Washtenaw Community College Comprehensive Report

ATT 258 Engine Drivability
Effective Term: Fall 2025

Course Cover

College: Advanced Technologies and Public Service Careers
Division: Advanced Technologies and Public Service Careers
Department: Transportation Technologies
Discipline: Automotive & Transportation Tech (new)
Course Number: 258
Org Number: 14100
Full Course Title: Engine Drivability
Transcript Title: Engine Drivability
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission: Course Change
Change Information:
Consultation with all departments affected by this course is required.
Rationale: Update the course for the new discipline.
Proposed Start Semester: Fall 2024
Course Description: In this course, students will develop automotive troubleshooting and repair strategies for engine management systems. Using specialized automotive test equipment, students will learn how to analyze fuel, ignition, and emission systems. Inspection procedures and diagnostics of powertrain control module (PCM) fault code symptoms will also be covered. This course was previously ASV 258.

Course Credit Hours

Variable hours: No
Credits: 2
Lecture Hours: Instructor: 30 **Student:** 30
The following Lab fields are not divisible by 15: Student Min, Instructor Min
Lab: Instructor: 22.5 **Student:** 22.5
Clinical: Instructor: 0 **Student:** 0

Total Contact Hours: Instructor: 52.5 **Student:** 52.5
Repeatable for Credit: NO
Grading Methods: Letter Grades
Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

Requisites

Prerequisite
ATT 131 minimum grade C
or

Prerequisite
ATT 133 minimum grade C

General Education

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Interpret drivability faults using vehicle service information.
   Assessment 1
   Assessment Tool: Outcome-related exam questions
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   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: 75% of students will score 75% or higher.
   Who will score and analyze the data: Departmental faculty

2. Diagnose and repair powertrain control module (PCM) inputs and outputs.
   Assessment 1
   Assessment Tool: Outcome-related exam questions
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   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: 75% of students will score 75% or higher.
   Who will score and analyze the data: Departmental faculty
   Assessment 2
   Assessment Tool: Outcome-related practical exam
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Skills checklist
   Standard of success to be used for this assessment: 75% of students will score an average of 75% or higher.
   Who will score and analyze the data: Departmental faculty

3. Diagnose and repair drivability related PCM fault codes.
   Assessment 1
   Assessment Tool: Outcome-related practical exam
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Skills checklist
   Standard of success to be used for this assessment: 75% of students will score an average of 75% or higher.
   Who will score and analyze the data: Departmental faculty
   Assessment 2

Assessment Tool: Outcome-related exam questions
Assessment Date: Fall 2025
Assessment Cycle: Every Three Years
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: 75% of students will score 75% or higher.
Who will score and analyze the data: Departmental faculty

4. Diagnose engine management systems using scan tool data streams and tool protocols.
   Assessment 1
   Assessment Tool: Outcome-related exam questions
   Assessment Date: Fall 2025
   Assessment Cycle: Every Three Years
   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: 75% of students will score 75% or higher.
   Who will score and analyze the data: Departmental faculty

Course Objectives

1. Recognize and apply shop safety practices.
2. Recognize proper procedure for diagnosing and repairing electrical systems.
3. Utilize testing equipment and interpret results.
4. Use testing equipment to diagnose the engine management computer.
5. Use vehicle service information to interpret various control module test results.
6. Perform recommended repairs.
7. Perform proper inspection, diagnosis and recognize needed repairs on engine management systems.
8. Perform proper inspection, diagnosis and recognize needed repairs on fuel systems.
9. Perform proper inspection, diagnosis and recognize needed repairs on engine emission control systems.
10. Use On-Board Diagnostics II (OBD II) scan tool data to diagnose fault setting conditions.
11. Apply theory and skills to perform required service repairs.
12. Test drive vehicles to verify repairs.

New Resources for Course

Course Textbooks/Resources

Textbooks
Pickerill, Ken. *Today's Technician: Automotive Engine Performance*, 6 ed. Delmar Cengage Learning, 2013, ISBN: 978-11335928.
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom
Computer workstations/lab

Reviewer	Action	Date
Faculty Preparer:		
Shawn Deron	*Faculty Preparer*	*Mar 27, 2024*
Department Chair/Area Director:		

Rocky Roberts	*Recommend Approval*	*Mar 27, 2024*
Dean:		
Eva Samulski	*Recommend Approval*	*Apr 03, 2024*
Curriculum Committee Chair:		
Randy Van Wagnen	*Recommend Approval*	*Mar 20, 2025*
Assessment Committee Chair:		
Jessica Hale	*Recommend Approval*	*Mar 20, 2025*
Vice President for Instruction:		
Brandon Tucker	*Approve*	*Mar 21, 2025*

Washtenaw Community College Comprehensive Report

ASV 258 Engine Drivability
Effective Term: Winter 2020

Course Cover

Division: Advanced Technologies and Public Service Careers
Department: Transportation Technologies
Discipline: Auto Services (new)
Course Number: 258
Org Number: 14100
Full Course Title: Engine Drivability
Transcript Title: Engine Drivability
Is Consultation with other department(s) required: No
Publish in the Following: College Catalog , Time Schedule , Web Page
Reason for Submission:
Change Information:
Consultation with all departments affected by this course is required.
Rationale: Change prerequisites for new APATT and APPDT programs; ASV 131 or ASV 133. Student learning outcome revisions based on Assessment report. Minor text revisions.
Proposed Start Semester: Fall 2019
Course Description: In this course, students will develop automotive troubleshooting and repair strategies for engine management systems. Using specialized automotive test equpiment, the student will learn how to analyze fuel, ignition and emission systems. Inspection procedures and diagnostics of powertrain control module (PCM) fault code symptoms will be covered.

Course Credit Hours

Variable hours: No
Credits: 2
Lecture Hours: Instructor: 30 **Student:** 30
The following Lab fields are not divisible by 15: Student Min, Instructor Min
Lab: Instructor: 22.5 **Student:** 22.5
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Total Contact Hours: Instructor: 52.5 **Student:** 52.5
Repeatable for Credit: NO
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Audit
Are lectures, labs, or clinicals offered as separate sections?: NO (same sections)

College-Level Reading and Writing

College-level Reading & Writing

College-Level Math

Requisites

Prerequisite
ASV 131 minimum grade "C"
or

Prerequisite
ASV 133 minimum grade "C"

General Education

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Interpret driveability faults using vehicle service information.
   Assessment 1
   Assessment Tool: Departmental exam
   Assessment Date: Fall 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Exam answer sheet
   Standard of success to be used for this assessment: 75% of students will score 75% or better
   Who will score and analyze the data: Departmental faculty

2. Diagnose and repair Powertrain Control Module (PCM) inputs and outputs.
   Assessment 1
   Assessment Tool: Departmental written exam
   Assessment Date: Fall 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Exam answer sheet
   Standard of success to be used for this assessment: 75% of students will score an average of 75% or higher
   Who will score and analyze the data: Departmental faculty
   Assessment 2
   Assessment Tool: Practical exam
   Assessment Date: Fall 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Skills checklist
   Standard of success to be used for this assessment: 75% of students will score an average of 75% or higher
   Who will score and analyze the data: Departmental faculty

3. Diagnose and repair driveability related PCM fault codes.
   Assessment 1
   Assessment Tool: Departmental written exam
   Assessment Date: Fall 2022
   Assessment Cycle: Every Three Years
   Course section(s)/other population: All
   Number students to be assessed: All
   How the assessment will be scored: Exam answer sheet
   Standard of success to be used for this assessment: 75% of students will score an average of 75% or higher
   Who will score and analyze the data: Departmental faculty

Assessment 2
Assessment Tool: Practical exam
Assessment Date: Fall 2022
Assessment Cycle: Every Three Years
Course section(s)/other population: All
Number students to be assessed: All
How the assessment will be scored: Skills checklist
Standard of success to be used for this assessment: 75% of students will score an average of 75% or higher
Who will score and analyze the data: Departmental faculty

4. Use scan tool datastreams and tool protocols to diagnose and repair engine management systems.
Assessment 1
Assessment Tool: Departmental exam
Assessment Date: Fall 2022
Assessment Cycle: Every Three Years
Course section(s)/other population: All
Number students to be assessed: All
How the assessment will be scored: Exam answer sheet
Standard of success to be used for this assessment: 75% of students will score an average of 75% or higher
Who will score and analyze the data: Departmental faculty

Course Objectives

1. Recognize and apply shop safety practices.
2. Recognize proper procedure for diagnosing and repairing electrical systems.
3. Utilize testing equipment and interpret results.
4. Use testing equipment to diagnose the engine management computer.
5. Use vehicle service information to interpret various control module test results.
6. Perform recommended repairs.
7. Perform proper inspection, diagnosis and recognize needed repairs on engine management systems.
8. Perform proper inspection, diagnosis and recognize needed repairs on fuel systems.
9. Perform proper inspection, diagnosis and recognize needed repairs on engine emission control systems.
10. Use OBD II scan tool data to diagnose fault setting conditions.
11. Apply theory and skills to perform required service repairs.
12. Test drive vehicles to verify repairs.

New Resources for Course

Course Textbooks/Resources

Textbooks
Pickerill, Ken. *Today's Technician: Automotive Engine Performance*, 6 ed. Delmar Cengage Learning, 2013, ISBN: 978-11335928.
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom
Computer workstations/lab

Reviewer	Action	Date
Faculty Preparer:		

Justin Carter	*Faculty Preparer*	*Nov 12, 2019*
Department Chair/Area Director:		
Justin Morningstar	*Recommend Approval*	*Nov 12, 2019*
Dean:		
Brandon Tucker	*Recommend Approval*	*Nov 12, 2019*
Curriculum Committee Chair:		
Lisa Veasey	*Recommend Approval*	*Nov 12, 2019*
Assessment Committee Chair:		
Shawn Deron	*Recommend Approval*	*Nov 12, 2019*
Vice President for Instruction:		
Kimberly Hurns	*Approve*	*Nov 12, 2019*