

## **NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY AIR 231 – CIRCUITS AND CONTROL IV (4 CR.)**

### **Course Description**

Applies controls and control circuits to air conditioning and refrigeration, including components, pilot devices and controls, and circuit diagrams. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

### **General Course Purpose**

To develop in the student an understanding of construction, function and operation of electric controls, to give him a good background in electric circuits, to aid him in the development of the skills and procedures needed to service, troubleshoot and diagnose electric controls and control systems.

### **Course Prerequisites/Corequisites**

Prerequisite: AIR 213

### **Course Objectives**

Upon completing the course, the student will be able to:

1. Differentiate the types of total commercial and industrial control systems.
2. Install and operate controls used in commercial HVAC applications including pneumatic, electric, and electronic, including thermostats, pressure switches and other electronic control devices.
3. Install and operate controls used in residential air condition control systems, including split system air conditioning control systems and heat pump control systems.
4. Diagnose and troubleshoot controls used in commercial HVAC applications including pneumatic, electric, and electronic controls.
5. Perform the functions of facilities managers in the maintenance and operations of control systems.

### **Major Topics to be Included**

- a) Control components
- b) Pilot devices
- c) Control circuit diagrams
- d) Schematic diagrams
- e) Care of equipment