Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Auto Services	132	ASV 132 11/19/2018-Automotive Engines
Division	Department	Faculty Preparer
Advanced Technologies and Public Service Careers	Automotive Services	Michael Duff
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: Identify various automotive parts and how they interact in a gasoline engine.

- Assessment Plan
  - Assessment Tool: Common departmental exam and NATEF checklist
  - Assessment Date: Fall 2015
  - Course section(s)/other population: All sections
  - Number students to be assessed: All students
  - How the assessment will be scored: Common departmental exam will be scored using an answer sheet. NATEF checklist will be scored using the departmentally-developed rubric.

- Standard of success to be used for this assessment: 70% of the students will score an overall average of 70% or higher.
- Who will score and analyze the data: Departmental 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)
2017	2018	

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

# of students enrolled	# of students assessed
84	84

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 enrolled in all sections were 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.

All sections met face to face. Sections met both day and night thru the week.

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

The tools designed to access this course were a common department exam in Blackboard and a NATEF checklist. We could not consistently retrieve useable data because the questions in Blackboard were randomized. The NATEF checklist only yields a pass/fail result for the students and meaningful data could not be obtained. Because both of the tools intended to be used to access this course did not yield meaningful data we used data from student project checklists and module exams completed through the semester.

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
All students completing the identification module checklists scored extremely well. Students proved the ability to identify various engine components and the operation and uses of the components of a gasoline engine. 100% of the students passed this module scoring 100% on the checklist. This was not very surprising, as most students have had some automotive background and/or interest. Students completing the module exam scored lower. 87% of the students scored 90% or higher. This still meets the standards of success but we noted that students performed better in the lab environment.

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

Students did very well on this outcome as they already had previous experience and interest in automotive engines. This wasn't very surprising but we want to continue to assess this outcome to ensure the standards stay high.

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.

We need to identify ways to increase the students' success when completing the module exams. Students show a greater interest in the lab portion of this course and possibly utilizing more course lectures including demonstrations on test materials may increase their success.

Outcome 2: Read and interpret vehicle service manuals.

- Assessment Plan
    - Assessment Tool: Common departmental exam and NATEF checklist
    - Assessment Date: Fall 2015
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Common departmental exam will be scored using an answer sheet. NATEF checklist will be scored using the departmentally-developed rubric.
    - Standard of success to be used for this assessment: 70% of the students will score an overall average of 70% or higher.

- Who will score and analyze the data: Departmental 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)
2017	2018	

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

# of students enrolled	# of students assessed
84	84

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 enrolled in all sections were 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.

All sections met face to face. Sections met both day and night thru the week.

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

The tools designed to access this course were a common department exam in Blackboard and a NATEF checklist. We could not consistently retrieve useable data because the questions in Blackboard were randomized. The NATEF checklist only yields a pass/fail result for the students and meaningful data could not be obtained. Because both of the tools intended to be used to access this course did not yield meaningful data we used data from student project checklists and module exams completed through the semester.

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 use online repair manuals Mitchell Pro demand and ALLData. The students acquire and follow the proper procedures with torque specifications. The skills checklist module exam. All the students scored 90% or higher. The 10% missed was due to variations in vehicle midyear changes and drivetrain options.

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

Students' strengths are their ability to use the computer programs with ease and navigate the software to find needed vehicle repair information. The skills used to find repair information is used in all the ASV classes.

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.

Students struggled identifying midyear model changes and drivetrain options by vehicle. We plan to implement more course time to allow for more in depth lecture on identifying model changes and powertrain options.

Outcome 3: Recognize, diagnose and recommend service and repairs for internal engine components.

- Assessment Plan
    - Assessment Tool: Common departmental exam and NATEF checklist
    - Assessment Date: Fall 2015
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Common departmental exam will be scored using an answer sheet. NATEF checklist will be scored using the departmentally-developed rubric.
    - Standard of success to be used for this assessment: 70% of the students will score an overall average of 70% or higher.
    - Who will score and analyze the data: Departmental 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)
2017	2018	

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

# of students enrolled	# of students assessed
84	84

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 enrolled in all sections were 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.

All sections met face to face. Sections met both day and night thru the week.

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

The tools designed to access this course were a common department exam in Blackboard and a NATEF checklist.

We could not consistently retrieve useable data because the questions in Blackboard were randomized.

The NATEF checklist only yields a pass/fail result for the students and meaningful data could not be obtained.

Because both of the tools intended to be used to access this course did not yield meaningful data we used data from student project checklists and module exams completed through the semester.

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

In the lab, students are given a repair order assigned to a vehicle with problems. Students complete a checklist identifying and confirming issues and recommending the necessary parts and repairs. 85% of the students successfully completed the checklist on the first attempt. The remaining students with guidance from the instructors gained the ability to successfully complete the checklist on their second attempt.

100% of the students scored 70% or higher on the module exam used to access this outcome.

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

Most students demonstrated the ability to find the problem and fix the broken components on their first attempt.

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.

Some students struggled finding the root cause of the broken component(s) on their first attempt. Allowing more than one attempt still allows the student to complete the lab with guidance. I am not sure if we can find a solution to complete the lab on their first attempt. We will try adding additional time during lecture to help students examine higher critical thinking skills to determine possible other causes.

Outcome 4: Recognize, diagnose and replace engine gasket due to failures.

- Assessment Plan
    - Assessment Tool: Common departmental exam and NATEF checklist
    - Assessment Date: Fall 2015
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: Common departmental exam will be scored using an answer sheet. NATEF checklist will be scored using the departmentally-developed rubric.
    - Standard of success to be used for this assessment: 70% of the students will score an overall average of 70% or higher.
    - Who will score and analyze the data: Departmental 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)
2017	2018	

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

# of students enrolled	# of students assessed
84	84

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.

82 students out of the 84 enrolled were assessed.

2 students did not complete the module exam.

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 sections met face to face. Sections met both day and night thru the week.

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

The tools designed to access this course were a common department exam in Blackboard and a NATEF checklist.

We could not consistently retrieve useable data because the questions in Blackboard were randomized.

The NATEF checklist only yields a pass/fail result for the students and meaningful data could not be obtained.

Because both of the tools intended to be used to access this course did not yield meaningful data we used data from student project checklists and module exams completed through the semester.

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
85% of the students successfully completed the repair process on the first attempt. 100% of the students completed the process on the second attempt.

The students accessed scored 70% or higher on the module exam. 2 students did not take the module exam. Although we meet the standards of success on this outcome, we need to encourage the students to complete the course work outside of lab.

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

Students demonstrated success at a high level on their first attempt at finding leaks and replacing engine gaskets.

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.

All students were not successful their first attempt. Area of improvement include attention to details such as cleaning, inspections and layout need to be addressed. Addition lecture time discussing potential issues may help students become successful at completing the tasks on their first attempts.

Outcome 5: Disassemble and reassemble an automotive gasoline engine.

- Assessment Plan
    - Assessment Tool: NATEF checklist
    - Assessment Date: Fall 2015
    - Course section(s)/other population: All sections
    - Number students to be assessed: All students
    - How the assessment will be scored: NATEF checklist will be scored using the departmentally-developed rubric.
    - Standard of success to be used for this assessment: 70% of the students will score an overall average of 70% or higher.
    - Who will score and analyze the data: Departmental 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)
2017	2018	

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

# of students enrolled	# of students assessed
84	84

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 enrolled in all sections were 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.

All sections met face to face. Sections met both day and night thru the week.

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

The tool designed to access this course was a NATEF checklist. The NATEF checklist only yields a pass/fail result for the students and meaningful data could not be obtained. Because the tool intended to be used to access this course did not yield meaningful data we used data from student project checklists completed through the semester.

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
The students completed laboratory activities disassembling, cleaning inspecting and reassembling a four stroke four cylinder belt driven overhead camshaft engine. The engine was run tested on a start stand for proper operation as well as checked for leaks 90% of the engines ran with no leaks the remaining 10% were off timed and or had leaks. The 10% that had problems students were allowed to retime engine and correct leaks. This was accomplished with two students per group.

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

90% were successful on their first attempt at following manufactures instructions on assembling and testing the engine correctly with no issues.

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.

Some of the students were not successful on their first lab attempt.

Students were able to run the engine and see all the hard work function properly. Student excitement in hearing the engine run is contagious.

We found students that were not successful on the first attempt made simple mistakes. The issues students ran into were due to over excitement.

We will modify the skills checklist adding more steps in the checklist to slow the students down and pay attention to detail.

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.

This course was not previously assessed.

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 a huge part of the foundation leading to student success in the program. Confidence building by preparing the student with hands-on skills and critical thinking skills to prepare them for employment.

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

The results will be shared with the faculty electronically and discussed at the monthly department meeting.

4. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date

Assessment Tool	Removing NATEF tasklists. Changing the Blackboard questions so they are not randomized. Moving forward we will be utilizing the faculty developed module skills checklists.	The NATEF tasklist does not yield meaningful data.	2019

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

6.

III. Attached Files

ASV 132

Faculty/Preparer:	Michael Duff	**Date:** 04/04/2019
Department Chair:	Justin Morningstar	**Date:** 04/15/2019
Dean:	Brandon Tucker	**Date:** 04/16/2019
Assessment Committee Chair:	Shawn Deron	**Date:** 05/17/2019