HVAC2221 - Heat Pump Theory and Operation

Credits:	3 (2/1/0)
Description:	This course will cover the various methods by which mechanical processes are used to move heat from different sources into residential housing. Some attention to commercial methods will be offered. An example of this would be use of the compression cycle of refrigeration to extract heat from the outside air.
Prerequisites:	• HVAC1103
Corequisites:	
Pre/Corequisites*:	
Competencies:	1. Describe the operation of air source heat pumps. 2. Describe the operation of geothermal heat pumps. 3. Describe the operation of chillers. 4. Size a heat pump system. 5. Explain how to service and repair heat pumps. 6. Explain electrical controls of heat pumps. 7. Explain auxiliary heat and emergency heat. 8. Wire heat pumps to low and high voltages. 9. Install and service heat pump systems. 10. Balance air and water flow of a heat pump system. 11. Troubleshoot a four-way valve and repair or replace it.
MnTC goal areas:	None

**Can be taking as a Prerequisite or Corequisite.*

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