PCCUA ASSESSMENT FORM

Division: Applied Technology
Program: Welding
Date: 2022-23 Academic Year

PCCUA ASSESSMENT GUIDING QUESTIONS

Please respond based on the departmental discussion of the program assessment and how those outcomes reflect what students are learning and what needs to happen to improve student learning. You may provide this in a narrative or bulleted format. However, you must respond to each question and these responses should be based on your program assessment discussions. Please respond in red font.

Program Student Learning Outcomes

A. Are the intended educational (learning) outcomes for the program appropriate and assessed appropriately?
In my opinion up to a point. The skills trade programs operate at a different level than other programs. Some industry request all they want the students taught are the basic skills to gain employment while others require students to be certified in their (industry) specific areas. Students take competence exams to assess if they have mastered the procedures in the respected welding disciplines.

B. How are the faculty and students accomplishing the program's student learning outcomes?
By hands on lab activities. All lab skills are competency based and practice builds upon each skill level until that skill is mastered and students advanced to next required skill.

C. How is the program meeting market/industry demands and/or preparing students for advanced study?
Students are learning the required basic welding skills that industry requires to be competent in their field of study and students can continue their skill development with welder certification in one or more of the major welding processes. Once a student has completed the required minimum amount of field experience they may enroll in the American Welding Society CWI course and upon satisfactory completion take the Certified Welding Inspector exam and become a CWI.

D. Do course enrollments and program graduation/completion rates justify the required resources?
The welding classes are hands on. The program requires a multitude of expensive resources and without the proper resources it would be impossible for a student to gain the necessary skill set to flourish in the welding industry let alone even qualify for a welding position. Many of my students have gained employment in the welding industry.

E. Based on the Program SLO's how well are students learning at the course and program level? Based on your assessment outcomes, how do you know this?
Students take a multitude of hands on welding performance test daily as their skill level increase. Rubrics are used to grade their skill level.

F. What are the changes you need to make to improved student learning?
Additional lab time is required in the welding field. Welding is a performance skill that requires additional practice, practice and more practice to assist in muscle memory required to advance in the field.

G. What are the weak areas demonstrating a need for improvement?
1. Additional lab practice time.
2. Basic math skills.
3. Reading skills
4. Properly prepared for class, paper, writing utensil and proper clothing requirements for the welding lab.

H. What are the strengths identified through assessment?
Students continue to enroll in the next level of the welding classes and have inquired about coming to other welding lab classes for additional hands on skills time. Several have requested an advanced blueprint class.

Program Curriculum

A. Is the program curriculum appropriate to meet current and future market/industry needs and/or to prepare students for advanced study? Is that reflected in the assessment outcomes?
Yes. Students are learning the required basic welding skills that industry requires to be competent in their field of study and students can continue their skill development with welder certification in one or more of the major welding processes. Once a student has completed the required minimum amount of field experience they may enroll in the American Welding Society CWI class. Upon completion they can take the Certified Welding Inspector exam and become a CWI.

B. Are program exit requirements appropriate?
Students have a basic group of lab competencies to be mastered in each of the welding classes. The competencies are the same ones used in industry and do not change. We use the American Welding Society Code D1.1 on Structural Welding.

C. Are students introduced to experiences within the workplace and introduced to professionals in the field?
Students are introduced to workplace experiences in the welding lab. Some professional welders do visit my classrooms looking for potential employees and visiting with myself. Instructors have experience in their related field and share their past and current experiences to current students. Former students visit and share information with current students on their experiences and potential employment.

D. Does the program promote and support interdisciplinary initiatives?
All students are required to meet the same results in the welding program.

E. Does the program support the college STACC skill development expected of all PCCUA graduates? Explain how you know this through assessment.
All students use the same tools of the trade in the welding program. See assessment results.

F. Does the program provide respect and understanding for cultural diversity as evidenced in the curriculum, in program activities, in assignment of program responsibly and duties; in honors, awards and scholarship recognition; in recruitment?
Students work together on class projects and all are required to complete the same welding competencies.

Budget Requests Forms

Are more resources needed. If so, has there been an effort to acquire these resources through the college budgeting process?
The welding field changes almost as fast as the computer industry. Welding machines contain the same micro processors as the computers in use today. The newer welding machines are computers and we must keep up with industrial changes or our students will fall behind. Phillips College has updated the equipment used in the welding program and I trust they will continue.

What program requests did you make for the next year which are tied to needs related to assessment outcomes?
Constantly upgrading our welding machines and short/long term consumables will be an asset.

STUDENT SUCCESS
GRADUATES PER YEAR

CERTIFICATE	WELDING FOCUS	2023	2022	2021	2020	2019	2018
TC	**Welding Technology**	7	4	8	8	2	11
CP	**General Welding Techniques**	15	13	18	27	26	10
CP	**Inert Gas Welding**	15	11	18	18	12	17
CP	**Mild Steel Welding**	15	14	26	27	23	15
TOTAL AWARDS	**All Welding Awards**	52	42	70	80	63	53

Note: The Mild Steel Welding and the General Welding Techniques are the most common certifications. Most students acquire both. Often, students are offered employment with two certificates and choose to take a job instead of completing their TC. Note a drop in completions when we reduced the number of nights courses were available (2022-instructor retired)

WELDING
Fall 2022 and Spring 2023

COURSE	Course SLOs	Program SLOs	Benchmarks	Assessment	STACC	Assessment Results	Action
WG 115 Introduction to Welding	Students will be able to make welds with arc welding and gas metal welding equipment	3 Students will use SMAW, TIG and MIG machines in both pipe and plate welding	70% of the students will score 70% or higher	Students will use SMAW, TIG and MIG machines in both pipe and plate welding	Technology Utilization	Fall 22 84% 16 of 19 Students Spring 23 82.7% 9 of 9 students	Exceeded Expected Student Learning Outcome.
WG 125 Arc Welding I	Students will be able to construct a lap joint, tee joint, corner joint and a square butt joint in flat and horizontal positions	3 Students will use SMAW, TIG and MIG machines in both pipe and plate welding	70% of the students will score 70% or higher	Students will use SMAW, TIG and MIG machines in both pipe and plate welding	Technology Utilization	Fall 22 75% 6 of 8 Students Spring 23 79.8% 6 of 6 students	Exceeded Expected Student Learning Outcome.
	Name the two types of operating adjustments found	4 Students will be able to explain the physical	70% of the students will	Students will be able to explain the physical	Social & Community Responsibility	Fall 22 88% 7 of 8 Students	Exceeded Expected Student Learning Outcome.

	on arc welding machines.	aspect of different metals	score 70% or higher	aspect of different metals		Spring 23 100% 6 of 6 students	
WG 133 or WG 163 Welding Blueprint Reading or Basics of Blueprint	Students will understand blueprint terminology	4 Students will be able to explain the physical aspect of different metals	70% of the students will score 70% or higher	Students will be able to explain the physical aspect of different metals	Social & Community Responsibility	Spring 22 100% 8 of 8 students Spring 23 (IT 163) 80% 3 of 3 students	Exceeded Expected Student Learning Outcome.
	Students will be able to read and understand blueprints	1 Students will achieve a complete understanding of welding symbols and print drawing and reading	70% of the students will score 70% or higher	Students will achieve a complete understanding of welding symbols and print drawing and reading	Communication	Spring 22 100% 8 of 8 students Not in IT 163	Exceeded Expected Student Learning Outcome.
	Students will be able to work with clients on specific projects	5 Students will work with a variety of clients	70% of the students will score 70% or higher	Students will work with a variety of clients	Commitments to diversity, equity and inclusion within the context of cultural engagement and understanding	Spring 23 100% 8 of 8 students Spring 23 (IT 163) 80% 3 of 3 students	Exceeded Expected Student Learning Outcome.
WG 135 ARC Welding II	Construct a lap joint, tee joint, corner joint and a square butt joint in the vertical and overhead positions	3 Students will use SMAW, TIG and MIG machines in both pipe and plate welding	70% of the students will score 70% or higher	Students will use SMAW, TIG and MIG machines in both pipe and plate welding	Technology Utilization	Fall 22 100% 3 of 3 Students Spring 23 86.3 % 3 of 3 students	Exceeded Expected Student Learning Outcome.
	Students will determine different welding techniques needed for specific projects	2 Students will use the correct procedure in setting up equipment and the skills used in welding	70% of the students will score 70% or higher	Students will use the correct procedure in setting up equipment and	Analytical & Critical Thinking and Reasoning	Fall 22 100% 3 of 3 Students Spring 23 100 % 3 of 3 students	Exceeded Expected Student Learning Outcome.

				the skills used in welding			
WG 145 Inert Gas Welding I	Construct a mild steel lap joint, tee joint, corner joint and square butt joint in the flat and horizontal positions with the gas metal arc welding process	3 Students will use SMAW, TIG and MIG machines in both pipe and plate welding	70% of the students will score 70% or higher	Students will use SMAW, TIG and MIG machines in both pipe and plate welding	Technology Utilization	Fall 22 100% 2 of 2 Students Spring 23 82.5% 8 of 8 students	Exceeded Expected Student Learning Outcome.
WG-165 Inert Gas II	Students will demonstrate welding applications of ferrous, nonferrous, stainless steel and alloy metals in the vertical and overhead positions.	3 Students will use SMAW, TIG and MIG machines in both pipe and plate welding	70% of the students will score 70% or higher	Students will use SMAW, TIG and MIG machines in both pipe and plate welding	Technology Utilization	Fall 22 75% 3 of 3 Students Spring 23 78.3% 3 of 3 students	Exceeded Expected Student Learning Outcome.
WG-155 Pipe Welding	Students will construct single vee joints (with no backup) in the flat, horizontal, vertical and overhead positions. Then progress into different piping positions	3 Students will use SMAW, TIG and MIG machines in both pipe and plate welding	70% of the students will score 70% or higher	Students will use SMAW, TIG and MIG machines in both pipe and plate welding	Technology Utilization	Fall 22 100% 4 of 4 Students Spring 23 75.5 % 2 of 2 students	Exceeded Expected Student Learning Outcome.
WG-175 Certification Welding	Students will study and practice the qualifications to take the American Welding Society performance tests.	3 Students will use SMAW, TIG and MIG machines in both pipe and plate welding	70% of the students will score 70% or higher	Students will use SMAW, TIG and MIG machines in both pipe and plate welding	Technology Utilization	Spring 23 80 % 2 of 2 students	Exceeded Expected Student Learning Outcome.

Note: It is impossible to extricate SLOs from courses. Although all skills are integrated in all classes, some courses specifically focus on certain skills tied to the PLOs.