

2023-2024 Comprehensive Instructional Program Review - Welding Latest Version

2023-2024 Comprehensive Instructional Program Review - Welding

Program Overview and Goals

Mission and Alignment : Version by **Allen, Albert** on **12/05/2023 00:45**

Cerritos College Welding Technology provides high quality training and education to a diverse population to prepare them to start a successful career in the welding industry. The program's students will acquire knowledge, skills, and experience to replenish the current workforce while making a positive impact on society's infrastructure.

The mission of the Welding Department is to advance the science of welding through education and training. The curriculum is designed to benefit all levels of student learners, as well as develop and enhance their welding knowledge and skill attainment. The Department provides the highest level of quality instruction and learning environment that promotes student achievement and technical skill mastery.

The strength of the program lies within the commitment and dedication of the instructors and staff to provide the highest level of opportunity for welding education coupled with the support of an administration that provides the department with the financial means to accomplish its mission and goals. The Department strives to meet the industries needs by training and preparing new and continuing students for job placement upon completion of their courses. The Department prides itself on assisting students currently working in the industry to achieve a variety of welding certifications, which are necessary for career advancement in their respective fields.

Explain how your program supports the College's Mission.

Cerritos College provides its diverse student population with high-quality, comprehensive instructional programs and support services through clear, equity-minded pathways to their educational goals. In doing so, the college develops culturally competent students with the knowledge, skills, and values that prepare them to be productive members of their local and global communities.

The Welding Program supports the college's mission by providing our diverse student population with the highest-level education. The Welding Program focuses on developing skills needed to complete industrial welding certifications which will help students start and/or advance their careers with organizations within the surrounding communities. The skill, knowledge and pride of a tradesperson is developed with fine-tuned courses which have been aligned with the needs of local organizations. This alignment with the welding industry is arranged through our regular Cerritos College Welding Department Industry Advisory Committee meeting. This meeting takes place every Fall and Spring semester with local industry leaders. Feed back from these meetings ensures that our courses align with local industry needs.

Degrees and Certificates : Version by **Allen, Albert** on **12/05/2023 00:45**

List the degrees and certificates the program offers as well as the number of units or courses required to complete the program.

The Welding Department currently offers Four (4) Program Certificate options:

1. Gas Tungsten Arc Welding - 18 Units to complete
2. Arc Welding - 19 Units to complete
3. Fabrication and Layout - 19 Units to complete
4. Pipe Welding - 23 Units to complete

The Welding Department currently offers Four (4) Associate of Science Degree options:

1. Gas Tungsten Arc Welding - 18 Units to complete
2. Arc Welding - 19 Units to complete
3. Fabrication and Layout - 19 Units to complete
4. Pipe Welding - 23 Units to complete

Six-Year Program Goals : Version by **Allen, Albert** on **12/05/2023 00:45**

Program Goal	College's Goals Supported (Goal A - Goal F)	Status (not started; in progress; on hold; cancelled; completed; continued)	Action Plans/Timelines/Resource Needs
Increase nontraditional student enrollment.	Goal A	In progress	Action: 1. Participate in campus events which includes nontraditional welding students and staff for outreach to new student populations. 2. Utilize Dual Enrollment with local High Schools to encourage nontraditional student enrollment. 3. Hire faculty which will help to promote nontraditional student involvement. Timeline: Continuous Resources: Faculty and student volunteers to attend events.

Program Goal	College's Goals Supported (Goal A - Goal F)	Status (not started; in progress; on hold; cancelled; completed; continued)	Action Plans/Timelines/Resource Needs
Increase laboratory supplies for sustainability of laboratory projects.	Goal B	In progress	Action: Work with the Technology Dean on funding for program materials necessary for the laboratory projects. Timeline: Continuous. Resources: Additional funding to offset the raising cost of metal, welding electrodes, and gases. Example: Welding electrodes have increased in cost by 50% in the last year and a half.
Grow the Welding Department to include courses containing industry supporting skills.	Goal C	Not Started	Action: 1. Continue proposing a growth position with the Faculty Hiring Prioritization committee. 2. Advocate for an additional Full-Time Faculty member with subject matter expertise in specific industry skills. Timeline: As soon as possible. Resources: Administrative support.
Develop new courses (Weld Inspection and Pipe Fitting Course)	Goal B	Not Started	Action: Work with faculty to develop courses that align with welding careers and their supporting roles. Timeline: Completion by 2029. Resources: Administrative support and funding for specialized tools and equipment for specialty classes.
Develop new program certificates (Advanced level certificates which utilize both courses currently offered and newly developed courses).	Goal B	Not Started	Action: Work with faculty to develop new program certificates. Timeline: Completion by 2029. Resources: Administrative support.

Assessment Report and Data Analysis

Assessment Report (Part 1: Assessment Table) : Version by **Allen, Albert** on **12/05/2023 00:45**

Course by SLO	Expected Performance	Performance
WELD252L - Pipe Welding Level 1		
Students will use oxyacetylene flame cutting equipment to accurately prepare groove weld joint geometry. (Active from 2013 FA)	100.00%	97.73%
Students will use plasma arc cutting equipment to accurately prepare groove weld joint geometry. (Active from 2013 FA)	100.00%	97.73%
Students weld a vertical position open root vee groove project using E6010 arc welding electrodes with an acceptable reinforcement and appearance. (Active from 2013 FA)	100.00%	93.18%
Students weld a horizontal position open root vee groove project using E6010 arc welding electrodes with an acceptable reinforcement and appearance. (Active from 2013 FA)	100.00%	94.70%
Students weld an overhead position open root vee groove project using E6010 arc welding electrodes with an acceptable reinforcement and appearance. (Active from 2013 FA)	100.00%	93.18%
Students weld a flat position open root vee groove project using E6010 Arc Welding Electrodes with an acceptable reinforcement and appearance. (Active from 2013 FA)	100.00%	94.70%
Students will weld a pipe to pipe connection in the flat rolling position with an acceptable reinforcement and appearance. (Active from 2013 FA)	100.00%	87.12%
WELD252L - Pipe Welding Level 1		

Course by SLO	Expected Performance	Performance
Students will have the ability to weld open root vee-groove joints in the horizontal (2G), vertical (3G) and overhead (4G) positions using E6010 electrodes with acceptable tolerances and appearance. (Active from 2017 SP)	100.00%	93.18%
Students will have the ability to weld open root vee-groove joints in the horizontal (2G), vertical (3G) and overhead (4G) positions using E7018 electrodes with acceptable tolerances and appearance. (Active from 2017 SP)	100.00%	93.18%
WELD153 - Pipe Layout		
Students setup and adjust an oxyacetylene cutting torch assembly for pipe cutting operations. (Active from 2013 FA)	100.00%	97.18%
Students measure piping using templates, wrap around, and layout tooling to accurately flame cut pipe. (Active from 2013 FA)	100.00%	97.18%
Students layout, fabricate, and tack weld a pipe to flange assembly project to detailed dimensions. (Active from 2013 FA)	100.00%	95.77%
Students tack weld a pipe flange assembly to a pre-fabricated butt welded tee joint connection. (Active from 2013 FA)	100.00%	95.77%
WELD130 - Gas Tungsten Arc Welding Fundamentals		
Students fillet weld a flat position aluminum padding project with an acceptable appearance. (Active from 2013 FA)	100.00%	99.38%
Student fillet weld a horizontal aluminum lap joint project using ER5356 size 3/32 diameter filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	99.23%
Students fillet weld a horizontal aluminum lap joint project with ER4043 size 3/32 diameter filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	98.61%
Students fillet weld a horizontal aluminum lap joint project using ER5356 1/16 diameter filler with an acceptable appearance. (Active from 2013 FA)	100.00%	97.21%
Students fillet weld a horizontal aluminum lap joint project using ER4043 size 1/16 diameter filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	97.52%
Student fillet weld a horizontal steel lap joint project using ER70S-2 size 1/16 diameter filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	98.14%
Students fillet weld a horizontal steel tee joint project using ER70S-2 size 1/16 diameter filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	97.67%
Students weld steel square tubing connections with fillet and groove welds with an acceptable appearance. (Active from 2013 FA)	100.00%	97.67%
WELD170 - Structural Fabrication		
Students will manually oxyacetylene flame cut miter joints on angle iron to construct a square frame with an acceptable appearance. (Active from 2013 FA)	100.00%	100.00%
Students will manually plasma arc cut cope joints on angle iron to construct a square frame with an acceptable appearance. (Active from 2013 FA)	100.00%	100.00%
Students will manually oxyacetylene flame cut and construct a square frame using cope joints on structural steel channel with an acceptable appearance. (Active from 2013 FA)	100.00%	100.00%
Students will manually plasma arc cut and construct a square frame using miter joints on structural steel channel with an acceptable appearance. (Active from 2013 FA)	100.00%	100.00%
students will use the plasma arc cutting process to manually cut and fabricate steel shapes to specific dimensions. (Active from 2013 FA)	100.00%	100.00%

Course by SLO	Expected Performance	Performance
Students will use industrial metal fabrication equipment to cut, cope, miter, and fabricate steel plate, sheet metal, and structural shapes to specific dimensions. (Active from 2013 FA)	100.00%	100.00%
WELD220 - Certification and Licensing for Welders		
1. Interpret the Shielded Metal Arc Welding Electrodes Identification System to the AWS standard (Active from 2017 SP)	100.00%	94.44%
2. Interpret the Gas Metal Arc Welding Electrodes Identification System to the AWS standard (Active from 2017 SP)	100.00%	94.44%
3. Interpret the Flux Cored Arc Welding Electrodes Identification System to the AWS standard (Active from 2017 SP)	100.00%	94.44%
4. Interpret various structural members utilizing the ASTM Identification System (Active from 2017 SP)	100.00%	94.44%
WELD254L - Pipe Welding Level 2		
Students weld a vertical position open root vee groove project using E6010 electrodes for the root pass and E7018 electrodes for the hot & cover passes with an acceptable reinforcement and appearance. (Active from 2013 FA)	100.00%	97.01%
Students weld a horizontal position open root vee groove project using E6010 electrodes for the root pass and E7018 electrodes for the hot & cover passes with an acceptable reinforcement and appearance. (Active from 2013 FA)	100.00%	98.51%
Students weld a overhead position open root vee groove project using E6010 electrodes for the root pass and E7018 electrodes for the hot & cover passes with an acceptable reinforcement and appearance. (Active from 2013 FA)	100.00%	91.04%
Students weld a flat position open root vee groove project using E6010 electrodes for the root pass and E7018 electrodes for the hot & cover passes with an acceptable reinforcement and appearance. (Active from 2013 FA)	100.00%	98.51%
WELD256L - Pipe Welding Level 3		
Weld 6" Schedule 40 piping in the 1G position using E6010 and E7018 electrodes with acceptable penetration and appearance (Active from 2017 SP)	100.00%	100.00%
Weld 6" Schedule 40 piping in the 6G position using E6010 and E7018 electrodes with acceptable penetration and appearance (Active from 2017 SP)	100.00%	94.87%
Weld 6" Schedule 80 piping in the 6G position using E6010 and E7018 electrodes with acceptable penetration and appearance (Active from 2017 SP)	100.00%	97.44%
Weld 6" Schedule 80 pipe connections in the 45 degree fixed position, adhering to the American Society of Mechanical Engineers (ASME) Pressure Vessel Code (Active from 2017 SP)	100.00%	92.31%
WELD258L - Pipe Welding Level 4		
Weld 2" Schedule 80 piping, in the 5G position using E6010 and E7018 electrodes with acceptable penetration and appearance (Active from 2017 SP)	100.00%	82.35%
Weld 2" Schedule 160 piping, in the 6G position using E6010 and E7018 electrodes with acceptable penetration and appearance (Active from 2017 SP)	100.00%	82.35%
Weld 2" Schedule 160 pipe connections in the 45 degree fixed position, adhering to the American Society of Mechanical Engineers (ASME) Pressure Vessel Code (Active from 2017 SP)	100.00%	82.35%
WELD281L - Shielded Metal Arc Welding (SMAW) Specialty Laboratory		

Course by SLO	Expected Performance	Performance
Improve motor skills in the SMAW welding process (Active from 2017 SP)	100.00%	87.50%
Enhance welding skills in order to acheive a personal goal (Active from 2017 SP)	100.00%	84.38%
Learn proper safety procedures to set up and operate a manual and mechanical oxy-acetylene outfit (Active from 2017 SP)	100.00%	87.50%
Learn proper techniques and skills in the vertical and overhead positions using the SMAW process (Active from 2017 SP)	100.00%	81.25%
WELD282L - Semiautomatic Welding Process Specialty Laboratory		
Improve motor skills in the semi automatic welding processes (Active from 2017 SP)	100.00%	85.71%
Enhance the necessary welding skills in order to achieve a personal goal (Active from 2017 SP)	100.00%	85.71%
Learn proper safety procedures to set up and operate a manual and mechanical oxy-acetylene cutting outfit (Active from 2017 SP)	100.00%	92.86%
Learn proper safety procedures to set up and operate a manual and mechanical oxy-acetylene cutting outfit (Active from 2017 SP)	100.00%	92.86%
Learn proper techniques and skills in the vertical and overhead positions using the FCAW process (Active from 2017 SP)	100.00%	85.71%
WELD283L - Gas Tungsten Arc Welding Specialty Laboratory		
Improve their motor skills on the GTAW welding process (Active from 2017 SP)	100.00%	100.00%
Weld a horizontal fillet welded project using ER 5356 with an acceptable appearance (Active from 2017 SP)	100.00%	100.00%
Weld a horizontal fillet welded tee joint project using ER 308 with an acceptable appearance (Active from 2017 SP)	100.00%	93.02%
WELD283L - Gas Tungsten Arc Welding Specialty Laboratory		
Students weld a horizontal aluminum padding project using ER5356 size 3/32" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	100.00%
Students weld a horizontal aluminum tee joint project using ER5356 size 1/16" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	97.67%
Students weld a horizontal aluminum tee joint project using ER5356 size 3/32" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	100.00%
Students weld a horizontal stainless steel lap joint project using ER308 size 1/16" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	88.10%
WELD210L - Advanced Arc Welding Laboratory		
Students weld a overhead position 6 pass tee joint project using E6010 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	89.05%
Students weld a overhead position 6 pass tee joint project using E7018 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	80.60%
Students weld a vertical position 6 pass tee joint project using E6010 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	89.05%
Students weld a vertical position 6 pass tee joint project using E7018 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	87.56%

Course by SLO	Expected Performance	Performance
WELD240L - Intermediate Gas Tungsten Arc Welding Laboratory		
Students weld a horizontal aluminum padding project with an acceptable appearance. (Active from 2013 FA)	100.00%	82.50%
Students weld a horizontal aluminum padding project with an acceptable appearance. (Active from 2013 FA)	100.00%	82.50%
Students weld a horizontal aluminum tee joint project using ER5356 size 3/32" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	81.88%
Students weld a horizontal aluminum tee joint project using ER5356 size 1/16" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	76.25%
Students weld a horizontal aluminum tee joint project using ER5356 size 3/32" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	81.88%
Students weld a horizontal aluminum tee joint project using ER5356 size 1/16" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	78.13%
Students weld a horizontal stainless steel lap joint project using ER308 size 1/16" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	74.38%
Students weld a horizontal stainless steel lap joint project using ER308 size 1/16" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	75.00%
WELD250L - Advanced Gas Tungsten Arc Welding Lab		
Students weld a vertical position aluminum padding project with an acceptable appearance. (Active from 2013 FA)	100.00%	90.82%
Students weld a vertical position aluminum tee joint project using ER5356 size 3/32" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	90.82%
students weld a vertical position tee joint project using ER5356 size 1/16" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	86.73%
students weld a horizontal stainless steel lap joint project using ER308L size 1/16" filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	87.76%
WELD149 - Welding Shop Math		
Students use a standard tape measure to make accurate measurements using the fractional measurement system. (Active from 2013 FA)	100.00%	95.16%
Students use a dial caliper to accurately measure parts according to the decimal system. (Active from 2013 FA)	100.00%	93.43%
Students convert fractional measurements into the decimal measurement system. (Active from 2013 FA)	100.00%	94.79%
Students convert decimal measurements into the fractional measurement system. (Active from 2013 FA)	100.00%	93.75%
Students convert standard measurements into the metric measurement system. (Active from 2013 FA)	100.00%	92.01%
Students convert metric measurements into the standard measurement system. (Active from 2013 FA)	100.00%	91.67%
WELD159 - Blueprint Reading for the Welding Trades		
Students identify the six orthographic views of a structural part. (Active from 2013 FA)	100.00%	93.14%
Students illustrate orthographically the front, top and right side views of a structural part. (Active from 2013 FA)	100.00%	93.50%
Students interpret the various alphabet of lines commonly found on a blueprint. (Active from 2013 FA)	100.00%	92.06%
Students interpret fillet weld symbols used on a structural steel blueprint. (Active from 2013 FA)	100.00%	90.51%

Course by SLO	Expected Performance	Performance
Students interpret groove weld symbols used on a structural steel blueprint. (Active from 2013 FA)	100.00%	89.38%
Students identify parts and components listed on a structural steel blueprint bill of material. (Active from 2013 FA)	100.00%	90.48%
WELD160 - Welding and Metal Fabrication Safety		
Students identify the four classifications of fires as classified by the National Fire Protection Association. (Active from 2013 FA)	100.00%	100.00%
Students identify the four types of portable fire extinguishers. (Active from 2013 FA)	100.00%	100.00%
Students identify the approved eye and face protection specifications under the ANSI 87.1 code. (Active from 2013 FA)	100.00%	100.00%
Students identify the specifications for headwear protection under the ANSI 89.1 code. (Active from 2013 FA)	100.00%	100.00%
WELD100 - Welding Fundamentals		
Student weld a flat position padding project using E6013 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	99.00%
Student weld a flat position padding project using E7018 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	97.41%
Student Gas Metal Arc Weld a horizontal fillet welded lap joint project with an acceptable appearance. (Active from 2013 FA)	100.00%	98.59%
Student Gas Metal Arc Weld a flat fillet welded tee joint project with an acceptable appearance. (Active from 2013 FA)	100.00%	98.79%
Students have the ability to setup and adjust an oxyacetylene cutting system to ANSI Z49.1 safety standards and successfully perform manual flame cutting with acceptable tolerances and appearances. (Active from 2013 FA)	100.00%	95.21%
WELD120 - Beginning Arc Welding		
Students weld a flat position padding project using E6013 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	98.85%
Students weld a flat position padding project using E7018 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	98.51%
Students weld a 6 pass fillet welded tee joint project using E7018 Arc Welding Electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	97.12%
Students weld a 6 pass fillet welded tee joint project using E6010 Arc Welding Electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	95.15%
Students manually oxyacetylene flame cut steel plate with an acceptable appearance. (Active from 2013 FA)	100.00%	97.70%
Students manually plasma arc cut steel plate with an acceptable appearance. (Active from 2013 FA)	100.00%	97.46%
Students fillet weld a horizontal lap joint project using E7018 electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	97.58%
Students fillet weld a horizontal lap joint project using E6010 electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	96.07%
WELD200 - Intermediate Arc Welding		
Students weld a horizontal fillet project using E7018 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	84.75%

Course by SLO	Expected Performance	Performance
Students weld a horizontal fillet project using E6010 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	85.19%
Students weld a vertical fillet project using E7018 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	70.74%
Students weld a vertical fillet project using E6010 arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	68.56%
students will set up ACA equipment and perform flat position air carbon arc cutting with and acceptable appearance. (Active from 2013 FA)	100.00%	79.08%
students will set up PAC equipment and perform flat position plasma arc cutting with and acceptable appearance. (Active from 2013 FA)	100.00%	80.17%
WELD212L - Shielded Metal Arc Welding (SMAW) Certification Laboratory		
Students weld a vertical position 6 pass tee joint project using E7018 size 1/8" arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	84.09%
Students weld a vertical position 6 pass tee joint project using E6010 size 5/32" arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	87.50%
Students weld a overhead position 6 pass tee joint project using E7018 size 1/8" arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	88.64%
Students weld a overhead position 6 pass tee joint project using E6010 size 5/52" arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	90.91%
WELD214L - Flux Cored Arc Welding (FCAW) Certification Laboratory		
Students weld a vertical position 6 pass tee joint project using E7018 size 1/8" arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	88.41%
Students weld a vertical position 6 pass tee joint project using E6010 size 5/32" arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	89.86%
Students weld a overhead position 6 pass tee joint project with E7018 size 1/8" arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	86.96%
Students weld a overhead position 6 pass tee joint project using E6010 size 5/32" arc welding electrodes with an acceptable appearance. (Active from 2013 FA)	100.00%	88.41%
WELD260L - Gas Tungsten Arc Welding Aerospace Certification Lab		
Students weld a horizontal aluminum groove project using ER5356 size 3/32" diameter filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	87.50%
Students weld a vertical aluminum groove project using ER5356 size 1/16" diameter filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	81.25%
Students weld a horizontal stainless steel groove project using ER308L size 1/16" diameter filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	87.50%
Students weld a vertical stainless steel groove project using ER308L size 1/16" diameter filler wire with an acceptable appearance. (Active from 2013 FA)	100.00%	82.81%

Assessment Report (Part 2: Assessment Responses) : Version by Allen, Albert on 12/05/2023 00:45

Explain the frequency (i.e., when and how often) and content of assessment process (e.g., planning, data collection, and results) for the program (e.g., department meetings, advisory boards, etc.). Also, describe the process for reviewing and discussing outcomes data.

Students are assessed throughout the entire semester by way of a laboratory assignment sheet which includes the Student Learning Outcomes for the course. The assessment results are recorded on each student's assignment sheet and reported in eLumen at the conclusion of the term. Results are further reviewed and discussed at Department and Industry Advisory meetings to ensure that coursework matches the SLO's.

Describe the process for development of plan for improvement and summarize the changes that discipline faculty plan to implement based on the analysis of the student learning and program effectiveness. Provide specific examples.

Every Welding class is developed in a building block pattern with core principles (specific welding tasks) that prepare students to continue to advanced classes. This approach improves specific skills and allows students to reach their career goals. Student learning outcomes are developed to parallel the core principles of each class. The structuring of the Welding Program in this fashion enables all faculty to analyze the progress of their students to determine if they are learning the necessary skills.

Example: (Weld 200 - Intermediate Arc Welding)

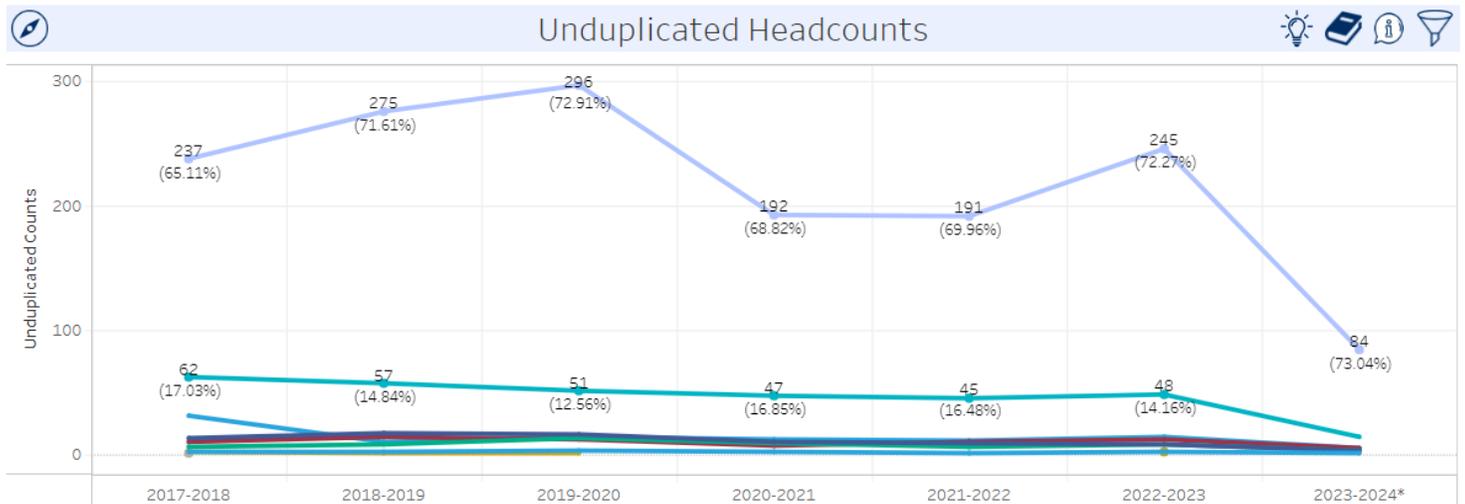
SLO States: Students weld a vertical fillet project using E7018 arc welding electrodes with an acceptable appearance.

This SLO allows faculty to analyze student learning throughout the semester regarding this specific task. This task is a core principle that is necessary for students to be successful both in this course and in future courses, thus leading to program effectiveness.

Data Analysis of Program Data : Version by Tsang, William on 12/11/2023 22:48

The Welding Department Demographics are as follows for 2022-2023:

Race



Population: All students



Hispanic/Latino = 72.18%

White = 15.32%

Unknown = 4.10%

Asian = 1.88%

Black or African American = 2.33%

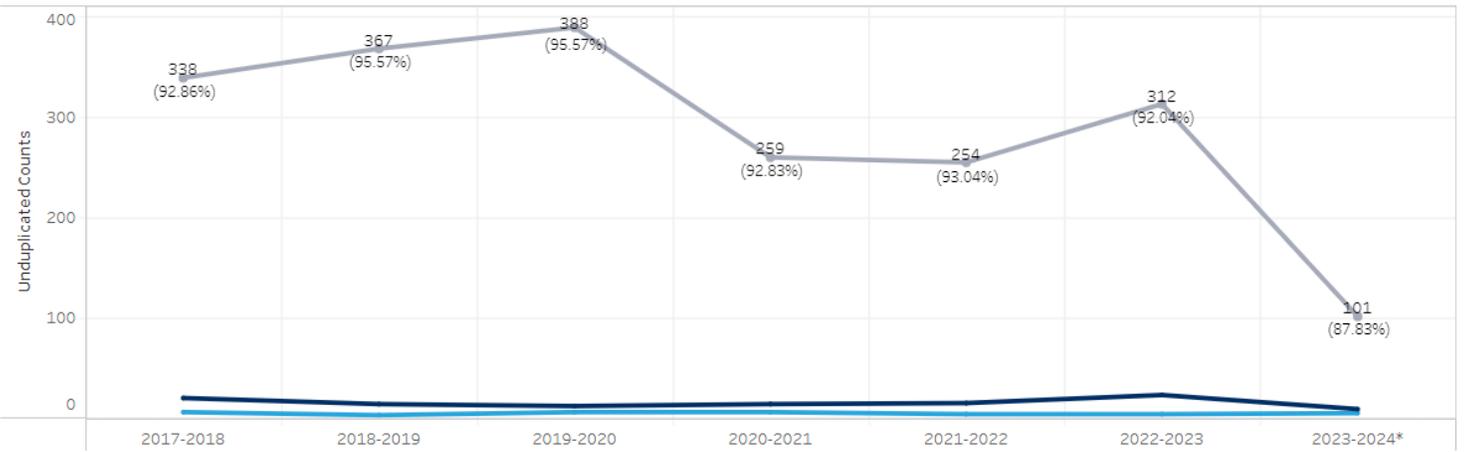
Two or More Races = 4.05%

American Indian or Alaska Native = 0.38%

Native Hawaiian or Other Pacific Islander = 0.38%

Gender

Unduplicated Headcounts



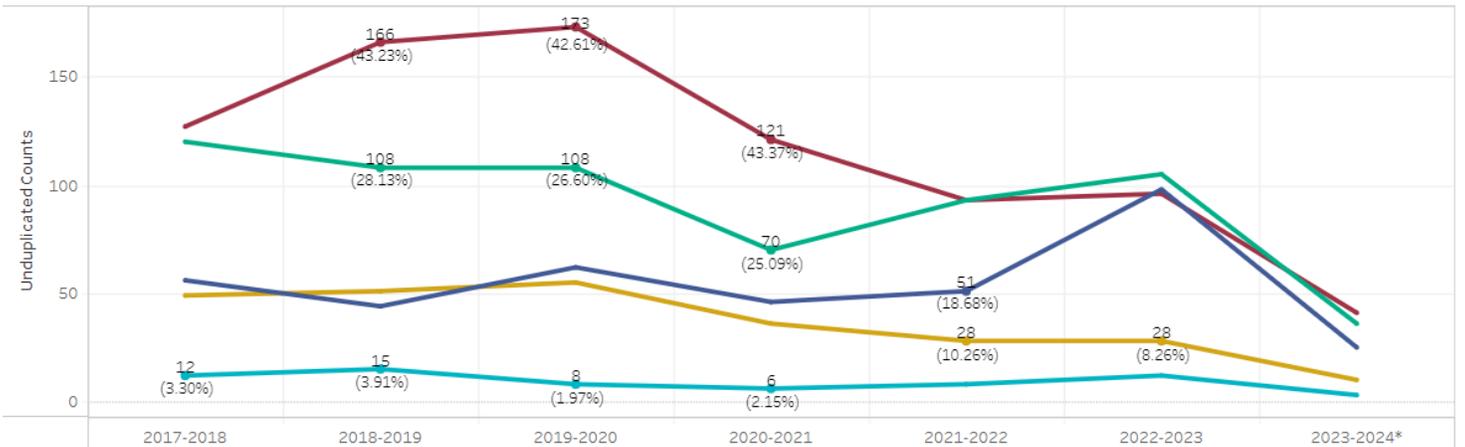
Population: All students



Male = 92.49%
Female = 7.51%

Age

Unduplicated Headcounts



Population: All students



25-34 = 29.39%
20-24 = 34.57%
19 and under = 25.9%
35-49 = 7.55%
50 and over = 2.59%

Describe your student demographics (race/ethnicity, gender, age, and others that might be relevant). Consider the following questions when writing your response:

- How do the demographics of your program and its related courses compare with the college as a whole?
- Have they changed over time?

Welding Student Demographics vs. Cerritos College Demographics

Race

The Welding Department and Cerritos College as a whole share two similarities. 1. Both have a majority of Hispanic/Latino students, 72.18% to 88.23% respectively. 2. There is a great disparity between Hispanic/Latino vs. the next ethnic group.

Gender

The Welding Department differs from Cerritos College in the following way. The Welding Department is majority Male (92.49%) to Female (7.51%) whereas Cerritos College is majority Female (56.48%) to Male (43.52%). However, the Welding Department gender statistics are similar to gender statistics in the Welding industry, where the industry is predominantly male.

Age

The Welding Department differs from Cerritos College in the following way. The largest age group for Welding Department students are ages 20-24. The largest age group for Cerritos College is ages 19 and under. Historically Welding students tend to be in the 20-24 age range, however the 19 and under age range has been growing recently due to increased dual enrollment and articulation agreements with local high schools.

The Welding Department Demographics over time

Race

The Welding Department has historically remained constant as far as race is concerned. However, there was a drop in the unknown race category during the 2017-2018 school year. The unknown race category has remained constant since its decline in 2017-2018.

Gender

The Welding Department has remained consistent as far as gender is concerned, with Male students being the majority historically. The Welding Department has seen a slow increase in Female students over the past 4 years, increasing from 3.02% in 2019-2020 to 7.51% in 2022-2023.

Age

The Welding Department has historically remained constant as far as age is concerned. However, the program has seen a shift in age group trends in the 2022-2023 year. The 20-24 and 19 and under age groups have been trending up. The 20-24 age group has increased from 34.07 to 34.57% in 2022-2023. The 19 and under age group has seen a larger increase from 18.28% in 2021-2022 to 25.90% in 2022-2023. This increase in the 19 and under age group can be attributed to recent Dual Enrollment and Articulation Agreements that the Department Chair has developed with Artesia High School. The Welding Department expects to see further gains in the 19 and under age groups as the Department Chair continues to work with other surrounding High Schools such as Columbus High School and La Mirada High School.

Headcount (unduplicated) and enrollment (duplicated) in the program. Consider the following questions when writing your response:

- Identify enrollment trends.
- Have there been an increase or decrease in enrollment in the last year?
- Are there differences in trends when you disaggregate the data (e.g., online versus face-to-face, demographics, special populations, etc.)?
- How will enrollment trends affect staffing decisions?

Enrollment Trends

Enrollment within the Welding Department has historically remained unchanged. However, we are now experiencing a shift when it comes to age groups. The most notable trend is the increase of students in the 19 and under age group. The 19 and under age group has increased 7.62% from 2021-2022 to 2022-2023. If this age group continues with this trend, it will take over the second largest age group in our program (currently 25-34 age group).

Increase or Decrease in enrollment

Enrollment for the Welding Department increased significantly in the 2022-2023 school year. This increase coincides with the ending of the COVID restrictions. Due to these previous restrictions the Department was unable to offer the same number of courses as was offered prior to COVID. The Welding Department is nearly back to pre-pandemic enrollment (currently at 84% of 2019-2020 enrollment).

Enrollment and Staffing

Enrollment in the Welding Department remains strong. The Welding Department has maintained maximum enrollment in all class sections. Welding classes typically reach peak enrollment, fill waiting list, and close for enrollment at a faster pace than any Department in the Technology Division, usually within a couple weeks of registration beginning and often before open registration begins. Historically strong enrollment proves that with extra staffing and continued strategic planning that the Welding Department could offer and fill even more course sections. Discuss the program's success and retention rates, addressing any performance gaps if success rates are lower for disproportionately impacted students. Consider the following questions when writing your response:

- How have the success and retention rates changed over time?
- Are there particular courses that have particularly low rates and may prove a barrier to program completion?

Success and Retention Rates

Both Success and Retention Rates remain historically high for the Welding Department.

Success Rates average between 80 - 88%, when you exclude 2019-2020 for the COVID Shutdown. All courses in the program are above 80% success rate except WELD 49, 59, and 214L. However, these courses are still in the 70 percentile and do not show any signs of concern nor does there seem to be any barrier to these courses.

Retention Rates average between 88 - 92%, when you exclude 2019-2020 for the COVID Shutdown. All courses in the program do extremely well with regards to retention with no major outliers.

Historically, the success and retention rates in the Welding Department remain relatively stable over time. However, there is one exception 2019-2020, success and retention suffered due to the inability to continue in person laboratory.

With regards to success and retention rates, what is the program doing or planning to do to close performance gaps and address student equity? Consider the following question when writing your response:

- Are there differences in success rates across delivery method (e.g., face-to-face compared to online)?

The program's retention rates are often affected by students obtaining full-time employment throughout the semester. Due to various work hours and family responsibilities students may be required to leave the department before completion of a particular program goal. This contributes to a lowering in the retention rate, which can be a sign of a very successful Career Technical Education program. Early job placement is thriving by achieving its goal of assisting students in obtaining entry-level type employment.

The Welding Department helps students obtain employment in the Welding Industry by way of a job posting board in the Welding Shop. This job board is updated periodically by the Department Chair. Local employers seeking Welders and Fabricators can have their posting listed on our board by filling out the "Welder Wanted Announcement" form found on our web page and submit this completed form to the Department Chair for review and approval. The Department Chair will not only review the completed form and re-type the form for clarity, but will also contact the organization hiring for further details and clarification. All Welding Students can review the posting on the board at any time. The Department Chair will also post other job opportunities with top paying organizations on the job board.

The Welding Department experienced a major decline in success rates during the 2019-2020 school year. This sharp decline in success coincides with the forced modality shift (online) and the inability to offer in person laboratory in the Spring of 2020. This is clearly visible in the graph attached below. The 2020-2021 school year rebounded promptly due to the return of in person laboratory classes.



Discuss conclusions drawn from the program data, assessments (SLOs), and/or other data. Indicate any specific responses or programmatic changes based on the data. Students typically seek to enroll in the Cerritos College Welding Program based on multiple factors that reinforce the department's unparalleled reputation of Welding Programs in the region. These factors include a continuously updated state of the art welding facility operated by highly qualified faculty, as well as many diverse course and certification offerings, some of which are only found at Cerritos College. Similar to many Career Technical Education programs, the students in the welding department are typically older than students on campus taking general education courses (20-24 age group being the largest in welding and all of the Technology division for 2022-2023, 19 and under being the largest age group for the entire campus). This age factor can lead to an extra sense of motivation and dedication. Career Technical Education students often time have other commitments and responsibilities such as family, full-time employment, or may be temporarily dislocated from their current workplace. These factors can help contribute to the high level of student success (85.06% in 2022-2023) within the department as students are driven with external motivating factors to reach their educational and career goals. This motivation will ultimately lead to employment and or career advancement with the local welding industry.

Curricular Course Review : Version by Allen, Albert on 12/05/2023 00:45

Provide the curriculum course review timeline to ensure all courses are reviewed at least once every six years. The Welding Program courses are constantly updated as the welding industry needs evolve and additional welding skills and certifications are required. The Department makes changes and improves curriculum as recommended by its Industry Advisory Committee (this committee meets every Fall and Spring). The Department also considers the recommendations of other industry contacts such as: vendors, unions, company visitations, industry contacts, as well as the recommendations of the Departments Part-Time instructors who work full-time in the industry. Course development occurs in a wide variety of areas including classroom instruction, laboratory demonstrations, and laboratory assignments. Course updates and revisions are submitted and approved by the Curriculum Committee on a tri-annual schedule. The Welding Department also participates in course periodic review. This review process is completed in conjunction with the Program Review.

Explain any course additions to current course offerings.
The Welding Department has not offered any new course within the last six years.

Explain any course deletions and inactivations from current course offerings.
In 2022-2023, The Welding Department deactivated the following courses:

- Weld 43 Weld Wrk Exp
- Weld 44 Weld Wrk Exp
- Weld 98 Dir Studies
- Weld 99 Dir Studies

These courses had not been offered in many years and the Department did not plan on offering these courses again.

Discuss how well the courses, degrees, and/or certificates meet students' transfer or career training needs. Consider the following questions:

- Have all courses that are required for the program's degrees and certificates been offered during the last two years? If not, has the program established a course offering cycle?
- How has degree and/or certificate completion changed over time?
- Are there sufficient completers compared with the size of your program?

The Welding Program offers four Certificates / Associate of Science Degree's and twenty Industrial Welding Certifications.

Welding students are required to complete a basic set of core Welding courses along with a set of various upper-level specialty courses (depending on Degree and/or Career goal). The Department offers various specialty courses in support of these four Certificate / Associate of Science Degree options. Classes are offered in both days and nights. Some of the most advanced courses are rotated from days to nights or afternoons every other semester. Scheduling the classes in this way provides students with the opportunity to complete their objectives within the shortest time frame possible. This also provides students with the opportunity to work towards completion of multiple Certificate / Degree options at the same time. It is common for Welding students to complete more than one Certificate / Degree option.

Degree and Certificate completions are relative to the number of course offerings that Welding is able to schedule. The retention and success rates can be used as clear indicators that our students tend to complete the classes in which they take. Therefore, the only variable we see if the number of sections offered often translates to the number of degree and certificate completions. As more sections offered by Welding, more certificates and degrees are also awarded.

All Certificate / Degree options remain unchanged with the exception being our Pipe Welding major. In the Fall of 2023, the Department streamlined this major option with modifications to the entry level Pipe Welding course. The modification to this course will ensure that this course will be offered every Fall and Spring semester, which will allow students to complete this program without cycling courses.

Are any licensure/certification exams required for program completion or career entry?

- If so, what is the pass rate among graduates?
- Set an attainable, measurable goal for pass rates and identify any applicable performance benchmarks set by regulatory agencies.

License and/or Certification are not required for Welding Program completion. However, Licensing and/or Certification by external agencies is required for many higher-level career opportunities. The Welding Department has developed several successful working relationships with outside agencies. Welding standards, certifications, testing procedures, and quality control have been established and are regulated by City, State, and National agencies. These agencies include the Los Angeles Department of Building and Safety, American Welding Society, American Society of Mechanical Engineers, and the American Petroleum Institute.

Since 1990, the City of Los Angeles has used the Cerritos College Welding Test Laboratories established policies, rules, and destructive testing procedures as their model and standard for the other nine L.A. County licensed test facilities to follow. This is a result of the Departments innovative test procedures, trust, honesty, high level of quality control, and accurate documentation.

Program Reflection

Six-Year Program Reflection : Version by **Allen, Albert** on 12/13/2023 21:13

Provide an analysis of your program throughout the last six years, reflecting on student demographics and enrollment. Reflect on any changes you would like to see in your program in the next six years.

The Welding Department has experienced highs and lows over the years with regards to enrollment. Enrollment trends are tied to the number of full-time faculty the department has at that time. The program's enrollment has remained stable over the past six years with four full-time faculty teaching maximum overload. Reflecting to the department's previous program review, the department had fewer full-time faculty, and lower enrollment. It is easy to see that with more full-time faculty; the department can increase course offerings and student enrollment. The department would like to see the addition of a fifth full-time faculty member, as the department is confident that it could increase enrollment above current levels.

Student demographics in the program have remained constant over time with small trends emerging in the past year.

The first trend that the Welding program has noticed recently is the increase in the 19 and under age group from 18.8% in 2021-2022 to 25.9% in 2022-2023. This increase in the 19 and under age group may be attributed to recent work between Cerritos College Welding and local high schools, specifically the development of articulation and dual enrollment agreements. These projects have helped to promote the Welding program within local high schools.

The second trend that the department has seen a slight increase in is with female students, 6.5% in 2021-2022 to 7.4% in 2022-2023. This slight increase may be attributed to the addition of the Welding departments first ever female instructor. Miss Figueroa has been working as an adjunct for the past 7 years and was recently hired at full time in August of 2023. Miss Figueroa's dedication and professionalism to the Welding trade has inspired female students to pursue a career in Welding.

What is the six-year trend of degrees and certificates awarded? Is there anything you can do to help increase the number of students who acquire degrees and/or transfer?

The most recent data on annual Certificates and Degrees awarded illustrates the effects of COVID era restrictions. Welding program awards had hit a high of 131 Certificates/Degrees in 2018-2019. Awards started trending down with the 2020 shutdown and further declined while under COVID restrictions, to a low of 66 Certificates/Degrees in 2020-2021. Awards started to trend back up in 2021-2022 with 93 Certificates/Degrees awarded. This slump in certificate and degree awards can be directly related to the COVID era restrictions (reduced course sections and limited shop availability due to social distancing). As these restrictions began to ease the Welding department began to see a rise in certificate and degree awards.

The Welding Department needs to remain focused on the following:

1. Scheduling as many Certificate/Degree courses as possible and doing so in a fashion that allows students to complete these programs as efficiently as possible.
2. All faculty need to be proactive with their students to ensure all eligible students apply for Certificates/Degrees. This includes informing students of the application and notifying students of application deadline.

Were there any unplanned events (positive or negative) that affected your program? If so, what were they and how did they affect the program?

The largest unplanned event that affected the Welding Program was the COVID shutdown of 2020 and the COVID restrictions that followed for the next couple of years (ending in 2022). This event had a negative effect on our program because the Department was limited on the number of courses it could offer due to the restrictions in place at that time. Since the end of the restrictions, the Department has been able to offer more course sections. The return of these course sections to pre-pandemic levels should net an increase in program certificate/degree completions.

Please describe any recent achievements in your program by faculty and staff who have won awards or distinctions, new projects your program has implemented, committee work, professional development work, conference presentations, community engagement, or recently published work.
All full-time faculty participate in professional development every year.

Two of the faculty members are American Welding Society (AWS) Certified Welding Inspectors (CWI) and Certified Welding Educators (CWE). As a part of maintaining their status as a CWI, they must renew their license by exam every 3 years. Both faculty members with this license have completed continuing education, training, and renewal exams.

Three other faculty members have been actively preparing for the initial CWI exam, which consist of 3 separate tests (specific codebook exam, general welding and code exam, and hands on practical exam). Initial CWI qualification requires a tremendous amount of studying and training. All three faculty members put in over 80 hours of training in 2022-2023 alone.

Provide a status update on goals from the last program review cycle.

The following mid-range goals have been completed.

1. Increase number of declared welding majors.
2. Increase adjunct faculty pool.
3. Build relationships with local building and construction unions.

All long-term goals have made progress since initiated in 2017. The long-term goals set forth in 2017 will continue into the next cycle, as these are goals that can still be improved upon.

The long-term goals set in the previous program view:

1. Instructional supply budget increase and sustainability
2. Submit two grant proposals per year for equipment.
3. Implement cross training informational training for all faculty.

4. Increase retention rates in lecture courses by one student per semester.
5. Improve welding program performance data.
6. Increase the number of female students and staff.

If applicable, describe the resources the program received from the last review cycle and the impact it had on the program?

Welding continues to receive Perkins grants and Strong Work Force funding. In order to receive this funding Welding must maintain an industry advisory committee, this committee must meet once every fall and spring semester in order to qualify for any funding. Welding routinely hosts industry advisory committee meetings with representatives from local companies and municipalities. These meetings not only meet the requirements for these funding sources but also allow the Welding department to continue to train students according to industry relevant processes.

The funds received from these sources are used to update expensive machinery that is otherwise out of the department's budget, but is critical for day to day laboratory operations. It is critical to the health and success of the Welding department to continue to use these funding sources for much needed equipment. The Welding department also utilizes this funding to update tooling to current industry standards. Updating tools and equipment enables the department to train students for current industry processes and procedures, thus making our students very employable and sought after by local organizations.

Resource Requests

Faculty Resource Request(s) : Version by **Allen, Albert** on **12/13/2023 21:13**

Program/Department/Division:

Welding / Technology

Title of instructor position:

Full-Time Faculty

Priority:

1. Critical (mission critical or must have)
2. Important (creates value and efficiency for program)
3. It can wait (would be nice if the money is available)

2. Important (creates value and efficiency for program)

Is this position:

- New (not in the current budget)
- Replacement (in the current budget, currently vacant or will be vacant in the next budget year)
- Full-Time Temporary
- Conversion (grant to general fund)

New

Cost estimate:

Annual Salary - \$150,000

Occurrence:

- Recurring expense
- One-time augmentation

Recurring expense

Funding source:

- Instructional equipment
- Perkins
- Grants/contracts
- Vintage
- General fund (Program 100)
- Categorical – Equity
- Categorical – 3SP
- Categorical – Other
- Other funding

General Fund

Provide a summary and rationale for this position. Explain how the position will help the program better meet its goals.

The Welding Department would like to request the addition of (1) Full-Time Faculty.

All adjunct faculty currently work 40+ hours a week in industry during the day and teach one to two nights per week. This common industry schedule makes it difficult, if not impossible most of the time to schedule an adjunct to teach any time other than evenings. This leaves the full-time faculty to teach morning classes, and leaves a gap of course offerings in the afternoon. The addition of another full-time faculty member would enable the Department to utilize the facility during a time which it is seldomly used, increasing course offerings and FTES.

Additionally, a continual search for adjuncts will be important to the department's growth as all current faculty are teaching at full overload. Currently with 4 FTES the Welding department awarded an average of 92 certificates and degree over a 3 year period from 2019 - 2022 (lower than expect due to COVID regulations).

Exhibit 6: Regional community college awards (certificates and degrees), 2019-2022

TOP	Program	College	2019-20 Awards	2020-21 Awards	2021-22 Awards	3-Year Average
0952.30	Plumbing, Pipefitting and Steamfitting	LA Trade-Tech	31	21	33	28
		LA Subtotal	31	21	33	28
		Orange Coast	1	-	5	2
		OC Subtotal	1	-	5	2
Supply Subtotal/Average			32	21	38	30
0956.40	Sheet Metal and Structural Metal	Long Beach	1	11	11	8
		LA Subtotal	1	11	11	8
Supply Subtotal/Average			1	11	11	8
0956.50	Welding Technology	Cerritos	118	66	93	92
		Compton	5	-	1	2
		El Camino	30	2	9	14
		Glendale	4	6	10	7
		LA Pierce	-	2	5	2
		LA Trade-Tech	26	10	53	30
		Long Beach	8	20	19	16
		Mt San Antonio	23	16	34	24
		Pasadena	4	3	4	4
		Rio Hondo	10	2	5	6
		LA Subtotal	228	127	233	196
		Fullerton	8	9	7	8
		Orange Coast	19	12	20	17
		Santa Ana	28	96	30	51
		OC Subtotal	55	117	57	76
Supply Subtotal/Average			283	244	290	272
Supply Total/Average			316	276	339	310

Furthermore, with 4 FTES the Welding department was able to administer and award 250 welding industry certifications.

CERRITOS COLLEGE WELDING CERTIFICATION TESTING LABORATORY				
END OF YEAR REPORT AND STATISTICS				
FALL 2022 AND SPRING 2023				
		FALL	SPRING	TOTAL
Structural Steel AWS D1.1 SMAW Certifications (L.A. DBS Requirement)		14	10	24
Structural Steel AWS D1.1 FCAW Certifications (L.A. DBS Requirement)		11	4	15
ASME 6" Pipe Certifications		2	3	5
ASME 2" Pipe Certifications		5	2	7
1. GTAW Aluminum AWS D1.2 (2F .090")		43	22	65
2. GTAW Stainless Steel AWS D9.1 (2F .063")		15	18	33
3. GTAW Aluminum AWS D17.1 (3G .050")		9	10	19
4. GTAW Chromoly AWS D9.1 (5F .063")		1	2	3
5. GTAW Aluminum AWS D17.1 (3G .040")		5	10	15
6. GTAW Aluminum AWS D17.1 (2G .040")		3	11	14
7. GTAW Aluminum AWS D17.1 (3G .125")		3	5	8
8. GTAW Aluminum AWS D17.1 (2G .125")		3	6	9
9. GTAW Aluminum AWS D17.1 (3F .040" to .063")		3	4	7
10. GTAW Stainless Steel AWS D17.1 (3G .040")		1	5	6
11. GTAW Stainless Steel AWS D17.1 (2G .040")		0	6	6
12. GTAW Stainless Steel AWS D17.1 (3G .125")		0	4	4
13. GTAW Stainless Steel AWS D17.1 (2G .125")		0	5	5
14. GTAW Stainless Steel AWS D17.1 (3F .040" to .063")		0	5	5
TOTAL:		118	132	250

It is feasible to see a 20% increase in awards with a 5th full-time faculty member. Until then adjuncts will continue to be an important resource for the Department. Failure to seek out qualified candidates could result in reduced course offerings and awarded Certificates/Degrees.

Furthermore, increasing full-time faculty will also ensure that safety protocols, industry standards, and fire code standards are exceeding minimum requirements.

If this position is not filled, what is the potential impact to student success?

If the Welding Department is unable to fill this position the program will remain stagnant. In order for awarded Certificate and/ or Degrees to increase, the program needs to increase the course offerings in the afternoons. Due to scheduling conflicts with adjuncts the Department is unable to create an afternoon program to increase these awards. Between Full-Time Faculty teaching maximum overloads and the unavailability of adjuncts in the afternoons, the only option the program has for growth is to create another Full-Time Faculty position.

Classified Resource Request(s) : Version by **Allen, Albert** on 12/05/2023 00:45

Program/Department/Division:

Welding / Technology

Position requested:

Welding Laboratory Technician

Priority:

1. Critical (mission critical or must have)
2. Important (creates value and efficiency for program)
3. It can wait (would be nice if the money is available)

2. Important (creates value and efficiency for program)

Is this position:

- New (not in the current budget)
- Replacement (in the current budget, currently vacant or will be vacant in the next budget year)
- Full-Time Temporary
- Conversion (grant to general fund)

New (not in current budget)

Cost estimate:

Annual Salary - \$80,000

Occurrence:

- Recurring expense
- One-time augmentation

Recurring expense

Funding source:

- Instructional equipment
- Perkins
- Grants/contracts
- Vintage
- General fund (Program 100)
- Categorical – Equity
- Categorical – 3SP
- Categorical – Other
- Other funding

General Fund

Provide a summary and rationale for this position. Explain how the position will help the program better meet its goals.

The Welding Department would like to request the addition of (1) evening laboratory technician position. At this time Welding has a laboratory technician in the day time only.

The Welding Program would benefit greatly from recruiting an evening laboratory technician. The Welding department has never had an evening laboratory technician, despite the high volume of laboratory courses taught in the evenings. Most of the evening courses are taught by adjunct faculty who work in the industry during the day. These instructors spend a considerable amount of time changing gas cylinders, replenishing electrodes, cutting metal, and repairing equipment breakdowns. These activities consume valuable laboratory time, and the evening courses are not supported with any laboratory technician. Considering the extensive nature of the Welding laboratories and volume of courses offered in the evening, an evening laboratory technician could enable the faculty to engage with their students. The increased engagement would improve student learning outcomes and success rates. The addition of an evening laboratory technician would also help to ensure the safety of our students by providing another set of experienced eyes in the laboratory.

If this position is not filled, what is the potential impact to student success?

If the Welding Department is unable to fill this position student success will remain stagnant. Adjunct instructors will not receive laboratory assistance. Adjunct instructors will have to balance shop maintenance and metal cutting activities with in person demonstrations.

Other Staffing Resource Request(s) (e.g., Manager, Confidential, etc.) : Version by **Allen, Albert** on 12/05/2023 00:45

Program/Department/Division:

Welding / Technology

Position requested:

Adult Hourly

Priority:

1. Critical (mission critical or must have)
2. Important (creates value and efficiency for program)
3. It can wait (would be nice if the money is available)

2. Important (creates value and efficiency for program)

Is this position:

- New (not in the current budget)
- Replacement (in the current budget, currently vacant or will be vacant in the next budget year)
- Full-Time Temporary
- Conversion (grant to general fund)

New (not in the current budget)

Cost estimate:

Annual Salary - \$40,000

Occurrence:

- Recurring expense
- One-time augmentation

Recurring expense

Funding source:

- Instructional equipment
- Perkins
- Grants/contracts
- Vintage
- General fund (Program 100)
- Categorical – Equity
- Categorical – 3SP
- Categorical – Other
- Other funding

General Fund

Provide a summary and rationale for this position. Explain how the position will help the program better meet its goals.

The Welding Department would like to request (1) adult hourly assistant.

As a result of campus wide retirements, budget reductions, staff reductions, and staff reassignments, the Welding Department lost its Full-Time, Range 23, Office Support staff, Intermediate Typist Clerk Position. This position previously supported the entire Welding Department and was the only office/clerical support staff. This position supported the Department's Licensed Welding Test Laboratory operations and was instrumental in developing and processing the various licenses, certifications, and supporting documentation required for the test laboratory operations. This 40 hour per week workload has since been absorbed by various faculty members.

If this position is not filled, what is the potential impact to student success?

If this position is not filled, Full-Time Faculty will continue to be burdened with office and clerical work in addition to their teaching assignment, department obligations, and campus obligations.

Professional Development Resource Request(s) : Version by **Allen, Albert** on **12/05/2023 00:45**

Explain and justify the program's training and professional development needs. Explain how the training/professional development will help the program better meet its goals.

It is common in industry for welders to operate various pieces of equipment such as forklifts and small cranes. If welding students were able to receive training on these types of equipment, they would be better prepared to enter the workforce and they would have one less barrier to entry. Providing training to our faculty will enable the Department to develop and implement a course or courses on how to use these commonly used pieces of equipment.

Professional Development Resource Request(s):

Provide all Faculty with train the trainer course for various equipment such as forklifts and cranes.

Priority:

1. Critical (mission critical or must have)
2. Important (creates value and efficiency for program)
3. It can wait (would be nice if the money is available)

2. Important (creates value)

Cost estimate:

\$5,000

Occurrence:

- Recurring expense
- One-time augmentation

One time expense

Funding source:

- Instructional equipment
- Perkins
- Grants/contracts
- Vintage
- General fund (Program 100)
- Categorical – Equity
- Categorical – 3SP
- Categorical – Other
- Other funding

Other funding

Facilities Resource Request(s) : Version by **Allen, Albert** on **12/05/2023 00:45**

Identify and justify any facilities and equipment needs. Explain how it will help the program better meet its goals. If possible, indicate other disciplines who may share this space.

The Welding Department would like to request water, drainage, and electrical infrastructure improvements for our developing fabrication laboratory.

Through grants the Department was able to purchase a state-of-the-art FLO waterjet cutting machine. Unfortunately, this machine has not be able to be utilized due to the lack of infrastructure required to operate this machine. In order to use this machine a water source, electrical source, and drain line must be provided.

What impact will this have on student success? What is the consequence of not getting this request fulfilled?

If this facility request is not fulfilled the Department will not be able to utilize the new waterjet cutting machine.

Facilities Resource Request(s):

Please provide water supply line, water drainage line, and electrical for water jet cutting machine.

Priority:

1. Critical (mission critical or must have)
2. Important (creates value and efficiency for program)
3. It can wait (would be nice if the money is available)

1. Critical (mission critical)

Cost estimate:

Roughly \$50,000

Occurrence:

- Recurring expense
- One-time augmentation

One - Time expense

Funding source:

- Instructional equipment
- Perkins
- Grants/contracts
- Vintage
- General fund (Program 100)
- Categorical – Equity
- Categorical – 3SP
- Categorical – Other
- Other funding

Perkins / Strong Workforce

Technology and Software Resource Request(s) : Version by **Allen, Albert** on **12/05/2023 00:45**

Identify and justify technology and software needs. Explain how it will help the program better meet its goals. If possible, indicate other disciplines who may share the technology and/or software.

N/A

What impact will this have on student success? What is the consequence of not getting this request fulfilled?

N/A

Technology and Software Resource Request(s):

N/A

Priority:

1. Critical (mission critical or must have)
2. Important (creates value and efficiency for program)
3. It can wait (would be nice if the money is available)

N/A

Cost estimate:

N/A

Occurrence:

- Recurring expense
- One-time augmentation

N/A

Funding source:

- Instructional equipment
- Perkins
- Grants/contracts
- Vintage
- General fund (Program 100)
- Categorical – Equity
- Categorical – 3SP
- Categorical – Other
- Other funding

N/A

Other Resource Request(s) : Version by **Allen, Albert** on **12/05/2023 00:45**

Identify and justify any other needs. Explain how it will help the program better meet its goals.

The Welding Department regularly faces two issues with welding machines, fabrication machinery, tools, and equipment.

1. Welding equipment, processes, and techniques continue to advance and improve. In order to provide industry relatable and the highest level of education possible, the Department's equipment must advance as well. It is extremely important for the program to stay on the leading edge of these advancements through purchasing new equipment.
2. Outdated and heavily used equipment occasionally breaks down, costing the department valuable resources which are otherwise best used to purchase other necessary shop supplies and welding consumables. Equipment outages can slow down instructional time and effect student learning.

The Department needs to continuously keep pace with current welding equipment technology and upgrade machines whenever possible.

What impact will this have on student success? What is the consequence of not getting this request fulfilled?

If this request is not fulfilled students will be working with outdated machines that are more likely to break down. Broken down machines limit the available equipment for students to use and lead to reduced success rates.

Other Resource Request(s):

N/A

Priority:

1. Critical (mission critical or must have)
2. Important (creates value and efficiency for program)
3. It can wait (would be nice if the money is available)

Critical (must have)

Cost estimate:

\$60,000

Occurrence:

- Recurring expense
- One-time augmentation

One - time expense

Funding source:

- Instructional equipment
- Perkins
- Grants/contracts
- Vintage
- General fund (Program 100)
- Categorical – Equity
- Categorical – 3SP
- Categorical – Other
- Other funding

Other funding

Prioritized Resource Request Recommendations : Version by **Allen, Albert** on **12/05/2023 00:45**

The list below is prioritized in the order of importance to the Welding Department, with number 1 being the most important and 5 being the least important.

1. Update Welding Machinery
2. Facility Infrastructure Improvement
3. Evening Laboratory Technician
4. Adult Hourly Assistant
5. Full - Time Faculty

Resource request:	Priority:	Cost estimate:	Program goal alignment:
Full-Time Faculty (1)	2. Important	Annually - \$150,000	undefined
Evening Laboratory Technician (1)	2. Important	Annually - \$80,000	
Adult Hourly Assistant (1)	2. Important	Annually - \$40,000	
Facility Infrastructure Improvement	1. Critical	One Time - \$50,000	
Updated Welding Machinery	1. Critical	One Time \$60,000	

Career Technical Education (CTE) Supplemental Questions : Version by **Allen, Albert** on **12/05/2023 00:45**

How strong is the labor market demand for the program? Utilizing labor market data, describe changes in demand over the last six years and discuss the occupational outlook for the next six years.

Looking at the total historical regional employment data for Los Angeles/Orange County are we can see some emerging trends, although the latest this data is available for is until 2021.

Overall the regional jobs total has declined 681 jobs from 2016 to 2021. When evaluating this data further on can see that of the three employment categories that one of them has seen growth (512 jobs) while the other two have seen declines (630 and 563 jobs) from 2016 to 2021.

Regional employment from 2021 to 2026 shows a projected reduction in 614 jobs. The employment category (Welders, Cutters, Solderers, and Brazers) has the lowest projected reduction at -3%.

How does the program address needs that are not met by similar programs in the college's region/service area? Identify and describe any distinctive component of the program and/or unique contributions.

The Welding program currently supports the part of the regional market which is project to have a slight decline (Welders, Cutters, Solderers, and Brazers). The Welding program has two distinct components to its courses; 1. Welding, and 2. Fabrication. According to job market data Structural Metal Fabricators and Fitters are projected to see the largest decline (-139 jobs). The Welding program should keep Welding courses a priority over fabrication courses, as this will be serve the community and provide training for the lesser of the impacted fields.

What is the success, completion, and employment rates for students in the program? Identify the standards set by the program for each metric and discuss any factors that may impact the metrics for students in the program. Based on the program's benchmarks, describe the status of any action plans for maintaining/improving the metrics.

The Welding Department continually experiences great success rates averaging from 80% - 88%, with the exception of 2019-2020 when the program's success rate suffered from the COVID shutdown.

The Welding Department continually experiences great completion rates averaging from 88% - 90%, again with the exception of 2019-2020 when the programs completion rate suffered from the COVID shutdown.

73% - 75% of Welding students are employed within two quarters of exit from the program. 70% - 79% of Welding students are employed with jobs that are closely related to their field of study.

Students typically seek to enroll in the Cerritos College Welding Program based on multiple factors that reinforce the department's unparalleled reputation of Welding Programs in the region.

List any licensure/certification exam(s) required for entry into the workforce in the field of study and report the most recent pass rate(s) among program graduates. Identify performance benchmarks set by regulatory agencies and based on the program's benchmarks, describe the status of any action plans for maintaining/improving the pass rates.

No license / certification exam are required for entry into the workforce.