

Course: Basic Electricity and Control Theory, HVAC111

Department: HVAC

Course Description: This course is the first in a series of electrical courses for the HVAC student. It provides students with a general knowledge of electricity and how it is applied to control circuits found in the HVAC industry. After an introduction to electron theory, students explore magnetism, electric meters, direct & alternating current power generation, power generation, distribution, and utilization. Once they gain the knowledge of what electricity is, they then proceed to schematic symbols, wiring diagrams, electric code and motor control fundamentals. In the laboratory students explore these principles and components through test and analysis

COURSE OUTCOMES	SAMPLE OUTCOMES ACTIVITIES	SAMPLE ASSESSMENT TOOLS
Upon successful completion of this course students should:	To achieve these outcomes students may engage in the following activities:	Student learning may be assessed by:
1. Recognize HVAC control symbols (IL, WC)	<ul style="list-style-type: none"> • Drawing wiring diagrams 	Quizzes and testing of knowledge
2. Ability to read wiring diagrams (IL, WC)	<ul style="list-style-type: none"> • Draw working wiring diagrams 	<ul style="list-style-type: none"> • Classroom evaluation • In-class lab analysis • In-class workshops on developing wiring circuits
3. Analyze complete electric circuits (IL, WC)	<ul style="list-style-type: none"> • Identify load devices • Identify an electrical power leg • Identify neutral and ground 	<ul style="list-style-type: none"> • Reading wiring diagrams • Lab and classroom trainers
4. Ability to identify and repair a faulty circuit.	<ul style="list-style-type: none"> • Identify short circuit 	<ul style="list-style-type: none"> • Lab and classroom trainers

(IL, WC)		
5. Safe use of electrical equipment (CT, IL)	<ul style="list-style-type: none"> • Hands on working with equipment 	<ul style="list-style-type: none"> • Classroom and Laboratory evaluation with trainers
6. Complete understanding of 'Ohm's Law' (CT, IL, WC)	<ul style="list-style-type: none"> • Verbal, written and explanations of Ohm's Law 	<ul style="list-style-type: none"> • Quizzes, tests and lab evaluation

This course includes the following core competencies: Critical Thinking, Information Literacy (IL), and Written Communication (WC).