COURSE OUTLINE

DIVISION: Career and Technical Programs

COURSE: HVC 1240 – Design, Installation, and Servicing

Date:

Credit Hours: 3

Prerequisite(s): HVC 1210 or HVC 1220 with a grade of "C" or better

Delivery Method:
- Lecture 2 Contact Hours (1 contact = 1 credit hour)
- Lab 2 Contact Hours (2 contact = 1 credit hour)

Offered: Fall Spring Summer

IAI Equivalent –Only for Transfer Courses-go to http://www.itransfer.org:

CATALOG DESCRIPTION:
This course is designed to provide the necessary skills and knowledge associated with the design of different air conditioning and heating systems, pipe lay-out, and components along with the service aspects and installation.
GENERAL EDUCATION GOALS ADDRESSED
[See the last page of this form for more information.]
Upon completion of the course, the student will be able:
[Choose those goals that apply to this course.]

☐ To apply analytical and problem solving skills to personal, social and professional issues and situations.
☐ To communicate orally and in writing, socially and interpersonally.
☐ To develop an awareness of the contributions made to civilization by the diverse cultures of the world.
☐ To understand and use contemporary technology effectively and to understand its impact on the individual and society.
☒ To work and study effectively both individually and in collaboration with others.
☒ To understand what it means to act ethically and responsibly as an individual in one's career and as a member of society.
☐ To develop and maintain a healthy lifestyle physically, mentally, and spiritually.
☒ To appreciate the ongoing values of learning, self-improvement, and career planning.

EXPECTED LEARNING OUTCOMES AND RELATED COMPETENCIES:
[Outcomes related to course specific goals.]
Upon completion of the course, the student will be able to:
Outcome 1.0: Identify and list the mechanical operating conditions of the equipment.
Outcome 2.0: Demonstrate how the equipment is designed to met the environmental requirements.
Outcome 3.0: Explain the operating conditions of the evaporator
Outcome 4.0: Match various environmental loads to the evaporator capacities.
Outcome 5.0: Explain the various grads of equipment.
Outcome 6.0: Perform hands-on equipment installation.
Outcome 7.0: Explain an overview of the various efficiency equipment ratings.
Outcome 8.0: Identify the various types of duct systems.
Outcome 9.0: List and identify the acceptable practices for installation.
Outcome 10.0: Explain and demonstrate good piping practices.
COURSE TOPICS AND CONTENT REQUIREMENTS:
1. Mechanical Operational Condition
2. Evaporator Operating Condition
3. Grades of Equipment
4. Equipment Efficiency Ratings
5. Duct Systems
6. Good Installation Practices
7. Correct Refrigerant
8. Piping Practices

INSTRUCTIONAL METHODS:
- Lecture
- Class discussion
- Class Demonstrations
- Handouts
- Lab assignments

INSTRUCTIONAL MATERIALS:

STUDENT REQUIREMENTS AND METHODS OF EVALUATION:
Daily class & lab attendance
Tests
Comprehensive Final Exam
Hands-on Lab Projects
A= 90-100
B= 80-89
C= 70-79
D= 60-69
F= 0-59

OTHER REFERENCES
Industry Service Manuals
Manufacturers Service Manuals
# Course Competency/Assessment Methods Matrix

**HVC 1240 Design, Installation, & Servicing**

For each competency/outcome place an "X" below the method of assessment to be used.

<table>
<thead>
<tr>
<th>Assessment of Student Learning</th>
<th>Assessment Options</th>
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**Assessment Measures** — Are direct or indirect as indicated. List competencies/outcomes below.

<table>
<thead>
<tr>
<th>Outcome 1.0: Identify and list the mechanical operating conditions of the equipment.</th>
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<td>Outcome 4.0: Match various environmental loads to the evaporator capacities</td>
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<td>Outcome 5.0: Explain the various grades of equipment.</td>
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<td>Outcome 6.0: Perform hands-on equipment installation.</td>
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<td>Outcome 7.0: Explain an overview of the various efficiency equipment ratings.</td>
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Curriculum Committee – Course Outline Form Revised 02/2/10
For each competency/outcome place an "X" below the method of assessment to be used.

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