

Course Code	ME 422
Course Title	Mechatronic Systems Laboratory
No. of Credits	2
Pre-requisites	ME 321
Compulsory/Optional	Compulsory for Mechatronics track and Mechanical Engineering with Business track under Mechanical Engineering stream/ Optional for others
Aim(s): To provide the participants with the opportunity to solve as a team an open-ended mechatronic systems design problem that requires the application of knowledge in the areas of control systems so that all the students will be able to formulate and solve a problems as an interconnected system of sub problems	
Intended Learning Outcomes: On successful completion of the course, the students should be able to; <ul style="list-style-type: none"> • deliberate on alternative approaches to the solution of each sub-problem, • integrate independently developed solutions, • acquire new knowledge on their own, • communicate professionally the solution. 	
Time Allocation (Hours) : Practical 48, Assignments 12 (Notional Hours: 100)	
Course content / Course description : <ul style="list-style-type: none"> • Model complex reactive systems using state charts. • Development of industrial automation solutions. • Integrations of sensors and actuators, Signal conditioning and Processing, Pneumatic Systems, Programmable Logic Controllers, SCADA Systems. • Servo control system. 	
Recommended Texts (if any) : <ul style="list-style-type: none"> • Kilian, C. T. (2001). <i>Modern Control Technology: Components and Systems</i> (2nd Edition). Delmar Thomson Learning, New York, USA. • Shetty, D. and Kolk (2011). <i>Mechatronics System Design</i> (2nd Edition). Cengage Learning, Stamford, USA. • De Silva, C. W. (2008). <i>Mechatronic Systems: Devices, Design, Control, Operation and Monitoring</i>. CRC Press, New York, USA. 	
Assessment	Percentage Mark
In-course Tutorials/Assignments/Quizzes/ <u>Practicals</u> Reports Verbal Presentations Mid Semester Examination	 40 35 -
End-semester: Viva	25