

Course: HVAC213 HVAC Equipment Controls

Department: HVAC

Course Description: This course is a detailed study of the circuitry found in HVAC equipment. Topics include controlling factors, system control components, and heating and cooling equipment control circuitry. Utilizing theories learned, students develop equipment control circuitry. In the laboratory students investigate the application and trouble-shooting techniques of these circuits

COURSE OUTCOMES	SAMPLE OUTCOMES ACTIVITIES	SAMPLE ASSESSMENT TOOLS
Upon successful completion of this course students will be able to:	To achieve these outcomes students may engage in the following activities:	Student learning may be assessed by:
1. Identify the various HVAC/R controls used to maintain the desired temperature, humidity, cleanliness and distribution of air CCT, WC	<ul style="list-style-type: none">• Open discussions• Textbook reading• Workbook assignments	<ul style="list-style-type: none">• Tests & Quizzes• In-class conversations• Laboratory work
2. Converse knowledgeably about the compression refrigeration system used in HVAC. CCT, IL, WC	<ul style="list-style-type: none">• Regular and continued use of the Term, names and abbreviations used in HVAC/R	<ul style="list-style-type: none">• Tests & Quizzes• In-class conversations• In-laboratory explanations
3. Identify the basic operating components of the HVAC/R system. IL, WC	<ul style="list-style-type: none">• Textbook and on-line readings• Video presentations• HVAC/R Trainers• Classroom demonstrations	<ul style="list-style-type: none">• Tests, quizzes• Classroom discussion• Laboratory work
4. Explain the basic electric circuitry operation and function of the HVAC/R controls IL, WC	<ul style="list-style-type: none">• Familiarity of individual HVAC/R controls• Operate controls with electricity• Wire controls to a complete circuit	<ul style="list-style-type: none">• Tests, quizzes• Written assignments• Lab evaluations

<p>5. Illustrate the working HVAC/R system</p> <p>CCT, IL, WC</p>	<ul style="list-style-type: none"> • Textbook readings • Classroom demonstrations • Working on HVAC/R trainers • Connecting the HVAC/R components with free hand illustrations 	<ul style="list-style-type: none"> • Tests, quizzes • Mechanical drawings • Homework assignments
<p>6. Understand the operation of the HVAC main components with their safety devices</p> <p>IL, WC</p>	<ul style="list-style-type: none"> • Textbook reading • Classroom presentations • Laboratory presentations • Video presentations • On-line working assignments 	<ul style="list-style-type: none"> • Test, quizzes • Written assignments • Laboratory work
<p>7. Understand the importance of safety and OSHA standards</p> <p>IL, WC</p>	<ul style="list-style-type: none"> • Textbook readings • Classroom discussions • Collaborative learning • Walk through labs with OSHA safety equipment 	<ul style="list-style-type: none"> • Tests quizzes • Written assignments • Laboratory applied OSHA regulations
<p>8. Be familiar with the HVAC tools of the trade</p> <p>CCT, IL, WC</p>	<ul style="list-style-type: none"> • Textbook reading • Laboratory common HVAC tools • Classroom collaborative learning • Laboratory use of tools 	<ul style="list-style-type: none"> • Laboratory observations

This course includes the following core competencies IL, WC, CCT