

**Course Assessment Report
Washtenaw Community College**

| Discipline | Course Number | Title |
|---|-----------------------|--|
| Machine Tool Technology | 111 | MTT 111 12/11/2018- Machine Shop Theory and Practice |
| Division | Department | Faculty Preparer |
| Advanced Technologies and Public Service Careers | Industrial Technology | Jeffrey Donahey |
| 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?

No

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

3.

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

5.

II. Assessment Results per Student Learning Outcome

Outcome 1: Complete advanced set-up and machining processes on traditional lathes.

- Assessment Plan
 - Assessment Tool: Capstone Project to be machined in lab
 - Assessment Date: Fall 2015
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored: Department Rubric
 - Standard of success to be used for this assessment: 75% of all students will achieve 75% or greater.

- 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) |
|------------------------------|-------------------------------|------------------------------|
| 2018, 2017, 2016, 2015, 2014 | 2018, 2017, 2016, 2015, 2014 | |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 50 | 50 |

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 in all 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.

This course is taught on campus in a face-to-face format.

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

This threaded bar project was scored using a rubric. Students had to set up and lathe cut and lathe thread a metal bar according to a blue print within tolerance specifications.

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
 In eight of the nine semesters assessed, at least 75% of the students scored 75% or higher on this task. These are excellent results. However, in winter 2017, only 67% of students met the standard of success. There were four students registered but only three students completed the class. As a result, unless they all (100%) scored 75% or higher, this section of students couldn't meet the standard of success.

Overall the course met the standard of success with at least 75% of the students scoring 75% or higher.

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

In 7 of 9 semesters, 100% of the students met the standard of success and scored 75% or higher. Students had to perform correctly four of five or more threaded cuts correctly to meet the standard of success. Student did very well on this outcome.

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 at this time.

Outcome 2: Complete advanced set-up and machining processes on traditional milling machines.

- Assessment Plan
 - Assessment Tool: Capstone Project to be machined in lab
 - Assessment Date: Fall 2015
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored: Department Rubric
 - Standard of success to be used for this assessment: 75% of all students will receive 75% or greater.
 - 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) |
|------------------------------|-------------------------------|------------------------------|
| 2018, 2017, 2016, 2015, 2014 | 2018, 2017, 2016, 2015, 2014 | |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 50 | 50 |

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 in all 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.

This course is taught on campus in a face-to-face format.

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

This milled project was scored using a rubric. Students had to set up and mill a rectangular plate with holes and angles according to a blue print within tolerance specifications.

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

In seven of the nine semesters assessed, at least 75% of the students scored 75% or higher on this task. These are excellent results. However, in fall 2016 and winter 2017, only 67% of students met the standard of success. There were six students in fall and three students in winter term who completed the course. In fall 2016, four of the six students met the standard of success. In winter 2017, two of three students met the standard of success. Given these small numbers, it is difficult for 75% of the students to score 75% or higher.

Overall the course met the standard of success with at least 75% of the students scoring 75% or higher.

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

In 7 of 9 semesters, 100% of the students met the standard of success and scored 75% or higher. Students had to perform correctly 15 of 20 features correctly to meet the standard of success. Student did very well on this outcome.

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 at this time.

Outcome 3: Grind parts flat and to specified angles.

- Assessment Plan
 - Assessment Tool: Capstone Project to be machined in lab
 - Assessment Date: Fall 2015
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored: Department Rubric
 - Standard of success to be used for this assessment: 75% of all students will achieve 75% or greater.
 - 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) |
|------------------------------|-------------------------------|------------------------------|
| 2018, 2017, 2016, 2015, 2014 | 2018, 2017, 2016, 2015, 2014 | |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 50 | 50 |

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 in all 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.

This course is taught on campus in a face-to-face format.

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

This grinding project was scored using a rubric. Students had to set up a surface grinder and grind different parts either flat, parallel, square or at a specified angle according to a blue print within tolerance specifications.

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

In seven of the nine semesters assessed, at least 75% of the students scored 75% or higher on this task. These are excellent results. However, in fall 2016 and winter 2017, only 67% of students met the standard of success. There were six students fall and three students in winter term who completed the course. In fall 2016, four of the six students met the standard of success. In winter 2017, two of three students met the standard of success. Given these small numbers, it is difficult for 75% of the students to score 75% or higher.

Overall the course met the standard of success with at least 75% of the students scoring 75% or higher.

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

In 7 of 9 semesters, 100% of the students met the standard of success and scored 75% or higher. Students had to meet 8 different specifications on 5 different surfaces to meet the standard of success. Student did very well on this outcome.

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 at this time.

Outcome 4: Accurately measure using precision measurement tools.

- Assessment Plan
 - Assessment Tool: Capstone Project to be machined in lab
 - Assessment Date: Fall 2015

- Course section(s)/other population: All
- Number students to be assessed: All
- How the assessment will be scored: Department Rubric
- Standard of success to be used for this assessment: 75% of all students will achieve 75% or greater.
- 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) |
|------------------------------|-------------------------------|------------------------------|
| 2018, 2017, 2016, 2015, 2014 | 2018, 2017, 2016, 2015, 2014 | |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 50 | 50 |

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 in all 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.

This course is taught on campus in a face-to-face format.

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

This measuring project was scored using a rubric. Students had to use a micrometer to measure sixteen different blocks within tolerance specifications.

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

In eight of the nine semesters assessed, at least 75% of the students scored 75% or higher on this task. These are excellent results. However, in winter 2017, only 67% of students met the standard of success. There were four students registered but only three students completed the class. As a result, unless they all (100%) scored 75% or higher, this section of students couldn't meet the standard of success.

Overall the course met the standard of success with at least 75% of the students scoring 75% or higher.

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

In 7 of 9 semesters, 100% of the students met the standard of success and scored 75% or higher. Students had to perform correctly twelve of sixteen measurements to meet the standard of success. Student did very well on this outcome.

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 at this time.

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.

2.

3. 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?

Students are doing very well in this course, learning the knowledge and acquiring the skills necessary to be successful in subsequent courses.

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

This assessment plan will be e-mailed to departmental faculty prior to my retirement.

5. Intended Change(s)

| Intended Change | Description of the change | Rationale | Implementation Date |
|------------------------|---|--|---------------------|
| Other: course revision | The course is going to be revised to meet new machinest requirements in industry. | Industry changes have been shared by advisory committee members. | 2019 |

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

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| 7. |
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III. Attached Files

[MTT 111 Assessment data](#)

Faculty/Preparer: Jeffrey Donahey **Date:** 12/13/2018
Department Chair: Thomas Penird **Date:** 01/08/2019
Dean: Brandon Tucker **Date:** 01/16/2019
Assessment Committee Chair: Shawn Deron **Date:** 03/12/2019

**Course Assessment Report
Washtenaw Community College**

| Discipline | Course Number | Title |
|---|-----------------------|--|
| Machine Tool Technology | 111 | MTT 111 08/25/2016- Machine Shop Theory and Practice |
| Division | Department | Faculty Preparer |
| Advanced Technologies and Public Service Careers | Industrial Technology | Jeffrey Donahey |
| 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?

No

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

3.

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

5.

II. Assessment Results per Student Learning Outcome

Outcome 1: Complete advanced set-up and machining processes on traditional lathes.

- Assessment Plan
 - Assessment Tool: Capstone Project to be machined in lab
 - Assessment Date: Fall 2015
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored: Department Rubric
 - Standard of success to be used for this assessment: 75% of all students will achieve 75% or greater.

- 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) |
|-----------------------------|-------------------------------|------------------------------|
| 2015 | 2016 | |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 8 | 5 |

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.

Three students withdrew from Winter 2016 class.

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 assessed.

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

Capstone projects were Threaded Bar and Screw Jack.
 Threaded Bar was scored "Go/No Go" for Threading Specifications.
 Screw Jack was scored "Go/No Go" for specifications on all features.

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
 5 students scored 100% on both Capstone Projects.
 Results = 100% scored 75% or better.

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

All students were able to complete Capstone.

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.

All students met standard.

Outcome 2: Complete advanced set-up and machining processes on traditional milling machines.

- Assessment Plan
 - Assessment Tool: Capstone Project to be machined in lab
 - Assessment Date: Fall 2015
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored: Department Rubric
 - Standard of success to be used for this assessment: 75% of all students will receive 75% or greater.
 - 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) |
|-----------------------------|-------------------------------|------------------------------|
| 2015 | 2016 | |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 8 | 5 |

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.

Three students withdrew from Winter 2016 class.

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 assessed.

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

Capstone projects were Carbide Insert Chamfering Cutter and Carbide Insert Tool Holder.

Chamfer Cutter was scored "Go/No Go" for insert pocket and test cut.

Tool Holder was scored "Go/No Go" for insert pocket and test cut.

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

4 students scored 100% on both Capstone Projects.

1 student scored 100% on Chamfer and 0% on Tool Holder.

Results = 80% of the students scored above 75% or better.

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

80% of the students (N=4) were able to complete both Capstones.

100% of the students (N=5) were able to complete one of the two Capstones.

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.

80% of the students met standard for both Capstones.

20% of the students (N=1) met standard for one of the Capstones.

One of the students was absent and did not complete the Tool Holder project.

Outcome 3: Grind parts flat and to specified angles.

- Assessment Plan

- Assessment Tool: Capstone Project to be machined in lab
- Assessment Date: Fall 2015
- Course section(s)/other population: All
- Number students to be assessed: All
- How the assessment will be scored: Department Rubric
- Standard of success to be used for this assessment: 75% of all students will achieve 75% or greater.
- 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) |
|-----------------------------|-------------------------------|------------------------------|
| 2015 | 2016 | |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 8 | 5 |

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.

Three students withdrew from Winter 2016 class.

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 assessed.

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

Capstone project was precision ground angle block.
Angle block had to meet angle and squareness specifications.

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.

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|---|
| Met Standard of Success: <u>Yes</u> |
| 5 students scored 100% on Capstone Project. |
| Results = 100% scored 75% or better. |

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

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|--|
| All students were able to complete Capstone. |
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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.

| |
|----------------------------|
| All students met standard. |
|----------------------------|

Outcome 4: Accurately measure using precision measurement tools.

- Assessment Plan
 - Assessment Tool: Capstone Project to be machined in lab
 - Assessment Date: Fall 2015
 - Course section(s)/other population: All
 - Number students to be assessed: All
 - How the assessment will be scored: Department Rubric
 - Standard of success to be used for this assessment: 75% of all students will achieve 75% or greater.
 - 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) |
|-----------------------------|-------------------------------|------------------------------|
| 2015 | 2016 | |

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

| # of students enrolled | # of students assessed |
|------------------------|------------------------|
| 8 | 5 |

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.

Three students withdrew from Winter 2016 class.

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 assessed.

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

Capstone projects were measured by students.

Micrometers, thread micrometers, sine bar, gage blocks, master square check, and dial indicators were used to measure parts.

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

5 students scored 100% on measuring Capstone Projects.

Results = 100% scored 75% or better.

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

All students were able to complete Capstone.

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.

All students met standard.

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.

2.

3. 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 has met the learning objectives set out in the master syllabus.

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

The faculty will be notified before the next master syllabus revision.

5. Intended Change(s)

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

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

7.

III. Attached Files

Faculty/Preparer: Jeffrey Donahey **Date:** 08/25/2016
Department Chair: Thomas Penird **Date:** 08/27/2016
Dean: Brandon Tucker **Date:** 10/03/2016
Assessment Committee Chair: Michelle Garey **Date:** 11/02/2016