

## B.E. MECHATRONICS ENGINEERING

B.E. Mechatronics Engineering was introduced in the academic year 2015-2016 in direct response to the industrial demand for engineers with multi-disciplinary skills. Mechatronics is a synergistic blend of mechanical, electrical, electronics, computer science, information technology, and control systems to design, execute and maintain products with intelligence. Mechatronics has a wide range of applications from Industrial Automation to bio medical. Robotics can be viewed as a subdivision of mechatronics that focuses on sophisticated control of mechanisms with mobility. Mechatronics engineers create and improve automated processes and they are well-known for their strong logical and problem-solving abilities and find employment in a wide range of domains.

### FACILITY IN THE DEPARTMENT

The Department has well experienced faculty members with a blend of industrial and academic exposure. The Department imparts practical knowledge in the areas of mechanical, electronics, design, manufacturing with the state of the art facilities. We aim at inculcating entrepreneurial qualities for creating, developing and managing global engineering ventures. This program teaches the aspect of system modeling, sensors, controllers, actuators with real-time computer interface. The students will be able to gain the knowledge of manufacturing processes and run factory production lines with computer, PLC, industrial sensors, controllers, hydraulic, pneumatic and electric drives, and design mechanism of mechanical structures. For the course delivery, the faculty members use NPTEL lectures and other video presentations using LCD Projectors. Real-time demo is also given wherever needed. There is also a library in the department with text and reference books needed by the faculty and students.

### JOBS ARENA

After the completion of the course, students have wide range of opportunities to serve in different industries, few of which are listed below.

- Aerospace applications.
- Assembly and Packaging industries.
- Automotive engineering, automotive equipment in the design of subsystems such as anti-lock braking systems.
- Computer aided and integrated manufacturing systems
- Computer Aided Engineering.
- Computer-machine controls, such as computer driven machines like CNC milling machines, CNC water jets, and CNC plasma cutters etc.
- Data Analytics.
- Engineering and manufacturing systems.

- Expert systems • Home Appliances • Industrial Automation and robotics.
- Internet of Things.
- Machine vision (Automatic inspection based on Imaging for industries such as tyre, rubber, FMCG and Automotive).
- Medical Instruments, Robotic Gait Training system for stroke patients.
- Medical mechatronics, medical imaging systems.
- Microcontrollers, PLCs integration with real-time applications.
- Sensing and control systems • Servo-mechanics.
- Structural dynamic systems • Textile Industries.
- Transportation and Automotive Engineering.

Apart from serving in industries, mechatronics engineers can establish their own business/firm/company for study, design, implementation and maintenance of automation for various industries.

### SCOPE OF HIGHER EDUCATION

There is also a wide scope for taking up post graduate courses in Mechanical, Electrical, Electronics and allied specializations and also research programmes in thrust areas. Mechatronics Students are given assistance in the preparation for taking up GATE examination, which now-a-days is insisted not only for admission to PG degree and also for entry into public sector undertakings. Students are also guided in choosing universities abroad, based on their interest in going in for certain specializations in upcoming areas. After the completion of B.E. programme, Mechatronics students enter into MBA also.

### STUDENTS ACHIEVEMENTS

- Gowtham Kumar has won a 2nd place in Venture 2k17- Business Hackathon
- Jagadeesh R received a certificate of appreciation under the event Robo war organised by Chennai Institute of Technology

### WORKSHOP CONDUCTED BY THE DEPARTMENT

- Dr. V. Santhanam , Mr.S. Vinoth Kumar and Mr. S. Ram kumar have conducted a Five days Advanced Training on Design & Fabrication of Affordable CNC Machines from December 12, 2017. At the end of the workshop the students gained comprehensive knowledge on wide range of topics such as Machine design, Design of Transmission Systems, Electrical drives, Stepper Motors and controls, Arduino programming, CNC Programming (G Code and M Code), GRBL software and Embedded Programming.
- Two days hands on workshop on Robotics titled “Integrated Bluetooth controlled Pick and Place Buggy” on 12 and 13 March 2018.

### INDUSTRY COLLABORATION

Centre for Factory Automation and Robotics was established in association with CDCE Automation, Chennai to impart training in Industrial Automation and Robotics for the students.