

Jamestown Community College State University of New York

Master Course Syllabus

Course Title: Essentials and Fundamentals of HVAC, module II

Course Abbreviation and Number: CRN #_____

Course Hours: 75

Division: Center for Continuing Education

Course Type: Classroom Lecture and Hands-On Skilled Training Lab

Course Attributes: Non-Credit - Theory/Skilled Training, Job-Shadow, Stackable Credentials/Certificate(s)

Course Description: Students will have the opportunity to learn the theory and hands-on skills to gain the foundational knowledge of Air-Conditioning and Forced Air Heating systems. The successful completion of HVAC module II will allow and prepare students for an entry-level position in an HVAC career. Topics include a review of the following:

- Safety
- HVAC Mathematics
- Print Reading
- Advanced Heat Gain Theory
- Theory of Electricity – II
- HVAC Distribution Systems
- Air Conditioning Equipment
- Temperature and Pressure
- Basic Refrigerant Cycle
- Refrigerants
- Working with Metering Devices
- Troubleshooting of HVAC Equipment
- Job Organization

Prerequisite: Essentials and Fundamentals of HVAC, module I (unless approved by the JCC/CE administration)

Student Learning Outcomes:

Students will be able to:

1. Describe the concepts of direct current, alternating current, and polyphaser generation.
 2. Describe an overview of the HVAC industry.
 3. Identify and properly use various types of copper tubing fittings.
 4. Identify basic thermodynamic principles.
 5. Describe Atmospheric pressure and how pressures are measured and read.
 6. Explain the purpose of each component of the air conditioning system.
 7. Describe and use proper safety precautions with refrigerants.
 8. Distinguish between pure component refrigerants, zeotropic mixtures, and zeotropic blends.
 9. Properly perform recovery and recycle procedures.
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Signatures and Dates:

Department of Continuing Education: John Sayegh

Date: 06.13.18

Effective Date: Fall 2018