

**Course Assessment Report  
Washtenaw Community College**

Discipline	Course Number	Title
Welding and Fabrication	125	WAF 125 06/26/2023- Introduction to Welding Processes I
College	Division	Department
Advanced Technologies and Public Service Careers	Advanced Technologies and Public Service Careers	Welding and Fabrication
Faculty Preparer		Glenn Kay II
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: Recognize and apply welding vocabulary.

- Assessment Plan
  - Assessment Tool: Written exam
  - Assessment Date: Fall 2019
  - 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: 80% of students will score 80% 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)
	2022	

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

# of students enrolled	# of students assessed
49	41

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 students enrolled were assessed due to withdrawals, audits and failure to complete course work.

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 assessment is based upon morning, afternoon, night and weekend sections.

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

A multiple-choice exam was used via Blackboard and scored by answer key developed by department faculty.

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 data was collected through Blackboard from the Winter 2022 term. 35 of the 41 students (85%) assessed achieved 80% or higher on their written exam which tested their knowledge of the welding vocabulary covered in the course.

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

In accordance with the 85% student success rate, students were able to become knowledgeable in the terminology required and were able to make the necessary connections to support future practical application.

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.

Since we are already achieving a high standard of success for this outcome, no development areas nor plans for continuous achievement are needed at this time.

Outcome 2: Recognize and interpret welding theory.

- Assessment Plan
  - Assessment Tool: Written exam
  - Assessment Date: Fall 2019
  - 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: 80% of students will score 80% 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)
	2022	

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

# of students enrolled	# of students assessed
49	41

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 students enrolled were assessed due to withdrawals, audits and failure to complete course work.

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 assessment is based upon morning, afternoon, night and weekend sections.

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

A multiple-choice exam was used via Blackboard and scored by answer key developed by department faculty.

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 data was collected through Blackboard from the Winter 2022 term. 36 of the 41 students (88%) assessed achieved 80% or greater on their written exam which tested their knowledge of the welding theory covered in the course.

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

In accordance with the 88% student success rate, students were able to become knowledgeable in the theory required and were able to make the necessary connections to support future practical application.

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.

Since we are already achieving a high standard of success for this outcome, no development areas nor plans for continuous achievement are needed at this time.

Outcome 3: Safely perform a groove, lap and tee weld on steel in the flat and horizontal positions with the OFW process.

- Assessment Plan

- Assessment Tool: Welded samples
- Assessment Date: Fall 2019
- Course section(s)/other population: All
- Number students to be assessed: All
- How the assessment will be scored: The welds will be scored as pass or fail in meeting the D1.1 AWS welding code.
- Standard of success to be used for this assessment: 80% of students will create welds in accordance with AWS welding codes.
- 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)
	2022	

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

# of students enrolled	# of students assessed
49	37

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 students enrolled were assessed due to withdrawals, audits and failure to complete course work.

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 assessment is based upon morning, afternoon, night and weekend sections.

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

A weldment sign-off sheet was used for each student and is based upon a pass or fail acceptance criteria. Once the student met the industry standard for both the OFW and GTAW welds (outcomes 3 and 4, D1.1 and D1.2 code), the task was signed off by the instructor, and the total combined grade for both was

recorded under "Practical Welds" on the Final Grade Tabulation Sheet (included in the provided data). We will be combining these into a single outcome in the future.

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 practical weld samples collected, 34 of 37 or 92% of the students assessed met the industry standard (D1.1 and D1.2) acceptance criteria when safely performing a groove, lap and tee weld on steel in the flat and horizontal positions using the OFW process.

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 student achievement for this learning outcome is 92% of our students were able to perform 3 different types of welds in 2 different positions at the basic level. This serves as a foundation for additional practical welding needed in order to be able to perform the same types of welds using different metal and in more complex positions.

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.

Since students met a 90%+ standard of success coupled with the fact that this is an intro class which builds on the basics of understanding in vocabulary, theory and practical welding. The only plan to improve this particular outcome is to add the ability to safely perform a 'corner' weld which should be included to expand the number of basic welds required to be performed on steel with the OAW process.

As outcomes 3 and 4 are very similar, we'll be combining them into a single outcome.

Outcome 4: Safely perform a groove, lap and tee weld in the flat and horizontal positions on carbon steel, stainless steel and aluminum with the GTAW process.

- Assessment Plan
  - Assessment Tool: Welded samples

- Assessment Date: Fall 2019
- Course section(s)/other population: All
- Number students to be assessed: All
- How the assessment will be scored: The welds will be scored as pass or fail in meeting applicable AWS welding codes.
- Standard of success to be used for this assessment: 80% of students will create welds in accordance with AWS welding codes.
- 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)
	2022	

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

# of students enrolled	# of students assessed
49	37

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 students enrolled were assessed due to withdrawals, audits and failure to complete course work.

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 assessment is based upon morning, afternoon, night and weekend sections.

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

A weldment sign-off sheet was used for each student and is based upon a pass or fail acceptance criteria. Once the student met the industry standard for both the OFW and GTAW welds (outcomes 3 and 4, D1.1 and D1.2 code), the task was signed off by the instructor, and the total combined grade for both was recorded under "Practical Welds" on the Final Grade Tabulation Sheet (included in the provided data). We will be combining these into a single outcome in the future.

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 practical weld samples collected, 34 of 37 (92%) of the students assessed met the industry standard (D1.1 and D1.2) acceptance criteria when safely performing a groove, lap and tee weld in the flat and horizontal positions on carbon steel, stainless steel and aluminum with the GTAW process.

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 student achievement for this learning outcome is 92% of our students were able to perform three different types of welds in two different positions at the basic level. This serves as a foundation for additional practical welding needed in order to be able to perform the same types of welds using different metal and in more complex positions.

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 met a 90%+ standard of success coupled with the fact that this is an intro class which builds on the basics of understanding in vocabulary, theory and practical welding. The only plan to improve this particular outcome is to add the ability to safely perform a 'corner' weld which should be included to expand the number of basic welds required to be performed on steel, stainless steel and aluminum with the GTAW process.

As outcomes 3 and 4 are very similar, we'll be combining them into a single outcome.

### **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.

There is no previous report; this is the first time this course has been assessed.



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?

I felt the assessment was a good indication of how well we are ensuring our students are learning the foundational elements needed for our welding program. This is a basis of our program and without student success here, we will not achieve student success as the processes and outcomes become more difficult. The best way to ensure overall success in our program is to ensure students are being armed with the knowledge needed to build upon in our more advanced and complex courses.

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

The action plan will be shared in a departmental meeting prior to making any of the proposed changes to the outcomes and master syllabi. It is critical that the assessment is shared and the team is in agreement before making any changes to our program outcomes.

- 4.

Intended Change(s)

Intended Change	Description of the change	Rationale	Implementation Date
Outcome Language	<p>Outcomes 3 and 4 will be combined into a single outcome, and there will be slight changes to outcome language:</p> <p>3. Safely perform a groove, lap, tee AND CORNER weld on steel in the flat and horizontal positions with the OFW process, and on carbon steel, stainless steel and aluminum with the GTAW process.</p>	<p>Outcomes 3 and 4 are similar and we grade them using at the same time (and record a single grade for both). Corner welds are a basic weld and should be included in the overall welds performed by students at this level so that the student can build upon the welds in our advanced courses.</p>	2024

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

Nothing at this time.

### III. Attached Files

[WAF125 GTAW Quiz](#)

[WAF125 Final Grades Tabulations](#)

[WAF125 OAW Quiz](#)

[WAF125 OFC Quiz](#)

[WAF125 Final Exam](#)

**Faculty/Preparer:** Glenn Kay II **Date:** 08/12/2023  
**Department Chair:** Glenn Kay II **Date:** 08/14/2023  
**Dean:** Jimmie Baber **Date:** 08/28/2023  
**Assessment Committee Chair:** Jessica Hale **Date:** 06/09/2024