

ET114-3 : Industrial Heating/Cooling, Compression Systems

This course covers basic principles and fundamentals of the refrigeration processes and operations, with a primary focus on industrial and commercial refrigeration equipment. The student will understand the relationship and efficiency increase related to trigeneration or combined cooling, heat and power (CCHP) systems. This application of energy technology refers to the simultaneous generation of electricity, useful heating and cooling from the combustion of a fuel or a heat collecting solar system. This course will include the basic refrigeration cycle, how to handle refrigerant, equipment to work with refrigerants, working principals/application of commercial and industrial refrigeration equipment, and the rules and regulations set by the EPA for refrigerants. The student will study basic preventive maintenance, basic scheduled maintenance, and basic troubleshooting. The student will gain an understanding of the various components and operations related to compressors and pumping equipment found in energy industries. Specific equipment such as screw, reciprocating, scroll, and centrifugal compressors, along with, positive displacement pumps and centrifugal pumps will be taught. The basic theory behind compression and pumping will be discussed in detail. Standard inspection, troubleshooting, operation, repair, and preventive maintenance practices of these types of components will be demonstrated and practiced. The selection and use of proper tooling, manuals, documentation, safety equipment, techniques, and standard maintenance practices will be emphasized in this course.

Lab 20.00

Lec 20.00

Ext 0.00

Qtr 2.00

Total 40.00

Catalog

UTI Canton

Campus

Canton, MI