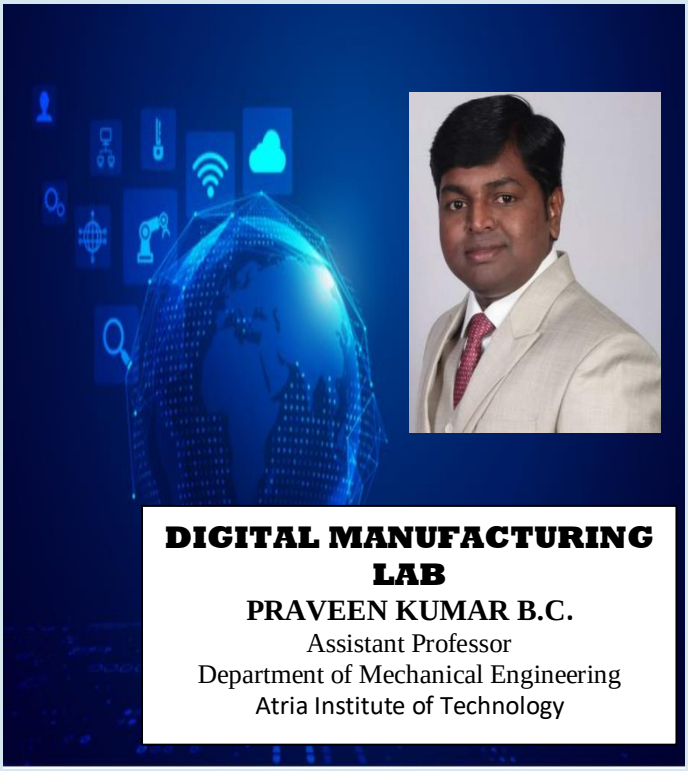
ATRIA INSTITUTE OF TECHNOLOGY

Department of Mechanical Engineering



DIGITAL MANUFACTURING LABORATORY

Digital Manufacturing Lab is the newest addition in the center of excellence labs at the Department of Mechanical Engineering. This lab came into existence in 2019 and is currently supervised by **PRAVEEN KUMAR B.C, Assistant Prof.,** in the Department of Mechanical Engineering. This lab **intends to** Provide hands on training to the students on the latest Siemens Mechatronics stations.

Enable the students to get additional certification from **Siemens - Technical academy, Germany** along with their basic undergraduate degree from VTU.

Indicate to the students how Mechatronics encompasses electronics, electrical and other allied fields. This lab is interdisciplinary in nature hence students, as well as faculties from other departments, are encouraged to pursue their research in collaboration with mechanical engineering students.

PURPOSE OF THE LAB

- Bring technology in mechatronics, automation in a simple way to students, thereby motivating them to gain entry into undergraduate study in mechanical engineering
- Showcase the latest available state of the art equipment's (Stations) and therefore involve students into hands on activities.
- Making them aware that they would get additional certification from Siemens - Technical academy, Germany along with their basic undergraduate degree from VTU.
- Imbibing in them that mechanical engineering has widened the scope into electronics, electrical and other allied branches
- Demonstrating to the students of better opportunities available in industries and higher education universities of repute.

A brief background

- Robots
- Anti-lock brakes
- A sophisticated control system takes over the braking function when the sensors recognize one or more wheels are locking up.
- Photocopiers
- Computer disk drives
- Humidity sensitive clothes dryers and windshield wipers

Mechatronic devices can be found in medicine and surgery, agriculture, buildings, homes, automobiles, the toy and entertainment industry, intelligent aids for the elderly and disabled.

Takeaways from the program

- Practice their skill set effectively on shop floors in the industry.
- Utilize their specialized training to give dimensions in critical thinking and the development of the industry.
- Inculcate in students the spirit of enquiry and creativity and the ability to think critically and effectively in solving issues, and add to the existing volume of knowledge in the domain of mechanical engineering.
- Provide unique, cross – disciplinary training in areas of mechanical to students.
- Develop research skills among student participants, focusing on appropriate technologies and methods in various disciplines of mechanical engineering.

The program:

The program currently offers certification based on two levels of student certification that are built on job profiles:

Level 1

• **Siemens Certified Mechatronic Systems Assistant**

Emphasis on efficiently operating complex mechatronic systems, troubleshooting and foreseeing problems

Level 2

• **Siemens Certified Mechatronic Systems Associate**

Focus on systems management, investigation, repair and troubleshooting

Levels of certification

Level I

Mechatronic Systems Assistant

• Electrical Components
• Mechanical Components and Electric Drives
• (Electro) Pneumatic and Hydraulic Circuits
• Digital Fundamentals and PLCs

Level II

Mechatronic Systems Associate

• Process Control Technologies
• Introduction to Totally Integrated Automation
• Automation Systems
• Motor control
• Mechanics and Machine Elements
• Manufacturing Processes

The program would include 60 hours of comprehensive training for each course which includes a complete total student development in terms of both theoretical and practical knowledge.

Benefits for students after successful certification

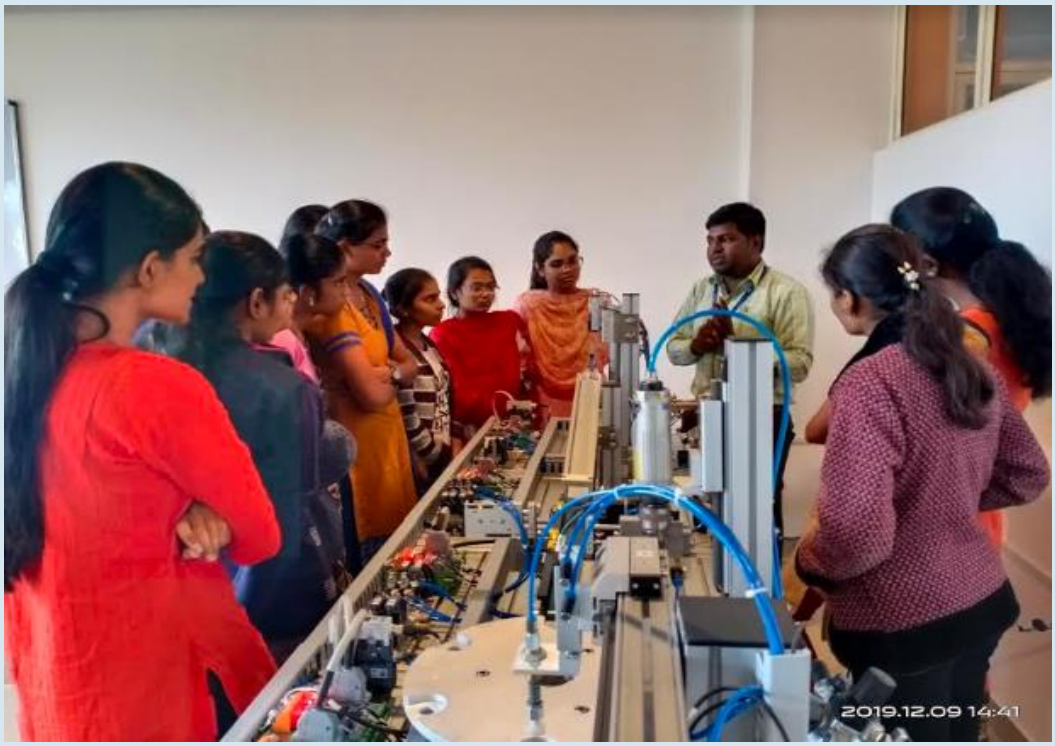
- Opportunity to acquire a world-class industry certification in mechatronic systems without disrupting your normal studies
- Extra advantage over the competition on the job market
- The SMSCP is designed to complement and fit into existing programs of study, not replace them
- Students can receive both an industry certification and a school diploma
- Multiple implementation possibilities, for example: evening, weekend, skills retraining, accelerated, etc.

No. of batches trained

Siemens directed four groups of understudies (107 Students) from different foundations across India to undergo training at our AIT DM Lab.
These four groups of students completed their training under this Siemens program on 12/02/2020. The input from the students trained was commendable.
The details are as below:
Batch 1- (29 Students) (B63 BMEX) - 9th to 21th Dec 2019 (12 Days)
Batch 2- (24 Students) (B53 SMSCP) -16th to 28th Dec 2019 (12 Days)
Batch 3 (23 Students) (B54 SMSCP) - 16th to 28th Dec 2019 (12 Days)
Batch 4 (31 Students) (B46 SMSCP) - 23rd Jan to 12th Feb 2020 (15 Days)

What aspects have been covered until date?

107 students (4 Batches) have been successfully trained in this DM lab, generating Rs. 4.90 Lakhs revenue to the college.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