INTRODUCTION TO MECHATRONICS (ME-314)

Pre-requisite: None Credit Hours: 02 Contact Hours: 32

RECOMMENDED BOOK(S)

Mechatronics by W. Bolton.

REFERENCE BOOK(S)

Mechatronics An integrated approach By Clarence W. Desilva

COURSE OBJECTIVES

To acquire fundamental knowledge for electro mechanical design.

To develop synergistic integration of mechanical, electrical, electronic engineering applications

S. No.	CLO/PLOS MAPPING	DOMAIN	PLO
1	Explain the primary elements involved in mechatronics systems, working principles and application of sensors and actuators.	C2	01
2	Explain working principles and application of microcontrollers and PLCs	C2	01
COURSE CONTENTS			

Introduction

Sensors and transducers, transducer characteristics, sensors for measuring displacement, strain,

force, pressure, temperature and motion, encoders.

Computer architecture

Microprocessor, micro-programming, Bus systems, assembly language programming

Motors with drivers

Stepper and servo motors, introduction to programmable logic controller (PLC).

Interfacing

Ports, input/output, analog to digital converter, sampling theory, digital to analog converter, sample and hold, multiplexer, interfacing switches, LEDs, stepper motors and DC motors to micro-controllers.