## ECSE 209. ELECTROTECHNOLOGY.

Credits: 3

Offered by: Electrical & Computer Engr (Faculty of Engineering)

This course is not offered this catalogue year.

## **Description**

DC and AC circuit analysis with application to electrical instrumentation, motors, and other common devices. Equations describing exponential and oscillatory behaviour of basic circuits and automatic control loops, with application in diverse engineering contexts (transportation, processing plants, environmental surveying). Overview of common devices including sensors (pH meters, photoresistor, photodiode, thermocouple, strain gauge, gas detection), actuators, and motors (single- and three-phase). In-class demonstrations involving programmed microcontrollers to activate LEDs and stepper-motor based actuators. Introduction to hierarchical control, linking low-level sensor-driven adjustments to higher-level control.

- · Prerequisites: PHYS 142 or equivalent
- Restriction: Not open to students who have taken or are taking ECSE 200.

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