

# Washtenaw Community College Comprehensive Report

## ASV 130 Automotive Maintenance Effective Term: Fall 2019

### Course Cover

**Division:** Advanced Technologies and Public Service Careers  
**Department:** Transportation Technologies  
**Discipline:** Auto Services (new)  
**Course Number:** 130  
**Org Number:** 14100  
**Full Course Title:** Automotive Maintenance  
**Transcript Title:** Automotive Maintenance  
**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:** Reading, Writing level needs to be updated to meet the needs of incoming students. Course last assessed in SP/SU 2016.

**Proposed Start Semester:** Winter 2019

**Course Description:** In this course, students will learn basic shop safety and accepted shop practices. In addition to basic maintenance, students will learn about fluids and lubrication services as well as cooling and exhaust system repairs. Students will also be introduced to steering, suspension, and brake repairs in the lab.

### Course Credit Hours

**Variable hours:** No

**Credits:** 4

**Lecture Hours: Instructor:** 45 **Student:** 45

**Lab: Instructor:** 60 **Student:** 60

**Clinical: Instructor:** 0 **Student:** 0

**Total Contact Hours: Instructor:** 105 **Student:** 105

**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

Reduced Reading/Writing Scores

### College-Level Math

### Requisites

**Prerequisite**

Change levels to reading level 5, writing level 3

### General Education

**Degree Attributes**

Statewide articulation approved

## **Request Course Transfer**

### **Proposed For:**

## **Student Learning Outcomes**

1. Recognize and apply general shop rules, procedures and safety standards.

### **Assessment 1**

Assessment Tool: Mastery questions from common departmental midterm exam

Assessment Date: Fall 2019

Assessment Cycle: Every Three Years

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

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

2. Identify and properly use various shop tools.

### **Assessment 1**

Assessment Tool: Mastery questions from common departmental midterm exam

Assessment Date: Fall 2019

Assessment Cycle: Every Three Years

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

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

3. Perform all vehicle fluid services.

### **Assessment 1**

Assessment Tool: Lab skills sheet

Assessment Date: Fall 2019

Assessment Cycle: Every Three Years

Course section(s)/other population: All sections

Number students to be assessed: All students

How the assessment will be scored: Fluid lubrication service skills lab sheet 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

4. Perform basic mechanical repairs.

### **Assessment 1**

Assessment Tool: Lab skills sheet

Assessment Date: Fall 2019

Assessment Cycle: Every Three Years

Course section(s)/other population: All sections

Number students to be assessed: All students

How the assessment will be scored: Fluid lubrication service skills lab sheet 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

### **Course Objectives**

1. Identify and follow general shop rules and procedures.
2. Complete online safety training in Blackboard.
3. Identify and interpret vehicle identification numbers.
4. Find and utilize service information: Mitchell On-Demand and All Data.
5. Demonstrate the proper use of a 2-post lift.
6. Demonstrate proper usage of floor jacks.
7. Identify various shop tools: hand tools and power tools.
8. Recognize the various purposes of threaded fasteners: Standard and Metric.
9. Identify and demonstrate the use of tap-and-die sets.
10. Recognize tire construction: Steel-belted, Low-profile, Bias-ply and Tubeless.
11. Interpret tire sidewall markings: Passenger/light truck, normal width in millimeters, aspect ratio, construction, rim diameter, load index, and speed rating.
12. Demonstrate removal and replacement of a tire and flat repair.
13. Identify proper tire inflation per vehicle.
14. Recognize low-pressure warnings: reset sensors, tread-wear, traction and temperature.
15. Demonstrate how to balance and rotate a wheel and tire.
16. Identify tread wear.
17. Demonstrate how to check vehicle fluids.
18. Demonstrate how to add fluids to the vehicle when needed.
19. Recognize the importance of transmission fluid replacement.
20. Demonstrate proper oil change procedures.
21. Identify fluid leaks.
22. Follow proper disposal of vehicle fluids and parts.
23. Perform lubrication techniques per vehicle specifications.
24. Recognize the importance of vehicle inspection.
25. Discuss the significance of ASE certifications as they apply to automotive mechanics.
26. Perform fluid change on a rear differential.
27. Identify the function of the cooling system.
28. Describe construction of major cooling system components.
29. Demonstrate proper safety procedures when working with cooling systems.
30. Recognize parts of an exhaust system.
31. Demonstrate exhaust system repairs.
32. Use and interpret vehicle identification numbers for the purpose of completing a repair order.

### **New Resources for Course**

#### **Course Textbooks/Resources**

##### Textbooks

Kirk VanGelder. *Fundamentals of Automotive Technology 2nd Ed Access Card* , 2 ed. Jones and Bartlett Learning, 2017, ISBN: 9781284119558.

##### Manuals

##### Periodicals

##### Software

#### **Equipment/Facilities**

Level III classroom

Computer workstations/lab

Data projector/computer

<b><u>Reviewer</u></b>	<b><u>Action</u></b>	<b><u>Date</u></b>
<b>Faculty Preparer:</b> <i>Justin Morningstar</i>	<i>Faculty Preparer</i>	<i>Sep 24, 2019</i>
<b>Department Chair/Area Director:</b> <i>Justin Morningstar</i>	<i>Recommend Approval</i>	<i>Sep 24, 2019</i>
<b>Dean:</b> <i>Brandon Tucker</i>	<i>Recommend Approval</i>	<i>Sep 24, 2019</i>
<b>Curriculum Committee Chair:</b> <i>Lisa Veasey</i>	<i>Recommend Approval</i>	<i>Sep 24, 2019</i>
<b>Assessment Committee Chair:</b> <i>Shawn Deron</i>	<i>Recommend Approval</i>	<i>Sep 24, 2019</i>
<b>Vice President for Instruction:</b> <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Sep 24, 2019</i>