

# ADM 104: Introduction to Thermal/Electrical Principles

This course emphasizes the fundamental principles for air conditioning and refrigeration. Instruction is provided in the theory and principles of refrigeration and heat transfer, HVAC/R system components, common and specialty tools for HVAC/R, and application of the concepts of basic compression refrigeration. In addition, this course covers electrical/ electronic fundamentals and principles. Emphasis is placed on electrical theory and science, semiconductor devices, motors, transformers, digital concepts, programmable logic controllers, and circuit analysis of resistive, capacitive, resonant, and tuned circuits. Upon completion, students will have knowledge of basic electricity and electronics and be able to identify system components and understand their functions, identify and use common and specialty HVAC/R tools, and maintain components of a basic compression refrigeration system. This supports CIP code 15.0613. This is a CORE course.

**Credits:** 3

**Program:** Advanced Manufacturing

**Experimental Laboratory Credit:** 4

**Theory Credit:** 1