

## REFR2213 - Advanced Electrical Theory

Credits:	3 (3/0/0)
Description:	This course covers the electrical principles and schematics used in commercial, industrial, hospital and supermarket refrigeration systems. Safety is emphasized.
Prerequisites:	<ul style="list-style-type: none"> <li>• Completion of HVAC/R diploma.</li> </ul>
Corequisites:	
Pre/Corequisites*:	
Competencies:	<ol style="list-style-type: none"> <li>1. Practice all safety guidelines regarding electricity.</li> <li>2. Design a low-pressure time-delay bypass circuit for low ambient conditions.</li> <li>3. Evaluate variable speed fan control options for head pressure control.</li> <li>4. Analyze uses for current sensing relays to determine if a load is operating.</li> <li>5. Design a manual reset bypass circuit to convert auto reset controls to manual reset controls.</li> <li>6. Evaluate the use of current relays in compressor motor starting.</li> <li>7. Contrast the difference between run and start capacitors.</li> <li>8. Determine when the use of potential relays for compressor motor starting is applicable.</li> <li>9. Evaluate electronic and mechanical oil pressure safety controls.</li> <li>10. Explain methods to test run and start capacitors.</li> <li>11. Contrast differences in commercial ice machines that use electronic control systems.</li> <li>12. Select appropriate motors for given applications.</li> <li>13. Identify advanced electrical components from a schematic diagram.</li> </ol>
MnTC goal areas:	None

\*Can be taking as a Prerequisite or Corequisite.