



H-Form ECE 446

A Brief Course Description			
College	Engineering		
Department/ Program	Electrical Engineering – Electronics Engineering Program		
Course Name	Industrial Electronics		
Course Code	ECE 446		
Year / Level	4/8		
Credit Hours	4		
Contact Hours	Lecture: 3	Lab/Tutorial: 2	Training: 0
Language	English		
Track	<input type="checkbox"/> University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Program		
	<input type="checkbox"/> Required <input checked="" type="checkbox"/> Elective		
Pre-requisites Course	ECE 341		
Co-Requests	-		
Course Description	<p>Introduction to measurements systems and basic definitions. Sensors (temperature, humidity, light, piezoelectric, hall effect, pressure, flow and strain gauges) and, signal conditioning circuits (bridge, instrumentation amplifier, scaling circuits, comparators, A/D and D/A, 555 timer), Remote control, Ultrasound systems, Measurement techniques (temperature and humidity measurements, level and displacement measurement, pressure and flow measurement). Introduction to foundation field bus. 555 timers, Power switches (power transistors, SCR, Triac, UJT, PUT). Structure and application in power control. Instrumentation amplifier. Opto electronic sensors. LCD and 7 segment interfaces. Ultrasonic transistors and applications. Voltage regulators (series, shunt, 3 terminals, switched mode). Power inverter and its applications. Introduction to microcontroller industrial applications.</p>		