

**Industrial Arts Department**  
**Annual Unit Plan for Academic Year 2016-2017**  
October 2015

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## **Describe Department/Unit**

### **Mission/Connection to College Mission**

It is the mission of the Industrial Arts Department to provide courses and instruction that will meet the academic, vocational, and general education needs of our students, college, and communities. We provide instruction leading to Associate degrees and certificates in multiple occupational areas including: Welding, Industrial Technician, and Machine Tools. The programs in the Industrial Arts Department provide life-long learning and support to students in their academic, technical, and vocational pursuits. The goal of our programs is to foster in students a lifelong desire to learn, a passion to excel, and a commitment to contribute actively to their local community. Students graduating from the department's programs will be prepared to enter the job market in entry level positions with a variety of focus including but not limited to: construction, mining, manufacturing, drafting, welding, fabrication and machine shops, electronics, railroads, automotive, as well as the aircraft, marine, aerospace, and renewable energy industries.

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## **Report on Improvements Made and Gaps Identified in the Prior Year**

### **Student Equity**

#### **Gender: Female**

##### **Population:**

Gender: Female

##### **Analysis and Plan:**

Women have ranged from 6-14% over the past several years, 10%, 11%, 6%, 7%, and for 2014-2015 14%. The increase may support that our efforts to recruit women are working. We have been featuring women and minorities in brochures and other advertising and on the website. The department collects student success stories of men and women in the welding trades some of which could be used in future advertising to attract female participants in the program.

It is not likely that women participating in the Industrial Arts/Welding program, will come in line with the college wide average of 62%, but we make every effort to ensure that females are made comfortable in the classroom.

#### **Ethnicity: Hispanic**

##### **Population:**

Ethnicity: Hispanic

##### **Analysis and Plan:**

The rate of participation for Hispanics is slightly below the college wide rate at 34% vs 39% in the Welding Program.

However, this rate has been increasing over the past few years, from 20% in 2010-2011 to 34% in 2014-2015 in the Welding program.

There is no shortfall in the American Indian (7% vs 5% college wide) in the Industrial Arts Program.

The rate of participation for Hispanics is above the college wide rate at 47% vs 39% in the Industrial Arts Program.

Department wide, the percentage for Hispanics balances out.

The department continues to include ethnic groups in advertising, marketing, and on the website.

## **Age: 40 and over**

### **Population:**

Age: 40 or older

### **Analysis and Plan:**

The Welding program percentages for all age groups is higher than the college wide percentage with the exception of the over 40 category which sits at 14% vs. 20.

The program cannot be over in all other areas and not be under in the over 40 portion of the class. Since the program has ranged from 14-20% in 40+ over the past five years, there is no particular concern that the program is not attracting individuals that are over 40 years old. Perhaps the program appeals to those in a younger age bracket who are still searching for a career.

**In all target groups, male, female, all age groups, and all ethnic groups achieve significantly higher rates of both retention and success than the college average.**

## **Outcomes Assessment: Overall Report**

There were no shortfalls in course outcomes assessments completed in the 2014-2015 year.

## **Outcomes Assessment: Gaps Identified in Prior Year's Assessments**

### **None**

### **Type:**

SLO

### **Target Missed/Gap Detected:**

There are no courses from prior years assessments that required action.

### **Type of Gap:**

### **Analysis and Plan:**

## **Progress Made on Program Review**

### **Welding Technology**

### **Year of Last Program Review:**

2012

### **Progress in the last year on two-year strategies:**

It has been more than two years since the program review was completed.

### **Progress in the last year on five-year strategies:**

Goal 1. Additional space/lab area. As mentioned above, the welding program has outgrown the current lab. A plan to increase size requirements and convert the existing lab into a dedicated oxyfuel lab is being developed. This will increase the capacity to accommodate 30+ students. The office will be removed to provide an open floor plan which is needed to better utilize the space for increased productivity and safety.

Progress: Plans for the existing lab are still being researched and evaluated.

Goal 2. A dedicated electric welding lab in the former machine tool space is also being designed. The new lab will accommodate 30+ electric welding stations for SMAW, GMAW, GTAW and fabrication classes.

Progress: Completed. The new electric welding lab fully operational.

Goal 3. The addition of more welding equipment and infrastructure to support the increased capacity for both the gas and electric labs will be appropriated.

Progress: Equipment for the new facility has been purchased. The equipment was procured through a grant from the Department of Labor (C6).

Goal 4. Establish an adjunct instructor pool and lobby for an additional full-time instructor and a TA.

Progress: New instructors have been vetted and are in the adjunct pool. Several adjuncts are now teaching. A new full-time instructor was approved and hired as well as a teaching assistant.

Goal 5. Start advertising more aggressively including a Cerro Coso Welding Program web site.

Progress: New brochures are being developed. The department has discussed with the webmaster having a link on the college website to the Welding Department where there will be additional information and videos of actual welding in the lab.

Goal 6. To keep current instructors will continue to engage in professional development and curriculum will be reviewed.

Progress: Courses, certificates, and the degree have been updated, courses added, and gone through the CIC process.

Goal 7. Develop a cohort model and revised schedule so students are able to receive the twelve unit certificate in three semesters.

Progress: A cohort model has been adopted and career pathway changed and the twelve unit certificate can now be obtained in three semesters.

## **Progress Made on Prior Year Initiatives**

### **Work on dual enrollment program with SSUSD Project Lead the Way (Engineering Technology program)**

Completed curriculum work in Curricunet and CIC and is currently at the District and State levels.

Dean and faculty have met with Sierra Sands regarding dual enrollment.

### **Evaluate the C6 model welding program.**

The Industrial Arts Department embrace some elements of the C6 program into its programs such as cohort models and contextualized learning.

## **Maintain or increase the high number of certificate and degrees awarded in the Industrial Arts Department**

The total number of awards have increased 27% from the previous year (2013-2014)

## **Facilitate the opening of the new Electronics and Welding laboratories**

The new electric welding lab is in operation and for the most part functioning very well. Although there is still some more work and equipment needed, overall the new facility is meeting the expectations of faculty. The quality of the practical work performed by students has dramatically increased. Having individual work stations instead of shared has achieved the desired results of better student engagement and proficiency. Feedback from students has been extremely positive.

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## **Plan Initiatives for Next Year**

### **Initiatives for Next Academic Year**

#### **Create Educational Resources for Courses**

**Action Plan:**

Make instructional videos to show students proper setup, correct procedures and techniques when performing practical exercises.

**Measure of Success:**

Increased understanding and enhanced student performance and greater student success.

**Person Responsible:**

faculty

**It addresses a gap in student equity**

This may address a gap in student equity by meeting the needs of various learning styles by appealing to visual or audio learners or students with language barriers.

#### **Launch the new Industrial Technology program**

**Action Plan:**

Create and distribute career pathways and market the Industrial Technology program.

**Measure of Success:**

Increased enrollment and the creation of marketing materials.

**Person Responsible:**

faculty

**It directly addresses a college Strategic Goal or Objective**

Strategic Goal #4: Community Connections

Provide Workforce and Economic Development Programs that Respond to Local Industry

Increase college prominence in local workforce development

## **Modernization of Oxyacetylene Laboratory**

### **Action Plan:**

Modernization of the existing oxyacetylene lab to accommodate 24 individual work stations. This would require new exhaust duct work, re-piping of oxygen and acetylene gases, new work tables/stations, torches and regulators, etc.

### **Measure of Success:**

Completion of the project would enable to students to have double the time available for performing their practical assignments. Not having to share a work station will increase the student's skill level dramatically as has been demonstrated by students in the new electric welding lab. This will lead to greater student success and better prepared students for entering the workforce. This upgrade will also narrow equity gaps for students with learning disabilities by providing them more time for developing the necessary skills to succeed.

### **Person Responsible:**

Faculty, department chair, and Maintenance and Operations

### **It directly addresses a college Strategic Goal or Objective**

Strategic goal #1 student success, improving CTE success rate.

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## **Evaluate Resource Needs**

### **Facilities**

The following items are required:

Work stations, piping, and venting for modernization/upgrading of oxyacetylene welding lab room 192W.

Lockers for new welding lab in foyer outside room 198W.

Remove vacuum exhaust unit from north wall of new welding lab room 147W.

Lighting upgrade to welding booths room 147W.

Digital movie camera for making educational videos.

Box break.

Pipe beveller.

Chop saw and rollers.

Sumner pipe stands 6ea.

Pipe stands with rollers 6ea.

Welding curtain material.

Portable fume extractor.

Plate beveller.

Desktop 3D printers 20ea.

The above relates to College Strategic Plan 1.

## **Information Technology**

Video projection equipment with wireless connection from computers for rooms 192, 198, and 147. Videos demonstrations and Power Point presentations will supplement and augment instruction. The above relates to College Strategic Plan 1.

Computer for CNC machine. I hope this is in place already, but if not, it is of the highest priority.

## **Marketing**

Have banners, posters, and flyers made. Radio spots. Videos on college website.

## **Professional Development**

Department members wish to attend conferences, workshops, or events related to trade skills or teaching/learning skills, as opportunity arises and funding is available. For example: Certified Welding Inspector training for full-time faculty (if qualified) would enable the Welding Program to offer a nationally recognized certificate in Gas Metal Arc Welding (GMAW, MIG). Attend Fabtech/AWS 2016 International trade show for welding and fabrication to keep current with the latest technologies, attend workshops, and establish contacts with vendors for materials and equipment.

Have all Industrial Technology faculty attend the Fabtech show in 2016 which is the largest international trade show in the world and only comes to Las Vegas every four years.

Attend conferences such as California Business Educators Association to gain knowledge of topics such as new strategies for student success/retention, building industry partnerships, aligning pathways with the K-12 system, and using technology in the classroom.

Attend Flex Day activities.

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## **Staffing Requests**

### **1000 Category - Certificated Positions**

### **2000 Category - Classified Staff**