UNIVERSITY OF ARKANSAS
PULASKI TECH

Assessment Report:
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 outcomes**
- **Procedures for assessing the achievement of student learning**
- **Procedures for analyzing and interpreting assessment results for the continuous improvement 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 10 of each year. (If October 10 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 Student Learning Outcomes

1. Name of program: *ASTE Computer Science*

2. Name of individual compiling report: *Mike McMillan*

3. Date of submission: *November 1, 2021*

4. Academic year: *2020-2021*

5. Is the assessment plan (*Check or highlight one*)

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

6. Provide a mission statement of the program to include a description of the jobs/careers for which students are being prepared. Also, list the learning outcomes for your program.
The mission of the ASTE degree in Computer Science is to prepare students to continue their education towards a Bachelor's degree in Computer Science at a four-year college or university. The learning outcomes of this program are:

PLO 1: Apply algorithmic, mathematical, and scientific reasoning to a variety of computational problems

PLO 2: Design, correctly implement and document solutions to significant computational problems

PLO 3: Analyze and compare alternative solutions to computing problems

PLO 4: Implement software systems that meet specified design and performance requirements

7. Complete the curriculum map below. Please mark an X in the map below to indicate which courses correspond with learning outcomes. If applicable, you can also use I, D, or M to indicate that a learning outcome is introduced, developed to foster more sophistication, or demonstrated at a level of mastery acceptable for graduation within the program. Additional courses may be marked with an R to indicate reinforcement of a program learning outcome.

List all supporting courses	Program Learning Outcomes						
	PLO #1	**PLO #2**	**PLO #3**	**PLO #4**	**PLO #5**	**PLO #6**	**PLO #7**
CIS 2514	**X**	**X**		**X**			
CIS 2644	**X**	**X**	**X**	**X**			
CIS 2733	**X**	**X**	**X**	**X**			

8. How does your assessment report connect to institutional learning outcomes?

To help with mapping your assessment data to the school's overall institutional outcomes, please check the boxes for the institutional outcomes directly associated with the assessment data presented in this report. For details on each outcome, see Appendix A.

X ILO #1 – Information Literacy

X ILO #2 – Technology Literacy

☐ ILO #3 - Communication

X ILO #4 – Critical Thinking

X ILO #5 – Quantitative Reasoning

☐ ILO #6 – Cultural Awareness

X ILO #7 – Professionalism

Part B: Assessment Methods and Data Sources

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

1. Complete the chart below or attach documentation of the assessment process that includes the data included below.

Program Learning Outcomes	Course	Assessment Method and/or Data Source
1. *PLO 1, PLO 2*	*CIS 2514*	End of semester project
2. *PLO 1, PLO 2, PLO 4*	CIS 2644	Mid-semester and end of semester projects
3. *PLO 1, PLO 2, PLO 3, PLO 4*	CIS 2733	PLOs 1,2, and 4 are measured by an end of semester major project. PLO 3 is measured in several assignments where students are asked to compare and contrast several data structures and algorithms used for solutions to computational problems.

2. Please check or highlight any of the statements below that apply to your program assessment. Also, for each program outcome, if applicable, attach any assessment instruments, grading rubrics, or exemplars of student performance used at the program level.

   X Rubrics and/or standardized tests were pilot-tested and refined.

   X Rubrics were shared with students.

   ☐ Reviewers were calibrated with high inter-rater reliability or norming workshops.

3. Also discuss any additional data sources that may be used to gauge success (e.g. charts, graphs, surveys, rates).
   N/A

4. Describe the process of analyzing the assessment data, including specifically discussion of results and collaboration among faculty in the program, for the last academic year. Also, check below any of the following statements that apply to your program assessment.

I am the only instructor in this program so I don't collaborate with my colleagues. I analyze student projects based on how well the submitted program meets the specifications given out in the problem/project statement and how well the program's output matches the desired output as given in the problem/project statement.

☐ Comparative data used when interpreting results and deciding on changes for improvements.

☐ National standards, collaboration with sister programs and/or research data were used to ensure the program was held to high standards.

5. Complete the chart below or attach documentation of the assessment results that includes the data included below. Results should include total number of students assessed, the distribution of scores, relevant and detailed interpretation, student strengths and weaknesses, and whether the target was met.

Program Learning Outcomes	Assessment Results/Conclusion
1. *PLO 1*	Students in CIS 2514, CIS 2644, and CIS 2733 met this PLO with a 81% success rate. A new method of teaching CIS 2514 is being introduced in Fall 2021.
2. *PLO 2*	Students in CIS 2514, 2644, and 2733 met this PLO with a success rate of 76%. Students need more practice working problems that concern this PLO.
3. *PLO 3*	Students in CIS 2733 met this PLO with a success rate of 87%. No changes need to be made at this time.
4. *PLO 4*	Students in 2644 and 2733 met this PLO with a success rate of 73%. More work in solving comprehensive computational problems needs to be assigned during the semester.

6. Describe your use of results, including planned improvements to the program and/or any follow-up studies that confirmed that changes have improved student learning.
My introduction of a new curriculum in CIS 2514 has already proved successful as the pass rates on my exams have increased by 22% over last year.

7. What specific changes were implemented this year based on last year's results?
I introduced a new curriculum for teaching introductory computer science that follows a structured, sequential approach using techniques that have proven successful in several research studies conducted by the University of Washington School of Information over the past three years.

8. What specific budgetary resources are needed for your program based on your assessment results?
None

9. 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.
N/A

Appendix A – UA-PTC's Institutional Learning Outcomes

1. Analyze information from credible sources. (Information Literacy)

This may include the ability to:

- Locate relevant information
- Evaluate the quality and usefulness of the information
- Synthesize the information.
- Communicate the information in an ethical manner consistent with the standards of the field or program of study.

2. Appropriately apply a variety of technology tools within one's discipline. (Technology Literacy)

This may include the ability to:

- Acquire information,
- Solve real-world problems,
- Communicate, and/or
- Perform tasks and processes.

3. Communicate effectively with diverse audiences in multiple contexts. (Communication)

This may include the ability to:

- Develop, organize, and present orally well-supported and ideas formally and informally with consideration of community and context.
- Develop, organize, and present in written format well-supported ideas formally and informally with consideration of community and context.
- Clearly express ideas, information, and concepts in various modes and media, including the proper use of appropriate technology.
- Select and utilize means of communication appropriate for a variety of professional, civic, and social circumstances, environments, and communities.
- Consider diverse communities in multiple contexts.

4. Apply critical thinking skills to achieve a desired goal. (Critical Thinking)

This may include the ability to:

- Apply appropriate methods to solve problems or address issues.
- Use evidence to justify conclusions.

5. Use quantitative methods to solve problems. (Quantitative Reasoning)

This may include the ability to:

- Analyze and interpret quantitative information.
- Apply quantitative concepts and skills to solve real world problems.

6. Demonstrate awareness of cultural differences. (Cultural Awareness)

This may include the ability to:

- Explain how similar actions can be understood differently depending on cultural context.
- Evaluate the impact of culture on individuals and groups.

7. Demonstrate career readiness skills. (Professionalism)

This may include the ability to:

- Demonstrate personal accountability.
- Meet commitments.
- Demonstrate ethical behavior.

- Demonstrate teamwork.