

**Course Assessment Report  
Washtenaw Community College**

Discipline	Course Number	Title
Motorcycle Service Technology (new)	110	MST 110 08/22/2021-Motorcycle Service Technology I
College	Division	Department
Advanced Technologies and Public Service Careers	Advanced Technologies and Public Service Careers	Transportation Technologies
Faculty Preparer		Shawn Deron
Date of Last Filed Assessment Report		

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

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

<p>Yes</p> <p>This course was assessed in Fall 2016.</p>
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2. Briefly describe the results of previous assessment report(s).

<p>Based on the report, it seems that students did very well in the course with a few mentions of small items within the course content that students could use support to improve their scores. It appears that only one section was used with a small sample size.</p>
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3. Briefly describe the Action Plan/Intended Changes from the previous report(s), when and how changes were implemented.

<p>No changes were suggested to the course after it was assessed. Changes to the course were made such as some updates to the content to keep current with technology changes and the use of Blackboard.</p>
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**II. Assessment Results per Student Learning Outcome**

Outcome 1: Identify the basic structure of a service department from both a theoretical and operational perspective.

- Assessment Plan
  - Assessment Tool: Final written exam

- Assessment Date: Fall 2020
- 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: Departmental 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)
2020	2021	

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

# of students enrolled	# of students assessed
21	21

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.

We have data for 22 students from the three sections that were assessed. Only 21 students completed this assessment task.

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.

We used the data from the one section of Winter 2021 and the two sections taught in Fall of 2020. The sections met as mixed mode labs (MML). All three sections participated in online work, virtual lectures and visited campus to practice and complete their practical lab work.

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

Outcome number one has 10 outcome-related module exam questions that relate to the structure and operation of a vehicle service department. The questions were scored using an answer key.

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: <u>Yes</u>
21 out of 22 (95%) students completed the module exam. Out of those 21 students, 16 (76%) of them scored 70% or higher. Although this meets the standards of success we need to review the exam questions, lectures and supporting course materials to identify where we can improve.

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 on the questions relating to the forms and paperwork within a service department. These items relate to vehicle check-in, inspections and work that is requested to be performed by customers. It is nice to see students become comfortable and aware of the operation of a service department preparing them for employment.
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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.

The questions that students need support and improvement with relate to the business side of the service department. These items relate to employee and department performance that is tracked within a dealership and can have an effect on employees' pay. We discuss these topics in one module of the course and we need to discuss adding it to the following modules through the end of the semester. We also need to review the course materials, lectures and exam questions.
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Outcome 2: Demonstrate time and quality proficiency in vehicle maintenance such as tear down, inspection and reassembly of an internal combustion engine.

- Assessment Plan
  - Assessment Tool: Final written and practical exam
  - Assessment Date: Fall 2020
  - 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: Departmental 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)
2020	2021	

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

# of students enrolled	# of students assessed
21	22

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.

We have data for 22 students from the three sections that were assessed. Only 19 students completed the exam assessment task. 22 students completed the practical portion of the assessment.

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.

We used the data from the one section of Winter 2021 and the two sections taught in Fall of 2020. The sections met as mixed mode labs (MML). All three sections participated in online work, virtual lectures and visited campus to practice and complete their practical lab work.

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

Outcome number two had 35 outcome-related exam questions regarding vehicle inspection and maintenance focused on the vehicle's powertrain/engine operation and service. The questions were scored using an answer key. We also identified a practical skills lab related to the outcome that students perform and scored with a rubric.

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**

19 out of 22 (86%) students completed the exam. Out of those 19 students, 18 (94.7%) of them scored 70% or higher. Although this meets the standards of success, we need to determine how to get more student participation in completing this part of the assessment. 100% of the students completed the lab portion of the assessment and all 22 students scored higher than 70% on the task.

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

The students that completed the exam did very well on the questions related to the identification of internal engine components and the operation or cycles of an internal combustion engine. The assessment results are not surprising as this is one of the modules that students take the most interest in. We always want to monitor the success of students on this outcome ensuring the retention of the information. Engine theory is one of the most difficult concepts to understand on any vehicle as well as the diversity of the components that can change based on design. The difference in the results of the practical portion of the assessment are not surprising either, both the participation levels and the gradual increase in understanding engine theory and operation. We spend a decent portion of lab time on this skill and students are required to complete the labs multiple times with different drivetrains.

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.

We need to review the skills checklist students complete in the lab along with the rubrics we score them with. We also need to develop a better rubric within Blackboard to capture more data from this task. Students score high on this lab but a deeper dive into the skills that students develop leading to this exercise could be helpful. In this module, students are developing a new skill by combining all of the skills preceding it to practice and complete the lab.

Outcome 3: Demonstrate time and quality proficiency in vehicle maintenance such as replacing tires and wheel bearings, and mileage-based maintenance.

- Assessment Plan
  - Assessment Tool: Final written and practical exam
  - Assessment Date: Fall 2020
  - 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: Departmental 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)
2020	2021	

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

# of students enrolled	# of students assessed
21	22

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.

We have data for 22 students from the three sections that were taught. Only 20 students completed the exam assessment task. 22 students completed the first practical portion of the assessment. 21 students completed the second and third practical portion.

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.

We used the data from the one section of Winter 2021 and the two sections taught in Fall of 2020. The sections met as mixed mode labs (MML). All three sections participated in online work, virtual lectures and visited campus to practice and complete their practical lab work.

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

Outcome number three had 10 outcome-related exam questions that relate to vehicle mileage-based maintenance and tire and bearing replacements. The questions were scored using an answer key. We also identified three different practical skills labs related to the outcome that students perform and scored with a rubric.

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

20 out of 22 (90%) students completed the exam. Out of those 20 students, 17 (85%) of them scored 70% or higher. Although this meets the standards of success, we need to review the exam questions, lectures and supporting course materials to identify where we can improve.

100% of the students completed the first lab portion of the assessment and 21 (95%) of the students scored higher than 70% on the assessment task.

21 out of 22 (95%) students completed the second and third lab portions of the assessment. 19 (90%) of the students scored higher than 70% on the second lab portion, and all 21 students scored higher than 70% on the third assessment task.

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

The students that completed the exam did very well on the questions related to the identification and inspection of tires bearings and maintenance related items. We do notice that students' scores start to fall as this is one of the last topics before the end of the semester.

The results of the practical portion of the assessment are not surprising. Usually we encourage students to practice on components and vehicles on campus before attempting to service their own vehicles. We can only assume that students score high on all three of these practical labs because they must be completed before the start of any work on their own components or vehicles.

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.

Just like what was mentioned in the previous outcome, we need to review the skills checklists students complete in the labs along with the rubrics we score them with. We also need to develop better rubrics within Blackboard to capture more data from all three of these tasks. Students score high on these labs but a deeper dive into the skills and tools that students need to complete the tasks could be helpful. All three of these modules are related to each other and we may find that having more data would allow us to identify an area where student learning could be improved.

### 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.

No changes were required on the previous assessment of this course. As previously mentioned, some changes have been made to the course which include the implementation of Blackboard, some content updates and module order.

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 two semesters and three sections that we assessed occurred during COVID adjustments to teaching. We wanted to assess delivery and modality changes as we do not meet with students on a daily basis like we previously did. We noticed a higher interest at the beginning of the course with more online work completed by the students, which then tapered slightly towards the end of the semester. Although it wasn't a huge drop in work completed, maintaining interest in completing coursework to support the work done in the lab was a new problem that we needed to solve. This is the entry level course into the program and has a huge amount of content preparing the students for the program and employment. We always want all of our students to succeed but we also inform our students of the skills and drive needed to excel in this field. This course has evolved content wise to get us there and students are better prepared to succeed with us.

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

This assessment will be shared during the next department meeting and of course online.

4. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Outcome Language	All of the outcomes need to be updated with some minor language changes.	Updating the language to current standards.	2022
Assessment Tool	We need to split the tools used to assess the outcomes.	Updates to current standards.	2022

Objectives	We need to add objectives to support the outcomes and tools.	Needed to meet current standards.	2022
Course Materials (e.g. textbooks, handouts, on-line ancillaries)	Review outcome-related questions on the exams.	Needed to possibly increase student success.	2022
Other: Practical exam rubrics	We need to update and improve the rubrics for all of the practical exams within Blackboard.	Capturing more data in Blackboard by improving on the scoring rubrics will yield more meaningful data.	2022

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

6.
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### III. Attached Files

[MST 110 Summary Data](#)

**Faculty/Preparer:** Shawn Deron **Date:** 08/22/2021  
**Department Chair:** Rocky Roberts **Date:** 08/23/2021  
**Dean:** Jimmie Baber **Date:** 09/02/2021  
**Assessment Committee Chair:** Shawn Deron **Date:** 11/13/2021

**Course Assessment Report**  
**Washtenaw Community College**

Discipline	Course Number	Title
Motorcycle Service Technology	110	MST 110 08/10/2017- Motorcycle Service Technology I
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: Identify the basic structure of a service department from both a theoretical and operational perspective.

- Assessment Plan
  - Assessment Tool: Final written and practical exam
  - Assessment Date: Fall 2015
  - 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: Departmental 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)
2016		

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

# of students enrolled	# of students assessed
16	7

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.

Data from only one section of students was available. In the future, data from all sections of the course will be collected.

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.

This course was taught on campus in a face-to-face mode.

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

Students were given a final exam that contained questions related to outcomes #1, #2 and the practical application. An answer key was used to score the data.

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

There were 12 questions on the final that were related to outcome #1. Of the 7 students all of them correctly answered 9 or more questions (75%). Of the 12 questions, 5 or more students (75%) correctly answered all questions except #5. 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.

Overall students did very well on this outcome. 100% of the students scored 70% or higher on the outcome-related questions.

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.

The one question where students had more difficulty was related to the definition and calculation of productivity. Productivity is a measure of the technician and the support of the technician. This is essential to running a service program that is financially viable.

Outcome 2: Demonstrate time and quality proficiency in vehicle maintenance such as tear down, inspection and reassembly of an internal combustion engine, replacing tires and wheel bearings, and mileage-based maintenance.

- Assessment Plan
  - Assessment Tool: Final written and practical exam
  - Assessment Date: Fall 2015
  - 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: Departmental 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)
2016		

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

# of students enrolled	# of students assessed
16	7

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.

Data from only one section of students was available. In the future, data from all sections of the course will be collected.

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.

This course was taught on campus in a face-to-face mode.

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

Students were given a final exam that contained questions related to outcomes #1, #2 and the practical application. An answer key was used to score the data.

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

There were 37 questions on the final that were related to outcome #2. Of the 7 students all of them correctly answered 28 or more questions (75%). Of the 27 questions, 5 or more students (75%) correctly answered all questions except #41. This meets the standard of success.

There were 10 exam questions related to the practical application of this outcome. Again, all students correctly answered 8 or more (80%) of the questions correctly. Of the 10 questions, 5 or more students (75%) correctly answered each question. 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.

Again, students did very well on this outcome, on both the written exam and the practical portion of the final.

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.

More students had difficulty remembering and applying the correct calculation of the displacement of a 72 cubic inch engine in cubic centimeters. This is a matter of memorizing a formula.

## 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, students are doing very well in the course. They understand and are able to apply the concepts of the course.

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

This information will be shared with our full- and part-time faculty at a department meeting.

3.

Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
No changes intended.			

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

5.

### III. Attached Files

[MST 110 assessment data](#)

**Faculty/Preparer:** Michael Shute **Date:** 08/10/2017  
**Department Chair:** Shawn Deron **Date:** 08/22/2017  
**Dean:** Brandon Tucker **Date:** 08/23/2017  
**Assessment Committee Chair:** Michelle Garey **Date:** 10/30/2017

**Course Assessment Report  
Washtenaw Community College**

Discipline	Course Number	Title
Motorcycle Service Technology	110	MST 110 04/23/2014- Motorcycle Service Technology I
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 of a service department from both a theoretical and operational perspective.

- 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		

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

# of students enrolled	# of students assessed
44	40

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 who completed the final 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 students were selected.

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

The final exam included both a written and practical component. The scores from both components were combined and the total score on the exam was used to assess the course.

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

Using the complete (written and practical) final exam, we identified that 82.5% (33 students) of the students scored 70% (175 of 250 points) or higher.

Using item analysis of test questions related to outcome #1 we identified that a minimum of 89% of students answered each question correctly. No individual questions were identified for review. 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 were able to answer questions related to the operational structure of a service department, the operation of internal combustion engines, the use of service and parts manuals.

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.

No issues were identified.

Outcome 2: Students will demonstrate time and quality proficiency in basic motorcycle set-up and maintenance (tear down, inspection and reassembly of an internal combustion engine, replacing tires and wheel bearings, vehicle set-up and mileage based maintenance).

- 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		

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

# of students enrolled	# of students assessed
44	40

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 who completed the final 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 students were selected.

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

The final exam included both a written and practical component. The scores from both components were combined and the total score on the exam was used to assess the course.

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: <u>No</u>
Using the complete (written and practical) final exam, we identified that 82.5% (33 students) of the students scored 70% (175 of 250 points) or higher.
Using the practical portion of the exam to assess outcome #2 we determined that 56% of the students scored 70% or higher. This does not meet 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 fastener identification.
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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 had more difficulty with precision measuring. Students are asked to measure within 1/10,000 of an inch.
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## 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?

This course meets the needs of students as an introductory course on motorcycle Technology. We were surprised that students weren't able to measure as accurately as they should have after two weeks of instruction and practice.
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2. Describe when and how this information, including the action plan, was or will be shared with Departmental Faculty.

This information will be shared at a department meeting.
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3. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Assessment Tool	The practical exam was expanded so that a two task test was turned into an	This allows us to better identify where the problems occur and address	2016

	<p>eight task/station test. Each station is less time consuming but requires the same level of accuracy. This allowed us to identify precisely where students were having trouble and intervene earlier. When there were only two tasks/stations, an error at any point jeopardized the final results.</p>	<p>those exactly.</p>	
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4. Is there anything that you would like to mention that was not already captured?
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### III. Attached Files

[MST 110 final exam results](#)

**Faculty/Preparer:** Michael Shute **Date:** 04/23/2014  
**Department Chair:** Shawn Deron **Date:** 04/23/2014  
**Dean:** Marilyn Donham **Date:** 04/25/2014  
**Assessment Committee Chair:** Michelle Garey **Date:** 05/22/2014