



## One Year Periodic Program Review Report

Academic Programs

*Welding Department*

*AAS Welding Technologies*

### **Statement of Collaboration**

The program faculty, college staff, students, and community members listed below collaborated in an open and forthright dialogue to prepare this Periodic Program Review. Statements included herein accurately reflect the conclusions and opinions of this group.

### **Participants in the review:**

**Department Faculty:** Eric R Pope, Buddy May, Martin Poschner

**Non-discipline Faculty:** Richard Mitten

**Associate Faculty:** Dennis Carney

**Academic Support Staff:** Jason Gee

**Industry Representative:** Robert Ackerman, Praxair Sales Representative

### **Date Submitted to the Dean of Instruction**

**4/8/2016**

### **Authorization**

After the document is complete, print just this page and submit it to the Office of Instruction for the Dean's signature.

**Signature of Dean** \_\_\_\_\_

## 1. MCC Mission

“The mission of Mohave Community College is to be a learning-centered institution, serving all constituencies, inspiring excellence through innovation and empowering students to succeed.”

### Certificates and Degrees under Review

AAS Welding Technology

### Mission and Goals

The mission of the Welding Department is to inspire excellence through learning-centered environment; to develop welders with the skills and knowledge required to exceed the minimum standards of industry.

Goal 1: To inspire excellence by example through an instructor guided learning-centered environment.

Goal 2: To develop understanding, skills, and knowledge sufficient to pass testing as described in national standards such as AWS D1.1, ASME Section 9 code books, as well as NCCER and ASW SENSE educational programs.

Goal 3: To make available an AWS accredited test facility capable of administering and evaluating welder qualification tests.

## 2. Program Data and Trend Analysis

### 2.1. Data

2.1.1.**Program Resources (Profit/Loss):** Since 2012 the welding program’s profits have improved; however, they are showing a loss. Profits increased from -31.8% in 2012 to -23.7% in 2014. Over the same time period enrollment has been steady with 70 in 2012 and 73 in 2014 with a slight jump to 78 in 2013. It is the Welding Department’s goal to increase profits to break even then to a profit in coming years. The preceding data may not be completely accurate due to the inconsistency in welding program expenditures as a result of expansion to River Valley High School.

2.1.2.**Student Metrics:** The provided student metrics are not believed to be adequate. The Welding Department would benefit from a grade audit at the end of each semester.

2.1.3.**Instructional Productivity:** The productivity of the welding instructors is considered to be effective; however, they could benefit from scheduled meetings and collaboration regarding assessment data as well as day to day observances of student comprehension and the retention thereof.

2.1.4.**Enrollment Trends:** Enrollment is expected to be up as indicated by increased enrollment in Welding Safety.

2.1.5.**Faculty Data Points:** MCC Welding Program is staffed with three fully qualified Resident Faculty, all possessing CWI and CWE certifications.

2.1.6.**Other Data Points:** The following commentary is offered after the above personnel convened and collaborated on a SWOT analyses. The collaborating members feel that the strengths, weaknesses, opportunities and threats to the welding program are as follows:

**Strengths, Weaknesses, Opportunities, Threats (SWOT)**

Strengths	Weakness
<ol style="list-style-type: none"> <li>1. The planned expansion into the adjacent buildings will offer relief to cramped instructors as well as provide opportunity for program expansion.</li> <li>2. The Welding Department possesses nearly 50 pieces of equipment which provides schedulers with flexibility.</li> <li>3. The aforementioned strengths contribute to the ability to provide students with a broad base of curriculum.</li> <li>4. Expanding classes to River Valley High School created an opportunity for more students to attend.</li> <li>5. Three full time instructors also contributes to scheduling flexibility as well as provides a resource to students.</li> <li>6. The Accredited Test Facility offers MCC students the opportunity to experience a real, industry equivalent, welding test as well as a certificate of qualification. Furthermore the ATC creates opportunity to instruct and test industry.</li> </ol>	<ol style="list-style-type: none"> <li>1. Marketing and Recruiting, the Welding Department does not use social media, Chamber of Commerce, radio, television, print, banners, surveys, as a means of advertising.</li> <li>2. Public Awareness, the welding program does not campaign to inform the community, parents especially, as to the success that can be achieved as a welder.</li> <li>3. Fabrication, there are no fabrication classes nor are there any that incorporate fabrication techniques.</li> <li>4. The location of main welding facility in Kingman causes many students to be reluctant to attend NCK from LHC because of the travel involved.</li> <li>5. There is not a lot of local industry that requires trained and qualified welders. Graduates must travel for employment.</li> <li>6. The welding program is long; even so, it does not incorporate as much as industry would like.</li> <li>7. The MCC welding program does not provide alternate career field training to welding that could offer growth to trained welders or to offer an alternate to those not seeking as physical of a career as welding. An example would be: Certified Welding Inspector, or Radiographic Interpreter.</li> <li>8. The Welding Department has to recruit instructors capable of development and has to develop them in-house.</li> <li>9. The AWS Student Chapter is not achieving its full potential, i.e. field trips,</li> </ol>

	relationship building with industry, marketing, recruiting, enthusiasm generating events.
Opportunities	Threats
<ol style="list-style-type: none"> <li>1. Welding: stainless steel, orbital, robotic, semiautomatic methods, multi electrode GTAW</li> <li>2. Non Destructive Examination: Visual Testing (VT), Penetrant Testing (PT), Magnetic Particle Testing (MT), Radiographic Testing (RT), Ultrasonic Testing (UT).</li> <li>3. Certified Welding Instructor Course: CWIs are needed in industry.</li> <li>4. Welding Instructor Course: Welding Instructors are needed.</li> <li>5. Expansion to LHC: could help to solve W.4.</li> <li>6. WAVE / JTED providing tuition for high school students.</li> <li>7. AWS Testing: could go mobile.</li> </ol>	<ol style="list-style-type: none"> <li>1. Low enrollment: enrollment is consistent with previous years; however, low enrollment is a threat to the program.</li> </ol>

**3. Assessment of Student Learning**

**3.1. What percentage of courses have identified student learning outcomes (SLOs)?** 100% of the Welding courses have SLO's identified.

**3.2. What percentage of courses have ongoing SLO assessment?** Only one course has an ongoing assessment. The Welding Department is in the data collection phase of assessment.

**3.3. How has assessment of course level SLOs led to improvements in student learning and achievement?**

The Welding Department is in the data collection phase of assessment so no notable improvements have been made. However, the Instructors have learned from the single completed assessment and are working to better assess the course.

**3.4. How has assessment of program-level SLOs led to improvements in transfer or certificate/degree awards?**

The Welding Department is in the data collection phase of assessment, there has been no new transfers, certificates, or degrees.

### **3.5. What challenges remain to make course and program level SLOs more effective?**

The Welding Department is in the data collection phase of assessment so there have been no related changes.

## **4. Evaluation of Progress Toward Previous Goals**

### **4.1. Evaluate steps taken to achieve goals established in the last periodic program review.**

There is no previous PPR to use a baseline; however, if there were, it would include expansion to River Valley High School. MCC is offering classes at RVHS five days a week and working toward scheduling in such a way as to make a SMAW Certificate attainable solely at RVHS.

### **4.2. In cases where resources were allocated towards goals, evaluate the efficacy of that spending.**

There were no previous goals as related to a PPR; however, there were expenditures incurred as a result of the expansion to RVHS for the acquisition of new equipment. They are deemed to be efficient because the items purchased are multi-process and will serve the program in a variety of ways.

## **5. Program Goals and Plan**

### **5.1. Short term Goals (two year cycle)**

**Goal 1:** It is the goal of the Welding Department to move to a competency based curriculum within two years.

**Measurable Outcome:** Student enrollment in the first competency based course, Welding Safety.

**Plan:** The welding Department will convene a series of meetings to strategize the process of developing a competency based curriculum.

**Responsible Party:** Eric Pope

**Goal 2:** It is the goal of the Welding Department to increase the number of students through marketing and scheduling. The Welding Department will promote welding courses to industry as well as individuals through direct contact. The Welding Department will also increase enrollment by offering an alternative to welding, which may entice the non-traditional welder type to the program.

**Measurable Outcome:** An increase of student participation by 5% over the previous semester.

**Responsible Party:** Eric Pope

**Goal 3:** It is the goal of the Welding Department to offer MCC students a certificate in Nondestructive Testing (NDT) as part of the competency based curriculum.

**Measurable Outcome:** Course assembled and the certificate added to the Welding Program.

**Responsible Party:** Eric Pope

5.2. **Long-term Goals (four year cycle):** Expand the competency based welding program to all MCC campuses.

Measurable Outcome: Secure a facility at each campus and schedule competency based classes.

**Plan:** There have been discussions regarding the shared use of the 100 Building in LHC; however, it has yet to be determined if there is enough room there to run a full welding program. It does not appear so, at least not without major modifications.

Responsible Party: Eric Pope

The long-term goal of introducing welding to all MCC campuses can be researched and planned without additional expense.

## 6. Requests for Resources

For any specific aspect of a goal listed in 5.0 that would require additional financial resources, complete the form below.

Type of Resource	Requested Amount	Potential Funding Source
Personnel		
Facilities	\$2,000,00.00	
Equipment	\$500,000.00	
Supplies	\$50,00.00	
Computer Hardware	\$25,000.00	
Computer Software	0	
Training	\$50,000.00	
Other	0	
Total Requested Amount	\$2,625,000.00	

6.1. There are no resource requests at this time.

## 7. Executive Summary

- The strengths of the Welding Program are: its equipment and the in progress expansion of the facility, the instructors, the breadth of curriculum, the Accredited Testing Facility, and the expanding availability of classes. The amount and type of equipment allows multiple

classes to be conducted at the same time as well as offers flexibility in scheduling. The welding program employs three Resident Faculty whom are all Certified Welding Inspectors. Their experiences and training provides them with a solid understanding of classroom material as well as how that information is used in industry. The breadth of the curriculum only scratches the surface of the industry; however, it is broad enough to provide a good understanding of the most widely used welding processes. The Accredited Testing Facility offers the students a unique opportunity to experience a real world test as well as to obtain a certification before graduating. The recent expansion to RVHS has increased enrollment slightly in its first year and it is expected the intended expansion to LHC will do the same.

- Areas of enhancement are expansion into new processes, stainless steel pipe welding and robotics, are examples as well as change to a competency based course.
- The Welding Department is in the planning stages, pending approval, of designing a competency based course.
- The Welding Department has no requests of the PPR reviewers.
- No resources are requested at this time.