

## **FIVE YEAR PROGRAM REVIEW**

<b>Program Heating Ventilation and Air Conditioning (HVAC)</b>	<b>Level-01</b>	<b>CIP-47.0201</b>
<b>12 Credit hours</b>	<b>Award-CP</b>	<b>Approval Date-5/24/2018</b>

## **BRIEF PROGRAM SUMMARY**

**Enrollment Based on Productivity Outcomes/ Annual Completions Average 17.6 CPs** based on ADHE five-year average. PCCUA has had **88 completers during the last five years.** Many do not continue working on an associate degree. Usually these students want to earn an additional CP in construction, manufacturing, or welding. Employers have indicated the great value of HVAC skills when seeking a graduate for employment.

### **Program Costs 2019—2023**

**Total Cost of Instruction=\$22,275.00 for five years**

**The annual average costs is \$4,455.00 per year.**

Many of the costs for this program have been defrayed by various grants related to industry needs tied to our Arkansas Delta Training and Education Consortium.

### **Income from Tuition and Fees for 2019-23**

**The total income collected from the program is \$134,860 over five years.**

**The average income per year is \$26,972 per year.**

Current Fall numbers are not included; however, there are students enrolled and one additional student who has enrolled for a review.

**Future Plans:** PCCUA plans to expand this program, increase the credit by four to five credits, and tie external licensure testing to completion requirements. We have applied for a second Department of Labor grant and some of the costs in HVAC may be supported through this grant if it is funded. The Fall of 2023, PCCUA recruited students in Arkansas County on the Stuttgart Campus which resulted in ten additional students completing the CP. Expanding the program to two campuses and making sure graduates are licensed technicians will strengthen the program.

## **PCCUA MISSION**

Phillips Community College is a small rural community college but the programming is important to the community and is the only avenue for upward mobility for many. The College has academic, occupational/technical, and continuing education programs. New programs are continually being researched and planned so that PCCUA will remain responsive to the needs and interests of the people of Eastern Arkansas. Phillips Community College consists of three campuses located in Helena-West Helena, DeWitt, and Stuttgart, Arkansas. The main campus is

located in Helena-West Helena, Arkansas, and the school serves the needs of Eastern Arkansas. According to the mission statement:

*Phillips Community College is a multi-campus, two-year college serving the communities of Eastern Arkansas. The college is committed to helping every student succeed. We provide high-quality, accessible educational opportunities and skills development to promote life-long learning, and we engage in the lives of our students and our communities.*

## **HISTORY OF THE PROGRAM**

Industries serving on the PCCUA Industry Advisory Council. All PCCUA have commented on how useful HVAC skills are for new hires. The CP in HVAC prepares students for entry level positions in heating, ventilation, and air conditioning. The certificate courses may be applied to the AAS in General Technology, in fact two of the courses are already required for the AAS. Students graduating with an AAS in General Technology and a CP in HVAC are likely to get better jobs, more likely to receive advancement, and are more desirable by industry. HVAC jobs are plentiful in the manufacturing sector and building maintenance workers also need HVAC knowledge.

The HVAC program is designed to prepare students to work with HVAC Systems. The program includes industrial electricity, industrial safety and sanitation, basic blueprint reading, and the basic laws of thermodynamics and thermodynamic cycles. Concepts of heat transfer and applications of heating, ventilating, and air conditioning. The College has recently requested graduates to take the EPA technicians exam.

EPA regulations (40 CFR Part 82, Subpart F) under Section 608 of the Clean Air Act define a "technician" as an individual who performs any of the following activities:

- Attaching and detaching hoses and gauges to and from an appliance to measure pressure within the appliance.
- Adding refrigerant to or removing refrigerant from an appliance.
- Any other activity that violates the integrity of a motor vehicle air conditioner (MVAC)-like appliance or small appliance (other than disposal).

The curriculum for the program is composed of the following courses:

Course Number	Required Courses – 12 Hours
IT 113	<u>Industrial Safety and Sanitation</u> -part of all manufacturing and HVAC courses
IT 133	<u>Industrial Electricity</u> -curriculum of HVAC courses
IT 163	<u>Basics of Blueprints &amp; Industrial Measurements</u> -curriculum for all general technology programs
IT 223	<u>Principles of HVAC</u>

## **Graduates**

Completion numbers are slightly lower than anticipated; however, the numbers exceed the ADHE viability standard. Additionally, there is almost no additional cost to operate this program. Three instructors teach the courses which enroll students in the HVAC training and other programs.

<b>YEAR</b>	<b>HVAC Graduates</b>	
	<b>ADHE Required</b>	<b>PCCUA</b>
<b>2023</b>	4	21
<b>2022</b>	4	13
<b>2021</b>	4	18
<b>2020 COVID</b>	4	18
<b>2019</b>	4	18
<b>Total</b>	20	88

Note: Most students complete the CP

## **Total Course Enrollment**

<b>Term</b>	<b>Enrolled IT-113</b>	<b>Enrolled IT-133</b>	<b>Enrolled IT-163</b>	<b>Enrolled IT-223</b>
<b>2019SPR</b>	9	8	31	13
<b>2019FAL</b>	9	4	-	-
<b>2020SPR</b>	19	30	20	21
<b>2020S1</b>	14	13	14	13
<b>2020FAL</b>	9	10	9	11
<b>2021SPR</b>	6	19	7	8
<b>2021S1</b>	6	6	6	6
<b>2021FAL</b>	5	6	6	5
<b>2022SPR</b>	12	15	12	12
<b>2022S1</b>	15	15	13	15
<b>2022FAL</b>	16	15	10	10
<b>2023SPR</b>	10	20	17	14
<b>2023S1</b>	9	8	9	8
<b>2023FAL</b>	26	18	15	16

Note: It is difficult to calculate program costs by examining program enrollment. IT 163 and IT 133 often have students in other applied technology majors. Sometimes it takes two terms for a student to complete so it is not unusual to have part-time students enrolled for two terms. However, some students complete the CP in one semester.

## **Instruction**

1. There is no single instructor- three instructors teach the HVAC courses for extra compensation. Two of the salaried are covered by the Arkansas Delta Education Consortium appropriation.
2. Program Costs are low because all but the HVAC courses are tied to manufacturing and other applied technology programs. Blue print reading is shared with welding. Safety and Sanitation is required for all applied technology majors.

	2022-23	2021-22	2020-21	2019-20	2018-19
<b>Personnel</b>	\$3,300.00	\$3,300.00	\$3,300.00	\$3,300.00	\$3,300.00
<b>Benefits</b>	\$1,155.00	\$1,155.00	\$1,155.00	\$1,155.00	\$1,155.00
<b>Travel</b>	.00	.00	.00	.00	.00
<b>Equipment</b>	.00	.00	.00	.00	.00
<b>Supplies</b>	.00	.00	.00	.00	.00
<b>Program Costs</b>	\$4,455.00	\$4,455.00	\$4,455.00	\$4,455.00	\$4,455.00

Note: The Arkansas Delta Training and Education Consortium have covered all costs related to this program. We have reapplied for a Department of Labor grant and expect it to fund further development of the program and possible expansion.

**2018-19 Course Cost**=\$1650 X 2=\$3300 + \$1,155 (benefits)=\$4,455

**Total=\$4,455**

**2019-20 Course Costs**===\$1650 X 2=\$3300 + \$1,155 (benefits)=\$4,455

**Total=\$4,455**

**2020-21 Course Cost**==\$1650 X 2=\$3300 + \$1,155 (benefits)=\$4,455

**Total=\$4,455**

**2021-22 Course Costs**===\$1650 X 2=\$3300 + \$1,155 (benefits)=\$4,455

**Total=\$4,455**

**2022-23 Course Costs**==\$1650 X 2=\$3300 + \$1,155 (benefits)=\$4,455

**Total=\$4,455**

**Program Costs 2019—2023**

**Total Cost of Instruction**=**\$22,275.00 for five years**

**The annual average costs is \$4,455.00 per year.**

### **Program Income**

Tuition and Fees are well below many other programs. This is a not a Pell eligible program but the College hopes to increase the hours by a couple of credits to make it one. DOE does recognize standalone CPs in HVAC training for technician programs because these are meeting the need of training for high wage and high demand occupations. This is not a Secondary Center program and no high school students are enrolled. All students pay full tuition and fees. However, many have an industry sponsor.

**2018-19 Course Income**= 18 graduates x \$1,465=\$26,370

**2019-20 Course Income**= 18 graduates x \$1,510=\$27,180

**2020-21 Course Income**=18 graduates x \$1,510=\$27,180

**2021-22 Course Income**=13 graduates x \$1,555=\$20,215

**2022-23 Course Income**= 21 graduates x \$1615=\$33,915

**Total =\$134,860.00**

### **Income from Tuition and Fees for 2019-23**

**The total income collected from the program is \$134,860 over five years.**

**The average income per year is \$26,972 per year.**

This is a low program income estimate based on graduation not enrollment.

### **Program Plans**



The PCCUA Strategic Planning resulted in recommendations for the program based on the success of the HVAC program. The College is planning to tie the CP completion with the national EPA testing outcomes which means a graduate passing that exam will be a licensed technician. In the past, PCCUA has not made the licensure exam a requirement for completers, but recently added it as an external credential, because the license makes graduates more employable. PCC just began the testing and, in the picture, shown here, the instructor Mike Shaw is congratulating the first student to take the test and he passed it. There is a total of four sections

to the licensure exam: (1) core, (2) small refrigeration appliance repair, (3) small home central heat/air unit repair, and (4) industrial heat/air repair. Passing the core and at least one other section is required to gain licensure, and students are allowed four attempts at passing the test. In the future, we would like to have all CP graduates acquire a technician's license as part of the completion.