Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Auto Services	257	ASV 257 12/05/2018-Heating and Air Conditioning Systems
Division	Department	Faculty Preparer
Advanced Technologies and Public Service Careers	Automotive Services	Jeremiah Pfahlert
Date of Last Filed Assessment Report		

I. Review previous assessment reports submitted for this course and provide the following information.

1. Was this course previously assessed and if so, when?

   No

2. Briefly describe the results of previous assessment report(s).

   3.

4. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

   5.

II. Assessment Results per Student Learning Outcome

Outcome 1: Read and interpret vehicle service manuals.

- Assessment Plan
  - Assessment Tool: Common departmental exam
  - Assessment Date: Fall 2011
  - Course section(s)/other population: All sections
  - Number students to be assessed: All students
  - How the assessment will be scored:
  - Standard of success to be used for this assessment:

- Who will score and analyze the data:

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)
	2016	2015

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

# of students enrolled	# of students assessed
21	21

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.

All students from winter 2016 and summer 2015 are being assessed.

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.

Full sections of students are being assessed from face to face classes. Both classes being assessed are evening classes due limited class availability and all recent classes have been evening only.

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

[5] Superior (100 - 90%) [4] Excellent (89 - 70%) [3] Average (69 - 60%) [2] Below Average (59% and below) [1] Incomplete N/A Not Available for viewing/evaluation or did not complete. The standard of success for this outcome is at least 70% of students will score an average of 70% or higher.

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
[5] Superior (100 - 90%) = 11 Students [4] Excellent (89 - 70%) = 7 Students [3] Average (69 - 60%) = 1 Students [2] Below Average (59% and below) = 1 Students [1] Incomplete N/A Not Available for viewing/evaluation or did not complete = 1 Students The standard of success was met for this outcome with over 70% of students scoring an average of 70% or higher. 85.7% of students scored 70% or higher.

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

Based on exam question data student performance showed strong when asked to view a sample from a service manual and provide a correct interpretation of its meaning. With only three students not meeting the standard of success one scored at average, one scored below average and the third did not take the test used to assess this outcome and by default received a 0%.

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.

The link between the written information and the physical vehicle can sometimes be hard for the students to connect. There could be one specific lab added to focus solely on manual use with the vehicle present early in the semester to reinforce the classroom exercises.

Outcome 2: Diagnose and repair electrical circuits and heating systems.

- Assessment Plan
    - Assessment Tool: Common departmental exam
    - Assessment Date: Fall 2011

- Course section(s)/other population: All sections
- Number students to be assessed: All students
- How the assessment will be scored:
- Standard of success to be used for this assessment:
- Who will score and analyze the data:

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)
	2016	2015

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

# of students enrolled	# of students assessed
21	21

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.

All students from winter 2016 and summer 2015 are being assessed.

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.

Full sections of students are being assessed from face to face classes. Both classes being assessed are evening classes due limited class availability and all recent classes have been evening only.

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

[5] Superior (100 - 90%) [4] Excellent (89 - 70%) [3] Average (69 - 60%) [2] Below Average (59% and below) [1] Incomplete N/A Not Available for viewing/evaluation or did not complete.

The standard of success for this outcome is at least 70% of students will score an average of 70% or higher.

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
[5] Superior (100 - 90%) = 13 Students [4] Excellent (89 - 70%) = 3 Students [3] Average (69 - 60%) = 1 Students [2] Below Average (59% and below) = 2 Students [1] Incomplete N/A Not Available for viewing/evaluation or did not complete = 2 Students The standard of success was met for this outcome with over 70% of students scoring an average of 70% or higher. 76.1% of students scored 70% or higher.

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

The classroom and hands on lab work are balanced well and keep students engaged. Their diagnostic abilities showed quicker improvement in the lab than on written testing. Five students did not meet the standard of success, one student scored average, two students scored below average and two students did not take the test used to assess this outcome.

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.

The balance of classroom work and hands on lab work is good. This will need constant attention to ensure that as the technology progresses this balance is maintained.

Outcome 3: Diagnose and repair electrical components, blower motors, switches, vacuum actuators and A/C compressors.

- Assessment Plan
    - Assessment Tool: Common departmental exam
    - Assessment Date: Fall 2011
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored:
    - Standard of success to be used for this assessment:
    - Who will score and analyze the data:

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)
	2016	2015

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

# of students enrolled	# of students assessed
21	21

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.

All students from winter 2016 and summer 2015 are being assessed.

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.

Full sections of students are being assessed from face to face classes. Both classes being assessed are evening classes due limited class availability and all recent classes have been evening only.

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

[5] Superior (100 - 90%) [4] Excellent (89 - 70%)

[3] Average (69 - 60%)

[2] Below Average (59% and below)

[1] Incomplete N/A Not Available for viewing/evaluation or did not complete.

The standard of success for this outcome is at least 70% of students will score an average of 70% or higher.

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: No

[5] Superior (100 - 90%) = 10 Students

[4] Excellent (89 - 70%) = 2 Students

[3] Average (69 - 60%) = 1 Students

[2] Below Average (59% and below) = 3 Students

[1] Incomplete N/A Not Available for viewing/evaluation or did not complete = 5 Students

The standard of success was not met for this outcome with less than 70% of students scoring an average of 70% or higher.

57.1% of students scored 70% or higher.

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

The physical diagnostics in the lab went well. Students were able to performed actual diagnostics on operational vehicles and outperformed their written test scores. This showed the knowledge had been acquired but the test did not reflect that. Also, student attendance was better on lab day than written test day for this outcome. The standard of success for this outcome was not met with nine students not meeting the standard. One student scored average, three students scored below average and five students did not take or complete the test used to assess this outcome.

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.

In written testing of diagnostics students did not perform as well as in the physical lab setting. This shows that they understood the material but were not able to display that knowledge on the written test. The written test will need to be rewritten to better assess the students understanding of the material.

Outcome 4: Apply proper use of equipment and processes in air conditioning system diagnosis, repair, discharge and recharge.

- Assessment Plan
    - Assessment Tool: Common departmental exam
    - Assessment Date: Fall 2011
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored:
    - Standard of success to be used for this assessment:
    - Who will score and analyze the data:

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)
	2016	2015

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

# of students enrolled	# of students assessed
21	21

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.

All students from winter 2016 and summer 2015 are being assessed.

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.

Full sections of students are being assessed from face to face classes. Both classes being assessed are evening classes due limited class availability and all recent classes have been evening only.

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

[5] Superior (100 - 90%) [4] Excellent (89 - 70%) [3] Average (69 - 60%) [2] Below Average (59% and below) [1] Incomplete N/A Not Available for viewing/evaluation or did not complete. The standard of success for this outcome is at least 70% of students will score an average of 70% or higher.

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
[5] Superior (100 - 90%) = 7 Students [4] Excellent (89 - 70%) = 10 Students [3] Average (69 - 60%) = 0 Students [2] Below Average (59% and below) = 3 Students [1] Incomplete N/A Not Available for viewing/evaluation or did not complete = 1 Students The standard of success was met for this outcome with 70% of students scoring an average of 70% or higher. 80.9% of students scored 70% or higher.

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

The lab and written testing showed that the students were able to use the equipment in the proper manner. Both with safety in mind and with the ability to use equipment without damaging the vehicle or the equipment. The outcome was met with only four students not meeting the standard of success. Three students scored below average and one student did not take the test used to assess this outcome.

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.

In order to provide up to date equipment training for repair the equipment its self will need to stay current to the industry. Some students take more time to understand the operation of the a/c recovery machines than others do.

III. Course Summary and Intended Changes Based on Assessment Results

1. Based on the previous report's Intended Change(s) identified in Section I above, please discuss how effective the changes were in improving student learning.

N/A

2. 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 currently doing a good job imparting HVAC diagnostic and repair abilities in the students. With the good lab performance on diagnostics, it was surprising that the written testing was lower than expected. This showed that the testing for this outcome will need to be evaluated.

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

All assessments will be reviewed by the department chair and discussed in a department meeting.

4. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date

Course Assignments	Test questions for outcome #3 need to be rewritten to be more clear and understandable.	The written test questions for outcome #3 seem to be lacking the ability to truly asses the student's ability to perform the actual task asked of them. This is displayed by their actual ability to perform diagnostics in the physical lab environment and subsequent poor performance on the written test.	2019
Other: Focused lab	Create a lab session that is focused on the use of the automobile manual.	Students need more time to learn how they will use the automobile manual in reviewing, assessing and repairing cars.	2019

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

6.

III. Attached Files

ASV_257_01_S15
ASV_257_01_W16

Faculty/Preparer:	Jeremiah Pfahlert	**Date:** 01/07/2019
Department Chair:	Justin Morningstar	**Date:** 01/09/2019
Dean:	Brandon Tucker	**Date:** 01/16/2019
Assessment Committee Chair:	Shawn Deron	**Date:** 03/06/2019