

DMX4409 Sensors

Level	4
Course Code	DMX4409
Course Title	Sensors
Credit value	4
Core/Optional	Core
Course Aim/s	Aim of this course is to provide concept and principle of operation of various sensors and application in the field of automation.
Course Learning Outcomes (CLO):	<p>At the completion of this course student will be able to:</p> <p>CLO1: Select and use appropriate sensors according to the measurand for given applications.</p> <p>CLO2: Determine the transfer function of a sensor from the measured variable.</p> <p>CLO3: Examine the appropriate types of signal conditioning used for various sensors.</p> <p>CLO4: Demonstrate knowledge of sensor characteristics and signal conditioning.</p> <p>CLO5: Analyze the physical effects and laws such as piezo-electric, thermoelectric, opto-electric, piezo-resistive, electromagnetic, and capacitive and others that are exploited to make sensors.</p> <p>CLO6: Analyze sensing of measurands using sensors based on different physical effects.</p> <p>CLO7: Demonstrate knowledge of measuring systems and their constituent elements and functions.</p>
Content	<p>Outline Syllabus:</p> <p>Unit 1: Sensor fundamentals Unit 2: Classification and types of sensors Unit 3: The role of industrial sensors and control Unit 4: Communications Unit 5: Miscellaneous transducers</p> <p>Laboratory work:</p> <ol style="list-style-type: none"> 1. Inductive transducer 2. Variable reluctance transducer 3. Variable area transducer 4. Strain gauge