REFR2208 - Commercial Electrical Lab

Credits:	3 (0/3/0)
Description:	This course covers the practical applications of electrical components used to operate commercial refrigeration and air conditioning equipment. Included are troubleshooting, repairing and installing electrical devices common in larger systems. Students will use schematics they have developed to build control systems to operate refrigeration and air conditioning systems. Safety is emphasized.
Prerequisites:	• Completion of HVAC/R diploma.
Corequisites:	
Pre/Corequisites*:	
Competencies:	1. Demonstrate the need for proper grounding of electrical equipment. 2. Explain the difference between single and three-phase power. 3. Demonstrate safe practices around live circuits. 4. Demonstrate proper use of electrical lockout/tagout devices. 5. Demonstrate the use of an ammeter, volt meter and ohmmeter. 6. Identify electrical components from an electrical diagram. 7. Explain the difference in how loads behave in series and parallel circuits. 8. Demonstrate voltage drop when loads are wired in series. 9. Demonstrate how switches are used in series to protect loads. 10. Employ ladder diagrams to evaluate refrigeration operating systems. 11. Install controls and loads for a simple pump down cycle. 12. Install controls and loads for a low-temperature refrigeration system using a pump down. 13. Demonstrate ability to upgrade from mechanical defrost timers to digital defrost timers. 14. Install all necessary controls in a residential heating and cooling system.
MnTC goal areas:	None

Can be taking as a Prerequisite or Corequisite.

© 2026 Minnesota State Community and Technical College.
We reserve the right to periodically update information without notice.
The information in this publication should not be regarded as contractual in nature.