Springfield Technical Community College
ACADEMIC AFFAIRS

Course Number: ESET-471   Department: ESET.AS.

Course Title: Sensor Systems   Semester: Spring   Year: 2009

Objectives/Competencies

Course Objective	Competencies
1. To become familiar with the characteristics and operation of modern programmable sensor and actuator hardware.	a. To be knowledgeable about the characteristics of sensors and actuators that are interfaced to embedded micro-controllers b. To be able to direct the operation of a sensor or actuator through the programming of its controller c. To be able to acquire sensor data through the programming of its associated controller
2. To become familiar with the characteristics of IP based networks and typical transmission media used by these network systems	a. To be knowledgeable about standards-based Ethernet networks: LANs, MANs, WANs, PANs, etc b. To be knowledgeable about the typical transmission media utilized by standard networks: wireline, fiber-optic, etc c. To be knowledgeable about wireless and wireless mesh networking technologies

Course Objective	Competencies
3. To become familiar with the proprietary networks used by industry in various industries for the control of typical processes encountered in these industries.	a. To be knowledgeable in the characteristics and operation of industry specific data and control networks: CANs, Fieldbus, Profibus, HART, etc. b. To be knowledgeable in the interfacing of these industry specific networks to standards based IT networks
4. To become familiar with ZigBee technology.	a. To demonstrate a knowledge of the characteristics and applications of IEEE 802.15.4 technology b. To be knowledgeable in the setting up and troubleshooting of a wireless sensor network