

Industrial Arts Department

Annual Unit Plan for Academic Year 2017-2018

October 2016

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.

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, 11%, 6%, 7%, 14%, and for 10% 2015-2016. The percentage may be leveling out, but we are still making efforts to recruit women. 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 32% in the Welding program vs 40% college wide.

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 (1% vs 1% college wide) in the Welding program.

The rate of participation for Hispanics 32% vs 40% in the Welding program.

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

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

SLO

Type:

SLO

Target Missed/Gap Detected:

There are no courses from prior year's 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 24 individual work stations. 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. Discussions with M&O and the Facilities Committee have taken place. Some of the needs that have been identified include re-designing the exhaust system, piping for welding gasses, layout for the individual work stations and smart instructor's station.

Goal 2: Dedicated electric welding lab accommodating 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). Equipment for the oxyacetylene lab modernization will need to be purchased

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 the 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

Welding Instructional Videos

Create Educational Resources for Courses

The department has experimented with different methods of recording live action welding with limited success. This is an ongoing project. Faculty has recently discovered video equipment that is specifically for the recording of live welding. The equipment also records amperage and other parameters that the students are using during the welding process and would enable the instructor to give students more definitive feedback on their progress. If captions do not exist, the department will submit the videos for captioning using college resources.

Continuation of C6 Federal Grant

Launch the new Industrial Technology program

This is complete and the program has been approved. A pathway and long term schedule has been developed.

Complete Construction and Outfitting of New Welding Facility

Modernization of Oxyacetylene Laboratory

Progress: Plans for the existing lab are still being researched and evaluated. Discussions with M&O and the Facilities Committee have taken place. Some of the needs that have been identified include re-designing the exhaust system, piping for welding gasses, layout for the individual work stations and smart instructor's station.

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.

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.

Machining Class Equipment

Action Plan:

The department requires lathes and milling equipment for the basic machining class which is required for the Industrial Technology program.

Measure of Success:

Equipment will be in place.

Person Responsible:

It directly addresses a college Strategic Goal or Objective

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

Professional Development

Action Plan:

Provide all department faculty opportunities for professional development which may include but not limited to attendance at professional conferences (i.e. FABTECH, WESTEC, CBEA), Lynda.com, @One courses, or other venues for training.

Measure of Success:

Faculty will attend professional conferences and submit professional development reports describing factors that will impact student retention, success and completion.

Person Responsible:

All faculty

Faculty maintaining currency is constantly evolving technologies will provide them skills to implement for improved retention, success and completion. Strategies to improve enrollment through K12 transitioning into college may also be a result.

Evaluate Resource Needs

Facilities

The following items are required:

- Lathes and Milling equipment
- 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.
- Chop saw and rollers.
- Sumner pipe stands 6ea.
- Pipe stands with rollers 6ea.
- Welding curtain material.
- Portable fume extractor.
- Plate beveller.
- Desktop 3D printers

An additional lab is required for the machining class to support the Industrial Technology certificate and degree.

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.

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 2020 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.

Staffing Requests

1000 Category - Certificated Positions

2000 Category - Classified Staff