Course Title: Control and Sensor App On Wheel Robot

Course Code: EEA 135

Course Background / Summary:

Mobile robots have the capability to move around in their environment and are not fixed to one physical location. In contrast, industrial robots usually consist of a jointed arm (multi-linked manipulator) and gripper assembly (or end effector) that is attached to a fixed surface. Mobile robots are the focus of a great deal of current research and almost every major university has one or more labs that focus on mobile robot research. Mobile robots are also found in industry, military, and security environments. They also appear as consumer products, for entertainment or to perform certain tasks like a vacuum. Participants will have a better understanding of the design and development of mobile wheel robots and will be able to explore the potential and creativity in a robotics application.

Course Objectives:

- To introduce the participants to the basic and intermediate process Control System which covers theory and practical hands-on.

Target Audience:

- Engineers and technicians that involved in Mechatronic applications
- Teaching staffs (including vocational and technical teachers) that teach and interested in Mechatronics and wheel mobile robot

Course Duration: 3 Days

Course Contents

1.0 Introduction to Mobile Robot Technology	**6.0 Application of Mechanical CAD in Designing Wheel Mobile Robot**
2.0 Mechanical Design in Wheel Mobile Robot	**7.0 Robot Parts Fabrication, Tools and Machining – Lathe, Milling, & Bench work**
3.0 Electrical Design in Wheel Mobile Robot	**8.0 Wheel Mobile Robot Assembly (Chassis & Drive Train)**
4.0 Mechanical Components in Mobile Robot	**9.0 Type of Sensor used in Mobile Robot**
5.0 Fundamentals of Mechanical CAD in Mobile Robot	