Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Motorcycle Service Technology (inactive)	120	MST 120 10/02/2018-Motorcycle Service Technology II
Division	Department	Faculty Preparer
Advanced Technologies and Public Service Careers	Transportation Technologies	Shawn Deron
Date of Last Filed Assessment Report		05/23/2014

I. Review previous assessment reports submitted for this course and provide the following information.

1. Was this course previously assessed and if so, when?

   Yes

   This course was previously assessed in the Winter of 2014 using data collected from the Winter of 2012 and Spring/Summer 2013.

2. Briefly describe the results of previous assessment report(s).

   It seems that students were meeting the standards of success on all the outcomes, and the only noted change to the course was at the content level which discussed development of new lesson plans for the suspension section of the course.

3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

   The action plan included updated lesson plans for the last section of the course which is motorcycle suspension. The changes were made to the course and are continuously updated staying current with the ever-changing updates to the advancing theories and technology.

II. Assessment Results per Student Learning Outcome

Outcome 1: Identify the basic structure, geometry and design of different frame construction.

- Assessment Plan
    - Assessment Tool: Final and practical lab exams

- Assessment Date: Spring/Summer 2016
- Course section(s)/other population: All
- Number students to be assessed: All
- How the assessment will be scored: Answer key and 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: Department 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)
2017, 2016	2017, 2016, 2015	2016

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

# of students enrolled	# of students assessed
88	88

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 students from all sections were included in the assessment report.

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.

2015 - 1 section had 21 students enrolled during the Winter semester. 2016 - 3 sections had 44 students enrolled during the Fall, Winter and Spring/Summer semesters. 2017 - 2 sections had 23 students enrolled in the Fall and Winter semesters. All the students from all the sections met face-to-face on campus and completed the tool used to assess this outcome on campus.

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

There were 21 questions selected from the department final exam that directly related to this outcome. An answer key was used to score the questions. Students either got the question correct or did not. Some questions were based on identification and some questions related to identification of reactions that would occur based on given changes.

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

Of the 21 questions used to assess this outcome, students only had to identify components for 10 questions. For the remaining 11 questions, students had to identify reactions to frame geometry based on specific changes that were given. We separated the questions into two sets, looking to distinguish areas where students had difficulties. On the first set of identification questions, we found all students scored a minimum of 94% at the question level, which wasn't surprising. On the second set of questions, all the students scored a minimum of 82% or higher. This question set requires a better understanding of dynamic reactions based on possible rider changes.

Although the standard of success was met by the students for this outcome, we would like to utilize a different tool to assess this outcome moving forward. The final exam is administered at the end of the course, and we believe more meaningful data can be collected and used for assessment if we used the module exam and the module skills checklists student complete in the lab environment. The data collected at the module level would correspond and influence any changes that could be made to improve student learning.

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

Students are able to retain the information about the identification of the different structures and terms for the geometry relating to the motorcycle.

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 seem to struggle more with the changes that are made to basic structure and supporting components of a motorcycle affecting the geometry of the vehicle. Students often question and second guess the outcomes of supplied changes on the question level showing a disconnect between the module and the final exams. This is why we would like to use the data from the module exams and student

achievement checklists to identify where we can make the most effective changes to help with information retention.

Outcome 2: Demonstrate time and quality proficiency in diagnosing, servicing and repairing of primary and final drive systems, clutch assemblies, transmissions, suspension and braking systems.

- Assessment Plan
    - Assessment Tool: Final and practical lab exams
    - Assessment Date: Spring/Summer 2016
    - Course section(s)/other population: All
    - Number students to be assessed: All
    - How the assessment will be scored: Answer key and 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: Department 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)
2017, 2016	2017, 2016, 2015	2016

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

# of students enrolled	# of students assessed
88	88

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 students from all sections were included in the assessment report.

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.

2015 - 1 section had 21 students enrolled during the Winter semester.

2016 - 3 sections had 44 students enrolled during the Fall, Winter and Spring/Summer semesters.

2017 - 2 sections had 23 students enrolled in the Fall and Winter semesters.

All the students from all the sections met face-to-face on campus and completed the tool used to assess this outcome on campus.

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

Questions selected from the final exam relating to the following:

Brakes - 9

Final Drives - Possibly 1

Primary Drives - Possibly 1

Clutches - 1

Suspension Systems - 4

Transmissions - 8

An answer key was used to score the questions. Students either got the question correct or did not.

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

We broke down the questions to relate them to the specific parts of the outcome to potentially identify areas that could be improved. Nine questions related to brakes. Four questions related to suspension systems. Eight questions related to transmissions, and one question related to clutches. All of the students scored a minimum of 94% on any specific question on brake systems. All of the students scored a minimum of 83% on any specific question on suspension systems. All of the students scored a minimum of 83% on any specific question on transmissions. All of the students scored a minimum of 97% on the only question relating to clutches.

This was a very difficult outcome to assess. It has several components including time management and proficiency for six different systems on a motorcycle. It

also suggests diagnostics, service and repair. Only using the final exam questions for each of the topics listed in this outcome shows students can study and recite the information on the final exam making it difficult to differentiate any of the individual variables to find ways to improve student success. In order for us to gain any meaningful data for assessment, we need to use the module exams and the skills checklists for each individual topic after we break down this outcome. Holistically, it is almost impossible to gain anything usable from the outcome or the data that comes from the suggested tool.

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

Students retain most of the knowledge for most of the topics to succeed on the final exam. Brake systems, clutch assemblies and transmissions are higher on the list.

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 struggle with retention of some components of suspension systems and some of the calculations relating to transmission, primary drives and final drive systems. We would like to use the data from the module exams and student achievement checklists to identify where we can make the most effective changes to help in information retention.

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.

The previous report suggested lesson plan changes to the suspension section of the course. The suspension section has been completely redesigned to support up-to-date information as well as better demonstrations and labs for students to complete. We have found that students respond better to the increased amount of time and improved course materials.

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?

The course is meeting the needs of the students, but we feel there is a better approach to collect more meaningful data that should be used for the assessment process. The assessment process revealed that outcomes can encompass too many variables that may not need to be or should not be grouped together.

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

The assessment report will be shared with all the MST faculty during the department meetings as well as posted on the WCC website.

4. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Outcome Language	Outcome number 2 needs to be broken down into several outcomes. Each outcome that is developed from the current outcome should utilize the module exams and student achievement checklists for assessment.	The outcome as it is stated, is too large to assess. To net more meaningful data for each individual aspect of outcome number 2, more outcomes need to be included in the master syllabus.	2020
Assessment Tool	Outcome number 1 needs to utilize the module exam and the module checklist as the tool used to assess the outcome to provide meaningful data.	The current tool uses the final exam to assess this outcome. The module exam and skills checklist will give better insight on areas that can be improved. The final exam in our opinion only nets student retention levels of the material relating to this outcome.	2020

5. Is there anything that you would like to mention that was not already captured?

We have moved our curriculum into Blackboard for improved data collection that will be using the goals tool.

III. Attached Files

MST 120 Raw Data

Faculty/Preparer:	Shawn Deron	**Date:** 08/20/2019
Department Chair:	Justin Morningstar	**Date:** 11/14/2019
Dean:	Brandon Tucker	**Date:** 12/02/2019
Assessment Committee Chair:	Shawn Deron	**Date:** 02/03/2020

Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Motorcycle Service Technology	120	MST 120 04/28/2014-Motorcycle Service Technology II
Division	Department	Faculty Preparer
Advanced Technologies and Public Service Careers	Motorcycle Technology	Michael Shute
Date of Last Filed Assessment Report		

I. Assessment Results per Student Learning Outcome

Outcome 1: Students will identify the basic structure, geometry and design of different frame construction.

- Assessment Plan
    - Assessment Tool: Final and practical lab exams
    - Assessment Date: Winter 2009
    - Course section(s)/other population: All
    - Number students to be assessed: All
    - How the assessment will be scored:
    - Standard of success to be used for this assessment:
    - Who will score and analyze the data:

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)
	2012	2013

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

# of students enrolled	# of students assessed
42	25

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.

One section of MST 120 from Winter 2012 and all sections (1) of MST 120 from Spring/Summer 13 were assessed. Data from the other section of MST 120 from Winter 2012 was not available. All students who took the exam in these two sections were assessed.

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.

All sections are taught face-to-face.

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

The written and practical final exam was scored using an answer key and a skills checklist.

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
Of the 25 students assessed, 20 (80%) scored 140 points (70%) of 200 possible or higher. This meets the standard of success.

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

Students did very well with the concept of frame geometry. They were able to grasp and apply the concept on the exam. Students were given a list of frame geometry specifications and were asked to draw an illustration of a motorcycle with all the specifications identified. They were then asked to describe how that motorcycle would handle based on the design.

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.

None were identified.

Outcome 2: Students will demonstrate time and quality proficiency in diagnosing, servicing and the repair of primary and final drive systems, clutch assemblies, transmissions, suspension and braking systems.

- Assessment Plan
    - Assessment Tool: Final and practical lab exams
    - Assessment Date: Winter 2009
    - Course section(s)/other population: All
    - Number students to be assessed: All
    - How the assessment will be scored:
    - Standard of success to be used for this assessment:
    - Who will score and analyze the data:

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)
	2012	2013

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

# of students enrolled	# of students assessed
42	25

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.

One section of MST 120 from Winter 2012 and all sections (1) of MST 120 from Spring/Summer 13 were assessed. Data from the other section of MST 120 from Winter 2012 was not available. All students who took the exam in these two sections were assessed.

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.

All sections are taught face-to-face.

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

The written and practical final exam was scored using an answer key and a skills checklist.

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
Of the 25 students assessed, 20 (80%) scored 140 points (70%) of 200 possible or higher. This meets the standard of success.

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

Students performed well on the brakes, clutches and primary drive systems.

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 have the most difficulty with motorcycle suspensions. The concept of how the various components control the movement of the suspension of the motorcycle is often difficult to understand.

II. Course Summary and Action Plans Based on Assessment Results

1. 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 students are doing very well with the course content. It was surprising to see how receptive the students were to the geometry used for motorcycles. They quickly understood the concepts.

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

This report will be discussed with the departmental faculty.

3. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Other: suspension lesson plans	The lesson plan for suspension needs to be re-written. New strategies will be	Students had a more difficult time with the concepts taught related to suspension.	2015

	included to improve student understanding and retention of the material.		

4. Is there anything that you would like to mention that was not already captured?

III. Attached Files

MST 120 data

Faculty/Preparer:	Michael Shute	**Date:** 04/28/2014
Department Chair:	Shawn Deron	**Date:** 04/30/2014
Dean:	Marilyn Donham	**Date:** 05/07/2014
Assessment Committee Chair:	Michelle Garey	**Date:** 05/22/2014