Course Assessment Report
Washtenaw Community College

Discipline	Course Number	Title
Welding and Fabrication	210	WAF 210 01/05/2016-Welding Metallurgy
Division	Department	Faculty Preparer
Advanced Technologies and Public Service Careers	Welding and Fabrication	Amanda Scheffler
Date of Last Filed Assessment Report		

I. Assessment Results per Student Learning Outcome

Outcome 1: Prepare samples for macro and micro inspection and identify crystal structures and properties of ferrous and nonferrous metals.

- Assessment Plan
  - Assessment Tool: laboratory exercise
  - Assessment Date: Winter 2017
  - Course section(s)/other population: All
  - Number students to be assessed: All
  - How the assessment will be scored: Departmentally-developed rubric
  - Standard of success to be used for this assessment: 70% of 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
9	8

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.

Not all enrolled students were assessed because some students dropped or withdrew from the course.

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 in a single section were assessed.

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

Outlined laboratory work sheet. Reviewed by instructor and presented to the class.

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
The results are based on student attendance and completion - if the student attended class, completed the lab sheet and presented his/her results to the class. The standard of success was met because 70% of the students achieved 70% or greater on this laboratory assignment.

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

The area of strength for the students in this assessment would be that it's a hands-on activity that is shared among the class.

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.

Instead of having this assessment scored on attendance, I would like to adapt my lab sheet to be scored also for understanding of the material.

Outcome 2: Identify different grain structures and properties of ferrous and nonferrous metals before and after heat treatment.

- Assessment Plan
    - Assessment Tool: Quiz
    - Assessment Date: Winter 2017
    - 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: 70% of 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
9	8

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.

Not all enrolled students were assessed because some students dropped or withdrew from the course.

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 in a single section were assessed.

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

Blackboard quiz was administered. It was a multiple choice quiz that has 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: No
Through calculation of the quiz used for this assessment, there were 62% of the students who scored 70% or higher. 5 of the 8 students assessed scored 70% or higher. This did not meet the standard of success because 70% of the students had to score 70% or higher.

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

The area of strength for this outcome is in the physical hands-on lab, where the students are engaged using the equipment necessary like the etchants and microscope to physically see the results of their welds and the grain structure.

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.

Plans for improvement include providing more visual aids of the grain structures that are the outcome of different techniques and materials, during the lecture and lab.

Outcome 2: Identify different grain structures and properties of ferrous and nonferrous metals before and after heat treatment.

- Assessment Plan
    - Assessment Tool: Laboratory exercise and report
    - Assessment Date: Winter 2017
    - Course section(s)/other population: All
    - Number students to be assessed: All
    - How the assessment will be scored: Departmentally-developed rubric
    - Standard of success to be used for this assessment: 70% of 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
9	8

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.

Not all enrolled students were assessed because some students dropped or withdrew from the course.

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 in a single section were assessed.

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

Outlined laboratory work sheet. Reviewed by instructor. The laboratory worksheet was completed by the student and results for each student were presented to the class by the student.

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
The standard of success was met for this outcome because 70% of the students completed the laboratory activity scoring 70% or greater.

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

The area of strength for this outcome is in the physical hands-on lab, where the students are engaged using the equipment necessary like the etchants and microscope to physically see the results of their welds and the grain structure.

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.

Plans for improvement include providing more visual aids of the grain structures that are the outcome of different techniques and materials, during the lecture and lab.

Outcome 3: Identify repair techniques for various metals to coincide with the American Welding Society codes and specifications.

- Assessment Plan
    - Assessment Tool: Final exam
    - Assessment Date: Winter 2017
    - 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: 70% of 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
9	8

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.

Not all enrolled students were assessed because some students dropped or withdrew from the course.

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 in a single section were assessed.

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

Blackboard quiz was administered. It was a multiple choice exam that has 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: Yes
8 of 8 students scored 70% or higher. This meets the standard of success as 70% of the students scored higher than 70%.

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

The areas of strength in this area are in the hands-on lab - physically applying the proper techniques of the repair situation to a project, and also applying improper repair techniques to see the results of proper and improper work. Once the students see physical results they are able to retain more information for a written examination of the material.

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.

Obtaining a larger library of different materials to work with to further expand the knowledge base of the student.

Outcome 4: Identify different phase diagrams when dealing with ferrous and nonferrous materials.

- Assessment Plan
    - Assessment Tool: Written exam
    - Assessment Date: Winter 2017
    - 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 students will score an average of 80% 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)
2016		

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

# of students enrolled	# of students assessed
9	8

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.

Not all enrolled students were assessed because some students dropped or withdrew from the course.

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 in a single section were assessed.

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

Blackboard quiz was administered. It was a multiple choice quiz that has 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: No
The standard of success was not met, as only 37% of the students scored 80% or higher in this exam.

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

The areas of strength are in the lab portion of this outcome. The students get to utilize the phase diagrams to heat treat material to different strengths and hardnesses. Their ability to see firsthand the effects of heat on the metal helps them understand and remember more of the phase diagram and the procedure of how to use it when it comes to a written examination.

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.

Would like to set forth a standard lab that that walks each student through a heat-treating cycle and what the end results should be. Also, expand the materials to heat treat in combination with welding on these materials.

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?

The two outcomes that didn't meet their standards of success is not entirely a surprise to the department as they are very tough outcomes to meet. This is because the material of the outcomes is very hard to understand - it takes a lot of experience and practice to understand it. A close watch of the quiz and test scores alerts me in each section of this course, which allows me to self-reflect, make changes, and ensure more positive learning for each student who takes this course. When I see low test/quiz scores, adaptive action is taken to ensure learning is taking place.

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

As a department, it is known that this particular course is difficult to teach, not only because of the content but the amount of content. As this course is in procession many ideas are exchanged at department meetings - if certain areas are going well or not and ideas on how to proceed with them to make sure the students are getting the most from the course.

3. Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Course Assignments	Would like to create more assignments,	This assessment has shown that students	2017

	labs, and lectures to explain the theories and techniques of identifying different grain structures (outcome #2) and identifying different phase diagrams (outcome #4).	struggle in those two areas the most. Hopefully, increased lectures, labs, and take-home assignments will increase the students' learning in these areas.	

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

The results from outcome 1 are completed in class. Student received completion points if present in class as the instructor works with the each student to ensure understanding and completion of the lab.

III. Attached Files

Outcome 2 Statistics
Outcome 4 statistics
Outcome 1 Statistics
Outcome 3 Statistics

Faculty/Preparer:	Amanda Scheffler	**Date:** 08/01/2017
Department Chair:	Glenn Kay II	**Date:** 08/17/2017
Dean:	Brandon Tucker	**Date:** 08/20/2017
Assessment Committee Chair:	Michelle Garey	**Date:** 12/10/2017