

ILLINOIS VALLEY COMMUNITY COLLEGE



COURSE OUTLINE

DIVISION: Career and Technical Programs

COURSE: HVC 2210 – Advanced Heating

Date: Fall 2011

Credit Hours: 3

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

Delivery Method:

<input checked="" type="checkbox"/> Lecture	2 Contact Hours (1 contact = 1 credit hour)
<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
<input checked="" type="checkbox"/> Lab	2 Contact Hours (2 contact = 1 credit hour)
<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)
<input type="checkbox"/> Online	
<input type="checkbox"/> Blended	

Offered: Fall Spring Summer

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

CATALOG DESCRIPTION:

This course is a continuation of HVC 1210. It is designed to provide more detailed coverage of the different types of heating systems.

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: Explain and describe the parts and operation of gas warm air heating systems.

Outcome 2.0: Demonstrate how to troubleshoot gas warm air heating systems.

Outcome 3.0: Explain and describe th parts and operation of oil warm air heating systems.

Outcome 4.0: Demonstrate how to troubleshoot electric warm air heating systems.

Outcome 5.0: Describe and explain the parts and operation of hydronic heating systems.

Outcome 6.0: Student will provide evidence of the ability to troubleshoot heat pump heating systems.

COURSE TOPICS AND CONTENT REQUIREMENTS:

1. Gas Warm air Heating System
 - a. Review of the components and operation of gas warm air heating systems
 - b. Troubleshooting warm air heating systems.
2. Oil & Electric Warm Air Heating System.
 - a. Review of the components and operation of oil warm air heating systems.
 - b. Review of the components and operation of electric warm air heating systems
3. Hydronic and Heat Pump Heating System
 - a. Review of the components and operation of hydronic heating systems
 - b. Review of the components and operation of heat pump heating systems.

INSTRUCTIONAL METHODS:

- Lecture
- Class discussion
- Class Demonstrations
- Handouts
- Lab assignments

INSTRUCTIONAL MATERIALS:

Textbook: Warm Air Heating for Climate Control, Cooper/Lee/Quinlan, Prentice-Hall
Publisher

STUDENT REQUIREMENTS AND METHODS OF EVALUATION:

Daily class & lab attendance

Tests

Troubleshooting 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

Assessment Options

For each competency/outcome place an "X" below the method of assessment to be used.	Assessment of Student Learning		Assessment Options																																		
	Direct	Indirect	Article Review	Case Studies	Group Projects	Lab Work	Oral Presentations	Pre-Post Tests	Quizzes	Written Exams	Artifact Self Reflection of Growth	Capstone Projects	Comprehensive Written Exit Exam	Course Embedded Questions	Multi-Media Projects	Observation	Writing Samples	Portfolio Evaluation	Real World Projects	Reflective Journals	Applied Application (skills) Test	Oral Exit Interviews	Accreditation Reviews/Reports	Advisory Council Feedback	Employer Surveys	Graduate Surveys	Internship/Practicum /Site Supervisor Evaluation	Licensing Exam	In Class Feedback	Simulation	Interview	Written Report	Assignment				
Assessment Measures – Are direct or indirect as indicated. List competencies/outcomes below.			D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	I	I	I	I	D	D									
Outcome 1.0: Explain and describe the parts and operation of gas warm air heating systems.						X			X																												
Outcome 2.0: Demonstrate how to troubleshoot gas warm air heating systems.						X																															
Outcome 3.0: Explain and describe th parts and operation of oil warm air heating systems.						X			X																												
Outcome 4.0: Demonstrate how to troubleshoot electric warm air heating systems.						X			X																												
Outcome 5.0: Describe and explain the parts and operation of hydronic heating systems.						X			X																												
Outcome 6.0: Student will provide evidence of the ability to troubleshoot heat pump heating systems.						X			X																												