

# WELDING PROGRAM REVIEW SELF-STUDY

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*Fall 2013-Spring 2014*





## WELDING SELF-STUDY

**1.1 Introduction.** The welding program at Solano Community college has existed for over 30 years. Originally designed to provide job training for those seeking employment at Mare Island ship and submarine yards the program has evolved into a multi-faceted training tool that serves both new and aging industry. Currently welding may be used as part of an Associate of Science (AS) and a certificate of welding. Many students come to the department to obtain 30 units of welding; this allows them to reduce a union apprenticeship from four to three years. Some students have the goal of buying the equipment needed to work as contractors in the trade. Still others come to receive training that may enable them qualify for new employment or promote in jobs held. Others simply use the skills for their own needs i.e., projects that do not necessarily serve industry or provide a pay check for the end user.

Currently, the welding program is undergoing substantive changes. The program is partnering with industry to create classes and welding process i.e., training that join the two in offering certificates that are in line with industry goals and standards. Union local 377 (Benicia), 378 (Oakland), 108 (Sacramento) and pipe fitters local 342 (Concord) has been instrumental in meeting this goal. Further, the women in welding program (sponsored by local 377 Benicia) has given our female population opportunities in welding and related fields that have not ever been seen in Solano County.

Current offerings include Associate of science and certificate in either single welding or multiple welding processes.

The program is designed to prepare the graduate for employment as a welder or a welder helper in the metal trades. The major types of welding covered are shielded metal arc welding, acetylene gas welding, metal inert gas, tungsten inert gas, automatic and semi-automatic welding machines. This needs an update and should read as follows: the program is designed to prepare the graduate for employment as a welder or welder's helper in the metal trades. Further job skills for those already employed in welding related and metal fabrication trades the use of and proper application of materials and consumable. The operation and control of welding processes, manipulation of welding consumables and the uses of gas tungsten arc welding (tig), gas metal arc welding (mig) , flux core arc welding (inner shield), shielded metal arc welding (stick), oxygen fuel cutting (gas cutting chemical process) and oxygen fuel welding (gas welding).

As a department we describe our mission statement as to:

*Provide quality instruction to students interested in welding and the metal trades. Help students develop work force skills and transfer level skills as well as develop skills that foster critical thinking and culturally informed practices, knowledge of industry practice and instilling the ideas of lifelong learning and long term jobs.*

One of the strengths of our program is the relationship we have developed with employers such as Cal pipe, Martin’s Metal and union locals mentioned above. In the 2012-2013 year 160 students have come to our program. 62% have come as a direct result of employer referral (96 have come from union locals). Few leave our program with an advanced knowledge of welding practice because of high demand in the current employment market.

**1.2 Relationship to College Mission and Strategic Goals.** The welding department’s mission is closely aligned with that of the college. We educate an ethnically and academically diverse population of students to help them obtain their educational goals. We provide work force education and training but at this time we have no model curriculum for welding majors that enables students to transfer. The faculty contained within welding cares deeply about the quality of education students receive and would seek further partnerships with colleges in obtaining this goal.

**Table 1. SCC’s Strategic Directions and Goals**

<i>Goal 1: Foster Excellence in Learning</i>	<i>Program Evidence</i>
<p><i>Obj. 1.1 Create an environment that is conducive to student learning.</i></p>	<p>The learning environment is a built in, the lab provides students with a variety of materials and processes. We work with aluminum grade 4-5052, low and high carbon steels (grade 836-852) and stainless grade 304,308 and 309. All courses in welding are rich in course content. Course content includes American Welding Society symbols, code requirement and plate testing specifications.</p>

<p><i>Obj. 1.2 Create an environment that supports quality teaching.</i></p>	<p>We use resources such as online content <a href="http://www.solanocommunitycollegewelding.org">www.solanocommunitycollegewelding.org</a> an instructor driven website that provides course content and links to AWS sites. This provides DSP students as well as others with much needed content that aids in learning. Student to student learn takes place through clubs like <a href="http://www.solanocommunitycollegeweldingclub.com">www.solanocommunitycollegeweldingclub.com</a> and <a href="http://www.solanocommunitycollege.welding.com">www.solanocommunitycollege.welding.com</a> , students meet weekly to work on projects or tour union training facilities. We also use resources such as “engrade” this allows student to view grades, comments and track progress from the web.</p>
<p><i>Obj. 1.3 Optimize student performance on Institutional Core Competencies</i></p>	<p>Faculty has conducted SLO assessment, unfortunately this process is still in its infancy. The goal of the welding department is to reorganize classes and course work to meet national standard. Standards can only be met through a strict adherence to the AWS (American Welding Society); even though the AWS cannot place sanctions on an institution they do set the standard and code followed in the western world.</p>
<p><i>Goal 2: Maximize Student Access &amp; Success</i></p>	
<p><i>Program Evidence</i></p>	
<p><i>Obj. 2.1 Identify and provide appropriate support for underprepared students</i></p>	<p>Currently there is no support system in place. Future plans include an introduction of math and contextualized English studies (English 305 is being researched) in welding syllabi. Further this should be included in any curriculum updated. Contextualized math and English for CTE has become the favorite with Diablo Valley College as well as Los Medanos and Laney in Oakland but is still in the planning stage, no progress toward class room implementation has been made.</p>
<p><i>Obj. 2.2 Update and strengthen career/technical curricula</i></p>	<p>Faculties aligns classes with the requirements of industry and develop a CAP matrix agreement. When appropriate we align or articulate with high schools and 4 year colleges.</p>

<p><i>Obj. 2.3 Identify and provide appropriate support for transfer students</i></p>	<p>Welding has now and in the past received transfer students but currently the welding program is not geared for transfer students.</p>
<p><i>Obj. 2.4 Improve student access to college facilities and services to students</i></p>	<p>These services should include an enhanced orientation in that many who enroll in welding as a standalone class have little or no knowledge as to what is available.</p> <p>Currently students have little access to mental health and crisis services. It had become the nature of the welding program to attract students from all walks of life; currently the only method at our disposal is to use law enforcement to remove these students. Further, crisis services is open but one day a week that one day fails to serve both welding and DSP which now have a close relationship through student referral .</p> <p>Students will be served and have vastly increased access to instructors and labs once course curriculum has been reorganized. Yolo, Los Medanos and Laney run 3 unit classes year round this increases the number of students and the number of offerings in welding. If welding offered classes from 8am to 8pm the program would demand a staff increase shorter class schedules and increased numbers of classes (fewer units more classes) have been very successful and proven as a method to increase student learning. Currently welding runs four ten unit classes that all run at the same time using one instructor. This means the instructor is teaching four classes and four different topics at the same time in one class room. Logic dictates that this must stop and that classes must follow academic norms of one subject per class session.</p>
<p><i>Obj. 2.5 Develop and implement an effective Enrollment Management Plan</i></p>	<p>One option would be to move non CTE classes out of 1800b to increase class room space and reduce overcrowding. Break up welding courses to run independently and not all-together as stated before our courses run at the same time and in the same room.</p>

<i>Goal 3: Strengthen Community Connections</i>	<i>Program Evidence</i>
<p><i>Obj. 3.1 Respond to community needs</i></p>	<p>One of our department's strengths is its responsiveness to employers. I hold regular advisory meetings. The two faculties are also a member of that welding community and have literally hundreds of contacts within that community. We as a department also support all activities of the AWS (American Welding Society) and attend regular meetings and seminars in Long Beach, San Diego and Sacramento CA. These seminars and meetings are held six times a year and AWS district 7(Sacramento and Solano county) meetings are held monthly.</p>
<p><i>Obj. 3.2 Expand ties to the community</i></p>	<p>The program expands ties through the AWS, course work and any number of guest speakers. Parents, families and guests are welcome.</p>
<i>Goal 4: Optimize Resources</i>	<i>Program Evidence</i>
<p><i>Obj. 4.1 Develop and manage resources to support institutional effectiveness</i></p>	<p>Perkins funds meet student needs in materials such as steel and aluminum purchases. The development of clubs to produce and sell items has supplemented Perkins. Currently donors have left because of changes to tax code that limits donations. Tools have become a major issue in that there has yet to be a system of funding developed that reaches beyond Perkins.</p>
<p><i>Obj. 4.2 Maximize organization efficiency and effectiveness</i></p>	<p>Curriculum reorganization will increase efficiency and effectiveness in that classes will no longer run together and more classes in the space of a day will allow for new faculty to be hired.</p>

*Obj. 4.3 Maintain up-to-date technology to support the curriculum and business functions.*

- Updates to equipment have been made (2012)
- 22 pieces of welding equipment were purchased from Lincoln Electric this replaced 22 pieces of obsolete equipment that either did not function or meet industry standard because of age.
- New instructional software is needed
- In-weld software is recommended by Weld ED, Weld Ed (Lavern Ohio) has become the instruction source of the American Welding Society, the AWS is also the national leader and code writer. In-weld software contains technique and code needed in today's industry.
- Virtual welding equipment would improve learning outcomes
- Additional class room space is needed
- New or building improvements are needed

**1.3 Enrollment.** This data reflects the 2011-2012 and 2013 academic year

Number of sections offered

Fall 11	Spring 12	Fall 12	Spring 13	Summer 13	Fall 13
6	6	6	6	4	6

Number of students enrolled

Fall 11	Spring 12	Fall 12	Spring 13	Summer 13	Fall 13
58	57	59	61	51	64

Number of FTE

<i>Fall</i>	<i>Spring</i>	<i>Fall</i>	<i>Spring</i>	<i>Fall</i>	<i>Spring</i>	<i>Fall</i>	<i>Spring</i>	<i>Fall</i>	<i>Spring</i>
2008	2009	2009	2010	2010	2011	2011	2012	2012	2013
28.59	35.13	34.59	35.64	34.51	25.51	32.67	36.10	35.00	28.98



Enrollment in welding is very healthy and I have been asked by the administrator to cooperate in finding ways to serve more students.

1. SCC admin has reinstated summer classes
2. SCC has hired curriculum professionals to aid in expanding welding

**1.4 Population Served.** The population served is predominately male, but this is indeed changing. I have proposed a marketing plan, the pilot plan was simple and effective and we have gone from zero to one to six female students in the last two years. Working with local 377 Benicia women were recruited for training, candidates were selected and sent to Solano Community college for one semester of welding train. Candidates were then given a further 20 week training course from within the union with an employment rate (according to local377) of 100%. Since then we have used the local news agencies and local 377 to continuously recruit women into welding.

**Percentage range of students by ethnicity 2011-2013 in Welding 100-103 compared to College**

Ethnicity	Welding	Ethnicity	Solano
White	36-38%	White	27-35%
Black	28-31%	Black	15-17%
Hispanic	19-21%	Hispanic	14-23%
Asian	4-6%	Asian	13-17%
Native American	0%	Native American	.5-1%
Other	2-4%	Other	14-28%

In terms of age, welding is a trade for the young, unions tends not to bring people in that are over the age of 27. Currently Solano County is far below the national average in age for those working in the field of welding (47 years of age). Welding currently tends to follow the county average in persons hired in age groups. Currently the average age of persons entering union service is 26. The average age of those entering nonunion welding positions is 22(U.S. department of labor, 2012)

**Percentage range of students by age 2011-2013 for Welding 100-103**

Age Group	%
Less than 18	.2
Between 18-20	55
Between 20-30	42
Over 30	2.8

Males are by far over represented in our program. I believe that past discrimination and obsolete social ideas have prevented women from entering the program. With the support of industry partners women’s unions have been formed, this has bolstered enrollment. Further, support from the college and Admin has as well moved those numbers up, currently the goal was set at a 2 to 1 ratio of male to female for 2015. This plan was conceived by Iron Workers local 377/ 378 in that the state and federal government are now awarding contracts based on gender in employment. SCC supports the ideas of fairness but has no plan in place at this time. I believe a gender equity plan should include women’s welding but at this time would be impossible at the community college level as it conflicts with the ideas of coeducation.

**1.5 Status of Progress toward Goals and Recommendations.** Report on the status of goals or recommendations identified in the previous educational master plan and program review.

**Table 2. Educational Master Plan**

<i>Educational Master Plan</i>	<i>Status</i>
1. Rewrite the ornamental class and the industrial maintenance courses	Discontinued , possible rewrite of the course
2. Support growth in other CTE and Business programs	Ongoing
3. Schedule courses to maximize use of lab facilities	Reorganization of curriculum to be presented to committee late October 2014
4. Continue to integrate new techniques and technology into current courses. Acquirer new software as it arises Stay current with the American welding Society in code	Ongoing

**Table 3. Program Review Recommendations**

<i>Program Review Recommendations (Previous Cycle)</i>	<i>Status</i>
1. Help student develop readiness skills to be more successful in welding course work	Ongoing

2.	Further develop project clubs and meeting spaces with modern labs to serve students	Clubs and outside projects have been developed that serve the community but
3.	Update technical resources	Better access to AWS materials is needed
4.	Further maintenance of buildings and	Needs to be developed
5.	Create literature and brochures	In progress
6.	Increase Adjunct faculty	Hiring committee to be formed in June
7.	Increase lab technicians	In progress
8.	Increase AWS involvement	Test facility documents not current
9.	Increase equipment funding	In progress through Perkins
10.	Increase the number of donors	In progress

**1.6 Future Outlook.** The need for a viable welding program is projected to remain constant over the next 10 years. As the nation’s economy recovers the need for building trades people will grow. At the forefront of that need will be metal trades persons.

**Current state:**

Department of Labor (2010) states that the need for welders has grown to 308,000. Further welding and welding technologies are American driven, this means that all information is proprietary in nature and controlled by the AWS (American Welding Society). In other words it is America organizations i.e., the community college system and various trade schools that train welding personnel for the global market.

Solano Community College has just now within the last year begun that global market training, in that the welding program has received our first foreign students. These students will return to China and Europe and embark in careers with global conglomerates like Shell and BP (British Petroleum) et.al.

These students will need strong math and language skills, currently most whether foreign or not have not the math skills to succeed in a global market and American based students have neither the language skills nor the math skills they need to pass entrance in PG&E, Shell, and Ball et.al. Currently takes its students without examination or prequalification.

Moreover, welding faces its own challenge in finding qualified adjunct staff, according to the AWS (2011) the average welder on American soil has an average education of the 9<sup>th</sup> grade or less. In other words not greater than a 9<sup>th</sup> grade education and the AWS its self has lowered standards to the minimum of 8<sup>th</sup> grade (saying and I quote, “must have graduated the 8<sup>th</sup> grade”) for entrance into the CWI examination (certified Welding Inspector). In short welders with an Associate’s degree or higher level of education are rare at best this degree is also required to obtain employment within CTE.

This shows an absence of qualified persons to fill slots vacated by welding instructors “grandfathered into the system”.

In the opinion of the welding department we believe it would be prudent to require 60 hours per year of AWS training and a training audit bi-annually for instructors.

We also have a need for welding mentorship for new staff and lab techs.

## CURRICULUM DEVELOPMENT, ASSESSMENT, AND OUTCOMES

### Program Level Outcomes

**2.1** Using the chart provided, list the Program Level Student Learning Outcomes (PLSO) and which of the “core four” institutional learning outcomes (ILO) they address. In the same chart, specifically state (in measurable terms) how your department assesses each PLSO. For example, is there a capstone course (which one), is it completion of a series of courses (list), is it a passing grade on certain assignments that are universally given (list), passing a licensing exam, completing a portfolio, etc.

**Table 4. Program Level Outcomes**

<i>Program Level Outcomes</i>	<i>ILO (Core 4)</i>	<i>How PLO is assessed</i>
1.		
2.		
3.		

**2.2** Report on how courses support the Program Level Outcomes at which level (introduced (I), developing (D), or mastered (M))

**Table 5. Program Courses and Program Level Outcomes**

<i>Course</i>	<i>PL01</i>	<i>PL02</i>	<i>PL03</i>	<i>PL04</i>

**2.3** Describe the results of the program level assessments and any changes/planned actions made based on the outcomes of program level student learning assessments.

**Table 6. Program Level Assessments**

<i>Program Level Outcomes</i>	<i>Dates Assessed</i>	<i>Results</i>	<i>Action Plan</i>
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- 1.
- 2.
- 3.

### Student Learning Outcomes

**2.4** To my knowledge many of Welding's SLO's have not been updated, the process has recently been restarted and will continue over the longitude. In welding discussions are just beginning about standardized measurement tools that run across sections.

**2.5** In terms of scheduling, the welding department plans to follow guidelines of completing even numbered courses in the fall and odd in the spring.

**2.6** Currently, to the best of my knowledge course level SLO's are complete and up to date. I would suggest that CTE faculty meet regularly to ensure that no one faculty member is working in isolation and those issues of standardization are fully discussed.

**2.7** It is the goal of welding to complete all SLO's every year , this is new to my department, I also find it important that adjunct staff new to welding be informed of this obligation as well. I believe it is the instructor's responsibility that these tasks be completed on time and welding would appreciate the dialog between parties to continue.

**2.8** Based on my analysis of Welding's SLO's I have made changes to course work:

- Creation of rubric for evaluation course work portfolio
- Provide samples of well written assignments
- Store handouts online
- Reading assignments that require critical thinking skills
- Purchase subscriptions to AWS videos
- Purchase subscriptions to Lincoln videos
- Changing the text book to reflect proper welding practice
- Purchase additional class room supplies
- Add field trips to refineries and water/power plants

### Curricular offerings

**2.9 Course offerings.** *Attach a copy of the course descriptions from the most current catalogue. Describe any changes to the course offering since the last program review cycle (course content, methods of instruction, etc.) and provide rationale for deletion or addition of new course offerings. Include a discussion of courses offered at Centers (Vacaville, Vallejo, Travis) and any plans for expansions/contraction of offerings at the Centers.*

Until curriculum review has passed committee we are mired in current course work, these classes are limited and do not meet state or industry standards.

**Weld 100-** This is an introductory class that develops manual skills and related technical knowledge in arc and acetylene welding and burning; flat, horizontal, vertical and overhead positions; machine adjustments, rod identification and characteristics; joints metal expansion and contraction. *Five hours lecture, fifteen hours lab.*

**Weld 101-** Designed to present the theory, procedures, and manipulative skills required to weld mild steel plate to code certification levels with the shielded metal arc and flux cored arc welding processes. A basic understanding of metallurgy, metals identification, layout, and welding of other metals is also presented. *Five hours lecture, fifteen hours lab.*

**Weld 102-** Designed to present the theory, procedures, and manipulative skills required to weld metals of various thicknesses with the gas metal arc welding process. Introduces the student to the theory, procedures, and manipulative skills required to weld mild steel pipe to industrial standards. *Five hours lecture, fifteen hours lab.*

**Weld 103-** Designed to present the theory, procedures and manipulative skills required to weld metals of various thicknesses with the gas tungsten arc process, as well as the theory, procedures and manipulative skills required to weld and fit pipe in all positions. *Five hours lecture, fifteen hours*

Note: these classes are under review

With the support of Administration the scope of these classes is changing. In review it has become necessary to re order the entire curriculum. As previously stated in their current state these classes do not meet the standard set forth by the state or industry. It is the hope of welding that by fall of 2014 new and modernized course work is introduced to the SCC welding department.

It is also our hope that by combining classes as well as having more to offer in the way of welding courses we at SCC with be able to serve a greater number of students as well as a vastly greater number of employers in the future.

#### Required Courses, current AS Degree

Current AS Degree	Units
WELD 100—Welding Technology	10
WELD 101—Welding Technology	10
WELD 102—Welding Technology	10
WELD 103—Welding Technology	10
DRAFT 79—Blueprint Reading	3
IT 140—Industrial Materials	3

IT 150—Industrial Materials	2
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Total 48

Note: 23 units of general Ed in addition to the 48 required

Proposed AS degree	Units
Welding 107	4
Welding 108	4
Welding 109	4
Welding 131	4
Welding 132	4
Welding 133	2
Welding 134	3
Welding 135	4
DRAFT 79—Blueprint Reading	3
IT 140—Industrial Materials	3
IT 150—Industrial Materials	2

In addition to 23 units of General Ed

Current certificate

WELD 174—Weld Equip Operation	2
WELD 175—Welding Fabrication	2
WELD 176—Shielded Arc	2
WELD 177—Wire Welding	1
OCED 090—Occupational Work Experience	1

Total 8

Proposed certificate

Welding 107	4
Welding 108	4
OCED 090—Occupational Work Experience	1
Elective	X
Elective	X

To make this certificate stackable any number of courses from waste water to Mechanical many be added.

**2.10 Instructional Quality.** High quality instruction is one of our programs greatest strengths. Between the one full time instructor and one adjunct instructor the two share more than 60 years of industry experience.

Students tend to give Ray Sanderson and Jeffrey Kissinger relatively high marks when evaluations are conducted.

“Ray’s Instruction gives added value to those already in the job market”. Because of Ray Sanderson many students have promoted from welders helper to apprentice welder enabling them to move forward to journeyman.

Jeffery Kissinger has placed more than 64 students in the industry in less than 2 years but tends to receive a slightly lower polling from students. I suspect it is the closeness Ray and I have with students and in general it is not uncommon for students to take my and Ray’s classes in the same semester.

To insure depth and rigor we use the current industry standards for text books, and assess in a variety of formats such as observation, exams, written papers and projects.

**2.11 Teaching Methodologies.** We teach our courses to a variety of students with varied learning styles. While instructors have different methodologies we both use a mixture of lecture, work group, individual reflection and use of media. While teaching we include examples of different industrial practice and encourage students inclusively at the job and careers they desire.

The community is an important part of or curriculum and will remain so when reorganized. All courses in welding integrate elements of the industrial community.

**2.12 Fill rates/Class size.** *Fill rates* currently classes are over their maximums it is our hope that reorganization will reduce the pressure place on instructors, staffers and admin.

Again service through reorganization is a short term goal; currently the wait list for welding is 50-70 students long.

**2.13 Course sequencing.** Report on whether courses have been sequenced for student progression through the major, how students are informed of this progression, and the efficacy of this sequencing. Report on whether curriculum is being offered in a reasonable time frame.

**2.14 Basic Skills (if applicable).** Our program does not offer basic skills, students benefit greatly when their written and math is college level. English and math provide the foundation for success in any course work.



**2.15 Student Survey.** Describe the student survey feedback related to course offerings. In terms of the timing, course offerings, and instructional format, how does what your program currently offer compare to student responses?

**2.16 Four-year articulation (if applicable).** Currently articulation is a discussion point of curriculum reorganization

**2.17 High school articulation (if applicable).** Currently high schools such as John F Kennedy (Richmond) Armijo (Fairfield) and Will C Wood (Vacaville) are a main discussion point contained within the reorganization.

**2.18 Distance Education (if applicable).** N/A

**2.19 Advisory Boards/Licensing (CTE) (if applicable).** I hold advisory meetings twice a year. In attendance is Richard O'Neil (Harris Industrial) Dan Finnigan (Thermadyne) Bud Ciccio (AAR) SCC faculty members Ray Sanderson (Sanderson welding) and Debra Berret. I have made some changes to course work over the past two years based on feedback. Currently I am negotiating with the AWS to host a member's annual meeting at SCC. (Minutes found on last page)

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## STUDENT EQUITY & SUCCESS

**3.1 Course Completion and Retention.** Student success is promoted through high quality teaching and mentoring. It is also promoted through in class activities and out of class assignments designed to link theory to practice and engage students. Students are instructed to research our library, trade journals and AWS web pages to complete homework assignments. In studying success rates no clear pattern emerges. Males had a success rate of 83-89 percent while women had physical numbers too small to measure, as of fall 2013 woman have had a success rate of 100 percent.

Note: Numbers are skewed, students at risk of failing generally drop at or around deadlines. Further 9 students at risk of failing have obtained jobs and dropped at or before deadlines.

Most of our success has revolves around the close relationship welding instructors develop with students; welding is a brotherhood and now a sisterhood of people that share common goals. In the class room a comradery of students is developed that aids in learning. Students that should be by social design mortal enemies find themselves working toward common goals, these goals manifest themselves in a common desire for a better life for them and their families.

**3.2 Degrees/Certificates Awarded (if applicable).** Include the number of degrees and certificates awarded during each semester of the program review cycle. Describe the trends observed and any planned action relevant to the findings.

		2009/2010	2010/2011	2011/2012	2012/2013
<b>Total</b>		1 100.00	2 100.00	1 100.00	2 100.00
Welding Technician	Associate in Science	0 0.00	1 50.00	1 100.00	1 50.00
	Certificate of Achievement	1 100.00	1 50.00	0 0.00	1 50.00

		2009/2010	2010/2011	2011/2012
<b>Total</b>		2 100.00	1 100.00	1 100.00
Welding: Industrial Technician	Associate in Science	1 50.00	1 100.00	1 100.00
	Certificate of Achievement	1 50.00	0 0.00	0 0.00

**3.3 Transfer (if applicable).** Not applicable

**3.4 Career Technical Programs (if applicable).** For career technical programs, describe how graduates are prepared with the professional and technical competencies that meet employment/ licensure standards. State if there are any efforts made to place students in the workforce upon graduation, including any applicable placement data.

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## PROGRAM RESOURCES

**4.1 Human Resources.** Currently welding has one at will instructor and one full time faculty. If the program was to grow and run at full capacity it may become necessary to hire two lab assistants and two adjunct faculty.

**4.2** The greatest concern in staffing thus far is the retirement of our only part time instructor. As the welding program grows so will the need for staff, finding qualified staff has in the past proven difficult. Our only part time instructor was “grandfathered” in, as qualifications have changed finding replacement staff has become hard to find. Most in the trade do not possess a degree; many qualified welders come from the correction system and are ineligible to serve.

**4.3 Equipment.** The need for basic equipment and supplies has been met with an upgrade to modern welding machines and cutting devices. Much is left to be done (see 4.4)

**4.4 Facilities.** The 1800 building is woefully inadequate for the needs of the department.

- Ceiling insulation is delaminating
- Roof leaks

- Lab is half the size necessary to effectively teach
- Ventilation system inadequate
- Rear lab is open to the weather
- Upstairs class room is not large enough to seat a class of students
- No storage
- Fencing is porous and leaves welding lab an easy target for burglars
- Sub-standard desks
- Class room is extremely filthy

**4.5 Budget/Fiscal Profile.** Provide a five year historical budget outlook including general fund, categorical funding, VTEA, grants, etc. Discuss the adequacy of allocations for programmatic needs.

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## PROGRAMMATIC GOALS & PLANNING

**5.1** Summarize what you believe are your program’s strengths and major accomplishments in the last 5 years. Next, state the areas that are most in need of improvement.

**5.2** Based on the self-study analysis, prioritize the program’s short (1-2 years) and long term goals (3+ years). Check whether the goal requires fiscal resources to achieve.

**Table 8. Short-Term and Long-Term Goals**

<i>Short-Term Goals</i>	<i>Planned Action</i>	<i>Target Date</i>	<i>Person Responsible</i>	<i>Source</i>
1. Hire adjunct faculty	Submit request fall 2013	Replacement hired Fall of 2014	Jeffrey Kissinger, Dean of CTE	DB
2. Remodel 1853 increase lab and class room space	Submit strategic proposals to remodel rooms and labs	Fall 2015	Jeffrey Kissinger	Measure Q
3. Finalize course section reorganization	Submit to curriculum committee late Fall 2013	Spring 2015	Jeffrey Kissinger	NR

4. Make necessary updates for new stackable certificates, less units more classes, no combined classes	Meet as a department to determine needed changes	Fall 2014	Jeffrey Kissinger	NR
5. Continue to update materials and equipment		Ongoing	Jeffrey Kissinger	P or SP
<i>Long-Term Goals</i>	<i>Planned Action</i>	<i>Target Date</i>	<i>Person Responsible</i>	<i>Source</i>
1. Maintain quality teaching by hiring replacement faculty	Submit hiring requests when faculty members vacate positions	On-going	Jeffrey Kissinger	DB
2. Keep curriculum materials up to date	Conduct yearly assessment	On-going	Jeffrey Kissinger	NR
3. Expand course offerings	Explore partnerships with other departments	On-going	Jeffrey Kissinger	NR
4. Increase collaboration between SCC welding program and AWS	Remain up to date in attendance of AWS seminars/webinars	On-going	Jeffrey Kissinger	NR
5. Consider ways to support women in welding	Partner with locals that support women in welding	On-going	Jeffrey Kissinger	DB/NR

In the source column denote “SP” for Strategic Proposals, “DB” for Department Budget, “P” for Perkins or “NR” for No Additional Resources Needed.