



Dale Phillips  
2/5/19

## 2018-19 Program Review – Career Education

### Welding Department -Program Overview

Please verify the mission statement for your program. If there is no mission statement listed, please add it here.

To improve the Quality and Safety of students' lives by teaching them how to properly: Weld, Solder, Braise, Oxy-Cut, Plasma-cut, Inspect and Work with metals.

List your Faculty and/or Staff

Dale Phillips (Full-Time)  
Richard Hashimoto (Full-Time)  
Robert Clark (Tool Room Keeper)

The Program Goals below are from your most recent Program Review or APU. If none are listed, please add your most recent program goals. Then, indicate the status of this goal, and which College and District goal your program goal aligns to. If your goal has been completed, please answer the follow up question regarding how you measured the achievement of this goal.

1<sup>st</sup> A "New Class" for students interested in becoming a Certified Welding Inspector (CWI) with the American Welding Society (AWS). This Goal is "In-Progress" and we hope to have the first class next Fall 2019. This class is being created to "Offer students the highest quality curriculum and services" and "Build Programs of Distinction" in our area. We will consider the goal complete once we start teaching it.

2<sup>nd</sup> A "New Class" for students interested in Metallurgy. This Goal is "In-Progress" and we hope to have the first class next Fall 2019. This class is being created to "Offer students the highest quality curriculum and services" and "Build Programs of Distinction" in our area. We will consider this goal complete once we start teaching it.

3<sup>rd</sup> A "New Class" for students interested in learning the Flux Cored Arc Welding (FCAW) process. This Goal is "In-Progress" and we hope to have the first class next Fall 2019 or Spring 2020. This class is being created to "Offer students the highest quality curriculum and services" and "Advance Student Access, Equity, and Success". We will consider this goal complete once we start teaching it.

4<sup>th</sup> Develop and create, two Non-Credit classes that mirror WELD 204-A&B and a Mini Non-Credit Certificate for students who complete them. This Goal is "In-Progress" and we hope to have the first class next Fall 2019 or Spring 2020. These two classes are being created to "Increase awareness and access to disproportionately impacted communities" and "Advance Student Access, Equity, and Success". We will consider this goal complete once we start teaching both classes.

5<sup>th</sup> Develop and create, two Non-Credit classes that mirror WELD 211-A&B and a Mini Non-Credit Certificate for students who complete them. This Goal is "In-Progress" and we hope to have the first class next Fall 2019 or Spring 2020. These two classes are being created to "Increase awareness and access to disproportionately impacted communities" and "Advance Student Access, Equity, and Success". We will consider this goal complete once we start teaching both classes.

Describe your current utilization of facilities, including labs and other space

The Welding Departments main utilization of its facility is Monday through Thursday from 2-pm to 9-pm. On these days students in the welding program can take ALL of the classes required for graduation with a Welding Certificate or Welding AS Degree. All Degree applicable classes are currently 3 units and are on a Mon-Wed and Tue-Thur schedule from 2-5pm and 6-9pm. Two teachers typically use the Lab during each time period, but the Lab only has one classroom, so the department always needs an extra classroom, which is sometimes hard to find.

The Welding Department also teaches classes for other departments programs. On Saturdays, for the first half of each semester, the department teaches a class from 9-AM to 2-PM for students in the ECT Program. On Mondays and Wednesdays from 11-AM to 2-PM, the department teaches classes for the Industrial Maintenance Program. During the Fall Industrial Maintenance students come all semester long and in the Spring they come for the first half of the semester.

The Welding Department has had a "Weld Club" for the past 5 years which has been meeting on Fridays for various amounts of time. The Weld Club has been mainly working on Art Projects for our local community.

Every once in awhile, the Welding Department will have a contract education class for a company or use the LAB for a meeting for our local chapter of the American Welding Society (AWS).

Currently the only time the Lab and classroom area empty is during the Morning hours Mon to Fri.

### **Career Education**

Using the [LaunchBoard](#) what are the job placement rates for your program for the past three years? (What % of your graduates have secured employment in the field within 3 months of leaving the program?). Note: you will need to establish a username and password for the LaunchBoard if you don't already have one.

<b>2013-14 Job Placement %</b>	<b>% Employed in the field in 4<sup>th</sup> Fiscal Quarter</b>	<b>2014-15 Job Placement %</b>	<b>% Employed in the field in 4<sup>th</sup> Fiscal Quarter</b>	<b>2015-16 Job Placement %</b>	<b>% Employed in the field in 4<sup>th</sup> Fiscal Quarter</b>
5%	64%	5%	80%	5%	68%

Using the [LaunchBoard](#), what are the projected job openings in your discipline for the next three years?

**Welders, Cutters, Solderers and Brazers** 2015-2020 (Bay Area= 251/yr, 1253/5yr, 5.2%change) (East Bay 83/yr, 417/5yr, 6%change)  
**Welding, Cutting, Soldering and Brazing Machine Setters, Operators, Programmers** 2015-2020 (Bay Area= 20/yr, 102/5yr, -1.9%change) (East Bay 10/yr, 52/5yr, -1.7%change)

How is your discipline or program responding with regard to changes in labor market demand?

There has been a continuous shortage of certified welders for more than 30 years now. Welding is an advanced skill/art, that not everyone can do well. Because of the shortage of quality welders, welders are always among of the highest paid workers on any construction sight.  
 To deal with the constant shortage of welders, the welding department is in the process of creating several new non-credit classes to train welders that can't or don't want to complete the full program. The department is also creating a class to help students pass the American Welding Society,CWI welding inspector test and another class in Metallurgy for advanced welding students, and students in related programs.

Do you have an industry advisory board in place?

Yes

Has your industry advisory board met regularly (at least once per quarter or semester)?

Yes, The advisory board meets twice a year to talk about relevant issues affecting the departments operation and future. Our department is also active with the local chapter of the American Welding Society AWS, which meets once a month from September through May. All instructors have served on the local board as Chairman along with other positions. The Welding Department currently serves as the Library for the local chapters collection of books and manuals.

Please list of your industry advisory board members.

	Company	Contact	Email	Phone	FAX	Title	Address
1	PraxAir	Mark Miller	<a href="mailto:mark.L.miller@praxair.com">mark.L.miller@praxair.com</a>	510-520-3044		Sales/Gas&Equip.	
2	ILWU	Melvin McKay		510-205-3920		Mechanic/President	
3	ILWU	MC Alvare		510-271-	cell 415-	Mechanic/shopsewert	

		z		1133	793-5633		
4	ILWU	Carey Dall	<a href="mailto:carey_dall@yahoo.com">carey_dall@yahoo.com</a>	415-775-0533	510-846-5368	International Organizer	1188 Franklin St. 4thFloor, San Francisco, CA 94109
5	Bay Ship & Yaht	Leonel Aquino	<a href="mailto:laquino@bay-ship.com">laquino@bay-ship.com</a>	510-337-9122	510-263-9835	Human Resources Recruiter	2900 Main Street #2100, Alameda, CA 94501
6	Boiler Makers	Randy Thomas	<a href="mailto:rthomas549bm@gmail.com">rthomas549bm@gmail.com</a>	925-427-4121	cell 925-470-7581	Apprenticeship Coordinator/Instructor	2191 Piedmont Way, Pittsburg CA 94565
7	Sheet Metal Workers Local Union #104	Rob Stoker		510-895-8660	510-895-0636	Buisness Representative	1720 Marina Blvd. San Leandro CA 94577
8	EBMUD	Ted Lam	<a href="mailto:tlam@ebmud.com">tlam@ebmud.com</a>	510-287-0860	510-287-1184	Maintenance Superintendent	PO BOX 24055 - MS#55, Oakland CA 94623-1055
9	BSK Associates	Anna Rikkelman	<a href="mailto:arikkelman@bskassociates.com">arikkelman@bskassociates.com</a>	925-315-3151	925-315-3152	Senior Buisness Development Associate	399 Lindbergh Avenue, Livermore CA 94551
10	Consolidated Engineering Labs	Thomas E. Dickson	<a href="mailto:td@ce-labs.com">td@ce-labs.com</a>	510-436-7626	cell 925-323-8394	Testing Manager	534 23rd Avenue, Oakland CA 94606
11	Critchfield Mech.	Joe Negheson		650-333-0633			Santa Clara CA
12	Olson Steel	Chris Barnett	<a href="mailto:cbarnett@olsonsteel.com">cbarnett@olsonsteel.com</a>	<a href="tel:5105672225">510-567-2225</a>	<a href="tel:5105672213">510-567-2213</a>	Operations Manager	1941 Davis Street, San Leandro CA 94577

Please describe the number of activities and recommendations resulting from advisory committee meetings that have occurred in the past three years. What information was presented that required changes to be made to your program?

The Welding Department, at Laney College, is very active with or local chapter of the American Welding Society, which meets every month, September through May, for a meeting, dinner, and guest speaker. We have around 40 people each month from various welding related companies and the colleges in our area. We get to talk, share information and compare what we are doing. Talking with both members in our AWS chapter and members of our Advisory Board, they have been encouraging us to add some classes that we are not currently offering. Largely because of them we have decided to add a 3 new classes to keep up with the needs of our community and prepare for the future. In the near future, the department will be offering these 3 new classes:  
 1st class (Welding Inspector Test Prep.) Currently, Welding Inspector classes are currently only offered through a private company for around \$1800. Many students can't afford this high cost. The Welding

Department feels that with proper advertisement and the low cost for admissions, Laney College can be the main place people come to before taking the Certified Welding Inspector exam.

2nd class (Metallurgy) At one time Laney had a whole department dedicated to metallurgy. Currently the college has no classes in Metallurgy so the welding department has decided to try and fill that need. The department feels that students in the Machine Shop and Engineering Program will be interested in taking this class also.

3rd class (Flux Core Welding) This is the process that most construction workers are now using for outside fabrication and it is still not officially taught at Laney. With the addition of this flux core class the Department plans on creating a 9 unit, 3 class mini Certificate for Wire Feed Students.

I am not sure exactly when, but the department has purchased a CNC plasma table in an effort to develop a class to start teaching students "Automated Machine" programming. The Department lost the instructor who was working on this class and still needs to figure out how to make this class work in the future.

Does your program require state or national licensing? If yes, please specify. What is your college's set standard passing rate for this exam or license? If yes, what is the name of the exam or License? State the set standard pass rate.

NO

Do your students participate in other third party certifications? If so, please provide their success rates (include the % of completing students successfully getting certified). If yes, what is the third party certification? State the set standard pass rate

YES, The department offers students the ability to get Welding Certifications through the American Welding Society. Both of the departments full-time instructors are Certified Welding Inspectors and testing is done at the college during the semester as needed. Many welding jobs done by every trade require Certified Welders and students who get certifications typically get hired easier and make more money.

Is your program working with a Deputy Sector Navigator?

NO

If yes, briefly describe your program's work with the Deputy Sector Navigator.

N/A

What programs similar to yours exist in the surrounding area or at nearby East bay colleges? (Micro region in [LaunchBoard](#))

Chabot College, Hayward  
Los Medanos College, Pittsburgh/Antioch  
Los Positas College, Livermore

In which ways is your program collaborating with other community colleges in the region?

The main way our college collaborates with the other colleges in our area is through the San Francisco chapter of the American Welding Society which meets once a month, September through May. We also get together with other schools in Northern California annually for other AWS events.

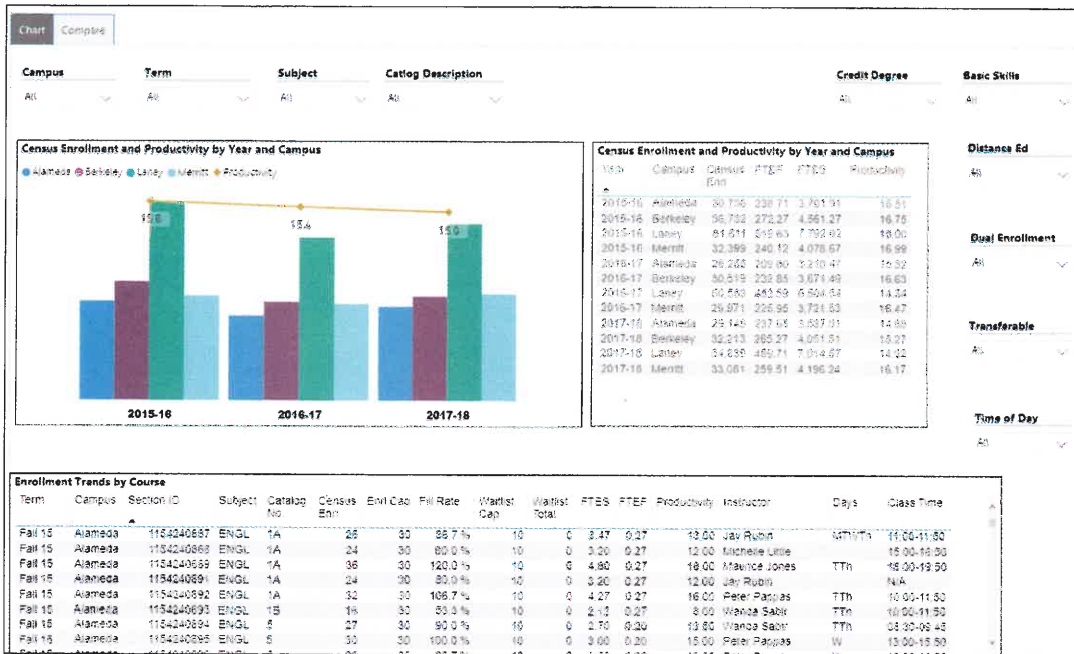
Please list and briefly describe the grant name, granting agency, and the goals of each grant as it relates to you discipline/department/program

Our department is not currently receiving any grants, but several students of ours are receiving scholarship money through the American Welding Society AWS, which gives out money every year to students interested in welding. Almost 100% of students who apply get money. Biggest problem is getting students to fill out the paperwork needed to apply.

How is your program using Strong Workforce Funds?

We are using Strong Workforce funds to help move the department into the world of automation. The department has purchased a CNC Plasma cutting table, which has not been integrated into the program yet. The Department has plans on teaching a programming class in the future to teach students how to operate and run this type of equipment.  
The department has also used some of this funding to replace broken equipment, allowing us to not shrink the size of our main classes that students depend on.

## Enrollment Trends



## Enrollment Trends Power BI dashboard

Note: Please consider the most recent 3 years when answering the questions below.

Set the filters above to your discipline, and discuss enrollment trends over the past three years

The Welding Departments enrollment is very stable and it has always been that way. Classes always fill to the max and instructors are always signing ADD slips each semester. This is because: welders make good money, there is always a shortage of skilled welders, and the fact that many welders don't have to be very educated. After one semester, many of our students are able to get the jobs they are looking for. Many instructors teach classes concurrently with other classes which makes the data difficult to analyze clearly. Over the past 3 years, the Welding Departments Productivity Level has gone from **13.6 in Spring 2016, to 13.7 in Spring 2017, to 13.2 in Spring 2018** for classes that Welding Students take. If we look at ALL courses offered together, the productivity shifts to **12.3 in Spring 2016, to 11.9 in Spring 2017, to 12.7 in Spring 2018**. Our Productivity level has stayed fairly constant because the department hasn't added any classes to the program and our classes are always around 100% full in the beginning of each semester. The Department is going to be adding 3 classes to our program in Fall 2019. This will probably cause a shift in our steady Productivity Levels.

Set the filter above to consider whether the time of day each course is offered meets the needs of students.

At Laney College, Welding Students can complete all welding classes needed for a degree or certificate during two different times of the day, (Afternoon 2-5pm, and Nights 6-9pm) We feel that this is the best schedule possible for our students without adding extra instructors. We feel this way, mainly, because we give students two complete different times during the day that they can take ALL the classes needed to complete the program. Students can complete the welding part of our program going to school only at night or they can complete it only during the Day. Many of our night

students can't come during the day, because of work and many of our day students can't come during the night because of work or family obligations. The way we schedule classes, we can usually serve both groups. If students can come during both times of day, which only has a 1 hour break between classes, they can take more than one class a day and finish the program in less than two years.

A side benefit to having two instructors teaching different classes at the same time, is students have more classes to choose from during the same time slot, and usually if one instructor has to leave the Lab, for some reason, there is second instructor that can take over watching the Lab for safety.

Are courses scheduled in a manner that meets student needs and demands? How do you know?

Yes

I have been working at the welding department for around 30 years now. No matter what time of day we have classes, the classes fill up. Typically there are a few more students wanting Add Cards during the night classes, so many night classes are a little larger than during the day. When I first came to Laney the welding department had classes, Morning, Afternoon, and Night. Now we have just, Afternoon and Night classes. The main difference between the times of day we offer classes has to do with the type of people who fill the class.

Night welding classes are very important to our community because this is the only time many of our "working students" can take classes. Working students are usually more focused and serious about doing a good job. Many of our working students are a little older, have been in the work force a little bit of time and have seen how much money they can make if they can get good at welding. Night students are also typically more prone to beg their way into a full class.

Day students usually are younger and most of them don't have welding related jobs. If a class they want to take is full, they are less likely to beg their way into the class, and more willing to sign up for a different class that has space. Many of our day students go to school full-time and are on some form of financial aid. Most of our students being paid to go to school by companies or rehabilitation agencies come during the day. Day students typically prefer us to have classes in the afternoon so they don't have to fight the traffic and can sleep-in.

When the department had morning classes in the far past, the classes would fill up, but getting people to show up on time every day, was always much more of a challenge.

In summary, Nights is our most productive time to teach, Mid-Day is our second most productive time and Mornings is the least productive time. Our current schedule of classes reflects the times of day that students most want to take classes. One of our main problems, when offering new classes, is having a good time slot, to fit it into. All of our most desirable time slots are taken already.

Describe effective and innovative teaching strategies used by faculty to increase student learning and engagement.

One of the best ways to engage students in learning is to ask them to teach someone else something they should already know. By doing this, it forces the "teaching student" to organize their knowledge in a structured way and makes them aware of anything they might have forgotten. Many students won't ask questions when they are confused, unless they have a need. Having to teach someone else, stimulates their minds to think, and forces them to clear any of the fog by asking questions about the subject. YOU TUBE is a great tool for learning, and it has a lot of videos on welding. Many students enjoy watching videos better than reading books. Many times different videos will give conflicting information and many times this causes them to think deeply and ask questions about which information is correct or best and why.



Field trips are always a fun way to engage and learn. Monthly, from September through May, the welding department has meetings with our local chapter of the American Welding Society. Students are encouraged to come, and every meeting has a dinner and speaker who talks about something related to welding. Many months, the chapter will have a special meeting at a special company or a Local Union. After 30 years of teaching, field trips are one of the only place I learn new things about welding now!

How is technology used by the discipline, department?

Welding in general, and especially welding equipment is full of technology. As new technology is invented, welding companies jump on it because it usually makes the welds come out better, easier or cheaper. Even though understanding all this technology is not necessary to do a good weld, the Welding Department tries to teach and explain the kinds of technology used and how it affects the weld outcome. Most companies expect their welders to understand some of this technology so they can make good choices while setting up equipment. Companies also expect that welders will make adjustments, from start to finish, as needed, to keep the quality of welds as high as possible. Understanding the technology inside a welding machine enables welders to make better welds. The department tries to integrate using machine technology into daily assignments in an effort to give students the experience needed to use the same technology once they start working on the job.

How does the discipline, department, or program maintain the integrity and consistency of academic standards with all methods of delivery, including face to face, hybrid, and Distance Education courses?

The Welding Department only has "face-to-face" classes. Consistency is not much of a problem because we have only one instructor teach each type of welding. By separating the different welding processes and giving them to only one instructor allows the instructors to focus deeper on class content and ensures that no matter what time of day students take the class the information will be almost the same.

### **Improvements:**

#### **Repair and Maintenance**

- Forklift battery needs replacement. The Welding Departments forklift is used by several departments: machine tech, wood tech, carpentry, college logistics/delivery.
- large shear needs blade sharpening and alignment. The shear is used daily to prepare metal coupons for welding.
- medium shear needs blade sharpening. The shear is used daily to prepare metal coupons for welding.
- The department is down 3 welding power supplies due to catastrophic failure. This directly affects enrollment.
- Repair horizontal band saws. The saws are used extensively for weld certification testing.

## Health and Safety

- Improve outdoor lighting to increase safety and security in the gas cage area: difficult to see at night and theft of cylinders has become a major financial burden.
- Replace double front door, F150, with new door that functions properly. Students have a difficult time actuating the lock mechanism to enter and leave the facility. Faculty have a difficult time securing the door when leaving. This has been ongoing for several years.
- District to design mount and install fume extractor for welding. The department has been in possession of the fume extractor for over 2 years.
- District to install equipment, VFD, to new roof ventilation blowers so that the intake and exhaust system can be balanced.
- District to Balance ventilation system. High negative pressure in the laboratory makes opening doors difficult. This has been ongoing since the roof blowers have been replaced, approx. 2 years. This also limits access and increases the chances of injury while entering the laboratory.
- The natural gas compressor is leaking and need repair. The leaking gas poses a safety hazard. This equipment is used by almost all the courses. The use of natural gas for cutting provides a lower cost alternative to using the much more expensive acetylene fuel gas.
- Truck, which is used by many departments and the district, needs oil change, brake inspection, fluid levels checked, greasing, wiper replaced.

## Curriculum

Please review your course outlines of record in CurricUNet Meta to determine if they have been updated or deactivated in the past three years. Specify when your department will update each one, within the next three years.

### **WELD 200** - Special Projects Laboratory

Last Updated: Not Available

Next Update: Spring 2018-2019

Deactivate Date: N/A

### **WELD 203A** - Beginning Gas Tungsten Arc Welding (TIG)

Last Updated: December, 14 2018 16:06:47

Next Update: Fall 2021-2022

Deactivate Date: N/A

### **WELD 203B** - Intermediate Gas Tungsten Arc Welding (TIG)

Last Updated: December, 14 2018 16:06:47

Next Update: Fall 2021-2022

Deactivate Date: N/A

**WELD 203C** - Advanced Gas Tungsten Arc Welding (TIG)

Last Updated: Not Available

Next Update:

Deactivate Date: N/A

**WELD 203D** - Certification Gas Tungsten Arc Welding (TIG)

Last Updated: October, 19 2018 10:44:06

Next Update: Fall 2021

Deactivate Date: N/A

**WELD 204A** – Solid Wire Welding I (Mig)

Last Updated: December, 14 2018 16:06:47

Next Update:

Deactivate Date: N/A

**WELD 204B** – Solid Wire Welding II (Mig)

Last Updated: December, 14 2018 16:06:47

Next Update:

Deactivate Date: N/A

**WELD 205** - Introduction to Welding

Last Updated:

Next Update: Fall 2018-19 , 12/14/18

Deactivate Date: N/A

**WELD 211A** – Stick Welding I (E7018)

Last Updated: December, 14 2018 16:06:47

Next Update: Fall 2021-22

Deactivate Date: N/A

**WELD 211B** – Stick Welding II (E6010)

Last Updated: December, 14 2018 16:06:47

Next Update: Fall 2012-2022

Deactivate Date: N/A

**WELD 211C** – Stick Welding III Pipe

Last Updated: December, 14 2018 16:06:47

Next Update: Fall 2021-2022

Deactivate Date: N/A

**WELD 211D** – Stick Welding IV

Last Updated: Not Available

Next Update: N/A

Deactivate Date: Spring 2019-2020

**WELD 215** - Welding for ECT Technicians

Last Updated: December, 07 2018 11:03:32

Next Update: Fall 2021-2022

Deactivate Date: N/A

**WELD 221A** - Beginning Oxygen-Acetylene Welding (OAW)

Last Updated: August, 23 2018 11:43:33

Next Update: Fall 2021-2022

Deactivate Date: N/A

**WELD 221B** - Intermediate Oxygen-Acetylene Welding (OAW)

Last Updated: October, 19 2018 11:01:56

Next Update: Fall 2021-2022

Deactivate Date: N/A

**WELD 231A** - Pipe Welding with SMAW

Last Updated: Fall 2011/12

Next Update: N/A

Deactivate Date: Spring 2018-2019

**WELD 466M** - Occupational Work Experience in Welding Technology

Last Updated: June, 18 2018 10:13:45

Next Update: Fall 2021-2022

Deactivate Date: N/A

**WELD 255** - Survey Course for the Skilled Trades

Last Updated: Not Available

Next Update: N/A

Deactivate Date: Spring 2018-2019

### CurriQunet Meta

Please summarize the Discipline, Department or program of study plans for curriculum plans for improvement. Below, please provide details for individual course improvement. Add plans for new courses here.

The Welding Departments discipline of teaching welding has not changed much over the years. Most text books for the teaching of welding have not changed much over the years also. Like the changes in text books, the welding department now uses improvements in technology to help students learn in an easier way. The department now has a smart classroom and uses the internet for many class activities. Some of these activities include watching videos and doing research at different web sites for class assignments. As far as curriculum improvements in the future, the department is looking at possibly using one set of text books to teach all of our classes in order to not have too much repetition across classes and make the purchase of text books less expensive.

The department is currently in the process of rewriting curriculum and adding a few classes, in an effort to create several mini certificates. Many of our welding students don't stick around long enough to complete the 24unit college certificate and we want these students to count. Some of these certificates will consist of 9 units of "For Credit" classes, and others will consist of 9 units of "Non-Credit" classes. The "For Credit" and "Non Credit" classes will be taught together but the "Non-Credit" classes won't have all the academic requirements of the "For Credit" classes.

The Welding Department has plans on adding 6 new "Non-Credit" classes in the next year that will be taught with existing "For-Credit" classes and allow students to achieve 2 "Non-Credit" Mini Certificates.

We are not sure of the Names and Numbers of the classes but they will be taught with and mirror our WELD 211-ABC and WELD 204-ABC classes. These two series of classes teach students how to STICK (211) and WIRE FEED (204) weld steel together and offer students the ability to acquire an American Welding Society AWS certification that they can use to get a job an while working to qualify to do certain welds.

The Welding Department also has plans on adding 3 new "For Credit" classes to the program. The first is a 3-unit WELD 204C class to make it possible to create a 9 unit Mini Certificate in "Wire Feed" welding. The second "For Credit" class will be a class to teach students how to pass the American Welding Society AWS, Certified welding Inspector CWI test. The privately taught class given right before the CWI test is very expensive and is a hardship for many people. Becoming a Welding Inspector is another career pathway for welding students and believe this will attract new students to the program.

The third "For Credit" class is a class in Metallurgy. Laney college use to have a whole department dedicated to Metallurgy until the only instructor had a heart attack. Metallurgy is not something needed to learn how to weld but makes welders smarter about everything they do. The Metallurgy class will benefit students in the Machine Shop and Engineering programs also.

### **Assessment – Instructional**

Student Learning Outcomes Assessment

List your Student Learning Outcomes

**SLO#1:** Students will be able to light an Oxy/acetylene torch, create a neutral flame and make a cutt on a plate of steal.

**SLO#2:** Students will be able to read a cutting Chart and pick out the correct settings and tip size for the size of metal to be cutt.

**SLO#3:** Students will be able to tell what welding process to use and what type of groove to prepare by looking at a welding symbol.

Were there any obstacles experienced during assessment? What worked well? (Mainly based on evidence in the report, attach other evidence as necessary)

The only obstacle to assessing our chosen SLO's had to do with time. In order to do a "honest and fair" assessment of students ability to correctly light a torch and cut steel required a lot of time. Many instructors could not find enough time to do this during class time while teaching and the department had to hire a part-time helper to assess each student one-by-one in a private spot of the department. This SLO is very important, but also very difficult to implement once a class gets larger in size. The Welding Department has many very important SLO's it shows students how to do that are not listed above. Assessing the SLO's we actually cover each semester, would definitely require an extra person, like a full-time teaching assistant?

What percent of your programs have been assessed? (mainly based on evidence in the report, attach other evidence as necessary; note: a complete program assessment means all Program Learning Outcomes (PLOs) have been assessed for that program)

The Welding Department currently has only 2 programs. The department has an AS program and a CS program. Every year the department meets and talks about our PLO's. The Department Chair for the last two years just left the college last semester to work at another college and I am not sure where most of the data on this assessment is located.

How has your dept worked together on assessment (planning together)? Describe how your dept works well on assessment? Describe things that went well or obstacles. What aspects of assessment work went especially well in your department and what improvements are most needed?

The SLO's and PLO's for the welding department were easy for the department staff to agree upon. We agreed, without much problem, with a main SLO that we would all use in all of our classes, so as to compare results with each other. What we found was that we basically all had some of the same problems and needed the same type of help.

#### Collaboration

The Department collaborated together in the assessment process by assessing a single SLO across all classes to compare with each other. We found that basically we all had some of the same problems no matter who was teaching the class. We found that, "fair assessment" of students doing physical tasks required a lot of one-on-one time to accomplish.

#### Leadership Roles

Liisa Pine, a part-time instructor in the welding department, has been serving as department chair for the last 4 or 5 years and has been serving in the role of "Leader" in the department assessment process. As stated earlier, Liisa has left the department after Fall 2018 and is no longer working with the college. Much of her work was not turned over to the department when she left and she has not participated in any way towards the writing of this Complete Program Review.

#### Planning Process

The Department is planning on changing many of it's SLO's to make them easier to assess. Welding requires many physical tasks, but they are very time consuming to assess properly. The Department doesn't want the assessment process to bring learning process to a stop. In the future we will be looking for different ways to assess students learning without having to do each student one-by-one.

#### Dept meetings for Collaboration

Department meetings for Collaboration have been done at least once per semester for the last 5 or 6 years. The departments Chair, Liisa Pine, was the leader in each of the meetings and lead the discussion. The main solution/tool used to be able to complete the assessment of all welding students was a teaching assistant. The department doesn't like the extra cost but wants to use relevant SLO's to assess students.

#### Data Analysis

What were the most important things your department learned from assessment? Did implementation of your action plans result in better student learning? In other words, how has your department used the results of assessment to improve student learning and/or curriculum? Please be as detailed as possible.

The Welding Department learned that SLO's make students better at what we choose as the SLO's. The Department learned that some SLO's are more difficult to assess and in order to assess them right requires extra employees. The department is not sure exactly how we will deal with this problem in the future. If money were no object, it would make sense for most CTE programs to have crew of teaching assistant employee's dedicated to assessing students on different SLO's throughout the whole semester. Most likely, in the future, the department will choose less relevant SLO's that will be easier and cheaper to assess.

Does your department participate in the assessment of multidisciplinary programs? If Yes, Describe your department's participation and what you learned from the assessment of the program that was applicable to your own discipline.

The Welding Department teaches a class for the Industrial Maintenance Program and the Environmental Controls Technology programs. One class that each program takes is called WELD 215 and the welding department has two classes at different times dedicated to students of each program. The ECT students come on Saturdays from 9am-2pm and IM students come on Mondays and Wednesdays from 11am-1:30pm. IM students also take the WELD 205 which is called Intro To Welding. WELD 215 is only 1/2 semester while WELD 205 runs the full semester. The welding department assesses these students and compares the data with other welding students, but I don't believe the data or assessment is shared with other departments.

Does your department participate in your college's Institutional Learning Outcomes (ILOs) assessment? If Yes, Please describe your departments participation in assessing Institutional Learning Outcomes.

I am not sure, but I believe NO.  
The Welding Department just lost its Department Chair, Liisa Pine, at the end of last semester Fall 2018.

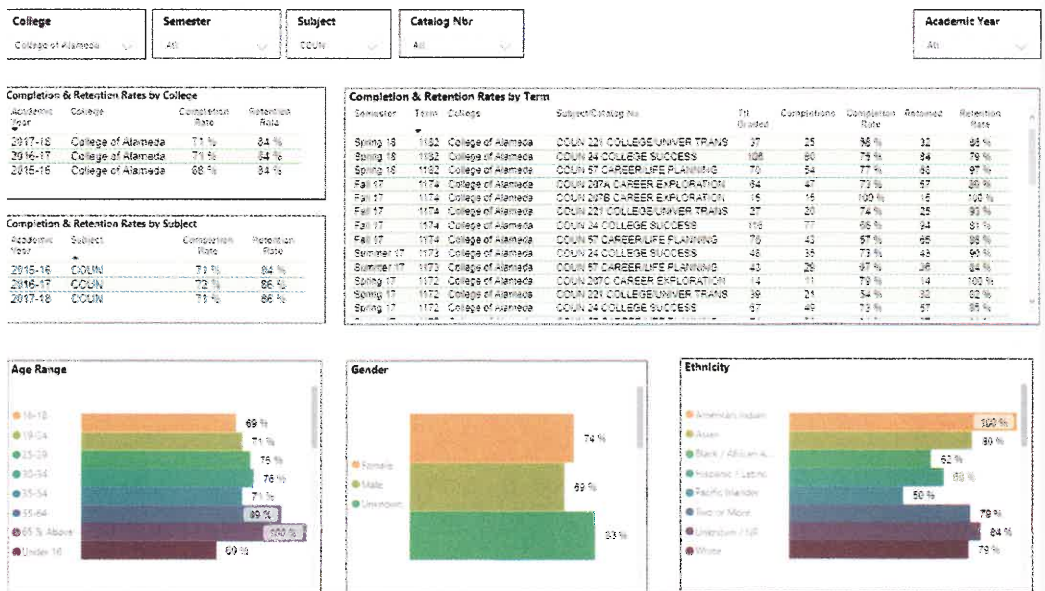
What support does your department need from administrators, assessment coordinators and/or your campus assessment committee to continue to make progress in assessment of outcomes and implementation of action plans?

The department needs help, in the form of assistants to run assessment excersizes. Without assistants, the department will need to change SLO's to make them easier to do a mass assement. Many welding jobs require SLO's that don't require students to read or write. These physical task SLO's are the ones that we really should be assessing, but I'm not sure it is practical or economically possible to do right with the size of our current classes.

Please verify the mission statement for your program. If there is no mission statement listed, please add it here.

To improve the Quality and Safety of students' lives by teaching them how to properly: Weld, Solder, Braise, Oxy-Cut, Plasma-cut, Inspect and Work with metals.

**Course Completion**



**Course Completion Power BI Dashboard**



Consider your course completion rates over the past three years (% of student who earned a grade of "C" or better).

Use the filters on the top and right of the graphs to disaggregate your program or discipline data. When disaggregated, are there any groups whose course completion rate falls more than 3% points below the discipline average? If so, indicate yes and explain what your department is doing to address the disproportionate impact for the group.

#### Age

The largest group of welding students at the welding department are between 25 and 29 years old. This group makes up 25% of the students. The second biggest group is the 20 to 24 year olds which make up 22% of the class. Together these two groups make up almost half of all the students. According to the American Welding Society AWS, the average age of a welder in the United States is around 55. Most age groups are pretty well represented. I believe most young students going to high school don't really think of becoming a welder until they go out into the work force and see that there is a shortage of welders and that they can make a lot of money. Becoming a welder is a skill that takes a lot of practice and many students give up before becoming proficient and/or settle for lower paying jobs.

#### Ethnicity

The biggest ethnic groups in the welding department are the Whites at 39%, and Hispanics at 24%. The African Americans come in at 14% and the Asians at 10%. There are a lot of Hispanic people in California and you will find a lot of Hispanic people at any construction or manufacturing facility in our area. I believe that even though Whites are the biggest group of students, the Hispanics end up getting the highest percentage of the welding jobs. Welding is a profession that many people can do without any formal education or training. Many welders can get good jobs without even speaking much English. Experienced welders come to America from many other countries and have no problem finding welding jobs in America if they are good welders.

#### Gender

The Welding department at Laney college has traditionally always had about 90% men in its program. Now it looks like the data is showing 84% men and 16% women. I attribute this change mainly to the department's "Intro To Welding" class which attracts more women to the program than any of its other classes. The percentage of men-welders in the work force is even higher than at school. Welding is a skill that both men and women can both do equally, but most companies are looking to hire men. Welders sometimes have to do a lot of dirty hard work before they are allowed to weld and many companies don't feel good giving women this type of work. Many welders don't get to weld until they have been working for a company for many months and had a chance to prove themselves as workers.

#### Foster Youth Status

The welding department does not have very many youth students, but the numbers have been getting larger in the last couple years. Currently 19 year or less are showing up as 14% of the program's students. I think this is because the state of California is letting high school students get credit for community college classes while still in high school. Youth students make good welders but they don't usually have the same level of commitment and dedication as many of the older students. Many companies don't want to hire younger students because they don't seem to work out in the long run until they are older. Many welding

jobs are very demanding, require overtime and even traveling to the job for work. Many younger students aren't married, have many friends and want to have a healthy social life.

#### Disability Status

The Welding Department has very few physically Disabled Students. Typically less than 1%. Welding is basically a lot of hand and eye coordination and requires a lot of ability to move around. I have been teaching for the last 30 years and never had a student or even seen a welding student in a wheel chair. The department has had about 5 deaf students of the last 30 years. Some of them had interpreters and Some did not. I am not sure if they ended up getting jobs I did have a student whose legs where crushed by a forklift and moved around with crutches but his eyes and hands worked fine and he had full feelings in his whole body. He had a brother who did pipe welding and helped him to get a job after a lot of practice.

#### Low Income Status

The Welding Department has a lot of low income students. Welding is sometimes called "Dark, Dirty and Dangerous", and because of this most higher class folks stick away from it. One of the reasons welders make a lot of money sometimes is because of the hazards involved. Welding can be hazardous to ones health in many ways. Low income people look at welding jobs as a way for them to move up to a middle income life. Most welders can, and do, make a "living wage".

#### Veteran Status

I am not sure about the numbers of Veterans in the welding department. Most of the Veterans in the Welding Department were exposed too or did welding while they were in the military and are now looking for jobs outside the mititary.

Consider your course completion rates over the past three years by mode of instruction. What do you observe?

#### Face-to-Face

The Welding Department only teaches Face-to Face classes currently. Course completion is fairly high but many student give up when they find out that it take a lot of practice to get good enough to make good money. The data in Launch Board is incomplete and only showing 10 degree and certificate completers in 2016-2017. All other years are showing no data.

#### Hybrid

N/A

#### 100% Online

N/A

#### Dual Enrollment

The welding department has a few students that are dual enrolled in high school and are taking welding also.

#### Day time

50% of the classes the welding department teaches for program completion is dedicated to Day Students. These classes are taught in the afternoon from 2-5pm on a Mon-Wed and Tue-Thur schedule. Each of the classes are 3 units and have 2 hours of lecture and 4 hours of Lab per week. The amount of welding units needed to complete our programs is 24 and students can do these all during the afternoon.

#### Evening

50% of the classes the welding department teaches for program completion is dedicated to Night Students. These classes are taught in the evening from 6-9pm on a Mon-Wed and Tue-Thur schedule. Each of the classes is 3 units and have 2 hours of lecture and 4 hours of Lab per week. The amount of welding units needed to complete our programs is 24 and students can do these all during the Night.

How do the course completion rates for your program or discipline compare to your college's Institution-Set Standard for course completion?

Many students never complete the welding departments AS or CS programs. This is mainly because of 4 reasons. 1<sup>st</sup>.- There is no schools in California to transfer to which offer a BS in welding. 2<sup>nd</sup>. No companies, I know of, require an AS in welding in order to be considered for hire. 3<sup>rd</sup>. Many students are able to find a good, well-paying job after only one or two semesters and leave the department for work, and 4<sup>th</sup>. Many students give up and leave after they find out how much practice it takes to get good. Most people think welding is going to be easy to learn until they give it a try. Because there is a shortage of welders, nation wide, welding classes always fill up every semester with students that are eager to find out if welding is "right for them".

How do the department's Hybrid course completion rates compare to the college course completion standard?

N/A

Are there differences in course completion rates between face to face and Distance Education/hybrid courses? If so, how does the discipline, department or program deal with this situation? How do you assess the overall effectiveness of Distance Education/hybrid course?

N/A

Describe the course retention rates over the last three years. If your college has an Institution-Set Standard for course retention, how does your program or discipline course retention rates compare to the standard?

I have been working in the Laney Welding Department for about 30 years, and the course retention rates haven't really change over that whole time. Students leave the department for several different reasons. Many students leave because they just want to weld and there instructors want them to do homework and/or bookwork they don't want to do. Others leave because of work and family obligations. I am not sure if Laney College has set standards for course retention, but that is not likely to change students actions. Welding is an "art" which requires a lot of practice to master an not everyone is willing to stick it out long enough to get good. Many students are satisfied with low paying welding jobs leave to early.

What has the discipline, department, or program done to improve course completion and retention rates?

The main thing the department has done to help improve Course Completion is mentor students. Mentoring students about how hard it is to learn welding makes them feel better about doing bad welds in the begining. Most students don't think it will be so hard when they start out and blame themselves when they can't do a good job right away. This is normal and instructors need to explain this so students don't feel like failures. Instructor need to remind students that all the "hard work" learning to weld will pay-off when they go to work. There is a shortage of good welders nation wide. There are plenty high paying of jobs for good welders. Many folks want welding jobs but can't do the quality required to get the job.

### **Degrees & Certificates Conferred**



### Degrees & Certificates Power BI dashboard

What has the discipline, department, or program done to improve the number of degrees and certificates awarded? Include the number of degrees and certificates awarded by year, for the past three years.

The main thing the department has done to try and improve degrees and certificates is the same thing we have done to try and improve retention. Mentoring and explaining exactly what is needed to complete the program right from the start. The welding Program only requires 24 units of welding classes and if a student can take 4 welding classes a semester, they can complete all the necessary classes in one year. Because of the national shortage of welders, students can get scholarships from the American welding Society AWS, that will pay for all of their classes and supplies. Even though scholarships are easy to get and don't have to be paid back, it is very hard to get students to fill out all the paperwork by March 1<sup>st</sup> which is the deadline each year. Last year they had so much money to give away they had a second "give-away" of scholarship money in November.

Over the next 3 years, will you be focusing on increasing the number of degrees and certificates awarded?

Yes! We have plans on offering 4 new Mini Certificates.  
2 credit and 2 non-credit

What is planned for the next 3 years to increase the number of certificates and degrees awarded?

Two 9unit Credit Mini Certificates in Stick(211) and Wire-Feed(204)  
Two 6unit Non-Credit Mini Certificate in Stick(211) and Wire Feed(204)  
This will hopefully encourage many students who leave early for jobs to get a certificate.

## **Engagement**

Discuss how faculty and staff have engaged in institutional efforts such as committees, presentations, and departmental activities. Please list the committees that full-time faculty participate in.

Over the past 3 years, most of the institutional activities done by welding department staff have been done at the departmental Level.

Dale Phillips did serve in Peter Browns tenure review committee. Dale Phillips served as head of the hiring committee for the new full-time Engineering Department Instructor. Dale Phillips served twice in the hiring committee of the full-time Tool Room Keeper position for the Welding Department (First tool-room hire was scrapped.).

Richard Hashimoto has been engaged in department activities: evaluating and updating current course curricula: 203A-D, 205, 221A-B, wrote the narrative for the degree program, wrote two new courses: Introduction to weld inspection and a Weld metallurgy course. Richard applied for and was awarded a grant to buy Inspection equipment, purchased inspection equipment, wrote proposal and was granted a new microscope that is being used by several departments: welding, machining, engineering, Bio-Man, and chemistry. Richard also recruited adjunct faculty for the Pipe welding course.

Discuss how faculty and staff have engaged in community activities, partnerships and/or collaborations.

The Welding department has been active for many years with the San Francisco chapter of the American Welding Society (AWS). Both Dale Phillips and Richard Hashimoto have served as Section Chair before in the past. The section has meetings once a month from September through May where we meet with other people in the welding community including other colleges in the area. Both Dale Phillips and Richard Hashimoto have become Certified Welding Inspectors (CWI) through the AWS. The welding department has a relationship with the ILWU workers at the Port of Oakland. Being a Mechanic at the Port requires two welding certifications and they can get both of them at Laney through Dale Phillips who also does on sight training and testing as needed when things get busy.

Discuss how adjunct faculty members are included in departmental training, discussions, and decision-making.

The department is losing its only Adjunct Faculty (Liisa Pine-Schoonmaker) this year in January 2019. The department has included Liisa in the full operation of our shop by allowing her to serve as Department Chair and/or Co-Department Chair ever since she was hired around 6 years ago. Over Liisa's stay here at Laney she has done a lot of the busy paperwork it takes to run the department at the administrative level.

**Prioritized Resource Requests Summary**

In the boxes below, please add resource requests for your program. If there are no resource requested, leave the boxes blank.

<b>Resource Category</b>	<b>Description/Justification</b>	<b>Estimated Annual Salary Costs</b>	<b>Estimated Annual Benefits Costs</b>	<b>Total Estimated Cost</b>
<b>Personnel: Classified Staff</b>				
<b>Personnel: Student Worker</b>	Several Tool Room Helpers/ To help Tool Room Keeper, Instructors, and Students do class activities and prepare materials for class. These duties were done by a full-time Classified Teaching Assistant in the past.	\$ ?????	\$ ?????	\$ ?????
<b>Personnel: Part Time Faculty</b>	Two Part-time Welding Instructors / To teach classes taught by part-time instructor Liisa Pine who just left the department 12/2018 and new classes being added to the curriculum. (Weld 205, Weld 215, "New" Metallurgy Class, "New" Weld Inspection Class)	\$ ?????	\$ ?????	\$ ?????
<b>Personnel: Full Time Faculty</b>				

Resource Category	Description/Justification	Total Estimated Cost
<b>Professional Development: Department wide PD needed</b>		
<b>Professional Development: Personal/Individual PD needed</b>	Welding Inspector Fee's / Instructors who are American Welding Society CWI Welding inspectors have Fee's and eye exams to pay every 3 years to keep their License active, and have to take a 40 hour class every 9 years. Both Dale Phillips and Richard Hashimoto are inspectors who are able to certify students to do welds requiring a certified welder.	\$ 400/3yr \$1800/9yr

**Prioritized Resource Requests Summary - Continued**

Resource Category	Description/Justification	Total Estimated Cost
<b>Supplies: Software</b>		
<b>Supplies: Books, Magazines, and/or Periodicals</b>		
<b>Supplies: Instructional Supplies</b>	Metal for teaching welding / Some metal is hard to get donated and needs to be periodically purchased. Metal is cut, stored and used over several years	\$5000
<b>Supplies: Non-Instructional Supplies</b>		
<b>Supplies: Library Collections</b>		



Resource Category	Description/Justification	Total Estimated Cost
<b>Technology &amp; Equipment: New</b>		
<b>Technology &amp; Equipment: Replacement</b>	<p>1<sup>st</sup> New Battery for 2008 Toyota Electric Forklift / Forklift is needed and used by ALL CTE departments to lift heavy equipment and materials around shop and on &amp; off trucks.</p> <p>2<sup>nd</sup> Tune up &amp; Oil change for 2008 Isuzu flatbed truck/ Truck is more than 10 year old and has not had any service done yet. It still has the same oil and filters in it that came with it from the dealer.</p> <p>3<sup>rd</sup> Replacement of 3 broken weld machines that can't be repaired./ Machines periodically break without warning and are used daily by welding classes. The amount of machines available for use directly impacts the number of students we can have in each class. Ideally the department would have a couple spare machines to instantly replace machine as they break in the middle of the year.</p> <p>4<sup>th</sup> Band saw for cutting metal up to 10" thick/ current band saw is a bad design and keeps breaking. The current saw was made in China and has to constantly be repaired with new parts. Our band saw is used daily and is needed in order to test and certify welders for work.</p>	<p>\$9,000</p> <p>\$500</p> <p>\$15,000</p> <p>\$5,000</p>

**Prioritized Resource Requests Summary - Continued**

Resource Category	Description/Justification	Total Estimated Cost
<b>Facilities: Classrooms</b>		
<b>Facilities: Offices</b>		

<b>Facilities: Labs</b>	<p>-Replace double front door, F150, with new door that functions properly. Students have a difficult time actuating the lock mechanism to enter and leave the facility. Faculty have a difficult time securing the door when leaving. This has been ongoing for several years.</p> <p>-District to design mount and install fume extractor for welding. The department has been in possession of the fume extractor for over 2 years.</p> <p>- District to Balance ventilation system. High negative pressure in the laboratory makes opening doors difficult. This has been ongoing since the roof blowers have been replaced, approx. 2 years. This also limits access and increases the chances of injury while entering the laboratory.</p> <p>-The natural gas compressor is leaking and need repair. The leaking gas poses a safety hazard. This equipment is used by almost all the courses. The use of natural gas for cutting provides a lower cost alternative to using the much more expensive acetylene fuel gas.</p>	<p>\$5000 ?</p> <p>\$ ?????</p> <p>\$ ?????</p>
<b>Facilities: Other</b>	<p>-Improve outdoor lighting to increase safety and security in the gas cage area: difficult to see at night and theft of cylinders has become a major financial burden.</p>	<p>\$ ?????</p>

Resource Category	Description/Justification	Total Estimated Cost
Library: Library materials		
Library: Library collections		

Resource Category	Description/Justification	Total Estimated Cost
OTHER		