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

| Discipline | Course Number | Title |
|---|---|---|
| Welding and Fabrication | 103 | WAF 103 07/11/2017- Introduction to Gas Tungsten Arc Welding |
| Division | Department | Faculty Preparer |
| Advanced Technologies and Public Service Careers | Welding and Fabrication | Alexander Pazkowski |
| Date of Last Filed Assessment Report | | |

**I. Assessment Results per Student Learning Outcome**

Outcome 1: Recognize and apply welding vocabulary.

- Assessment Plan
    - Assessment Tool: Written exam
    - Assessment Date: Fall 2012
    - 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 90% 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 |
|---|---|
| 35 | 25 |

3. If the number of students assessed differs from the number of students enrolled, please explain why all enrolled students were not assessed, e.g. absence, withdrawal, or did not complete activity.

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| Students who enrolled at the beginning of the semester dropped the class before the end of the semester. |

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.

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| All students were assessed in this section. |

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

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| Quiz was administered in Blackboard. It was a multiple choice quiz that used 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.

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| Met Standard of Success: No |
| -56% of students scored 90% or higher<br><br>-36% of students scored 80%-89%<br><br>-8% of students scored 70%-79% |

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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| Based on the data given in Blackboard, students excelled at identifying the process and the type of machine they will be using. In addition, students are also able to find types of shielding gas and the effects of the shielding gas on the base material and welds they are performing. Students also show that they are able to understand the ergonomics of the process and how to run welders. |

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.

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| Students had a hard time identifying individual parts for the GTAW welding torch. Students also struggled with identifying the difference between air cooled |

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| and water cooled torches. Both of these issues could be improved by adding content to the course that would require students to assemble torches with assistance from the instructor and the lab technicians. |

Outcome 2: Recognize and interpret welding theory.

- Assessment Plan
  - Assessment Tool: Written exam
  - Assessment Date: Fall 2012
  - 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 90% 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 |
|---|---|
| 35 | 23 |

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.

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| Ten students who enrolled at the beginning of the semester dropped the class by the end of the semester. Two students who were enrolled in the course did not complete this test. |

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.

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| All students assessed in this section. |

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

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| A written exam was administered on Blackboard. An answer key was used to score the exam. |

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 |
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| -17% of students scored 90% - 100%<br><br>-30% of students scored 80% - 89%<br><br>-26% of students scored 70% - 79%<br><br>-13% of students scored 60% - 69%<br><br>-13% of students scored 50% - 59% |

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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| I did an item anaylisis of this test and generally speaking, the students did not do very well on this test. Students were only able to meet the standard of success on 6 of the 15 questions listed in the test. Students were able to accurately identify the polarities used in the GTAW process for aluminum welding. They were also able to identify the amount of amperage used to weld with certain electrode thicknesses. Welding positions and torch parts for the equipment were also strengths for the students. |

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.

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| Student achievement could be improved by spending more time talking about machine settings. Students had a very hard time identifying different types of settings that can be used to minipulate the functions of the GTAW equipment. Also, in the test we used questions where students had to select mulitible correct answers. We found in the results that students had a difficult time selecting ALL of the correct answers out of the word banks provided in the answer keys. Changing the format of the questions would greatly improve the amount of currect answers we would get in this test. |

Outcome 3: Gas tungsten arc weld a butt, lap and tee joint in the flat and horizontal positions on aluminum and mild steel.

- Assessment Plan
    - Assessment Tool: Welded samples
    - Assessment Date: Fall 2012
    - 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 AWS D1.1 and D1.2 code.
    - Standard of success to be used for this assessment: 80% of students will create welds in accordance with AWS D1.1 and D1.2 code.
    - 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 |
|---|---|
| 35 | 23 |

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.

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|---|
| Ten students who enrolled at the beginning of the semester dropped the class by the end of the semester. Two students who were enrolled in the course did not complete this test. |

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.

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|---|
| All students assessed in this section. |

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

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| Students complete objectives based on objective criteria given in the D1.1 and D1.2 codebooks. |

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 |
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| Students who successfully completed all of welds on the objective sheet scored 100% for this portion of the class. Students who completed all but four or less of the objectives in the class recieved partial credit for the welding objectives. All students in this section received 100% for this portion of the course. |

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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| I did an analysis of the outcome and found that all the students who performed these welds passed. We base our acceptance criteria on AWS code. Currently, the welds we look at are pass or fail. Students are good at completing all of the required weldments in the class. If they complete all the welds, they recieve full credit for this section of the course. |

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.

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| Student success could be improved by creating a more objective acceptance criteria for the work that students produce in the course. Having a rubric for each welding objective would lower the success rate of the students. However, it would improve the quality of the welds produced in the coures. |

**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?

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| The lack of success in the first two student learning outcomes brought to light the fact that we need to look more at the theory of welding with the students. Based on the course statistics, students were able to complete the welds required of |

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| them. Understanding the equipment and the individual components of the machine settings were difficult for the students to grasp. |

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

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| The information for this course will be shared with departmental faculty in our department meetings. |

3. Intended Change(s)

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

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

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| 5. |

**III. Attached Files**

Quiz 1
Quiz 2
Butt, Lap, and Tee, Final grade spread sheet

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| **Faculty/Preparer:** | Alexander Pazkowski | **Date:** 07/25/2017 |
| **Department Chair:** | Glenn Kay II | **Date:** 08/17/2017 |
| **Dean:** | Brandon Tucker | **Date:** 08/20/2017 |
| **Assessment Committee Chair:** | Michelle Garey | **Date:** 11/28/2017 |