PCCUA ASSESSMENT FORM

Division: Applied Technology
Program: HVAC
Date: 2023-24 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?
Yes, we are using NCCER resources and these are a valuable teaching tool. We also had numerous powerpoints left by the previous instructor which were helpful.

B. How are the faculty and students accomplishing the program's student learning outcomes?
We use written tests, lots of demonstrations, and lab time is used for assignments and projects.

C. How is the program meeting market/industry demands and/or preparing students for advanced study?
Working with real-world applications is very important. We repaired lots of water heaters and appliances.

D. Do course enrollments and program graduation/completion rates justify the required resources?
Yes, practical, repetitive skills help when it some to students willingness to learn in the class, learn with others, and learn from mistake.

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?

NCCER resources start at a beginning level and gradually move students toward more difficult tasks.

F. What are the changes you need to make to improve student learning?
We are working on developing rubrics to make grading through observation by the instructor more accurate.

G. What are the weak areas demonstrating a need for improvement?
Most of the students have serious math issues and have a great deal of trouble reading measurement tools and voltage. These skills are critical on job sites. We lack on the job opprotunities for the students. We hope to have some apprenticeship options in the future.

H. What are the strengths identified through assessment?
Safety and proper gear. We put safety above all else. Students who do succeed do find jobs.

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, NCCER is appropriate for our students and instructors. New instructors need the structure and outlines for teaching provided within the NCCER curriculum.

B. Are program exit requirements appropriate?

Yes, but there needs to be more credit hours in this certificate so students take more HVAC instruction.

C. Are students introduced to experiences within the workplace and introduced to professionals in the field?

I provide hands-on experiences in class but professional presentations have not been used. It is a good idea but there is limited time to complete assignments and projects. Some students put in extra time just to complete assignments.

D. Does the program promote and support interdisciplinary initiatives?
Yes and no. HVAC is a certificate program, but we do manage to integrate some of the STACC skills into the teaching. Students are not required to take English or math. However, many students have weak math skills, which we see in blueprint reading and measurement.

E. Does the program support the college STACC skill development expected of all PCCUA graduates? Explain how you know this through assessment.
Technology utilization and analytical and critical thinking are very important in HVAC. Communication is also closely tied to being able to explain to others work being done. Many people do not realize that one mistake can result is a serious and unsafe situation. Students have to trouble shoot to discover potential problems before they become problems.

F. Does the program provide respect and understanding for cultural diversity as evidenced in the curriculum, in program activities, in assignment of program responsibilities and duties; in honors, awards and scholarship recognition; in recruitment?
When working with students and doing scenarios related to service for others needing HVAC help, we stress understanding the people who you are working with and their needs. We also stress the importance of working together in class. Almost all activities require pairing.

Budget Requests Forms
Are more resources needed? If so, has there been an effort to acquire these resources through the college budgeting process?
No really. The equipment was in good shape.

What program requests did you make for the next year that are tied to needs related to assessment outcomes?
OSHA 10 validation for the students.

STUDENT SUCCESS MAY 2024

YEAR	2024	2023	2022	2021	2020	2019
HVAC COMPLETERS	31	21	13	18	18	5

17/19 Completed

Students completing the PCCUA HVAC Certificate of Proficiency will demonstrate the skills to:

1. Apply safe working practices
2. Apply principles used to install air conditioning, heat pumps, furnaces, and system controls.
3. Recognize and apply components of air distribution system
4. Diagnose problems related to electrical, heating, and air systems

5. Problem solve/trouble shoot electrical, heating, and air systems
6. Use tools required for electrical, heat and air system installation, testing, and repair
7. Apply basic service and customer service skills related to HVAC work
8. Apply basic skills of energy management

	Course Name and No.	**Assessment Method(s) and Tool(s)**	**Benchmark, if known**	**Outcome**	**Actions Related to Outcomes**
Apply safe working practices	NEG 10103 Industrial Safety & Sanitation	Pre and Post Test Demonstration Clinical Skills Test	100% of the students will score 90% or higher	80.9% completed this PLO.	PLO not met. More demonstrations and have more safety check-off lists.
Diagnose problems related to electrical, heating, and air systems	AMST 13303 Industrial Electricity	Basic Hands on Evaluation Rubric	70% of the students will score 70% or higher	80.7% of the cohort completed this PLO.	PLO was met
Problem solve/trouble shoot electrical, heating, and air systems	AMST 13303 Industrial Electricity AMST 16303 Basics of Blueprints and Industrial Measurements	Observation of work with use of a rubric.	70% of the students will score 70% or higher	Exceeded this standard by 10.9%	Met and exceeded this PLO
Use tools required for electrical, heat and air system installation, testing, and repair	AMST 13303 Industrial Electricity AMST 12343 Principles of HVAC	Basic Hands on Evaluation Rubric	70% of the students will score 70% or higher	80 % of the cohort earned a 70% or higher	PLO met

	NEG 10103 Industrial Safety & Sanitation				
Apply principles used to install air conditioning, heat pumps, furnaces, and system controls.	AMST 12343 Principles of HVAC	Basic Hands-on Evaluation Rubric Quizzes Assignment	70% of the students will score 70% or higher	80.7% of the cohort completed this PLO with a score of 70% or higher.	PLO met.
Recognize and apply components of air distribution system	AMST 12343 Principles of HVAC	Pre/Post Test Basic Hands-on Evaluation Rubric	70% of the students will score 70% or higher	37/42 or 88% of the students performed this PLO.	PLO met.
Apply basic service and customer service skills related to HVAC work	AMST12343 Principles of HVAC	Demonstration Mock service assignment	100% of the students will meet this goal.	38/42 or 90% of the students completed this PLO.	Did not meet this PLO. It seems easy but not for everyone. Instructors will re-examine assessment tools and have more review in the labs. .
Apply basic skills of energy management	NEG 10103 Industrial Electricity AMST 12343 Principles of HVAC	Test	80% of the students will score 80% or higher.	12.6% of the students were unable to meet this PLO. Although the goal was met, too many people had difficulty with this skill. There are some numbers in this assessment and students have trouble with math.	Met this PLO but plan to do more review of this PLO. Consider a math lab or a math unit for measurements and management financial and purchase skills.