UNIVERSITY OF ARKANSAS
PULASKI TECH

Assessment Report:
2018-2019 – Program Level

The University of Arkansas – Pulaski Technical College calls for each program (AS, AA, AAS, CP, and TC) to have an assessment plan for each academic year that includes the following:

- **Program Learning Objectives**
- **Procedures for assessing the achievement of student learning**
- **Procedures for analyzing and interpreting assessment results for the continuous improvment of the program.**

A primary goal for each instructional department's assessment is to include at least one direct measure of student learning, which is accomplished usually through the use of locally developed tests, student portfolios, capstone assessment measures, embedded assignments, or through licensure exams and standardized national tests. In addition to direct measures, most areas may also use indirect methods to assess student achievement. Graduation rates and graduation and employer surveys are frequently used as indirect indicators of student achievement.

This form presents template of questions that must, at minimum, be addressed by instructional departments when filing an assessment plan. While an electronic version of this form will be made available, instructional departments may include additional information not specifically addressed in this form as long as the template questions are addressed.

Other Assessment Considerations:

- The College expects programs/departments/divisions to make curriculum changes and budget requests based in part upon assessment findings. Assessment of student learning should be a catalyst for quality instruction and improvement across the college community.
- All programs will be asked to submit an annual assessment report to the Assessment Committee by October 10th of each year. (If October 10th falls on a weekend, please submit reports on the following Monday.)
- For technical and occupational programs, please consider the role of your advisory committee in your student learning objectives.

This form must be completed by October 10 of each academic year. Complete each part of this form. Please follow highlighted instructions.

Part A: Identification and Assessment Plan

1. Name of program: *Automated Manufacturing Systems Technology: Automated Processes (AAS)*

2. Name of individual compiling report: *Douglas A. Ford*

3. Date of submission: *14 October 2019*

4. Is the assessment plan (*Check one*)

☒ an initial plan for the program ☐ a revision of an old plan ☐ unaltered from previous year

5. Provide a brief description of the program and its purposes, to include a description of the jobs/careers for which students are being prepared.

Automated Manufacturing Systems Technology (AAS) prepares students to operate and maintain various automated systems common in automated manufacturing environments. Student are equipped to set up, operate, maintain, and in some cases fix CNC

machines, robotic systems, and programmable logic controllers. Jobs for which the students can be prepared are CNC machinist, CNC programmer, Manual machinist, Quality Inspector, Manufacturing Manager, Automation Technician, Maintenance Controls Technician, Instrumentation Technician, Mechatronics Technician, Automation Controls Technician.

Part B: Student Learning Objectives, Assessment Methods, and Data Sources

In this section of the assessment plan, student learning objectives for the program will be defined. Also, assessment methods and data sources for each objective must be defined. Follow the instructions below to define and relate the program leaning objectives.

1. Complete the chart below or attach documentation of the assessment process that includes the data included below. Also attach any assessment instruments and grading rubrics used at the program level if applicable.

Program Learning Objectives	Course	Assessment Method and/or Data Source
1. Safety in Automated Manufacturing	AMS 1002	Students recognize safety hazards and potential safety issues and apply safe work practices and procedures in accordance with OSHA standards to safely operate and maintain equipment commonly used in an automated manufacturing environment. The assessment will occur in AMS 1002. 70% of students will average 70% or higher on the module examinations.
2. Components of Manufacturing	AMS 1102	All students enrolled in AMS 1102 (Automated Manufacturing Systems II) are required to complete a number of selected modules through Amatrol. The assessment data is based on the results of the tests taken at completion of each module. 75% of students will score 70% or higher on the module post tests.
3. Programming of Automated Manufacturing Systems	AMS 1302	All students enrolled in AMS 1302 (Automated Manufacturing Systems IV) are required to complete a number of selected modules through Amatrol. The assessment data is based on the results of the tests taken at completion of each module. 75% of students will score 70% or higher on the module post tests.
4. Implementation of Automated Systems	AMS 1003	All students enrolled in AMS 1003 (Manufacturing Processes) are required to submit a written composition on an Arkansas manufacturer. The assessment data is based on this composition. 75% of students will score 70% or higher.
5. Electricity and Industrial Machine Control	AMS 1202	All students enrolled in AMS 1202 (Automated Manufacturing Systems III)

		are required to complete a number of selected modules through Amatrol. The assessment data is based on the results of the tests taken at completion of each module. **75% of students will score 70% or higher on the module post tests.**
6. **Manufacturing Systems**	**AMS 2103**	**All students enrolled in AMS 2103 (CNC 1) take 4 exams and 4 G-code quizzes. The assessment questions, which closely mirror questions extracted from the NOCTI exam, come from the course exams and quizzes.** **75% of students must score 70% or higher on the assessment questions.**

2. For each program objective, if applicable, discuss any additional data sources that may be used to gauge success (e.g. charts, graphs, surveys, rates).
   We listen closely to comments from our Advisory Committee on student performance and technology advancements in the trade.

3. Describe the process of analyzing the assessment data for the last academic year.
   In the Automated Manufacturing Systems (AMS) 1, 2, 3, and 4 classes, reports are generated containing students' module scores. The reports are then examined to determine whether or not a sufficient percentage of students have scored high enough to meet the goal. In non-AMS classes, a number of "tracking questions" have been developed based on the NOCTI test. Student exams are examined to determine the percentage of correct answers.

4. Complete the chart below or attach documentation of the assessment findings that includes the data included below.

Program Learning Objectives	Assessment Findings/Conclusion
1. **Safety in Automated Manufacturing**	Assessment goal met. 100% of the safety related modules tests were passed with a score of 70% or higher. No change to the instruction is recommended.
2. **Components of Manufacturing**	Assessment goal met. Five students were tested over a total of nine modules each for a grand total of 45 tests. Nine of those test scores were less than the 70% goal. The result is that 80% of the students scored 70% or higher on the module post tests.
3. **Programming of Automated Manufacturing Systems**	Assessment goal met. This class had 4 students enrolled. They were required to complete 15 modules each. The total number of modules tested was 60 for the semester. As a group, the students passed 43 modules which is 72%.

4. Electricity and Industrial Machine Control	Assessment goal was met. In 80% of the modules, all of the students scored 70% or higher. In two of the modules, only one student scored less than the 70% goal.
5. Manufacturing Systems	All students enrolled in AMS 2103 (CNC 1) take 4 exams and 4 G-code quizzes. The assessment questions, which closely mirror questions extracted from the NOCTI exam, come from the course exams and quizzes. In past classes, G-code quizzes were instituted to force students to memorize their g and m codes. This change was very successful. So, incremental and absolute quizzes will be instituted to force students to study this important concept. Additionally, a couple of the more difficult concepts that are routinely missed by students will be reinforced and the test questions reevaluated to ensure clarity.

5. What is the action plan for assessment for the next academic year? Explain.

The assessment plan for the next academic year is the same.

6. What changes were implemented this year based on last year's findings?
   Our biggest area of concern was in the AMS 1, 2, 3, and 4 classes. As a result, students will be given target dates for completing modules rather than simply allowing them to complete the work by the end of the 8 weeks.

7. Please write any additional information here that you think is pertinent to the assessment process for your program that assists stakeholders (i.e. administrators and standing committees) in understanding your report.
   This program is approximately 1 ½ years old thus some of the courses are new and have never been taught or only taught once.