

Instructional Program Review Report

Sierra College, Fall 2010

Department/Program Name: Welding Technology

Date Submitted: _____

Submitted By: _____

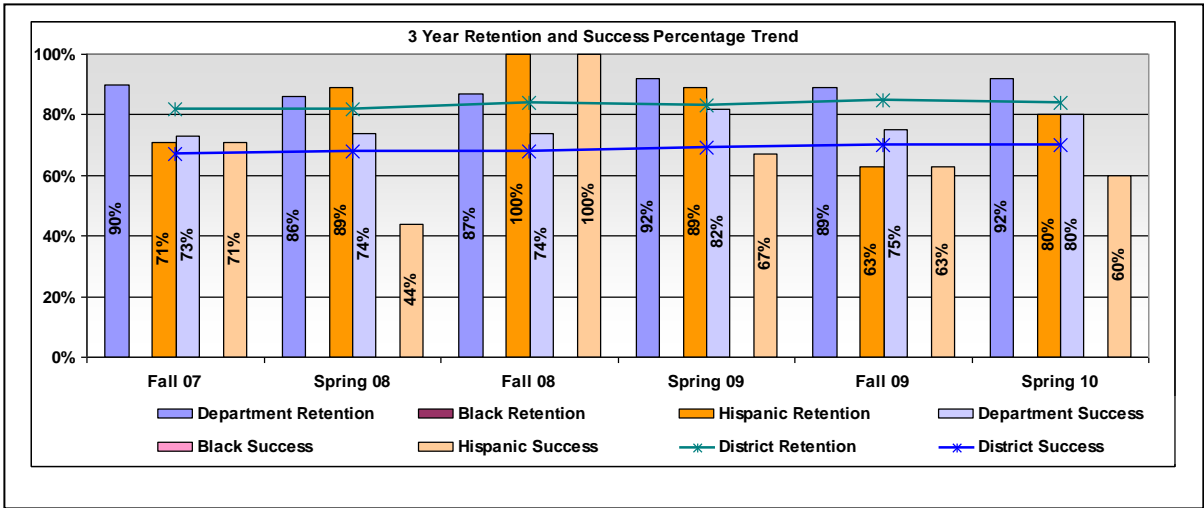
Ideally, the writing of Program Review Report should be a collaborative process incorporating full-time and part time faculty as well as the appropriate educational administrator, instructional assistants, classified staff members and students who have an interest in the present and future vision of the program at all sites throughout the district. The Program Review Committee needs as much information as possible concerning the present and future of the program to assess and recommend the resources needed to keep the program viable and robust. Complete and concise responses to the prompts are most appreciated. Please limit your responses to 100 words or fewer, unless otherwise directed. Refer to the detailed instructions when completing this form.

To provide context for the information that follows, describe the basic functions of your area and/or program.

The Welding Technology program prepares Sierra College students for employment in the welding field by the transfer of knowledge and the opportunity for skills development in multiple welding and cutting processes. In addition, students have the opportunity to test for nationally recognized skill test to pass welder certification.

1) **Effectiveness**: This section assesses the effectiveness of the program in light of traditional measurements.

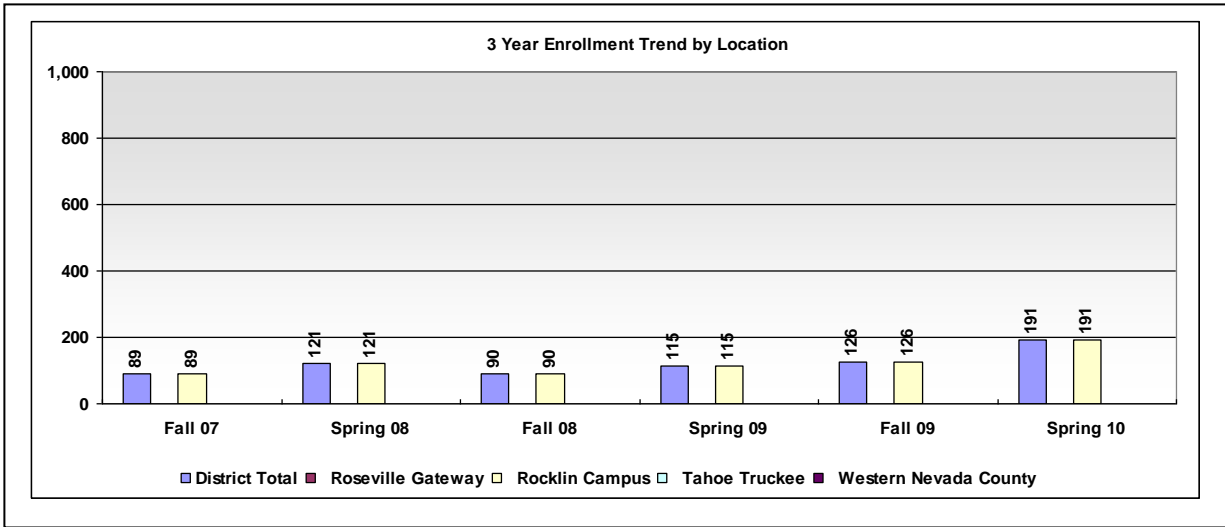
1a) Retention and Success: Identify and explain the trends in your program's data. Address separately the data for on ground and on-line course. Comment on the significance of the trends as well as the challenges experienced within the program. If you see a need to improve the statistical trends, outline a plan that will achieve the changes you are seeking.



Enter retention and success comments here...

Welding is above district average in student retention and success as a department. Minority and non-traditional student enrollment is traditionally low in the last ten years for some reason. Steps to increase non-traditional and minority student enrollment by adding more presence of welding activities across campus and outreach projects are in place. With one FT Classified and now one FT Faculty beginning 2010 Welding can blossom in the way that a program comprised of very dedicated but adjunct professors cannot.

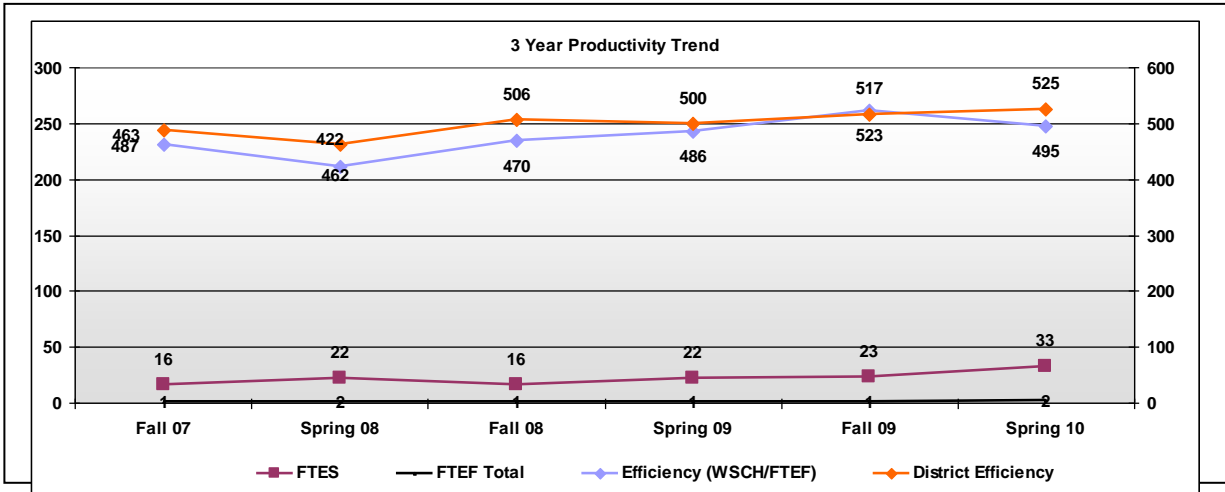
1b) Enrollment Trends: Identify and explain the enrollment trends in your program’s data. Address separately the data for on ground, on-line, and enrollment at the various centers. Comment on the significance of the trends as well as the challenges experienced within the program. If you see a need to improve the statistical trends, outline a plan that will achieve the changes you are seeking. If applicable, comment on both the past performance and the future direction of the program as a whole as well as by location and mode of delivery.



Enter enrollment trend comments here...

The Welding Technology program has been grown consistently and conservatively since 2003. Program continued to be the first to fill to capacity district wide. The number of course offerings doubled beginning in 2010. Yet registration for Spring 2010 and Fall 2010 semesters, students had enrolled in additional offerings (being beginning and intermediate welding), and by the morning of open enrollment the program was filled to capacity. In Spring 2011 enrollment in Welding filled completely by 8:15 AM the day of open enrollment.

1c) Productivity: Considering the data provided, comment on how the program contributes to overall district productivity. Comment on the significance of the trends as well as the challenges experienced within the program. If you believe the statistical trends need improvement, outline a plan that will achieve the changes you are seeking.



Enter productivity comments here...

Because Welding classes generally cap at twenty, department maximum productivity is 425. We consistently reach our maximum with a fill rate averaging over 110% the past two years.

Lab equipment and facilities have been the limiting factor in this review cycle.

1d) Optional Additional Data: Enter additional data here that you believe to be an indicator of your program's effectiveness and explain why.

Enter additional data here...

Student's course progress thru the program with a focus of building knowledge with skill sets which maximizes the facility size and equipment and minimizing materials use. Faculty that teach welding are AWS Certified Welding Inspectors (3of 4), Faculty are recognized top Welding Educators in the area. Metallurgy is taught by recognized professionals in metal sciences. Classified staff (1) focuses on the smooth and safe operation of Metals Lab and presence is positively felt across campus. Now a recognized student chapter of American Welding Society as a campus club, increases campus presence and this can anchor a student to stay in courses and inspire success.

Enter comments on optional additional data here...

While some job opportunities do not require an applicant to be a certified welder, work that involves public safety requires it. These positions in industry are well paid and stable. Understanding and skill level quality is established through a national standard welder certification process.

The National Center for Welding Education and Training (Weld-Ed) www.weld-ed.org and American Welding Society (AWS) www.aws.org joined in 2008 to establish a national skills panel to address the major workforce needs of the welding industry. Results in 2010; *"gives education and industry leaders just what they needed: substantive data that documents the future need for welders, particularly given the heavy amount of turnover"* quote by Robert Visdos, president of Workforce Institute Inc.

2) Relevancy: This section assesses the program’s significance to the students, the college, and the community.

2a) Consider how your program fits within the district mission statement when responding to the following.

“Sierra College provides a challenging and supportive learning environment for students having diverse goals, abilities, and needs interested in transfer, career and technical training, and life long learning. The College’s programs and services encourage students to identify and to expand their potential. Sierra College students will develop the knowledge, skills and abilities to become engaged and contributing members of the community.”

2b) Program fulfills the following categories (check all that apply):

- Transfer**
- Career Technical Education**
- Basic Skills**
- Personal Development/Enrichment**
- Lifelong Learning**

• **If desired, include the program mission statement below.**

Program Mission Statement here...
Sierra Community College Welding Technology is the opportunity for students in a challenging, supportive learning environment to gain knowledge and skills sets used in welding today. For students pursuing career technical training, and lifelong learning in the welding industry and related fields and to enhance public safety in our community through Welder Certification of welding students to quality standards of American Welding Society and other code standards agencies.

2c) Degrees, Certificates and Licenses: Considering the degrees, certificates, and licenses data provided, comment on how the program aligns with district mission statement and/or strategic goals. Comment, if relevant to your program, on the degrees/certificates awarded. If you aren’t giving many degrees, explain why or why not. If a department is thinking of adding new degrees or certificates in the future, provide some rationale for how this new certificate or degree fits. Also, please comment on job placement or labor market information for your program’s degrees, certificates, and licenses. Include any relevant data in your discussion.

R&P will provide the types of degrees, certificates and licenses offered by the program along with the numbers granted by program.

Award Count for Sierra College in Year 2009-2010

Data Current As Of September 11, 2010 10:55:27

[Download The Result In Comma Delimited Format](#)

Sub-Discipline: Manufacturing and Industrial Technology (0956)

Award Type	Program Type	Award Count
Associate of Arts (A.A.) degree	Manufacturing and Industrial Technology (095600)	1
Associate of Science (A.S.) degree	Manufacturing and Industrial Technology (095600)	1
Certificate requiring 6 to fewer than 18 units	Manufacturing and Industrial Technology (095600)	2
Certificate requiring 6 to fewer than 18 units	Welding Technology (095650)	10
Grand Total		14

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	Majors	Prog. ID	2008-'09 Awards		2007-'08 Awards		2006-'07 Awards		2005-'06 Awards		2004-'05 Awards		2003-'04 Awards		2002-'03 Awards		2001-'02 Awards		2000-'01 Awards		1999-'00 Awards	
2			Degrees	Certs	Degrees	Certs	Degrees	Certs	Degrees	Certs	Degrees	Certs	Degrees	Certs	Degrees	Certs	Degrees	Certs	Degrees	Certs	Degrees	Certs
101	Metal Fabricator and Designer	09999				2			1													
143	Welding (Certificate)	04290																3		2		1
144	Welding Technology (degree)	04288	4		3						1				1		1		1			1

Enter comments on data here...

The Welding Program offers Welder certification in WT80 structural steel and WT82 pipe during Summer session. Beginning in Summer session 2010 more students passed destructive testing by restructuring the way the course was taught by modifying the curriculum through the committee, The WT80 course more than doubled the number of Welder Certifications issued and WT82 course almost doubled.

2d) Course Distribution Grid (horizontal): Identify and explain the course distribution represented in your course distribution grid. Explain how this distribution fits with the district mission, values, institutional outcomes, student/community need as well as with your program's future plans.

R&P will provide course distribution grid with articulation and major student transfer patterns

Comments on Course Distribution grid here... While no data was available in this area, the following is a sample of Fall 2009;

- 2 ea WT10 - Exploring Metals / Intro Weld
- 3 ea WT20 - Intro to Weld Tech
- 2 ea WT30 - Advanced Arc
- 1 ea WT40 - MIG Wire Feed
- 1 ea WT50 - Gas Tungsten Arc
- 1 ea WT70 - Intro Fabrication
- 2 ea WT95 - Internship

2e) Optional Additional Data: Comment on any other relevance to the district goals, mission, values, etc., that your program provides that is not incorporated in the prompts above. Consider, for example, contributions to diversity, campus climate, cultural enrichment, community ties, partnerships and service, etc. Include specific data and examples rather than merely anecdotal narrative.

Additional comments on relevance

The Welding Program is filling a huge need based on the data of enrollment, as well as state and nationwide reports on workforce needs. Welding has articulation agreements with five of the local High schools and is the draw for those students who did not see themselves going to college in traditional sense. These students once engaged in the program can often be encouraged to complete their degree or certificate. Most Metal Art students are entering paying careers because of their ability to weld and fabricate.

3) Currency: The category of currency assesses the currency of program curricula as dictated by Title 5 and the currency of efforts in meeting accreditation standards as well as improving pedagogy and engaging in professional development.

3a) Curriculum: Considering the information provided, comment on the currency of the program curricula.

% of Curriculum Current since 2004:	100%
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Enter curriculum progress comments here...
 The expansion of the Welding program by addition of FT Faculty has begin to allow for multiple offerings of the entry and beginning level courses, and importantly to offer courses during the day. Additional Welding courses are submitted to the Curriculum process for WT71 Advanced Fabrication to expand on WT70 Intro to Fabrication which will better prepare student to promote upward when they begin employment. Discussion is in progress to add a foundation basic welding course WT15 as a prerequisite to WT20 Welding Technology.

3b) Student Learning Outcomes Assessment: Considering the information provided, comment on the program’s progress in assessment of SLOs, analysis of the results, and improvements/changes made to the program.

Program	Outcomes	Assessments	Results	Actions	Follow Ups
Outcomes:	1	1	0	0	0

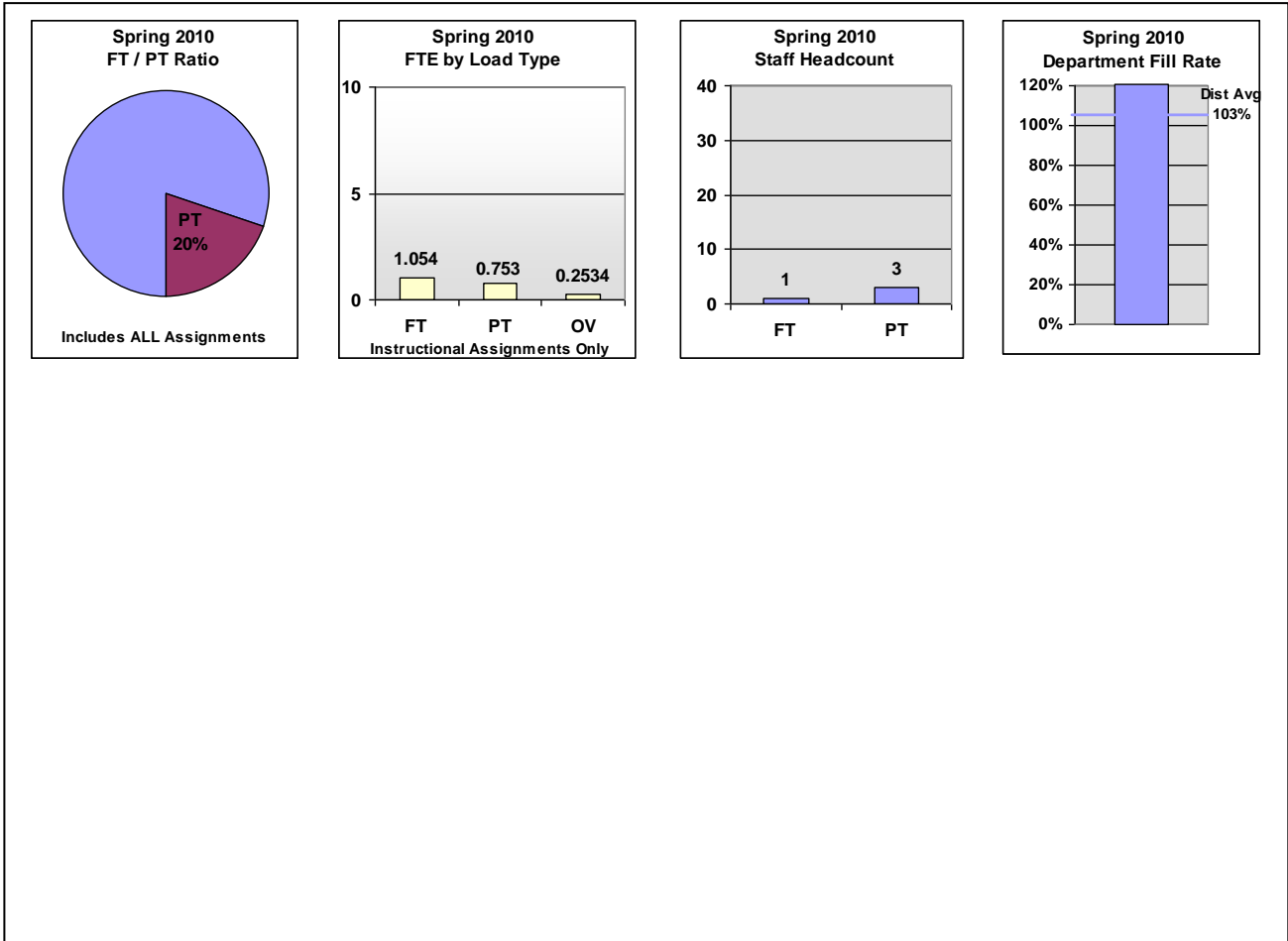
Enter comments regarding outcomes assessment here.
 Based on input from Adjunct Faculty, Welding focused on the first SLO (safety practices) in the '09-'10 through implementation of assessment and results. The nature of a CTE programs such as Welding the major outcome is skill proficiency attainment. Capstone courses of Welding certification WT80 and WT82 clearly track this assessment thru national testing and it has been added as a third SLO. The Welding courses WT10, WT20, WT30, WT40, & WT50 have less distinct but none the less clear skill proficiency outcomes and an assessment process is being developed before implementing these into a different SLO.
 But in addition to adding certification SLO, Terminology SLO has been added as the second SLO for the Welding Program.

3c) General: Describe how purposeful departmental activities serve to improve teaching, learning and scholarship. Please be sure to specifically include flex activities, departmental meetings and activities, conferences, required faculty certifications, health and safety trainings.

Enter other comments here...

The Welding Technology Faculty and Classified staff have participated in the International Welding show, and with the Sierra College Student Chapter of AWS have hosted the AWS District meeting April 2010 with over 100 participants. In April 2011 Welding is hosting on the Rocklin campus a week long Welding Expo with the AWS district meeting and Lincoln Electric. Our Instructors maintain their Certified Welding Inspectors License thru nine year renewal. Departmental meetings are consistently held. Two Adjunct Faculty are Welding Instructors for Department of Corrections using the NCCER curriculum. The student AWS Welding Club brings speakers in to share scholarship opportunities.

4) **Resources:** This category assesses the adequacy of current resources available to the program and describes and justifies the resources required to achieve planning goals.



4a) Please describe the future direction and goals of the program in terms of sustaining or improving program effectiveness, relevance, and currency.

3-4 year plan here...

Goal #1 In 2004 the Welding program five year plan was to replace twenty year old welding machines over the five to six year period. As of 2011 only 7 of the original 21 machines are still remaining. This objective was to reduce electrical consumption by use of efficient “inverter” machines as well as train students on modern equipment. The addition offerings of courses means these high consumption ones are being used more.

Goal #2 AWS accredited Testing Facility. This would put our College "on the map" as one of only two Test Facilities in Northern California and enables our student to be in a national register of Certified Welders for gainful employment.

Goal #3 Add course offering of basic welding. And insert prerequisites in WT20, WT40 this would benefit students entering WT20 and WT40 as well as the community.

4b) Equipment and Technology: Considering the data provided above, comment on the adequacy of the program's equipment and technology funding level for the District as well as the Rocklin, Roseville Nevada County, and Tahoe-Truckee campuses. Include a projection of equipment and technology needs for the next three years as well as a justification for needs.

Enter equipment and technology funding level comments here...

Since the inception of the Welding technology program in 2003 the existing funding has not been adjusted in any significant degree. Welding is going to require a significant adjustment to support the current course offerings.

We have an operating budget built on basis of 2002 three welding course offerings and a terminated Machining program. The machining program material cost was significantly less and the welding consumable use was minimal. In addition to that existing minimal Machining budget, the Welding program survived from partial funding Metal Art courses and Ag welding courses, both taught in welding lab. Program is aware this is being addressed at the administrative level, the program is currently reducing fixed costs by pursuing energy efficient equipment and has identified approximately \$2500 annual welding cylinder rental cost that can be saved by purchasing the cylinders. Renting is appropriate for a minimal welding program, the current use it is not cost effective. Purchased cylinders will pay off in 16 months, saving the district \$2500 each year after. With 2010 increased course offerings, a funding adjustment was requested through the e-Par process in 2010, this adjustment is gravely needed now to sustain the welding program. Student material fees cannot charge against weld gas or metal.

4c) Staffing: Considering the data provided, comment on the adequacy of the program's faculty, classified and student help staffing levels for the District as well as the Rocklin, Roseville Nevada County, and Tahoe-Truckee campuses. Include a projection of staffing needs for the next three years as well as a justification for needs.

Enter staffing level comments here...

Requested through last e-Par additional Classified help. This would entail one PT Classified staff (20hr/week) as a Laboratory technician; duties would include lab materials prep, evening supervision of tool room, and maintain order of Metalworking tools and welding supplies as one FT Classified staff is maxed out on work load. Welding has an outstanding Adjunct Faculty, and each Instructor is well established in the courses each teaches, however there is not an established pool in case something catastrophic were to happen. A pool of qualified PT candidates should be established.

4d) Facilities: Considering the data provided, comment on the program's fill rate and the adequacy of the facilities for the District as well as the Rocklin, Roseville Nevada County, and Tahoe-Truckee campuses. Include a projection of facility needs for the next three years as well as a justification for stated needs.

Enter facility comments here...

Primary facility short term focus: completing the ventilation system of four welding booths most recently added. Longer term goal for ventilation is upgrade to modern filtered exhaust throughout H6 Lab.

If the Welding program were to expand in the current facility construction of a 20' x100' awning - 400 sq ft classroom and 1600 sq ft secured and covered for metal storage and fabrication equipment area. This would free up space within the building for the welding training.

5) Summary/Closing

5a) Evaluate the program's strengths, weaknesses, opportunities, and challenges. (Limit responses to 250 words or fewer.)

Enter evaluation here...

Even as our nation's economy is weak and has experienced a sharp downturn, the Sierra College Welding Program continues preparing our students for successful employment in the industrial welding field and Metal Arts careers. The fact that our students are securing these job opportunities over other applicants is tremendous program strength along with the state and national data of welding future. The Welding club has become a strong presence across the Rocklin campus.

As a weakness the Welding program currently does not have backup of PT Faculty pool. If additional courses are to be offered the reliance on these excellent team members would be at maximum PT loading.

Operating budget wise, the Welding Program is in a very difficult position and it is the greatest challenge the program is facing.

Sierra College Welding has been involved with many campus beautification projects, this is an opportunity for the district to modernize as well as promote, all at minimal costs to the district;

- Campus sign structures for maps and directories at Rocklin and NCC
- Athletic Field handrails and scoreboard structures, Cross-country foot bridge
- ADA ramps in I building
- Sundial restoration, Bell restoration
- Courtyard water feature with gates and ASSC barbeque
- Japanese garden fence
- Upcoming > new fence and trellis at pond!

5b) Please provide any other information the Program Review Committee should consider.

Enter additional information here...

The need for more than 238,000 new and replacement welders from 2009-19 in the five occupations that drive the welding industry – Report by; National Center for Welding Education and Training report released May 20,2010 by EMSI

www.economicmodeling.com

In addition according to the report, "The number may indeed be significantly higher when one considers the needs for trained technicians and others who need hands on welding-related job training to successfully function in their respective jobs that do not roll-up into the data for the five key welding occupations".

5c) How has the author of this report integrated the views and perspectives of those who have interests in the future of this program including full time and part time faculty, educational administrators, instructional assistants, classified staff, and students at Rocklin, Roseville Gateway, NCC and Tahoe Truckee?

Enter additional information here...

Department meetings with Adjunct Welding Faculty and Adjunct Metal Art Faculty, FT Classified staff, Career Education Liaisons (CEL), Division Deans and FT Welding Faculty. Though the integration of input at our Trade Advisory Committee meeting held jointly October 26, 2010 with Del Oro High School Welding(1) with attendance at this meeting by other area High School Welding Instructors (3), and Sierra College CEL's (2), Articulation Coordinator (1), Adjunct Welding Instructors (2), Classified staff (1), AWS Student Chapter Club Officers (4), Sierra College Welding students (3), Welding Industry professionals (12) and FT Faculty(1). Through discussion with Dept Chairs and other Faculty in programs across Rocklin campus, Gateway and NCC, Student interviews, attendance in Metal Art showings in the local area, American Welding Society District meetings and Welding industry professionals involved in both Union and Non-union throughout Northern California and Alumni Welding students.