

Washtenaw Community College Comprehensive Report

ATT 266 Advanced Transmissions 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: 266

Org Number: 14100

Full Course Title: Advanced Transmissions

Transcript Title: Advanced Transmissions

Is Consultation with other department(s) required: No

Publish in the Following:

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 learn how to inspect, diagnose, and repair late-model automotive drivetrain systems. Students will learn how to diagnose and repair manual and automatic transmissions/transaxles, transfer cases, and differentials/axles. Upon successful completion, students will be able to conduct advanced in-vehicle diagnosis on all components of the drivetrain system, and repair as necessary. The drivetrain components will focus on advancing technologies and tooling representative of manufacturer trends. This course was previously ASV 266.

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

No Level Required

Requisites

Prerequisite

ATT 134 minimum grade C

General Education

Request Course Transfer

Proposed For:

Student Learning Outcomes

1. Analyze drivetrain-related service information to perform inspection procedures, diagnostic routines, and repair processes.

Assessment 1

Assessment Tool: Outcome-related skills checklist

Assessment Date: Winter 2025

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Departmentally-developed 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

2. Perform in-vehicle diagnostic routines on drivetrain systems in late model vehicles.

Assessment 1

Assessment Tool: Outcome-related skills checklist

Assessment Date: Winter 2025

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Departmentally-developed 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

3. Repair vehicle drivetrain systems through repair, rebuild, or replacement of manual transmissions/transaxles, automatic transmissions/transaxles, transfer cases, and final drive assemblies.

Assessment 1

Assessment Tool: Outcome-related skills checklist

Assessment Date: Winter 2025

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All

How the assessment will be scored: Departmentally-developed 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

Course Objectives

1. Perform inspection procedures on automatic transmissions/transaxles, manual transmissions/transaxles, transfer cases and axles/differentials based on service information.

2. Perform diagnostic routines on automatic transmissions/transaxles, manual transmissions/transaxles, transfer cases and axles/differentials based on service information.
3. Repair automatic transmissions/transaxles, manual transmissions/transaxles, transfer cases and axles/differentials using service information.
4. Diagnose mechanical drivetrain failures following a diagnostic routine that addresses symptoms and root causes.
5. Diagnose electrical-related and/or computerized drivetrain failures following a diagnostic routine that addresses symptoms and root causes.
6. Diagnose hydraulic drivetrain failures following a diagnostic routine that addresses symptoms and root causes.
7. Repair manual transmissions.
8. Repair manual transaxles.
9. Repair automatic transmissions.
10. Repair automatic transaxles.
11. Repair transfer cases.
12. Repair differentials and/or axles (final drive assemblies).
13. Rebuild drivetrain assemblies, including transmissions/transaxles, transfer cases and differentials/axles (final drive assemblies).
14. Remove and replace drivetrain assemblies, including transmissions/transaxles, transfer cases and differentials/axles (final drive assemblies).

New Resources for Course

Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

Equipment/Facilities

Level III classroom
Computer workstations/lab

<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Shawn Deron</i>	<i>Faculty Preparer</i>	<i>Mar 27, 2024</i>
Department Chair/Area Director: <i>Rocky Roberts</i>	<i>Recommend Approval</i>	<i>Mar 27, 2024</i>
Dean: <i>Eva Samulski</i>	<i>Recommend Approval</i>	<i>Apr 03, 2024</i>
Curriculum Committee Chair: <i>Randy Van Wagnen</i>	<i>Recommend Approval</i>	<i>Mar 20, 2025</i>
Assessment Committee Chair: <i>Jessica Hale</i>	<i>Recommend Approval</i>	<i>Mar 20, 2025</i>
Vice President for Instruction: <i>Brandon Tucker</i>	<i>Approve</i>	<i>Mar 21, 2025</i>

Washtenaw Community College Comprehensive Report

ASV 266 Advanced Transmissions Effective Term: Fall 2020

Course Cover

Division: Advanced Technologies and Public Service Careers

Department: Transportation Technologies

Discipline: Auto Services (new)

Course Number: 266

Org Number: 14100

Full Course Title: Advanced Transmissions

Transcript Title: Advanced Transmissions

Is Consultation with other department(s) required: No

Publish in the Following:

Reason for Submission: New Course

Change Information:

Rationale: This course will complement ASV 134 Automotive Transmissions, which is the introductory transmissions training course, as it does not have time to adequately cover the scope of full transmission and drivetrain repair on late model drivetrain systems and late model in-vehicle diagnosis.

Proposed Start Semester: Fall 2020

Course Description: In this course, students will learn how to inspect, diagnose, and repair late-model automotive drivetrain systems. Students will learn how to diagnose and repair manual and automatic transmissions/transaxles, transfer cases, and differentials/axles. Upon successful completion, students will be able to conduct advanced in-vehicle diagnosis on all components of the drivetrain system, and repair as necessary. The drivetrain components will focus on advancing technologies and tooling representative of manufacturer trends.

Course Credit Hours

Variable hours: No

Credits: 2

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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

No Level Required

Requisites

Prerequisite

ASV 134 minimum grade "C"

General Education**Request Course Transfer**

Proposed For:

Student Learning Outcomes

1. Analyze drivetrain related service information to facilitate inspection procedures, diagnostic routines, and repair processes.

Assessment 1

Assessment Tool: Student achievement checklist

Assessment Date: Winter 2021

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: 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

2. Perform in-vehicle diagnostic routines on drivetrain systems in late model vehicles.

Assessment 1

Assessment Tool: Student achievement checklist

Assessment Date: Winter 2021

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: 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

3. Repair vehicle drivetrain systems through repair, rebuild, or replacement of manual transmissions/transaxles, automatic transmissions/transaxles, transfer cases, and final drive assemblies.

Assessment 1

Assessment Tool: Student achievement checklist

Assessment Date: Winter 2021

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: 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. Perform inspection procedures on automatic transmissions/transaxles, manual transmissions/transaxle, transfer cases and axles/differentials based on service information.
2. Perform diagnostic routines on automatic transmissions/transaxles, manual transmissions/transaxles, transfer cases and axles/differentials based on service information.

3. Repair automatic transmissions/transaxles, manual transmissions/transaxles, transfer cases and axles/differentials using service information.
4. Diagnose mechanical drivetrain failures following a diagnostic routine that addresses symptom and root cause.
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New Resources for Course

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<u>Reviewer</u>	<u>Action</u>	<u>Date</u>
Faculty Preparer: <i>Rocky Roberts</i>	<i>Faculty Preparer</i>	<i>Dec 11, 2019</i>
Department Chair/Area Director: <i>Allen Day</i>	<i>Recommend Approval</i>	<i>Dec 11, 2019</i>
Dean: <i>Jimmie Baber</i>	<i>Recommend Approval</i>	<i>Jan 29, 2020</i>
Curriculum Committee Chair: <i>Lisa Veasey</i>	<i>Recommend Approval</i>	<i>Mar 04, 2020</i>
Assessment Committee Chair: <i>Shawn Deron</i>	<i>Recommend Approval</i>	<i>Mar 06, 2020</i>
Vice President for Instruction: <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Mar 06, 2020</i>