DMX7304 Factory Automation

Level	Level 7
Course Code	DMX7304
Course Title	Factory Automation
Credit value	3
Core/Optional	Core
Course Aim/s	Aim of this course is to provide the need, evolution, and motivation for industrial automation and familiarization with concepts and different automation strategies being used in practice worldwide.
Course Learning Outcomes (CLO):	At the completion of this course student will be able to: CLO1: Identify potential areas for automation and justify need for automation. CLO2: Create suitable major control components required to automate a process or an activity. CLO3: Evaluate computer based automation system used in industries ranging from discrete, continuous process to hybrid processes. CLO4: Evaluate and simulate a real time activity using modern tools and discuss the benefits of automation. CLO5: Select suitable automation hardware for the given application. CLO6: Evaluate emerging trends/technologies of industrial automation. CLO7: Use appropriate modeling and simulation tool for the given manufacturing application
Content	**Outline Syllabus:** Unit 1: Introduction to automation Unit 2: Material handling and identification technologies Unit 3: Automated manufacturing systems Unit 4: Computer aided measurement and control systems Unit 5: Industrial communication Unit 6: Industrial controllers and PLC Programming Unit 7: Distributed Control System (DCS) Unit 8: Modeling and simulation for plant automation **Laboratory Work:** 1. Practical on PLC Units and other interfacing devices. 2. Practical on PLC/interfacing devices in different industrial application. 3. Practical on SCADA Programming. 4. Process automation using PLC, DCS, and SCADA.