

Jamestown Community College State University of New York

Master Course Syllabus

Course Title: Essentials and Fundamentals of HVAC, module I

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-Shadowing, 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 Hydronic and Forced Air Heating systems. The successful completion of the 75-hour HVAC module I course will allow and prepare students to take the more advanced 75-hour HVAC module II course. Topics include the following:

- Safety
- HVAC Tools
- Mathematics for HVAC
- Theory of Electricity – I
- Blueprints and wiring diagrams
- Soldering, Brazing and Welding
- Piping Materials and Fittings
- HVAC Career Opportunities
- Introduction to HVAC Equipment
 - Boilers, Furnaces, & AC
- Fundamentals of HVAC Equipment
 - Boilers, Furnaces
- Valves and Meters
- Radiant Heat Systems
- Troubleshooting HVAC Equipment
- Customer Service, Soft Skills, Work Ethic

Prerequisite: High School Diploma or Equivalent (Unless approved by JCC/CE Administration)

Student Learning Outcomes:

Students will be able to:

1. Explain why it is necessary to develop safe working habits.
 2. Identify various HVAC equipment types.
 3. Select the proper tool in the proper size for the desired task.
 4. Recognize and properly name various components of Boiler/Furnace systems.
 5. Describe and demonstrate proper troubleshooting procedures for Boiler/Furnace systems.
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Signatures and Dates:

Department of Continuing Education: John Sayegh

Date: 06.13.18

Effective Date: Fall 2018