

## PCCUA ASSESSMENT FORM

Division: Applied Technology

Program: HVAC

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?  
**Yes. intended educational (learning) outcomes should be expressed from the students' perspective and are measurable, achievable and assessable. Students take their class room lecture with the associated labs, and exams for the subject to determine competence in the subject area.**
- B. How are the faculty and students accomplishing the program's student learning outcomes?  
**By entering hands on activities associated with the current lecture class subject.**
- C. How is the program meeting market/industry demands and/or preparing students for advanced study?  
**Students are learning the required skills that industry needs to be competent at required job requirements. This will allow manufacturing to limit required training in the business and reduce training costs.**
- D. Do course enrollments and program graduation/completion rates justify the required resources?  
**Yes, without actual hands-on experience it would difficult for the student thrive in a work environment. They, in most cases, need the experience working with the required equipment.**
- 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 number of conventual paper exams with hands on activities associated with the discipline.**

F. What are the changes you need to make to improved student learning?

In my opinion there are no needed changes are required for these programs. These programs are a batch process where some classes in one semester work well and other classes do not.

G. What are the weak areas demonstrating a need for improvement?

Math, writing and reading skills.

Arriving in class on time.

Bringing the required materials, pencil and paper etc., to class.

Stay off their cell phones

H. What are the strengths identified through assessment?

The strength is during the assessment process the are willing to continue to learning process and gain more skills.

### **Program Curriculum**

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. The curriculum is strong in the due to the fact that that we use materials created by working class people. Students need Skills in many areas, to be a productive employee.

A. Are program exit requirements appropriate?

They have a group of required materials to demonstrate their basic knowledge gained throughout their classes. In this course, the student must be able to exhibit a variety of technical skills and knowledge learned .

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

Students are introduced to workplace experiences. A guest speaker is invited from in Helena, to speak to them directly. They are able to ask questions and see examples of actual jobs that the agency has completed.

C. Does the program promote and support interdisciplinary initiatives?

Yes.

- D. Does the program support the college STACC skill development expected of all PCCUA graduates? Explain how you know this through assessment.

Yes. HVAC/R students are required to take general education courses as well as discipline specific courses. Knowledge in language, speech, math and social sciences will help prepare them to understand, effectively communicate, and develop skills for future requirements.

- E. Does the program provide respect and understanding for cultural diversity as evidenced in the curriculum, in program activities, in assignment of program responsibility and duties; in honors, awards and scholarship recognition; in recruitment?

Yes. The student learning outcomes are established in each course. The course learning goals are found in the program levels and are directly relative to the STACC.

### **Budget Requests Forms**

Are more resources needed. If so, has there been an effort to acquire these resources through the college budgeting process?

What program requests did you make for the next year which are tied to needs related to assessment outcomes?

**Advanced Manufacturing Technical Certificate**  
**Fall 2022 and Spring 2023**

| Course  | Course SLOs   | Program SLOs   | STACC                            | Benchmark                                    | Assessment                                     | Assessment Results   | Action                    |
|---|---|--|----------------------------------|--|--|--|---------------------------|
| IT 113<br>Industrial<br>Safety &<br>Sanitation    | Students will demonstrate knowledge of a safe tool and equipment operations   | Students will recognize safety hazards and potential safety issues and apply safe work practices and procedures in accordance with OSHA standards to safely handle tools, personal protective equipment, and a variety of materials used in manufacturing and construction | Social and Civic Responsibility  | 70% of the students will score 70% or higher | Pre/Post Test Basic Hands on Evaluation Rubric | 5.5-14 students completed with a 81.98% the average score this reflects a score of 86.9 for fall 2020 of a score of 77.0 in spring of 2023 Decline | No action necessary       |
| IT 133<br>Industrial<br>Electricity               | Students will understand blueprints and electrical measurements   | Identifies electrical components and form a schematic diagram  | Analytical and Critical Thinking | 70% of the students will score 70% or higher | Pre/Post Test Basic Hands on Evaluation Rubric | 3.5-15.5 students completed with a 81.5% average score this reflects a score of 63 for fall 2020 of a score of 100 in spring of 2023 improvement   | Need improved math skills |
| IT 273<br>Principles of<br>Industrial<br>Machines | Students will describe work, rate, energy, force, force transformers, momentum, velocity, acceleration, motion, friction, and related concepts. | Demonstrate use of basic safety, basic math, blue print reading, basic communication skills  | Technology Utilization           | 70% of the students will score 70% or higher | Pre/Post Test Basic Hands on Evaluation Rubric | This class was not taught in the Fall 2022 or Spring 2023 academic school year   | No action necessary       |
| IT 1203 Intro to Manufacturing                    | Students will understand the history, significant milestones, and economic impacts of manufacturing   | Demonstrate functional knowledge of trades, building materials, fasteners, adhesives, and site layout.   | Social and Civic Responsibility  | 70% of the students will score 70% or higher | Pre/Post Test Basic Hands on Evaluation Rubric | 10 of 16 completed with a 62.5 % average score Was not taught in the spring  | No action necessary       |

|   |   |  |                                  |  |   |  |                     |
|---|---|--|----------------------------------|--|---|--|---------------------|
|   | Students will be able to use basic hand and power tools to perform simple operations related manufacturing  | Demonstrate use of basic safety, basic math, hand tools, power tools, blue print reading, basic rigging, basic communication skills                | Technology Utilization           |  | Pre/Post Test<br>Basic Hands on Evaluation Rubric |  | No action necessary |
| IT 1213<br>Design for Manufacturing                             | Students will be able to use common manufacturing industry communication tools, management strategies, and interpersonal communication techniques.                        | Apply basic employability skills   | Communication Skills             | 70% of the students will score 70% or higher | Pre/Post Test<br>Basic Hands on Evaluation Rubric | This class was not taught in the Fall 2022 or Spring 2023 academic school year                 | No action necessary |
| IT 1223<br>Manufacturing Production Processes                   | Students will demonstrate an understanding of the basic manufacturing machinery and equipment as well as the safe operation of these machines.                            | Analyze manufactured products to identify processes and materials used   | Analytical and Critical Thinking | 70% of the students will score 70% or higher | Pre/Post Test<br>Basic Hands on Evaluation Rubric | 10 of 16 students completed with Grade of completers is 66.6% only taught in fall 2022         | No action necessary |
| IT 1233<br>Manufacturing. Power & Equipment Systems             | Students will demonstrate the ability to design and implement mechanical drive systems, speed reductions, chain drive systems, gear drive systems, and belt drive systems | Discusses and uses on the job proper maintenance, repair, replacement and troubleshooting techniques on belt drives, chair drives, and gear drives | Technology Utilization           | 70% of the students will score 70% or higher | Pre/Post Test<br>Basic Hands on Evaluation Rubric | This class was not taught in the Fall 2022 or Spring 2023 academic school year                 | No action necessary |
| IT 1273<br>Manufacturing, Engineering, Design & Problem Solving | Students will demonstrate the ability to use engineering design tools to solve problems in manufacturing.   | Solves simulated and real problems related to manufacturing production (i.e., work flow, bottlenecks, etc.)  | Technology Utilization           | 70% of the students will score 70% or higher | Pre/Post Test<br>Basic Hands on Evaluation Rubric | 9 of 10 students completed with Grade of completers is 84.9% class was not taught in fall 2023 | No action necessary |