



## About the College:

Velagapudi Ramakrishna Siddhartha Engineering College (VRSEC) was established in the year 1977 as the first self-financing engineering college in the state of A.P. It is located in a vast expanse of 24.05 acres of land on the outskirts of Vijayawada city at a distance of about 6Kms from the city centre. The college offers 7 undergraduate programmes in various branches of engineering and post graduate programmes in 10 specializations. The college has been accredited four times by National Board of Accreditation (NBA) of All India Council for Technical Education (AICTE), New Delhi in respect of all Engineering disciplines and also certified for ISO 9001:2008. Autonomous status was conferred by UGC in the year 2006 and it is affiliated to Jawaharlal Nehru Technological University, Kakinada, AP. It is one among the top 16 engineering colleges that were selected under World Bank aid for R&D and PG enhancement programme called TEQIP -II (S.C.1.2) by MHRD, Govt. of India. In pursuit of its vision to nurture excellence in engineering, the college has embraced Outcome Based Education since 2009.

## About EIE Department:

The Department of Instrumentation Engineering was established in 1995. The name is subsequently changed to Department of Electronics & Instrumentation Engineering from the year 2003. Initially, the Department started instruction to Four Year B.Tech (E.I.E.) students with an intake of sixty students. It has subsequently been increased to 120 students in the Academic year 2007. The Department has well qualified dedicated Teaching staff with specializations such as Electronic Instrumentation, Control systems, Embedded systems, Industrial Automation and Control etc. The department has 9 different Laboratories, R&D Center and Library. The department has been accredited by NBA of AICTE two times. The department provides excellent academic and research environment to the UG and research students.

## AICTE / ISTE Induction / Refresher Program:

The AICTE-ISTE Induction/Refresher Programs are essential for teachers in technical institutions for their professional refinement. The other aims for the conduct of these programs are:

Updating knowledge and improving organizational and pedagogical skills of teachers.

To update the knowledge providing an opportunity for interaction and mutual exchange of ideas between teachers Interested and/or working in particular areas of specialization.

Providing an opportunity for teachers to familiarize themselves with modern engineering practices, including the latest technological advances adopted by industry keeping in view the national needs and priorities and relevant technologies.

## About the Workshop:

Automation is an indispensable part of the manufacturing industry, and Robotics is a key technology player in Industrial Revolution 4.0 and its impact assessment demands a futuristic outlook to live through its complete evolution. Robotics and AI augment and amplify human potentials, increase productivity and are moving from simple reasoning towards human-like cognitive abilities. Artificial intelligence (AI) and robotics are among the most advanced and promising technologies that are expected to be used extensively in different industries. With advanced technologies such as artificial intelligence, driverless cars, and spacecrafts taking shape every day, the present generation of faculty and students needs to be more prepared for technological changes than any before. This course is designed to provide an exposure to the fundamentals of Robotics and Artificial Intelligence through lecture and demonstration sessions that provide advanced theories in AI & Robotics, how the intelligent system can be built and worked upon, how Robots can be built using AI and Recent Developments in AI & Robotics and their needs.

## Topics Covered:

- ✓ Introduction to Industrial Robotics
- ✓ Multivariable PID Controller Design in Robust Control
- ✓ Kinematic and Dynamic Modeling of robotic manipulators and design in MATLAB.
- ✓ Sliding Mode Control application to Mobile Robot
- ✓ Building Robots for Practical Applications
- ✓ Internet of things for Industry 4.0
- ✓ Artificial Intelligence and Control in Industrial Robotics
- ✓ Sensors and Actuators in Navigational Robots
- ✓ Machine learning techniques for robotics
- ✓ Self-Supervised Learning of Robotics in Industrial Applications

## Target Audience:

- ✓ Faculty members from engineering colleges
- ✓ PG & research scholars
- ✓ Members from industries

## Resource Persons:

- ✓ Eminent Faculty members from premier Institutions / Industry will be the resource person
- ✓ Practical sessions will be handled by Experienced faculty members from premier Institutions