

Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Heating, Ventilation, Air Conditioning and Refrigeration	108	HVA 108 04/20/2017- Residential HVAC Competency Exams and Codes
Division	Department	Faculty Preparer
Advanced Technologies and Public Service Careers	Heating, Ventilation and A/C	Michael Kontry
Date of Last Filed Assessment Report		

I. Assessment Results per Student Learning Outcome

Outcome 1: Identify the Michigan Residential Code that applies when servicing and installing HVAC equipment.

- Assessment Plan
 - Assessment Tool: A written departmental final exam
 - Assessment Date: Winter 2016
 - Course section(s)/other population: all
 - Number students to be assessed: all
 - How the assessment will be scored: answer key
 - Standard of success to be used for this assessment: 70% of the students will score 70% or higher.
 - Who will score and analyze the data: Department faculty

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2015, 2014, 2016	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
40	36

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

2 students in both Winter of 2014 and 2015 did not complete the course.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

All students selected.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

Multiple choice questions from departmental final exam on Michigan Mechanical Code using an answer key.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

Students scored 91.6% as an average on this outcome and 100% of students scored a minimum of 70% or higher

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students exhibited a very good knowledge of the Michigan Mechanical Code and how to access information when codes are needed.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

Course instructors should continue to emphasize the code requirements and methods to access those specific codes as they have been doing.

Outcome 2: Recognize principles of electricity, residential gas furnaces and air conditioning systems.

- Assessment Plan

- Assessment Tool: The ESCO Institute's gas heat, air conditioning and electricity competency test.
- Assessment Date: Winter 2016
- Course section(s)/other population: all
- Number students to be assessed: all
- How the assessment will be scored: ESCO electronic scoring
- Standard of success to be used for this assessment: 70% of students will score 70% or higher.
- Who will score and analyze the data: ESCO electronic scoring system

1. Indicate the Semester(s) and year(s) assessment data were collected for this report.

Fall (indicate years below)	Winter (indicate years below)	SP/SU (indicate years below)
	2015, 2014, 2016	

2. Provide assessment sample size data in the table below.

# of students enrolled	# of students assessed
40	36

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

2 students from both 2014 and 2015 did not complete the course.

4. Describe how students from all populations (day students on campus, DL, MM, evening, extension center sites, etc.) were included in the assessment based on your selection criteria.

All students selected.

5. Describe the process used to assess this outcome. Include a brief description of this tool and how it was scored.

ESCO Institute electronic scoring.

6. Briefly describe assessment results based on data collected for this outcome and tool during the course assessment. Discuss the extent to which students achieved this learning outcome and indicate whether the standard of success was met for this outcome and tool.

Met Standard of Success: Yes

Students scored a 79.6% average on all tests with 86.4% achieving a score of 70% or higher

7. Based on your interpretation of the assessment results, describe the areas of strength in student achievement of this learning outcome.

Students exhibited a very good knowledge of the material presented in the gas heat area and a fairly good knowledge of the electrical section.

8. Based on your analysis of student performance, discuss the areas in which student achievement of this learning outcome could be improved. If student met standard of success, you may wish to identify your plans for continuous improvement.

More time could be spent on review of air conditioning principles to better prepare students for the ESCO A/C test.

II. Course Summary and Action Plans Based on Assessment Results

1. Describe your overall impression of how this course is meeting the needs of students. Did the assessment process bring to light anything about student achievement of learning outcomes that surprised you?

This course is meeting the student's needs in the code interpretation area very well. The competency exam scores should increase with newly developed review procedures, instituted this year.

2. Describe when and how this information, including the action plan, was or will be shared with Departmental Faculty.

All instructors of the HVA 108 class will be verbally informed of this information in a departmental meeting.

3. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Other: Updated competency exam review	A newly developed review for the competency exams should increase those scores.	The new review will be more informative using Powerpoint visuals	2017

4. Is there anything that you would like to mention that was not already captured?

No

III. Attached Files

[HVA 108 - assessment results](#)

Faculty/Preparer: Michael Kontry **Date:** 04/20/2017
Department Chair: Robert Carter **Date:** 04/24/2017
Dean: Brandon Tucker **Date:** 05/03/2017
Assessment Committee Chair: Michelle Garey **Date:** 09/27/2017

COURSE ASSESSMENT REPORT

I. Background Information

1. Course assessed:
 - Course Discipline Code and Number: **HVA 108**
 - Course Title: **Residential HVAC Competency Exams and Codes**
 - Division/Department Codes: **VAC/HVAC**

2. Semester assessment was conducted (check one):
 - Fall 20__
 - Winter 2009
 - Spring/Summer 20__

3. Assessment tool(s) used: check all that apply.
 - Portfolio
 - Standardized test
 - Other external certification/licensure exam (specify):
 - Survey
 - Prompt
 - Departmental exam
 - Capstone experience (specify):
 - Other (specify):

4. Have these tools been used before?
 - Yes
 - No

If yes, have the tools been altered since its last administration? If so, briefly describe changes made.

NA

5. Indicate the number of students assessed/total number of students enrolled in the course.

All students completing the departmental developed final exam and HVAC Excellence Competency exams were assessed. 8 of 8 students.

6. Describe how students were selected for the assessment.

All students completing the departmental developed final exam and HVAC Excellence Competency exams

II. Results

1. Briefly describe the changes that were implemented in the course as a result of the previous assessment.

N/A

2. List each outcome that was assessed for this report exactly as it is stated on the course master syllabus.

Identify the Michigan Residential Code that applies when servicing and installing HVAC equipment.

Recognize principles of electricity, residential gas furnaces, and air conditioning systems.

COURSE ASSESSMENT REPORT

3. Briefly describe assessment results based on data collected during the course assessment, demonstrating the extent to which students are achieving each of the learning outcomes listed above. *Please attach a summary of the data collected.*

Students met the standard of success in all of the above listed outcomes.

4. For each outcome assessed, indicate the standard of success used, and the percentage of students who achieved that level of success. *Please attach the rubric/scoring guide used for the assessment.*

**70% of students should achieve a score of 70% or higher on the departmental final exam.
70% of students should achieve a score of 70% or higher on the ESCO competency exam.**

Percentage of comprehension for outcomes 1 and 2	
1	2
89%	74%

5. Describe the areas of strength and weakness in students' achievement of the learning outcomes shown in assessment results.

Strengths: Students displayed a strong grasp of all outcomes.

Weaknesses: Scores were not quite as high for the gas heat HVAC Excellence Exam.

III. Changes influenced by assessment results

1. If weaknesses were found (see above) or students did not meet expectations, describe the action that will be taken to address these weaknesses.

The prerequisite requirement for HVA 105 will be followed more closely to assure that students have had enough training on gas heat prior to taking this course.

2. Identify intended changes that will be instituted based on results of this assessment activity (check all that apply). Please describe changes and give rationale for change.

- a. Outcomes/Assessments on the Master Syllabus
Change/rationale:
- b. Objectives/Evaluation on the Master Syllabus
Change/rationale:
- c. Course pre-requisites on the Master Syllabus
Change/rationale: **Pre-requisites will be enforced more stringently.**
- d. 1st Day Handouts
Change/rationale:
- e. Course assignments
Change/rationale:
- f. Course materials (check all that apply)
 - Textbook
 - Handouts
 - Other:

COURSE ASSESSMENT REPORT

g. Instructional methods
Change/rationale:

h. Individual lessons & activities
Change/rationale:

3. What is the timeline for implementing these actions? **FA09**

IV. Future plans

1. Describe the extent to which the assessment tools used were effective in measuring student achievement of learning outcomes for this course.

The use of standardized and department exams made assessing students easy and effective.

2. If the assessment tools were not effective, describe the changes that will be made for future assessments.

The assessment tools worked effectively

3. Which outcomes from the master syllabus have been addressed in this report?

All Selected

If "All", provide the report date for the next full review: **Winter 2012**

If "Selected", provide the report date for remaining outcomes: _____

Submitted by:

Print: **Dan Lawrence**
Faculty/Preparer

Signature



Date: **4-20-09**

Print: **Les Pullins**
Department Chair

Signature



Date: **4-20-09**

Print: **DEUL**
Dean/Administrator

Signature



Date: _____