

Course Assessment Report Washtenaw Community College

Discipline	Course Number	Title
Automotive & Transportation Tech (new)	180	ATT 180 08/17/2025-Alternative Vehicle Fundamentals & Safety
College	Division	Department
Advanced Technologies and Public Service Careers	Advanced Technologies and Public Service Careers	Transportation Technologies
Faculty Preparer		Shawn Deron
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 safety standards and protocols when operating alternative energy vehicles.

- Assessment Plan
 - Assessment Tool: Outcome-related exam questions
 - Assessment Date: Fall 2027
 - 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: 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)
	2025	2025

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

# of students enrolled	# of students assessed
31	31

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 of the students from all three sections completed the assessment tasks.

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.

This course was mixed mode: half of the coursework is in Canvas, and the demonstrations and lab work are completed on campus in OE 184/188 in the new EV lab space.

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

The tools we used to assess student success were two different exams administered in two separate modules of the learning management system (LMS). Both exams were comprised of questions related to safety skills and standards while working with electric vehicles. There are 20 total questions for both of the exams related to safety equipment, standards, and protocol. In order to achieve the standard of success, 70% of students needed to earn a score of at least 14 out of the 20 possible points.

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

Reviewing the data for the combined scores for the module exams, 84% of the students (26/31) scored 70% or higher. In a more in-depth breakdown and review of the questions we can review which exam questions students did better on.

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

Students demonstrated a strong understanding of electric vehicle (EV) safety features, particularly in identifying the critical systems designed to protect both occupants and technicians. Students effectively applied their knowledge by accurately identifying safety labels and awareness of the correct usage of personal protective equipment (PPE).

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 current assessment tool has proven effective in accurately measuring student understanding and competence. As it continues to support student safety and positive learning policies, no changes are recommended at this time.

Outcome 2: Recognize and differentiate alternative energy vehicle components and systems.

- Assessment Plan
 - Assessment Tool: Outcome-related exam questions
 - Assessment Date: Fall 2027
 - 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: 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)
	2025	2025

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

# of students enrolled	# of students assessed
31	28

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.

Three of the students did not complete the assessment tasks and were excluded from the data results.

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.

This course was mixed mode: half of the coursework is in Canvas, and the demonstrations and lab work are completed on campus in OE 184/188 in the new EV lab space.

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

The tool we used to assess student success was an outcome-related exam administered in module 3 of the LMS. The exam was comprised of 10 questions related to component identification and basic operation on an electric vehicle test bench. In order to achieve the standard of success, 70% of students needed to earn a score of at least 7 out of the 10 possible points.

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

Reviewing the data for the exam scores from module 3, 96% of the students (27/28) that completed the outcome exam scored 70% or higher. In a more in-depth breakdown and review of the questions we can review which exam questions students did better on.

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

Students demonstrated a solid grasp of electric vehicle component identification and basic operation throughout the assessment period. They accurately identified key components such as the battery pack, inverter, electric motor, and charging system, and clearly explained the function of each within the EV powertrain. Their

ability to interpret basic diagrams, follow safety procedures, and articulate how energy flows through the system reflected a strong foundational understanding.

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 current assessment tool effectively evaluates students' ability to identify key electric vehicle components and understand their basic operation. Given its success in reinforcing foundational knowledge and practical skills, we see no need for modification at this time.

Outcome 3: Perform safety and service inspections on electric vehicles.

- Assessment Plan
 - Assessment Tool: Outcome-related student achievement checklist items
 - Assessment Date: Fall 2027
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored: Rubric
 - 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: 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)
	2025	2025

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

# of students enrolled	# of students assessed
31	29

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.

Two of the students did not complete the assessment tasks and were excluded from the data results.

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.

This course was mixed mode: half of the coursework is in Canvas, and the demonstrations and lab work are completed on campus in OE 184/188 in the new EV lab space.

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

The tool we used to assess student success was an outcome-related checklist administered in the lab from module 15 of the LMS. The checklist comprised visual inspections related to EV components. 25 of the items were directly related to vehicle safety and operation on an electric vehicle. In order to achieve the standard of success, 70% of students needed to earn a score of at least 18 out of the 25 possible points.

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

Reviewing the data for the checklist scores, 100% of the students (29/29) that completed the checklist 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.

Students showed a strong understanding of the basic electric vehicle (EV) inspection process, successfully identifying and assessing key items related to the safe operation of an EV. These included checks on high-voltage warning labels, visual inspections of orange cabling, fluid levels, and emergency disconnects. Students followed inspection procedures and demonstrated an awareness of both safety protocols and the importance of preventative maintenance.

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 performed very well during the basic electric vehicle inspection activity, largely due to the level of instructor guidance provided throughout the process. As this was the first time delivering the curriculum, the instructor took a hands-on approach to ensure students understood each inspection step clearly and safely. While this support contributed to positive outcomes, it also highlighted the need to

gradually shift responsibility to the students in future deliveries. Moving forward, a key focus will be ensuring students develop greater independence and a deeper awareness of the fundamental differences between electric and internal combustion engine (ICE) vehicles, particularly in terms of safety procedures and systems.

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?

Overall, the course is effectively meeting the needs of students by providing a strong foundation in electric vehicle safety, components, and basic inspection procedures. The assessment process confirmed that students are achieving the intended learning outcomes, particularly with strong performance in practical tasks. It was notable how quickly students adapted to new material, though their success was partly due to the high level of instructor support during this first delivery.

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

The assessment report results will be shared at the next department meeting.

- 4.

Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Other: Completion of assessment tasks	To improve assessment completion rates, we will incorporate more in-class time for students to begin tasks with instructor support and clear guidance. Additionally, we	Improve completion rates of assessment tasks .	2025

	can provide regular progress check-ins to help keep students on track and accountable.		
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5. Is there anything that you would like to mention that was not already captured?

6.

III. Attached Files

[ATT 180 Summary Data](#)

Faculty/Preparer: Shawn Deron **Date:** 08/17/2025
Department Chair: Shawn Deron **Date:** 08/17/2025
Dean: Eva Samulski **Date:** 08/17/2025
Assessment Committee Chair: Jessica Hale **Date:** 09/01/2026