PCCUA ASSESSMENT FORM

Division: Applied Technology
Program: HVAC
Date: 2024-25 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, these are appropriate. We are using NCCER aligned with our SLOs.

B. How are the faculty and students accomplishing the program's student learning outcomes?
We use a pre and a post test followed by a demonstration and follow up assessment for skills learning.

C. How is the program meeting market/industry demands and/or preparing students for advanced study?

Currently, many students enter the workforce after acquiring the CP. The job opportunity for a student with HVAC skills is good because they can work in so many different areas.

D. Do course enrollments and program graduation/completion rates justify the required resources?
Yes, however, that has bee a drop in enrollment numbers although completion rates are adequate.

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?
Yes, the college program has been unavailable to high school students and many high school graduates find the college program useful and they like how the course is taught and the curriculum used (NCCER).

F. What are the changes you need to make to improve student learning?
We need more Amatrol equipment and we do plan to have HVAC and electricians visit the classes occasionally.

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.

H. What are the strengths identified through assessment?
Yes, HVAC instruction relies heavily on "hands on" experiences in the classroom. Students love learning this way.

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?
HVAC is a practical to actual electrical and mechanical experience. The current curriculum is aligned with NCCER curriculum and does prepare students for advanced study. In fact, it would be useful to have more HVAC courses.

B. Are program exit requirements appropriate?

This is a CP program with only four courses required. However, at some time, it would really benefit students to add more HVAC courses.

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

Although we have not used speakers in the class it would be helpful for students to meet more people who do HVAC and electrical work. We do rely on simulations which are "real-life" applications.

D. Does the program promote and support interdisciplinary initiatives?
HVAC students work cooperatively, which is essential for electrical and HVAC work. The CP students are not required to take general education courses.

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.

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?
The cooperative nature of HVAV and electrical work requires an understanding of others. In class, we use ice breakers to talk openly about similarities and difference of people. We also discuss the importance of working for someone who has an HVAC problem.

Budget Requests Forms
Are more resources needed? If so, has there been an effort to acquire these resources through the college budgeting process?
We would like more reference books

What program requests did you make for the next year that are tied to needs related to assessment outcomes?
It would be useful to have more Amatrol equipment

STUDENT SUCCESS MAY 2025

YEAR	2025	2024	2023	2022	2021	2020	2019
HVAC COMPLETERS	17	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	80.2% completed this PLO	PLO not met. This is critical and in order for students to improve scores there may need to be more quizzes, have daily site checks before and after work is completed.
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	Observations of work with the use of this rubric.	70% of the students will score 70% or higher	Exceeded this standard by 10.5%	PLO met and exceeded standard
Use tools required for electrical, heat and air system installation, testing, and repair	AMST 13303 Industrial Electricity AMST 12343 Principles of HVAC NEG 10103	Basic Hands on Evaluation Rubric	70% of the students will score 70% or higher	80.7% of the earned a 70% or higher	PLO met

	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 the 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 a 70% or higher on this skill.	28/29 or 96.5% f the cohort performed this PLO.	.PLO met
Apply basic service and customer service skills related to HVAC work	AMST12343 Principles of HVAC	Demonstration Mock service assignments	100% of the students will meet this PLO.	34/37 or 91.8% of the students completed this skill	Did not meet this PLO. All students in the class need to have this skill. It is critical to employment and engagement. We will begin having more mock service activities.
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.	13.7% or 14% of the students were not able to meet this PLO. Although the PLO was met, too many people had difficulty with this.	Met this PLO but plan to do more review of this.

Note: NCCER was used to help set outcomes. The next year the program will examine the effectiveness of these levels. Also, rubrics will be developed.