Assessment: Assessment Unit Planning

Program Review 2014-15

YC - Manufacturing & Welding Technology Program Review

Year Under Review : 2014-15
Type of Review:
Program Description : A1. Do students have access to curriculum-specific and/or program-specific support services? If so, describe this service(s). If not, explain why.
Students do not have access to tutoring services specifically for welding. There are two CTE counselors and WIA for the students, but not all students are aware of these services. Students are mentored and tutored by faculty and other students. All courses have current SLO's that are measured against nationally vetted standards and outcomes published by Weld-Ed. We are exploring aligning to the S.E.N.S.E. standards published by the AWS (American Welding Society).

A2. If services are available, how do they demonstrate an increase in student success?

Students have the opportunity to talk to CTE counselors which will help them develop an individual educational plan. This allows a student have a person that they can communicate with and encouraged to continue with their education. The counselor also helps them with their educational goals and plans. Students are informed about local jobs which the instructors or other students are made aware of. There has been an increase in the number of students that have expressed an interest in achieving their Associates degree or their certificate.

B3. How is current and previous program review data used to refine and improve program or department practices?
The faculty of the Welding/ Manufacturing departments analyze the data from the Launchboard and other employment data to ensure that the programs teach the necessary skills that are required for local statewide and national employment trends in the Welding/ Manufacturing industries. The Faculty of the welding and manufacturing departments participate in many training activities which expose them to trends in the welding and manufacturing industry; locally, state wide and nationally. They also present at many conferences and offer training to other instructors from other community colleges, universities and high schools. This helps to develop a network which helps to direct the programs. The students Learning Outcomes are evaluated yearly to insure that the classes meet the needs of the students in an ever changing industry.

The Welding and Manufacturing instructors work with local employers and businesses through an Advisory Committee and through local visits to ensure that our students are receiving an education that meets their needs for employment.

A full time manufacturing instructor was hired this year to help to fullfil the needs of students to learn the skills needed to enter the industry in the local area.

The Welding and Manufacturing Departments at Yuba College prepare students for entry into the workforce as welders and operators. It continues to be a viable and lively program. The welding program has expanded to about 350 students a year in the program and has a need for expanding the Manufacturing Program which has been without a full time instructor for 4 years. Students need these courses to complete their degrees and certificates. The Welding department also has a need for another full time Welding instructor at the Marysville and Clearlake campuses.
Executive Summary (Include a list of team members): The Welding department has done research on the needs of employers in our area and nationally for the welders exiting our program. According to the State of California Employmnet Development page there are an average of 770 positions opening a year in California from 2012-2024 (Welders, Cutters, Solderers, and Brazers (SOC Code : 51-4121) with an additional 160 in the area Welding, Soldering, and Brazing Machine Workers
(SOC Code : 51-4122). Also according to this website, there are and average of 1300 job openings in California for machinists (SOC Code : 51-4041) With the advent of the Sites reservoir being closer than ever to being constructed, this will increase the number of jobs for welders in our ocal area. We want our students to be highly competitive on the local and national level. The Welding department has expanded and improved the equipment and offerings for our students to gain experience, but needs to

continue to improve to meets the needs of an ever changing industry. The Manufacturing Program is in need of a full time instructor to meet the needs of industry and to give our students the experience in manufacturing that will ensure that they will be even more competitive. The Clearlake campus is also in need of a full time welding instructor. Yuba College is one of the only manufacturing programs left in Northern California.

As evidenced in the last educational master plan for Yuba College, the welding program has lost 3 of 4 full time instructors, but has seen an incredible transformation in offerings and the number of students.
The welding program also had the first ever articulated transfer between a Weld-Ed school and a four year institution, Weber State in Utah. Dan Turner also represented the college at the International Institute of Welding Conference in Denver, and also the International welding education conference in Germany in 2012. He was the only representative for an American College. The Welding staff also has attended FabTech, presented at multiple conferences around the nation including Hawaii and Alaska.

According to the Program review Data report, there is justification for a new welding instructor.

Term	Sects	Census	End	Fill Rate	FTEF	FTES	WSCH	FTES/FTEF	WSCH/FTEF	Retention
2009-10	53	495	450	86.84%	3.33	70.30	2,091.2	21.10	627.69	91.84%
2010-11	50	373	337	103.9%	2.53	61.76	1,849.6	24.37	729.99	88.92%
2011-12	37	396	335	94.51%	3.08	70.62	2,111.2	22.94	685.92	85.68%
2012-13	30	421	398	99.06%	3.38	76.81	2,298.4	22.74	680.42	93.63%
2013-14	36	448	411	82.2%	3.49	80.31	2,380.7	23.02	682.35	90.33%

This program consists of 23 active courses and is staffed by only one full-time professor. We have lost three adjuncts which makes it difficult to offer courses so students can complete their certificates and degree programs within a two year period. It will soon be time to hire another full-time instructor if we are going to expand into Agricultural Mechanics in the future. We did hire a full time manufaccturing instructor who will review the existing curriculum, equipment, and program and offer recommendations for improvement.

The faculty at the Marysville campus have been working with the Clearlake Campus (CLC) to revamp their welding program. The CLC is in need of restructuring their facilities and equipment to offer more technologies in their curriculum.
01IP. Department Goals (Click '?' for Prompt): 1. Foster a culture of evidence-informed decision making, including SLO development/assessment and other measures of student success.
The Welding and Manufacturing department utilize SLO's to help direct the education in the classes. The programs also listen to the advisory committee and local industry to address concerns they may have with the students they hire when they complete the program.
2. Prioritize and allocate resources based on existing and emerging community and student needs over those of individual projects or programs.
The Welding and Manufacturing programs evaluate the needs of the local employers and direct resources to these needs. They also attend trainings to determine the direction of industry trends and plan their resources accordingly.
3. Steward our institutional resources with increasing effectiveness and efficiency.
The welding and Manufacturing programs continually look for ways of efficiency and effectiveness. The welding program has replaced many power sources with inverter style that use a third less energy than transformer style power sources. These are also modern machines that the students will see when they enter the workforce.
4. Research and utilize effective modes of delivery for our courses and services.
The Instructors of these programs attend trainings and seminars that cover best practices of instruction in their prospective fields. They incorporate these methods into their classes. They have also been published addressing teaching methods and teach classes to other instructors.
5. Design our programs in such a way as to allow students to complete their educational goals in a timely manner.
The Welding program is exploring developing scaffolding certificates that culminate in a higher degree or certificate of training. They also encourage students to complete their associates degree and transfer to a four year college to achieve a high (Active)
The Welding department needs a truck to pull the Mobile Demonstration trailer which would improve outreach, training and recruitment of students for the welding program.
02IP. Access to Support Services (Click '?' for Prompt): -Office Hours, -DSPS, -EOPS, -Library Services, -Counseling Services, -Learning Communities, -Other

03IP. Follow up to question 02IP (Click '?' for Prompt): All students have equal access to assistance from the student services on campus. The Welding / Manufacturing programs work with the WIA office to help students to have access to financial services they need.
04IP. Degrees/Certificates (Click '?' for Prompt): The Manufacturing Program has not awarded an AS since 2012, and no recorded certificates. the welding program produced 2 in 2015-15 and 3 certificates of achievement. With the addition of a full time faculty in manufacturing, the numbers should increase over the next 2-3 years
05IP. Improve Completion (Click '?' for Prompt): The Welding Program works with the counselors and other college programs to help the students to develop academic plans for completion. The program also brings in manufacturers and other members of the Welding/ Manufacturing community to present to the students on the importance of completing their degrees and certificates.
06IP. Course Outlines (Click '?' for Prompt): All of the courses in the Welding / Manufacturing programs have updated COR's. The courses are currently being reviewed as required for CTE courses
07IP. Collaboration (Click '?' for Prompt): The Manufacturing and Welding programs work with the counseling department, CalWorks, DSPS, ESL, WIOA and etc., to ensure that our students have access to all of the student services provided by Yuba College
08IP. Catalog Currency (Click '?' for Prompt): There is a need to add a program description for the Welding program.
09IP. For CTE Programs Only (Click '?' for Prompt): America has experienced a shortage of skilled labor. Students enrolled in and completing the Welding and Manufacturing programs are in a great position to garner employment in their field of choice. The need for welders is expressed in a recent article of the Wall Street Journal; http://blogs.wsj.com/corporate-intelligence/2014/03/28/problem-for-american-industry-a-good-welder-is-hard-to-find/. In an article in Forbes, there is an expressed need for more people trained in skilled manufacturing job skills; http://www.forbes.com/sites/emsi/2013/03/07/americas-skilled-trades-dilemma-shortages-loom-as-most-in-demand-group-of-
10IP. DE Students (Click '?' for Prompt): There are no current DE courses offered in the Welding and Manufacturing, although both departments are offering more information whether on the portal or on Canvas
11IP.Disproportionate Impact(Click '?' for Prompt): To mitigate disproportionate both of the programs could use a computer lab dedicated to teach the operation software of equipment in the programs. The addition of equipment such as welding and pick and place robots would allow students the option to become certified operators. Also the addition of online based curriculum and simulation equipment would allow students greater access and opportunity to complete their educational goals.
12IP. Mapping (Click '?' for Prompt): Yes
13IP. Course SLOs (Click '?' for Prompt): The Welding and Manufacturing programs has been exploring different testing methods such as NOCTI to help test the students knowledge and performance. This was based on the SLO results and garnering more data to improve student performance
14IP. Program SLOs (Click '?' for Prompt): Improvements in the technology available to the students such as automation and other advanced euipment and training for the instructors would lead to greater success in obtaining successful results in the program SLO's
15IP. Professional Development (Click '?' for Prompt): The welding faculty attended FabTech in Atlanta, the Weld-Ed seminars, The AWS instructors Institute in Miami Florida, Manufacturing Expo at Chico state, multiple AWS section meetings, the Welding Expo at Sierra College, The Cub Scout jamboree to assist in the earning of welding merit badges, The Colusa Farm Show, The CTE CCC Senate conference in Los Angeles, the CCCAOE conference, Perkins seminar, JSCPAC state seminar, G-code seminar at Chico State, the H-TEC conference at DeAnza College

There are a number of professional development opportunities available in the area of Manufacturing available in the coming year.
16IP. Reflection (Click '?' for Prompt): The addition of a full-time manufacturing instructor there will be an increase the number of manufacturing students.

The Welding Department has worked with various partners to secure funding from the CTE EF, STREAM pathways, and the DOL apprenticeship grants. These funds will be utilized for training, equipment and other things which will improve the educational opportunities for our students.

Are you ready to submit your final program review?: Yes

Program Recommendation: Hire a full time welding instructor

YC - Manufacturing & Welding Technology Program Review

Hire a full time welding instructor to accommodate the students need for classes in an expanding program. The FTES numbers support another full time faculty for the welding program. This will also lead to dual enrollment opportunities which will also increase the FTES for Yuba College

Recommendation Priority: 3. High Priority
Year(s) Requested: 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017
Request Date: 01/26/2012
Supporting Evidence : We cannot accommodate all of the students wishing to take welding courses. More courses can be offered for short term certificates.

Plan of Action

Staffing - Faculty - The Welding Program lost 3 adjuncts which has led to offering less courses per semester. (Active)
Budgetary Impact: The budgetary impact would be the cost of advertising for the position, then the salary and benefits of the new employee.
YC - Location: Marysville Campus

Status

Reporting Year: 2015-2016 10/14/2015
Recommendation Progress: Recommendation Needs Improvement/Attention
A Welding instructor has not been hired. THe program review data show a high number of students of 146 in 2012-13 and a low of 123 in 2014-15. A major factor is due to the loss of 3 adjuncts and the offering of less class sessions for the students and lack of instructors

Staffing - Faculty - Work with the dean to submit a staffing request (Active)
Budgetary Impact: Cost of a new faculty member offset by the FTES that will be created with more opportunities of classes

Timeline/Responsible Party: Welding Faculty
Perkins Eligible: No
DE Related: No
HSI Related: Yes
YC - Location: Marysville Campus

Related Goals

YC - Manufacturing & Welding Technology Program Review
Hire a full time welding instructor
YC Goal 7 - Develop a Fabrication certificate
YC Goal 6 - Create a one year certificate

Program Recommendation: Upgrade ventilation System

Expand existing ventilation system and and new systems for the plasma pipe bevel machine and the CNC plasma table

Recommendation Priority: 3. High Priority
Request Date: 02/01/2012
Supporting Evidence : The expansion of the program has led to the purchase of new equipment and needs for more booths for the students to weld and cut safely.

Plan of Action

Facilities - Detail plans for new system, retrieve bids, and installanalyze the esiisting ventilation system and determine the necessary updates to the system to accomodate growth. (Active)
Budgetary Impact: To be determined

Timeline/Responsible Party: Dan Turner
Perkins Eligible: Yes
HSI Related: No
YC - Location: Marysville Campus

Status

11/01/2013

Recommendation Progress: Recommendation Needs Improvement/Attention
no movement

Facilities - The Welding faculty will explore opportunities for improving the ventilation to meet the needs to weld stainless steel. (Active)
Budgetary Impact: The cost of improvements to the ventilation system.
Timeline/Responsible Party: Welding Faculty
Perkins Eligible: Yes
DE Related: No
HSI Related: Yes
YC - Location: Marysville Campus

Related Goals

YC - Manufacturing & Welding Technology Program Review

YC Goal 7 - Develop a Fabrication certificate

Expand the ventilation system in the welding shops to improve student safety

Program Recommendation: Expand the Fabrication Program and form a fabrication certificate

Spring 2015 an expansion of the Fabrication Program could lead into an expansion of an Agricultural Mechanics Program at Yuba College. Yuba College has been working with the local Farm Bureau to discuss the feasibility of Agricultural Mechanics. It appears that such a program is very much needed as an additional Career Technical program. Course outlines were drafted in 2013 and meetings were held to discuss the details of how to fund such a program and a strategy for developing a career pathway from our local high school districts that could articulate with such a program. Our welding articulation agreements are a start which we could use in the beginning as we further develop the Agricultural Mechanics curriculum. 2015 would be the year to begin the process of moving the new curriculum through the Curriculum Committee. The current Doing What Matters for Jobs and the Economy within the CCCCO would welcome such a program. Meetings within the North Far North Consortium have led to detailed discussions with the current Deputy Sector Navigators in the Greater Sacramento and Northern Inland regions who deal with Agriculture and Water.

Recommendation Priority: 2. Medium Priority
Year(s) Requested: 2014-2015, 2015-2016
Request Date: 10/20/2014
Supporting Evidence : Employers are asking for employees trained in how to use equipment safely and efficiently.

The Local Farm Bureaus in Yuba and Sutter Counties have endorsed expanding our CTE programs to include Agricultural Mechanics and a certificate in drip irrigation. 2014 will be the year we will begin to seek funding for an Agricultural program at Yuba College.
Evaluation Plan: 2015 will be the year that we will begin to evaluate the need to expand into Agricultual Mechanics.

Plan of Action

Equipment - Submit proposal to Perkin's committee (Active)
Budgetary Impact: 50-70,000$
Timeline/Responsible Party: Dan Turner
Perkins Eligible: Yes

YC - Manufacturing & Welding Technology Program Review

Status

11/01/2013

Recommendation Progress: Recommendation Addressed/Satisfactory Progress
In progress

Related Goals

YC - Manufacturing & Welding Technology Program Review
Hire a full time welding instructor
Develop an ASME on compliant pipe welding program
Develop a GTAW Pipe cert program
YC Goal 7 - Develop a Fabrication certificate
YC Goal 6 - Create a one year certificate

Program Recommendation: Institute a new GTAW program

Purchase new GTAW inverter machines

Recommendation Priority: 3. High Priority
Year(s) Requested: 2011-2012
Request Date: 02/02/2012
Supporting Evidence : students need certification to compete in the marketplace, pipe welding is a need in the industry according to the ASME code which uses GTAW for the root pass.

Plan of Action

Equipment - Present plan to the Perkins committee (Active)
Budgetary Impact: 65000$
Perkins Eligible: Yes

Status

Reporting Year: 2015-2016 10/14/2015
Recommendation Progress: Recommendation Needs Improvement/Attention
In the works

Related Goals

Institutional Learning Outcomes
Communication - Effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
Computation - Use appropriate mathematical concepts and methods to understand, analyze, and communicate issues in quantitative terms.
Critical Thinking - Analyze data/information in addressing and evaluating problems and issues in making decisions.
Global Awareness - Articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.
Information Competency - Conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
Personal and Social Responsibility - Interact with others by demonstrating respect for opinions, feelings, and values.

Scientific Awareness - Understand the purpose of scientific inquiry and the implications and applications of basic scientific principles.
Technological Awareness - Select and use appropriate technological tools for personal, academic, and career tasks.

YC - Manufacturing & Welding Technology Program Review
Develop a GTAW Pipe cert program

Program Recommendation: Expand Shielding Gas manifold, add a gas mixing system, add a natural gas pump

Expanding the shielding gas manifold will expand the welding areas for welding classes and fabrication. The gas mixing system will allow us to mix our own shielding gasses allowing the program to use different welding processes. The natural gas pump will allow us to teach another cutting process to our students.

Recommendation Priority: 3. High Priority
Year(s) Requested: 2011-2012
Request Date: 02/01/2012
Supporting Evidence : The expanding need for alternative cutting processes and the need for alternative welding processes in industry are asking for students that have experience in these4 fields.

Plan of Action

Equipment - Research best equipment and present to Perkin's committee (Active)
Budgetary Impact: 15-20,000$
Timeline/Responsible Party: Dan Turner
Perkins Eligible: Yes

Related Goals

Institutional Learning Outcomes
Critical Thinking - Analyze data/information in addressing and evaluating problems and issues in making decisions.

YC - Manufacturing & Welding Technology Program Review
Develop an ASME on compliant pipe welding program
Develop a GTAW Pipe cert program
YC Goal 7 - Develop a Fabrication certificate

Program Recommendation: New technologies for the Torchmate CNC Table

Add new technologies to the Torchmate CNC table allowing us to teach the students new methods in using a CNC Table

Recommendation Priority: 3. High Priority
Year(s) Requested: 2011-2012
Request Date: 02/01/2012
Supporting Evidence : Technology in the CNC field is changing rapidly. Our students need to be exposed to these changes to be competitive in the industry.

Plan of Action

Equipment - Get a quote for the technology, drive equipment, software, etc. Present to Perkin's committee (Active)
Budgetary Impact: 10,000$
Timeline/Responsible Party: Dan Turner

YC - Manufacturing & Welding Technology Program Review

Perkins Eligible: Yes

Related Goals

Institutional Learning Outcomes
Critical Thinking - Analyze data/information in addressing and evaluating problems and issues in making decisions.
Global Awareness - Articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.
Information Competency - Conduct, present, and use research necessary to achieve educational, professional, and personal objectives.

YC - Manufacturing & Welding Technology Program Review
YC Goal 7 - Develop a Fabrication certificate

Program Recommendation: Purchase a subscription to a Welding certification program such as the AWS S.E.N.S.E.

Purchase a subscription to a welding certification program to write WPS's and certifications for the students.

Recommendation Priority: 2. Medium Priority
Year(s) Requested: 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016
Request Date: 02/01/2012
Supporting Evidence : The students need to have their "papers" (certifications) to apply for jobs, we currently do not have a program to write the certifications for the students. This software will operate in several codes and cross check them automatically for accuracy.

Plan of Action

Curriculum/SLO - Research out best program for the department and present to the Perkin's committee (Active)
Budgetary Impact: 2-3000$ per year
Timeline/Responsible Party: Dan Turner
Perkins Eligible: Yes

Related Goals

YC - Manufacturing & Welding Technology Program Review
Hire a full time welding instructor
Develop an ASME on compliant pipe welding program
YC Goal 6 - Create a one year certificate

Program Recommendation: Address budget needs

Increase the budget to allow for purchasing of materials that are needed and will take the limits off of what we need to teach our students. To properly fund the welding program, the budget should be raised by 15,000$ Also with the increased number of sections being offered in the Manufacturing program, the budget for this program needs to be increased. The equipment also needs to be serviced.

Recommendation Priority: 3. High Priority
Year(s) Requested: 2012-2013, 2013-2014, 2014-2015, 2015-2016
Request Date: 10/01/2012
Supporting Evidence : With more students there is an increase in the consumables and metal used in the programs which increase the costs associated with the program

YC - Manufacturing & Welding Technology Program Review

Plan of Action

Other - The Welding and Manufacturing programs wilol ask for more funding from the general fund budget and pursue grant funding (Active)

Budgetary Impact: More supplies budget and metal for the students
Timeline/Responsible Party: Dan Turner and Eric Riel
Perkins Eligible: No
DE Related: No
HSI Related: Yes
YC - Location: Yuba College - All

Related Goals

Institutional Learning Outcomes
Critical Thinking - Analyze data/information in addressing and evaluating problems and issues in making decisions.
Global Awareness - Articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.

YCCD Board of Trustees Vision Statement
YCCD VS 1 - Providing an innovative, world-class learning environment;

YC - Manufacturing & Welding Technology Program Review
Develop an ASME on compliant pipe welding program
Develop a GTAW Pipe cert program
YC Goal 7 - Develop a Fabrication certificate
Expand the ventilation system in the welding shops to improve student safety
YC Goal 6 - Create a one year certificate
YC Goal 3 - Expand the electrical system in the building

Program Recommendation: Hand and Power tools

In crease the tools needed for fabrication and pipe welding. This will help the students to learn more about what they are going to see in the industry.

Recommendation Priority: 2. Medium Priority
Year(s) Requested: 2012-2013
Request Date: 10/01/2012

Plan of Action

Equipment - The Welding and Manufacturing programs will assess the tools needed to provide an education that meets the goals and mission of the programs and the college (Active)

Budgetary Impact: The cost of the tools and attachments to the tools
Timeline/Responsible Party: The Welding and Manufacturing faculty
Perkins Eligible: Yes
DE Related: No
HSI Related: Yes
YC - Location: Yuba College - All

Related Goals

YC - Manufacturing & Welding Technology Program Review

Institutional Learning Outcomes
Communication - Effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
Critical Thinking - Analyze data/information in addressing and evaluating problems and issues in making decisions.
Global Awareness - Articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.

YCCD Board of Trustees Vision Statement
YCCD VS 1 - Providing an innovative, world-class learning environment;

YC - Manufacturing & Welding Technology Program Review
Develop an ASME on compliant pipe welding program
Develop a GTAW Pipe cert program
YC Goal 7 - Develop a Fabrication certificate
YC Goal 6 - Create a one year certificate

Program Recommendation: One year Certificate

Form a one year cohort style certificate program, where students can earn their welding certifications and a certificate from the college in one year. We will also continue to run the college style program we are currently running. This will require the hiring of new adjunct instructors and more funding.

Recommendation Priority: 3. High Priority
Year(s) Requested: 2012-2013
Request Date: 10/15/2012
Supporting Evidence : The welding advisory committee has recommended that we create a pipe line for producing welders faster.

Plan of Action

Curriculum/SLO - Meet with the correct people about how to make this happen (Active)
Budgetary Impact: We will need more adjunct instructors and more funding for additional sections
Timeline/Responsible Party: Dan Turner
Perkins Eligible: Yes
DE Related: No
HSI Related: No

Curriculum/SLO - Develop short term certificates that students can achieve in a timely manner. These certificate can also lead to dual enrollment opportunities with local high school programs. (Active)
Budgetary Impact: This can lead to higher FTES if we can get the dual enrollment programs developed
Timeline/Responsible Party: The welding faculty and Dean
Perkins Eligible: No
DE Related: No
HSI Related: Yes
YC - Location: Yuba College - All

Related Goals

Institutional Learning Outcomes
Critical Thinking - Analyze data/information in addressing and evaluating problems and issues in making decisions.
Technological Awareness - Select and use appropriate technological tools for personal, academic, and career tasks.

YC - Manufacturing & Welding Technology Program Review

YC - Manufacturing & Welding Technology Program Review
Hire a full time welding instructor
Develop an ASME on compliant pipe welding program

Program Recommendation: Welding / Manufacturing Upgrade Paths

F18. To what degree does your program or department have adequate and appropriate technology to support effective instruction (e.g., software, computers, and information technology)?
The Welding and Manufacturing do not have an adequate access to computers to teach the CNC and other programing tools that are used in the program. The programs currently use 6 desktop models and a laptop to teach students programing skills. The Welding Program has invested in a license to allow students to have a copy of the software they use for their Torchmate Plasma table. Students are learning the program on their own computers, but do not have monitoring by the instructors to help them if they have questions.

The Program would be able to more effectively instruct students with more laptops and desktop computers that the students would have access to for instruction.

The Manufacturing program requires purchasing new software for for their Drafting, CAD/CAM, and CNC related courses. In order to operate current software much of the outdated hardware requires upgrading or replacement. We will be sharing these computer labs with all interdepartmental curriculum taught in them, so it is of great benefit for all classes involved to modernize and upgrade to specifications required by current software/s.
Recommendations -
1) Recommendation to seek proper funding for all modern software packages
2) Recommendation for hardware replacement or upgrades to meet teaching and software requirements
3) Recommendation to add at least ten(10) Prosumer level 3D printers to MFGT classrooms to allow students a more hands-on learning experience with their CAD/CAM related curricula.
4) Recommendation for more computers and laptop access for student use.

EQUIPMENT
F19. To what degree does your program or department have adequate and appropriate equipment (other equipment, not computers or IT related).
The welding Program is adequately supplied with equipment for teaching basic welding skills. More equipment is needed for fabrication and pipe welding instruction. The Metal Brake is antiquated and needs replacing. Welding equipment has gotten more advanced and more energy efficient and it would save the college money and advance the education of our students if we replaced older power sources.

In the Machine shop, the equipment is mostly 50-75 years old. Although the Machine shop instructor has kept much of the machinery in working order, updated equipment would serve the students better in their acquisition of skills. There is one(1) CNC lathe, one(1) CNC Milling machine which is non-op, one(1) Power feed drill press/ tapping machine, and one(1) Grinding wheel. Of the four manual mills we have two are fully operational, one is unknown, and one is kept solely for scavenging parts.
The instructor cannot be expected to perform all mechanical and electrical maintenance actions in addition to full-time academic responsibilities.
Another area of related concern is where students have only limited availability of functional machinery and equipment this bottlenecks class progress; this makes it difficult for students to keep up with the curriculum.
The drive is to grow our programs and attract students, yet the facilities budgets aren't matching this enthusiasm.

Recommendations-
1) Recommendation for a significantly improved budget dedicated to maintenance and refurbishment of aging equipment.
2) Recommendation to send our old mills out for full refurbishment to bring them to proper operating specifications. 3) Recommendation for acquisition of three more manual standard(Bridgeport) milling machines to bring the Machine Shop up to seven(7) operational standard milling machines with basic DRO(Digital Read-Out) functions.
4) Recommendation to replace three(3) of our aging manual Lathes with more functional modern equivalents.
5) Recommendation to significantly increase the $1200/yr materials budget to properly supply our students with metals/plastics/etc.

YC - Manufacturing & Welding Technology Program Review

Recommendation Priority: 3. High Priority
Year(s) Requested: 2013-2014, 2015-2016, 2016-2017
Request Date: 11/01/2013
Supporting Evidence : Students will receive a competitive, world class education
Evaluation Plan: Community and industry standards

Plan of Action

Equipment - 1) Recommendation for a significantly improved budget dedicated to maintenance and refurbishment of aging equipment.

2) Recommendation to send our old mills out for full refurbishment to bring them to proper operating specifications.

3) Recommendation for acquisition of three more standard(Bridgeport) milling machines to bring the Machine Shop up to seven(7) operational standard milling machines with basic DRO(Digital Read-Out) functions.

4) Recommendation to replace three(3) of our aging manual Lathes with more functional modern equivalents.

5) Recommendation to significantly increase the $1200/yr materials budget to properly supply our students with metals/plastics/etc. (Active)

YC - Location: Marysville Campus

Technology - 1) Recommendation to seek proper funding for all modern software packages

2) Recommendation for hardware replacement or upgrades to meet teaching and software requirements

3) Recommendation to add at least ten(10) Prosumer level 3D printers to MFGT classrooms to allow students a more hands-on learning experience with their CAD/CAM related MFGT curricula. (Active)

YC - Location: Marysville Campus

Program Recommendation: Facilities

G20. To what degree does your program or department have adequate facilities to support effective instruction? Please explain.
The facilities for both programs are grossly undersized.
The programs have electrical panels that are very old and very expensive to repair.
The 600 building has stucco that is falling off of the exterior walls, the Welding shop would benefit from exterior overhangs so students can use electric hand tools outside when it rains.
The Welding shop also floods when it rains which creates a safety hazard when students are welding or using electrical tools.
The lighting in both shops needs to be improved to allow students to see better in the booths and while they are using the machining equipment.
The electrical system in both shops need to be evaluated and updated for efficiency and safety.
The addition of electrical outlets by the roll up doors in room 604 would allow the students to utilize equipment without running cords across the floor creating trip hazards.

Recommendation Priority: 3. High Priority
Year(s) Requested: 2013-2014, 2014-2015, 2015-2016
Request Date: 11/01/2013
Supporting Evidence : There are 20 stations in
Evaluation Plan: Safety

Plan of Action

Facilities - The faculty will work with the administration and maintenance to evaluate the needs of the shop and to work at obtaining funding for the improvements.

YC - Manufacturing & Welding Technology Program Review

(Active)

Budgetary Impact: New facilities would require a bond or other stream of funding to obtain. The electrical and ventilation will require funding that may be able to be paid for from recent grants.

YC - Location: Marysville Campus

Related Goals

YC - Manufacturing & Welding Technology Program Review
Expand the ventilation system in the welding shops to improve student safety
YC Goal 3 - Expand the electrical system in the building

Program Recommendation: Staffing

H21. Does this program or department have adequate full-time faculty to support a high quality program? Please explain.

This Program does not have adequate full-time faculty to support a high-quality program.
Our current staffing provides us with the faculty to remain functional but not to realistically pursue a competitive, multi-faceted, high quality program.

A full time Manufacturing Instructor was hired for the 2015/2016 educational year.
This provides one instructor to serve as Department Lead and ensure that the courses required for a base degree or certificate can be offered.
MFGT and WELD Departments have interest in jointly expanding our Fabrication program offerings to provide a Certificated Program track. Manufacturing Programs across the country are successfully offering Welding, Fabrication, and Machining curricula as grouped certificated pathways.
In order to remain competitive we need to either match that pace or isolate and specialize.
Either way, with concurrent curriculum expansion into CNC Machining practices, we request the addition of at least an Adjunct line to assist with Machining class load in an effort to grow the rest of our program. (see - Hiring line for Adjunct Instructor/Professor)

Possibilities of a full-time hire/other in MFGT-Machining can be based upon evidence of FTE growth in 2016-17.

The Welding program currently has 1 full-time faculty member and one adjunct. Three adjuncts of the welding program have returned to work outside of the college,

According to the data provided, the Welding and Manufacturing departments had load for a high of 4.05 FTEF in 08-09 and a low of 2.80 in 10-11, with a 5 year average of 3.5 FTEF needed.

There are two full time faculty members needed, a Full time Manufacturing Instructor and a full time Welding Instructor.

Recommendation Priority: 3. High Priority
Year(s) Requested: 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017
Request Date: 11/01/2013
Supporting Evidence : Student learning
Evaluation Plan: new faculty hired

Plan of Action

Staffing - Faculty - Work with the dean to submit a staffing request (Active)

Budgetary Impact: Cost of instructor offset by FTES created
Timeline/Responsible Party: Program Faculty
Perkins Eligible: No
DE Related: No

YC - Manufacturing & Welding Technology Program Review

HSI Related: Yes
YC - Location: Marysville Campus

Related Goals

College - Yuba College Program Review
YC Goal 2 - Prioritize and allocate resources based on existing and emerging community and student needs over those of individual projects or programs.

YC - Manufacturing & Welding Technology Program Review
Expand the ventilation system in the welding shops to improve student safety
YC Goal 3 - Expand the electrical system in the building

Program Recommendation: staffing other

I22. Does this program have adequate technical/clerical staff to support a high quality program?

The program does not have any technical or clerical staff. The Faculty members have to perform all of these duties.
A Shop Technition would be nice to be hired.

MACHINE SHOP TOOLROOM ATTENDANT sorely lacking; HIGHLY RECOMMEND SUCH
We currently have staff in the Automotive shop that would like such an opportunity.

Recommendation Priority: 2. Medium Priority
Request Date: 11/01/2013
Supporting Evidence : Learning
Evaluation Plan: staff hired

Plan of Action

Staffing - Technical/Clerical - Program faculty will work with department lead and their dean (Active)
Budgetary Impact: cost of staffing
Timeline/Responsible Party: Program faculty
Perkins Eligible: No
DE Related: No
HSI Related: Yes
YC - Location: Marysville Campus

Related Goals

YC - Manufacturing & Welding Technology Program Review
Hire a full time welding instructor
Develop an ASME on compliant pipe welding program
YC Goal 7 - Develop a Fabrication certificate

Program Recommendation: Training/ Perfessional development

J23. In the last year, what professional development or networking has faculty and/or staff participated in?

In the past year, the faculty have participated in numerous flex activities, Weld-Ed training, Fab-Tech, Pacific trade show, JSPAC, AWS, Advisory committees, career days at local high schools, Foster youth training, CCCAOE, NCCCTEA, CITEA, Welding educator training hosted by Lincoln Electric,

J24. How did these activities contribute to student success? (include supportive data)

These activities helped the instruction in the classroom and the selection of equipment in the shop. JSPAC helped the faculty to address issues of diversity. The AWS focus this year is “Women in Welding”, this has helped recruit more women into the programs. Participating in these events also has helped to develop a larger network for the instructors and students to help with their knowledge of employment opportunities and for further training. It also has led to articulations with four year universities and colleges.

J25. How does professional development in your program or department support basic skills students and foster inclusive classroom environments that value diversity?

The professional development helps instructors learn about the needs of basics skills students and trend in the basic skills that will help them to serve the needs of the students better. Accroding to the data, the Welding and Manufacturing has increased the number of women in their programs. The welding program just applied to host a women in welding seminar with a grant.

J26. What Staff Development activities would you suggest be offered in the next year that would enhance your program?

Metallurgy in everyday life, Career development and serving students in Career and Technical Education, The importance of CTE Courses at the Community College level, Teaching skills based education

Recommendation Priority: 2. Medium Priority
Year(s) Requested: 2013-2014
Request Date: 11/01/2013
Supporting Evidence : Student learning
Evaluation Plan: conferences attended

Plan of Action

Staffing - Faculty - Continue to explore and attend training opportunities (Active)
Budgetary Impact: Cost of travel and registration
Timeline/Responsible Party: Program faculty
Perkins Eligible: Yes
DE Related: No
HSI Related: Yes
YC - Location: Marysville Campus

Related Goals

YC - Manufacturing & Welding Technology Program Review
Hire a full time welding instructor
Develop an ASME on compliant pipe welding program
YC Goal 7 - Develop a Fabrication certificate

Program Recommendation: Mobile Welding

Yuba College purchase two 1-2 ton trucks to build as mobile welding trucks and outfit them for welding and fabricating. Also pull the Mobile Demonstration Trailer.

Recommendation Priority: 3. High Priority
Year(s) Requested: 2014-2015, 2015-2016

Supporting Evidence : The advisory committee recommended that students learn how to work from a mobile repair truck.
Evaluation Plan: Students will be able to demonstrate mobile repair techniques using a welding truck

Plan of Action

Equipment - The Welding instructors will explore the needs of a mobile welding repair truck (Active)
Perkins Eligible: Yes
HSI Related: Yes
YC - Location: Marysville Campus

Other - The Welding faculty will explore opportunities to purchasing the Welding trucks. (Active)
Budgetary Impact: The cost of the truck and welding equipment
Timeline/Responsible Party: The Welding faculty and Administration
Perkins Eligible: No
DE Related: No
HSI Related: Yes
YC - Location: Marysville Campus

Related Goals

YC - Manufacturing & Welding Technology Program Review
Develop an ASME on compliant pipe welding program
YC Goal 7 - Develop a Fabrication certificate
YC Goal 6 - Create a one year certificate

Program Recommendation: Prepare room 608 for Manufacturing CNC Technology Center

Develop the Manufacturing CNC Technologies Center in an effort to modernize our department, remain competitive, and provide industry connection and workforce alignment.
1) Move the hydraulic simulators to another room
2) Prepare the electrical system, compressed air in accordance with plans submitted to College Director of Maintenance and Operations
3) Take delivery of CNC machinery as per grant award

Recommendation Priority: 3. High Priority
Year(s) Requested: 2015-2016
Request Date: 10/15/2015
Supporting Evidence : We have curriculum offered from our catalog that makes use of such a space and equipment.
We have received a grant to purchase CNC manufacturing equipment and rm 608 has been allocated to serve this purpose.
We have submitted all requested plans and documentation to Operations and Administration.

Plan of Action

Facilities - The faculty will work with the administration and maintenance to evaluate the needs of the shop and to work at obtaining funding for the improvements. (Active)

YC - Location: Marysville Campus
Related Documents:
608_Layout_TOP.pdf

Curriculum/SLO - Classes with application/ready for use of facility:
MFGT-21
MFGT-34
MFGT-35

YC - Manufacturing & Welding Technology Program Review

MFGT-60 (Active)

YC - Location: Marysville Campus

Related Goals

YC - Manufacturing & Welding Technology Program Review

YC Goal 3 - E16. How do program or department goals align with stated Yuba College goals?

1. Foster a culture of evidence-informed decision making, including SLO development/assessment and other measures of student success.
The Welding and Manufacturing department utilize SLO's to help direct the education in the classes. The programs also listen to the advisory committee and local industry to address concerns they may have with the students they hire when they complete the program.
2. Prioritize and allocate resources based on existing and emerging community and student needs over those of individual projects or programs.
The Welding and Manufacturing programs evaluate the needs of the local employers and direct resources to these needs. They also attend trainings to determine the direction of industry trends and plan their resources accordingly.
3. Steward our institutional resources with increasing effectiveness and efficiency.
The welding and Manufacturing programs continually look for ways of efficiency and effectiveness. The welding program has replaced many power sources with inverter style that use a third less energy than transformer style power sources. These are also modern machines that the students will see when they enter the workforce.
4. Research and utilize effective modes of delivery for our courses and services.
The Instructors of these programs attend trainings and seminars that cover best practices of instruction in their prospective fields. They incorporate these methods into their classes. They have also been published addressing teaching methods and teach classes to other instructors.
5. Design our programs in such a way as to allow students to complete their educational goals in a timely manner.
The Welding program is exploring developing scaffolding certificates that culminate in a higher degree or certificate of training. They also encourage students to complete their associates degree and transfer to a four year college to achieve a high

MFGT-CNC Certificate Program - Form a one year certificate program, where students can earn their MFGT - CNC certifications from the college.
We will dovetail certification process with old and new curriculum, with pre-req's of the basic MFGT curriculum, and branching to CNC after MFGT-20 and MFGT-21 completion. This will require the hiring of an adjunct instructor/s and more funding.

Program Recommendation: Hiring line for Adjunct Instructor/Professor in Manufacturing/Advanced Manufacturing

Recommendation for opening a line in MFGT for an Adjunct Professor/Instructor in various Machining/Advanced Machining courses. Particular consideration for this hire is to afford the MFGT Department Lead opportunity to grow the department through newly expanded class offerings pertaining to school advances, industry connection, and workforce alignment.

Recommendation Priority: 3. High Priority
Year(s) Requested: 2016-2017
Request Date: 10/15/2015
Supporting Evidence : Evidence will be provided upon the successful completion of the MFGT CNC Technologies Center and enrollments in Yuba College MFGT_CNC curriculum

Plan of Action

Staffing - Faculty - Program faculty will work with department lead and their dean (Active)
Budgetary Impact: cost of new adjuncts
Timeline/Responsible Party: Program faculty
Perkins Eligible: No
DE Related: No
HSI Related: Yes

YC - Manufacturing & Welding Technology Program Review

YC - Location: Marysville Campus

Related Goals

YC - Manufacturing & Welding Technology Program Review
Hire a full time welding instructor
YC Goal 3 - E16. How do program or department goals align with stated Yuba College goals? 1. Foster a culture of evidence-informed decision making, including SLO development/assessment and other measures of student success. The Welding and Manufacturing department utilize SLO's to help direct the education in the classes. The programs also listen to the advisory committee and local industry to address concerns they may have with the students they hire when they complete the program. 2. Prioritize and allocate resources based on existing and emerging community and student needs over those of individual projects or programs. The Welding and Manufacturing programs evaluate the needs of the local employers and direct resources to these needs. They also attend trainings to determine the direction of industry trends and plan their resources accordingly. 3. Steward our institutional resources with increasing effectiveness and efficiency. The welding and Manufacturing programs continually look for ways of efficiency and effectiveness. The welding program has replaced many power sources with inverter style that use a third less energy than transformer style power sources. These are also modern machines that the students will see when they enter the workforce. 4. Research and utilize effective modes of delivery for our courses and services. The Instructors of these programs attend trainings and seminars that cover best practices of instruction in their prospective fields. They incorporate these methods into their classes. They have also been published addressing teaching methods and teach classes to other instructors. 5. Design our programs in such a way as to allow students to complete their educational goals in a timely manner. The Welding program is exploring developing scaffolding certificates that culminate in a higher degree or certificate of training. They also encourage students to complete their associates degree and transfer to a four year college to achieve a high
MFGT-CNC Certificate Program - Form a one year certificate program, where students can earn their MFGT - CNC certifications from the college. We will dovetail certification process with old and new curriculum, with pre-req's of the basic MFGT curriculum, and branching to CNC after MFGT-20 and MFGT-21 completion. This will require the hiring of an adjunct instructor/s and more funding.