# Washtenaw Community College Comprehensive Report

# ATT 240 Machining for Transportation Applications
# 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:** 240
**Org Number:** 14100
**Full Course Title:** Machining for Transportation Applications
**Transcript Title:** Machining for ATT
**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:**
**Course title**
**Course description**
**Pre-requisite, co-requisite, or enrollment restrictions**
**Rationale:** Update the course for the new discipline.
**Proposed Start Semester:** Fall 2024
**Course Description:** In this course, students will be introduced to manual machinist tooling and operations for transportation applications. Students will be introduced to various material properties, basic component blueprint design, precision measuring tool applications, precision layout and set up, as well as the safe operation of manual lathes, mills, drills and a variety of other machine tools to manufacture precision parts. This course was previously MST 230.

## Course Credit Hours

**Variable hours:** No
**Credits:** 3
**Lecture Hours: Instructor:** 30 **Student:** 30
**Lab: Instructor:** 30 **Student:** 30
**Clinical: Instructor:** 0 **Student:** 0

**Total Contact Hours: Instructor:** 60 **Student:** 60
**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

## General Education

## Request Course Transfer

**Proposed For:**

## Student Learning Outcomes

1. Identify manual machine operational safety standards.
   **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 the students will score 75% or higher.
   Who will score and analyze the data: Departmental faculty

2. Machine parts using a manually operated lathe.
   **Assessment 1**
   Assessment Tool: Outcome-related student project
   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: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% of the students will score 70% or higher.
   Who will score and analyze the data: Departmental faculty

3. Machine parts using a manually operated milling machine.
   **Assessment 1**
   Assessment Tool: Outcome-related student project
   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: Departmentally-developed rubric
   Standard of success to be used for this assessment: 75% of the students will score 70% or higher.
   Who will score and analyze the data: Departmental faculty

## Course Objectives

1. Discuss operational safety inspections on 120-volt bench machine tools.
2. Discuss operational safety of a drill press.
3. Discuss operational safety of a band saw.
4. Discuss operational safety of a belt sander.
5. Discuss operational safety of a metal cutoff (miter) saw.
6. Discuss operational safety of various metal machining lathes.
7. Discuss operational safety of a Bridgeport mill machine.
8. Replace band saw blades.
9. Set up parts to be machined on various metal lathes.
10. Set up parts to be machined on Bridgeport mills.
11. Measure materials to be used for student projects.
12. Identify basic blueprint specifications.

## New Resources for Course

## Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software

## Equipment/Facilities

Level III classroom

| 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

## MST 230 Advanced Motorcycle Fabrication
## Proposed start term: Fall 2010

### Course Cover

**Division:** Vocational Technologies
**Department:** Motorcycle Technology
**Discipline:** Motorcycle Service Technology
**Course Number:** 230
**Org Number:** 14140
**Full Course Title:** Advanced Motorcycle Fabrication
**Transcript Title:** Adv. Motorcycle Fabrication
**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:**
Pre-requisite, co-requisite, or enrollment restrictions
**Rationale:** Course will become an elective in the Motorcycle Service Technology II advanced certificate. Change prerequisites to require instructor or department chair permission.
**Proposed Start:** Fall 2010

**Course Description:** This course begins the integration of the knowledge and skills acquired in the Motorcycle Service Technology programs and from coursework in Welding and Fabrication and Machine Tool Technology. Students will practice design skills including pattern development, mechanical drawing and fastener selection in the creation of a custom motorcycle frame, swing arm or billet accessory. Designed parts will be fabricated using welding, milling machine and lathe operation skills on various types of building materials including body sheet metal.

### Course Credit Hours

**Variable hours:** No
**Credits:** 3
**Lecture Hours: Instructor:** 30 **Student:** 30
**Lab: Instructor:** 30 **Student:** 30
**Clinical: Instructor:** 0 **Student:** 0
**Other: Instructor:** 0 **Student:** 0
**Total Contact Hours: Instructor: Student:**
**Repeatable for Credit:** NO
**Grading Methods:** Letter Grades
**Are lectures, labs, or clinicals offered as separate sections?:** NO (same sections)

### College-Level Reading and Writing

College-level Reading & Writing

### Requisites

**Prerequisite**
Academic Reading and Writing Levels of 6; consent required

### General Education

### Request Course Transfer

**Proposed For:**

### Student Learning Outcomes

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1. Apply the theory and operation of sheet metal forming tools and equipment to fabrication tasks.
   **Assessment 1**
   **Assessment Tool:** Practical lab exams
   **Assessment Date:** Fall 2012
   **Assessment Cycle:** Every Three Years
   **Course section(s)/other population:** all
   **Number students to be assessed:** all
   **How the assessment will be scored:** Practical lab exams will be scored using departmentally-developed rubric.
   **Standard of success to be used for this assessment:** 75% of the students will score an overall average at or above the intermediate level.
   **Who will score and analyze the data:** Department member not teaching the course that term.

2. Design and fabricate custom motorcycle frames and frame components.
   **Assessment 1**
   **Assessment Tool:** Practical lab exams
   **Assessment Date:** Fall 2012
   **Assessment Cycle:** Every Three Years
   **Course section(s)/other population:** all
   **Number students to be assessed:** all
   **How the assessment will be scored:** Practical lab exams will be scored using departmentally-developed rubric.
   **Standard of success to be used for this assessment:** 75% of the students will score an overall average at or above the intermediate level.
   **Who will score and analyze the data:** Department member not teaching the course that term.

3. Design and fabricate accessories for custom motorcycles.
   **Assessment 1**
   **Assessment Tool:** Practical lab exams
   **Assessment Date:** Fall 2012
   **Assessment Cycle:** Every Three Years
   **Course section(s)/other population:** all
   **Number students to be assessed:** all
   **How the assessment will be scored:** Practical lab exams will be scored using departmentally-developed rubric.
   **Standard of success to be used for this assessment:** 75% of the students will score an overall average at or above the intermediate level.
   **Who will score and analyze the data:** Department member not teach the course that term.

## Course Objectives

1. Demonstrate proficiency in the design of custom motorcycle sheet metal components including fenders, fuel and oil tanks, spoilers and fairing.
   **Methods of Evaluation**
   Activity or Exercise
   Exams/Tests
   **Matched Outcomes**
   1. Apply the theory and operation of sheet metal forming tools and equipment to fabrication tasks.

2. Demonstrate proficiency in the use of metal forming tools and equipment to fabricate components.
   **Methods of Evaluation**
   Activity or Exercise
   Exams/Tests

**Matched Outcomes**
1. Apply the theory and operation of sheet metal forming tools and equipment to fabrication tasks.

3. Demonstrate proficiency in the design of custom motorcycle frames and frame components.
**Methods of Evaluation**
Activity or Exercise
Exams/Tests
**Matched Outcomes**
2. Design and fabricate custom motorcycle frames and frame components.

4. Demonstrate proficiency in the fabrication of custom motorcycle frames and frame components.
**Methods of Evaluation**
Activity or Exercise
Exams/Tests
**Matched Outcomes**
2. Design and fabricate custom motorcycle frames and frame components.

5. Demonstrate proficiency in the design of accessories for custom motorcycles including exhaust systems and other add-ons.
**Methods of Evaluation**
Activity or Exercise
Exams/Tests
**Matched Outcomes**
3. Design and fabricate accessories for custom motorcycles.

6. Demonstrate proficiency in the fabrication of custom accessories for motorcycles.
**Methods of Evaluation**
Activity or Exercise
Exams/Tests
**Matched Outcomes**
3. Design and fabricate accessories for custom motorcycles.

## New Resources for Course

## Course Textbooks/Resources

Textbooks
Manuals
Periodicals
Software
Other

## Equipment/Facilities

Level III classroom