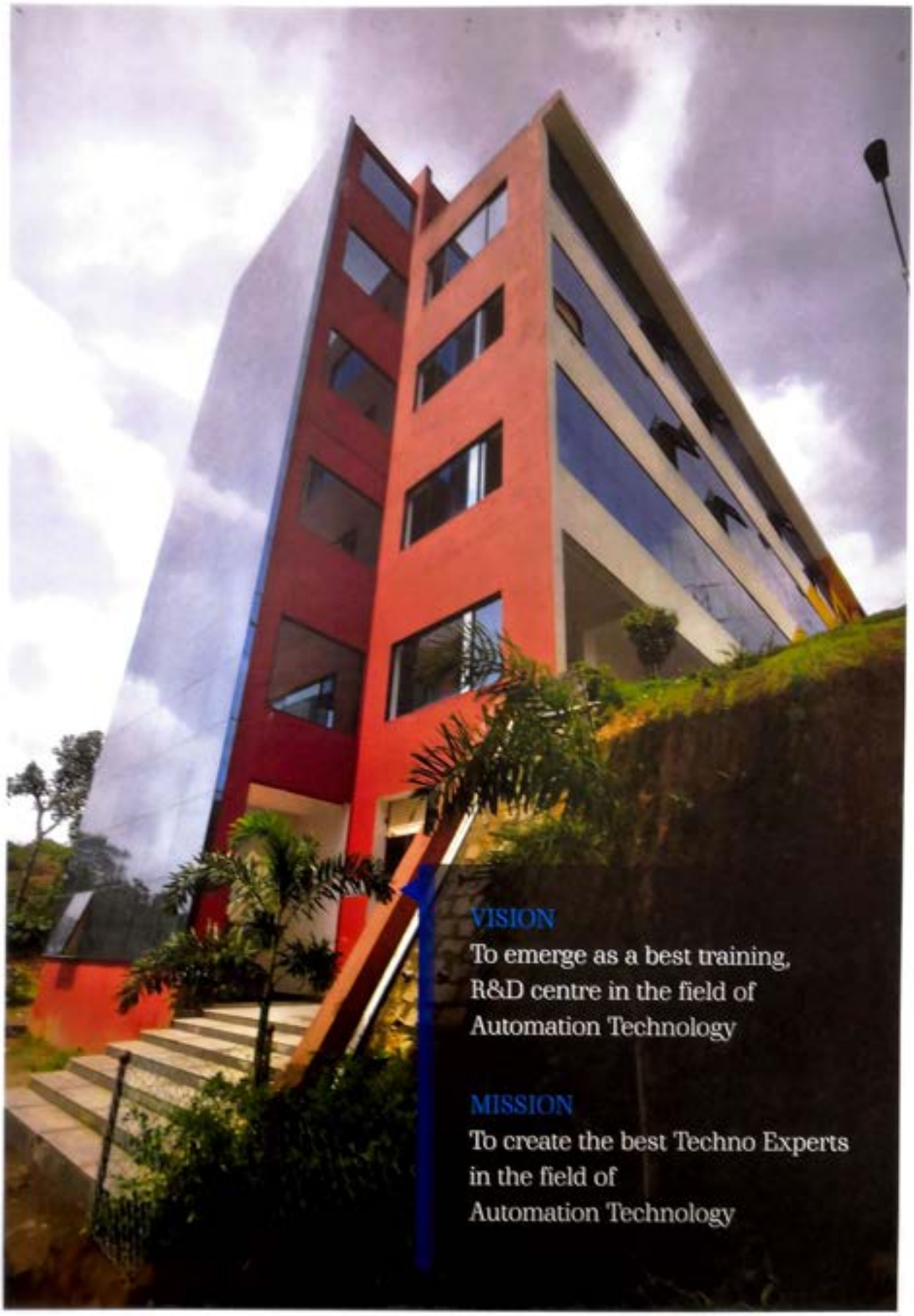
DRIVE & CONTROL ACADEMY

Rexroth
Bosch Group

MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING – BOSCH REXROTH CENTRE OF COMPETENCE FOR AUTOMATION TECHNOLOGIES

Programs Offered:

IA01	: Hydraulics	
IA02	: Advanced Hydraulics	
IA03	: Pneumatics	
IA04	: Hydraulics & Pneumatics	
IA05	: PLC	
IA06	: Mechatronics	
IA07	: Motion Logic in the Drive	
IA08	: CNC – MTX Micro	



VISION

To emerge as a best training, R&D centre in the field of Automation Technology

MISSION

To create the best Techno Experts in the field of Automation Technology

PREFACE

Mangalore Institute of Technology & Engineering has been a pioneer in providing the best technical education since inception. MITE has been creating a bench mark in all its endeavors. Bosch has been foremost in charting wonderful directions in improving the quality of life individually and collectively. Bosch Rexroth has core competencies in hydraulics, pneumatics, mechatronics and electric drives and controls, fields in which they have excelled themselves. This excellence and its drive for it has made the firm realize that unless the personal who man these technical areas are competent, the gap between theory at engineering schools and practical applications in industries will widen. This is where BOSCH comes in to fill the gap and make the difference, true their business vision of making this world a better place to live in. Mangalore Institute of Technology & Engineering has been proudly associated with Bosch Rexroth and has set up Regional Center of Competence in Automation in Automation Technology – Drive & Control Academy .

Bosch in its endeavor to reach out and improve technical education and close the gap between industry expectations and theoretical deficiencies has set up the Center of Competence with the following objectives:

- To provide hands on experience to the students of engineering, polytechnics and vocational institutes to the recent technologies practiced in the industry.
- To enable all the students in different regions and rural areas to have exposure to industry and technologies, by the concept of regional centers.

The scope of activity of the MITE – Bosch Rexroth Center of Competence is:

- The Regional center will provide the training to faculty, students of engineering, polytechnic and vocational institute and industries in the coastal region.
- The Regional center will offer projects to the students of the Engineering.
- Bosch Rexroth will provide faculty training - enrichment & running of the centers, through technical and financial participation in the project.
- Bosch Rexroth will provide and commission the equipments, teach wares, hard wares, curriculum for theory and practice for the complete automation technologies.
- MITE CoC together with Bosch Rexroth will award a joint certificate to the students on completion of the program, which will be valid across the globe.

The training to be provided by the centre are on Hydraulics, Pneumatics, Mechatronics, Programmable Logic Controller, Electric Drives and Control, resulting in Joint Certification by MITE and Bosch Rexroth. This interaction will result in standardized REXROTH procedures covering training & technical demands.

PROGRAM CODE – IA01

PROGRAM: BASIC HYDRAULICS

Objective: The participants should understand the fundamentals and principles of Hydraulics, and be able to make hydraulic assemblies on the Training Rig.

Content:

- Introduction to Hydraulics
- Physical fundamentals and principles
- Hydraulic components
- Fluid Power Symbols as per DIN ISO 1219
- Basic Hydraulic Circuits
- Instructions, guidance, and review for practical hydraulic aspects
- Techniques of assembly, disassembly and conversion; possibilities for handling and setting of typical components
- Practice by self-trial of circuit making on demonstration power pack
- Instructions on storage, commissioning, trouble shooting, maintenance and safety
- Electro hydraulics

Target: Students of Engineering Degree / Diploma & ITI

Teaching and Learning Media:

- Multimedia Presentation
- Sample Units and Power Units
- PC Animations
- Circuit Simulation on Trainer kit

Deliverables:

- Training Manual
- Participation Certificate

Duration: 3 Days

Fees: INR 2000/-

PROGRAM CODE – IA02

PROGRAM: ADVANCED HYDRAULICS

Objective: The participants should understand the fundamentals and principles of Hydraulics, Proportional Hydraulics and be able to make hydraulic assemblies on the Training Rig.

Content:

- Introduction to Hydraulics
- Physical fundamentals and principles
- Hydraulic components
- Fluid Power Symbols as per DIN ISO 1219
- Basic Hydraulic Circuits
- Instructions, guidance, and review for practical hydraulic aspects
- Techniques of assembly, disassembly and conversion; possibilities for handling and setting of typical components
- Practice by self-trial of circuit making on demonstration power pack
- Instructions on storage, commissioning, trouble shooting, maintenance and safety
- Overview of Proportional Hydraulic Technology
- Basic review of Conventional valves
- Proportional directional, pressure and flow control valves
- Directional servo and pressure servo valves and electro hydraulic
- Controls for pumps
- Typical continuous control hydraulic circuits

Target: Students of Engineering Degree / Diploma & ITI

Teaching and Learning Media:

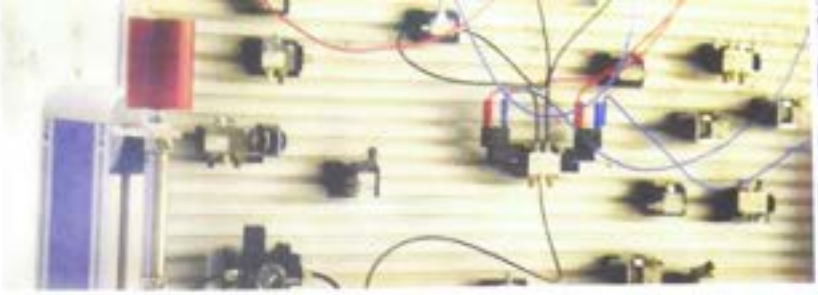
- Multimedia Presentation
- Sample Units & Power Units
- PC Animations
- Circuit Simulation on Trainer kit

Deliverables:

- Training Manual
- Participation Certificate

Duration: 4 Days

Fees: INR 3000/-



PROGRAM CODE – IA03

PROGRAM: **PNEUMATICS**

Objective: The participants should understand the fundamentals and principles of Pneumatics, and be able to design simple circuits and work on Trainer kits.

Content:

- Introduction to Pneumatics
- Fundamentals and its applications
- Compressor and compressed air
- Electro pneumatic concept
- Circuit building (minimum six circuits involving the direct and indirect control of cylinders, signal processing in pilot operated pneumatic circuit)
- Maintenance
- Pneumatic timers and use of logic elements and its switches
- Actuators, drives and control elements
- Pressure loss calculation receiver size and air line design

Target: Students of Engineering Degree / Diploma & ITI

Teaching and Learning Media:

- Multimedia Presentation
- Sample Units and Power Units
- PC Animations
- Circuit Simulation on Trainer kit

Deliverables:

- Training Manual
- Participation Certificate

Duration: 3 Days

Fees: INR 2000/-

PROGRAM CODE – IA04

PROGRAM: **HYDRAULICS & PNEUMATICS**

Objective: The participants should understand the fundamentals and principles of Hydraulics and Pneumatics and be able to design simple circuits and work on Trainer kits

Content:

- Introduction to Hydraulics
- Physical fundamentals and principles
- Hydraulic pumps and motors
- Control valves
- Cylinders
- Circuit building
- Maintenance
- Fundamentals of Pneumatics
- Compressor and compressed air
- Electro pneumatic concept
- Circuit building
- Maintenance

Target: Students of Engineering Degree / Diploma & ITI

Teaching and Learning Media:

- Multimedia Presentation
- Sample Units and Power Units
- PC Animations
- Circuit Simulation on Trainer kit

Deliverables:

- Training Manual
- Participation Certificate

Duration: 4 Days

Fees: INR 3000 -

PROGRAM CODE – IA05

PROGRAM: PLC

Objective: The participants should understand the fundamentals and principles of Programmable Logic Controllers and HMI Controls.

Content:

- Introduction to Automation Technology
- Introduction to PLC
- Introduction to Indraworks and basic setup Indraworks / Indralogic settings
- Elements of POU – PRG/FB/FUN
- Programming Languages – STL, FBD, Ladder Diagram, SFC, IL
- Variables declaration- Local and Global variables
- Subprograms calling and program download & upload
- Interface of I/O modules with PLC
- Relay and contractors working principles, power and control circuits, Logic development using relay contractor
- Programming of PLC
- VCP communication with PLC
- VCP Screen Development

Target: Students of Engineering Degree / Diploma & ITI

Teaching and Learning Media:

- Multimedia Presentation
- Sample Units

Deliverables:

- Training Manual
- Participation Certificate

Duration: 3 Days

Fees: INR 2000/-

PROGRAM CODE – IA06

PROGRAM: MECHATRONICS

Objective: The participants should understand the fundamentals and principles of Mechatronics – combination of Mechanical and electronic systems.

Content:

- Overview of Hydraulics, Pneumatics, electronics
- Physical fundamentals and principles of Hydraulic components
- Hydraulic pumps and motors
- Control valves and motors
- Circuit building
- Fundamentals of Pneumatics
- Compressor and compressed air
- Electro pneumatic concept
- Circuit building
- Introduction to Automation technology
- Introduction to PLC
- Introduction to Indraworks and basic setup Indraworks / Indralogic settings
- Elements of POU – PRG / FB / FUN
- Programming of PLC
- Concept of assembly and conveying systems
- Configuring of mechanical equipment and electronic controls for assembly and conveying systems.

Target: Students of Engineering Degree / Diploma & ITI

Teaching and Learning Media:

- Multimedia Presentation
- Sample Units

Deliverables:

- Training Manual
- Participation Certificate

Duration: 4 Days

Fees: INR 3000/-

PROGRAM CODE : IAGF

PROGRAM: MOTION LOGIC IN THE DRIVE

Objective: The participants should understand the basic knowledge of electric drives and control

Content:

- Introduction to Indradrives
- Drive Parameterisation
- Introduction to drive inbuilt PLC
- PLC Open function blocks
- Axis structure
- Reading and writing drive parameters using Fbs
- Direct access variables
- Synchronizing Reading drive troubleshooting
- VCP Communication
- Screen Development

Target: Students of Engineering Degree / Diploma & ITI

Teaching and Learning Media:

- Multimedia Presentation
- Sample Units

Deliverables:

- Participation Certificate

Duration: 3 Days

Fees: INR 2000/-

PROGRAM CODE : IADR

PROGRAM: CNC – MTX Micro

Objective: The participants should understand the fundamentals and principles of CNC systems

Content:

- Introduction to CNC systems
- Creating the Project
- Configuration
- Drive Parameterization
- Introduction to channel and axis gateway signals – NC to PLC and PLC to NC Signals & PLC Logic structure
- Manual mode explanation and error messages
- Introduction to M-Codes, G-Codes
- Part Programming, Subroutines, Standard Cycles

Target: Students of Engineering Degree / Diploma & ITI

Teaching and Learning Media:

- Multimedia Presentation
- Sample Units

Deliverables:

- Participation Certificate

Duration: 3 Days

Fees: INR 2000/-

MITE

DRIVE & CONTROL ACADEMY

Rexroth
Bosch Group

MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING – BOSCH REXROTH
CENTRE OF COMPETENCE FOR AUTOMATION TECHNOLOGIES
Mijar, Moodbidri – 574 225

REGISTRATION FORM

BATCH ID: | | | | | | | | REGISTRATION NO.: | |

Participant Name: _____

Year / Branch: _____

Organization: _____

Address: _____

_____

_____

Mobile: _____ Email: _____

Course Selection:

- ☐ IA01 : Hydraulics
- ☐ IA02 : Advanced Hydraulics
- ☐ IA03 : Pneumatics
- ☐ IA04 : Hydraulics & Pneumatics
- ☐ IA05 : PLC
- ☐ IA06 : Mechatronics
- ☐ IA07 : Motion Logic in the Drive
- ☐ IA08 : CNC – MTX Micro

Payment Details:

Cash: Receipt Number & Date:

Date: SIGNATURE

INFORMATION AND REGISTRATION

For Registration contact:

Dr. Narendra L T

Head,

MITE BR Centre of Competence in Automation
Mangalore Institute of Technology & Engineering
Mijar, Moodabidri – 574 225, DK District

E-mail: [illegible]@mite.ac.in
Mobile: +91 99860 76676
Ph: +91 8258 262695-99 Ext: 134

Principal

Mangalore Institute of Technology & Engineering
Mijar, Moodabidri – 574 225, DK District

E-mail: principal@mite.ac.in
Ph: +91 8258 262698

IMPORTANT INSTRUCTIONS:

- Training on any Programs will be conducted as per the participant's convenient dates (preferably on weekends).
- Photocopy of the enclosed registration format along with the payment by Demand Draft in favor of 'The Principal, MITE' payable at Moodabidri must be forwarded to the Head, MITE-BR CoC.
- The Training fees includes course materials (if any), Working lunch and refreshment.

PROGRAM REGULATIONS:

- Every trainee is required to attend the theory and Laboratory sessions regularly.
- Any Lab tasks / projects assigned are to be completed for successful accomplishment of the certification.
- If students fails to conform to the minimum norms as above, no certificate will be given.

Inauguration of MITE-BR Centre of Competence for Automation Technologies

Invent Solutions

Mangalore Institute of Technology & Engineering (MITE)

Mijar, Moodbidri, Mangalore, Karnataka. Ph: 08258-262695 to 99
E-mail: info@mite.ac.in

Rajalaxmi Education Trust

Souza Arcade, Balmatta Road, Mangalore, Karnataka. Ph: 0824-2441581, 2441582
Fax: 0824-2441581 E-mail: info@ret.ac.in Website: www.mite.ac.in

MITE-SIEMENS CENTRE OF EXCELLENCE IN DIGITAL DESIGN, MANUFACTURING & VALIDATION

MITE SIEMENS

CENTER OF EXCELLENCE IN DIGITAL DESIGN, MANUFACTURING & VALIDATION

MITE SIEMENS

CENTER OF EXCELLENCE IN DIGITAL DESIGN, MANUFACTURING & VALIDATION

Mangalore Institute of Technology & Engineering (MITE) has signed an MoU with SIEMENS PLM Software under which it has received an in-kind software grant towards the Centre of Excellence (CoE) for Digital Design, Validation and Digital Manufacturing. The value of the Software granted to the institute is around USD 79 Million. The MoU was signed on March 20th, 2014 and the CoE is operational from July 2015 onwards. MITE is the only Institute in the State of Karnataka to receive such a grant. The CoE gives students access to the same technology that companies around the world depend on every day to develop innovative products in a wide variety of industries including automotive, aerospace, machinery, shipbuilding, high-tech electronics, and many more. Graduates with this Siemens software training are in great demand during recruitment. The colossal grant for MITE includes Siemens PLM Software solutions such as NXTM, Tecnomatix® and FibersimTM. The grant was provided by Siemens PLM

Software's academic program that delivers PLM software technology to more than one million students yearly at more than 12,000 global institutions. Siemens PLM Software is a leading global provider of product lifecycle management (PLM) software and services with 7 million licensed seats and more than 71,000 customers worldwide, delivering upon solutions to help its customers make smarter decisions that result in better products. By using the same technology in the classroom that is used by companies all over the world to develop a wide variety of products, our students gain important real-world exposure during their studies that will serve them well after graduation.

"As product complexity continues to grow, students who are able to use PLM software technology are expected to be highly recruited. Siemens PLM Software is delighted to have MITE as one of our academic partners to help build the next generation of engineers."

Mr. Suman Bose
MD & CEO,
Siemens Industry Software, India

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MITE SIEMENS

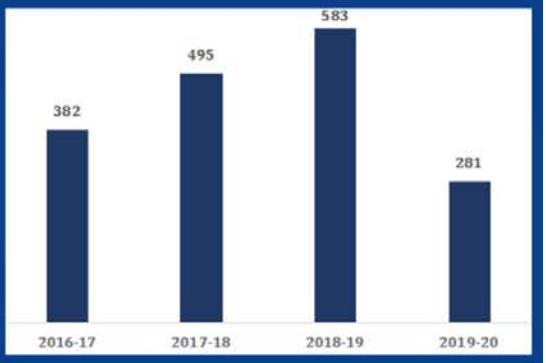
CENTER OF EXCELLENCE IN DIGITAL DESIGN, MANUFACTURING & VALIDATION

The Center offers industry-certified courses on

- NXCAD
- NXCAE
- NXCAM
- Tecnomatix Manufacturing
- Tecnomatix Robcad
- FEMAP with NXNastran
- Fibersim
- Documentation

For further information contact:

Dr. G Purushotham,
Center Head, MITE Siemens Center of Excellence
Head, Department of Aeronautical Engineering
Mangalore Institute of Technology & Engineering
Email: hodaer@mite.ac.in
Mobile: 9880509299



Number of students certified through the MITE Siemens Center of Excellence year-wise

miteedu miteedu www.mite.ac.in

MITE
Invent Solutions

MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING

(An ISO 9001: 2015 Certified Institution, Accredited by NAAC)
(A Unit of Rajalaxmi Education Trust, Mangalore)

Badaga Mijar, Moodbidri, DK, Karnataka 574225

AUTOCAD

for
Dept of Civil Engineering

MITE
Invent Solutions

MITE
MANGALORE

A Week long Certification program on

Auto CADD

2D & 3D Modelling

Organized by

Department of Civil Engineering

MANGALORE INSTITUTE OF TECHNOLOGY & ENGINEERING

(An ISO 9001:2015 Certified Institution, accredited by NAAC and 4 Departments (AE, CE, CSE & ME) Accredited by NBA)

(A Unit of Rajalaxmi Education Trust ®, Mangalore)

Badaga, Mijar, Moodabidri, Mangalore, Karnataka - 574 225, Website: http://www.mite.ac.in

In Association With: **SAI CADD**

About MITE

Mangalore Institute of Technology & Engineering (MITE) established in the year 2007 by Rajalakshmi Education Trust to full fill the growing needs of the industry and aspirations of young students of Mangalore District and other parts of the country. MITE, offering 7 Undergraduate Programs in Engineering, 2 Post Graduate Programs in Engineering, Master of Business Administration (MBA) and 7 Research Programs. The institution is recognized by All India Council for Technical Education (AICTE), New Delhi and is affiliated to one of India's largest technical university, Visvesvaraya Technological University (VTU), Belagavi. Campus spreads over an area of 74 acres.

About Department of Civil Engineering

The Department of Civil Engineering established in the year 2012 and has been accredited by the National board of accreditation (NBA) New Delhi. The Department focuses on the overall development of the students through innovative teaching and learning with the objectives to produce qualified, competent and employable Civil Engineering graduates to cater the needs of industry and society. The highly qualified faculty imparts requisite knowledge and training in different areas of Civil Engineering. The Department has state-of-the-art Laboratories. Department has entered into a Memorandum of Understanding with National Highway authority of India (NHAI) New Delhi, Paradigm Environmental Strategies (P) Ltd. (Ecoparadigm), Bangalore, Dakshina Kannada Nirmithi Kendra. Department is Actively involved in consultancy activities

About SAI CADD

SAI CADD established in the year 2006 has authorised Autodesk software license and is headed by highly experienced CADD industry professionals and supported by well-qualified faculty members. By adopting simple unique teaching method SAI CADD is performing excellent in CADD Training / CADD Project across globe. One can learn CADD skill and apply the same within shortest time. Highest number of free CADD workshops is being conducted for Department of Civil Engineering at several colleges in Karnataka with highest MOU towards Department of Civil Engineering, CADD training in Karnataka. Internship program for Civil / Architects / Interior designers Mechanical / Automobile candidates is offered and students are placed in good reputed companies / Indian Govt job / work abroad. SAI CADD has tie up with KGTTI–Karnataka German Technical Training Institute, Bangalore and provides WFH= Work From Home Opportunities for any educational background.

About the program

A certification training program on Auto CADD 2D & 3D modelling is being conducted for second year civil engineering students every year during the vacation for a duration of 36 hours to enhance their knowledge and skills on drafting as per the industry requirements in association with SAI CADD Centre BengaIuru which has collaborated with Dept. of Civil Engineering MITE

Mr. Yashwanth M.K
Program Coordinator

Dr. Ganesh Mogaveer
Head Of Department