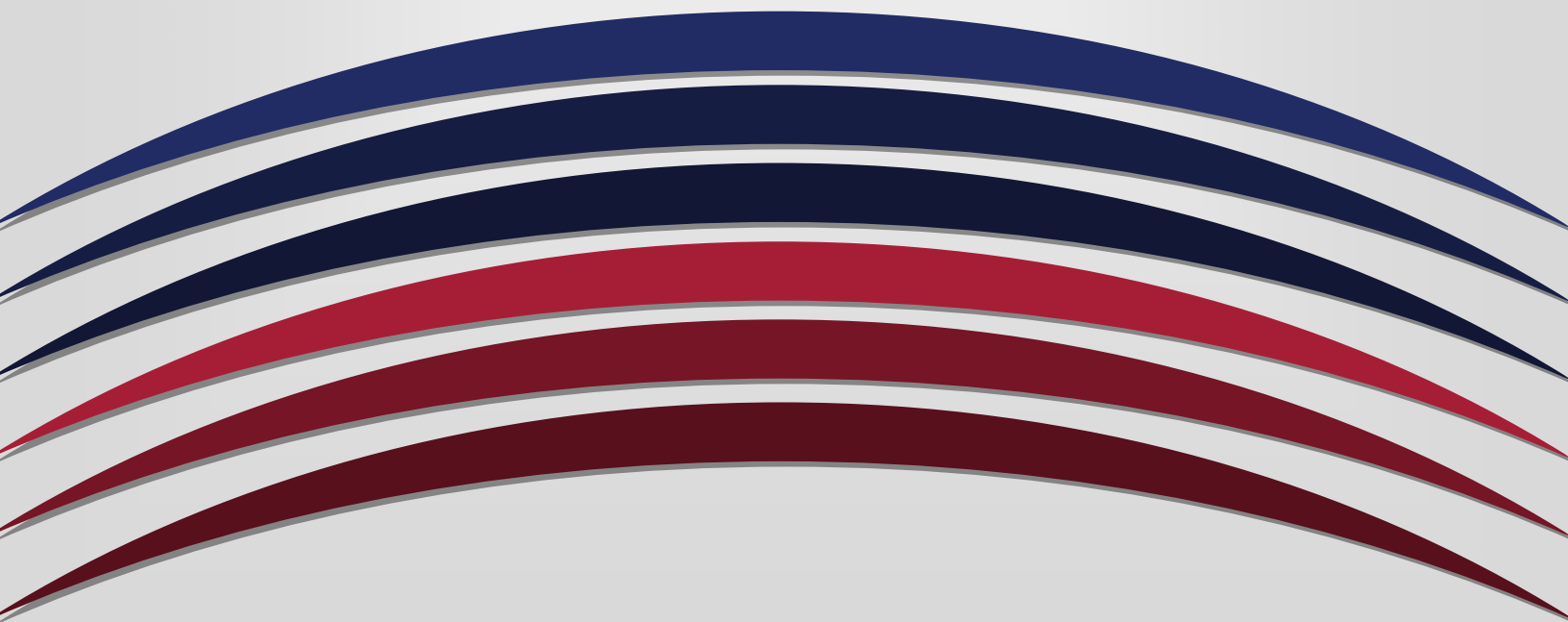


UNIVERSITY OF ARKANSAS  
**PULASKI TECH**

**Course-Level Assessment Report**  
**Course: PHYS 1307-Earth Science**  
**Lecture**  
**Academic Year: 2022-2023**



1. Name of course: PHYS 1307- Earth Science Lecture
2. Name of individual(s) compiling report: Dr. Reniguntala
3. Date of submission: 09/17/23
4. Academic year: Fall 2022 – Spring 2023

## Course-Level Learning Outcomes

### 1. What are the Course-Level Outcomes (CLOs)?

1. The student will be able to apply the scientific method to aid in problem solving and will be able to use multiple different measurement systems.
2. The student will be able to identify the particles that make up an atom and how those particles interact with other atoms to create bonds via chemical reactions involving the earth materials such as minerals and rocks.
3. The student will be able to explain the occurrence of some of the natural phenomenon such as Earthquakes, volcanism, glacial formations, plate tectonics, weathering, and erosion. Student will also be able to describe how earth processes create hazards to life and property
4. The student will be able to distinguish between weather and climate and list the major gases composing Earth's atmosphere.
5. The student will be able to discuss the extent and distribution of oceans and continents on earth, summarize various techniques used to map the ocean floor and discuss the factors that create and influence surface ocean currents and effects these currents have on climate.
6. The student will be able to explain the principle of uniformitarianism/catastrophism, distinguish between numerical and relative dating, define fossils and principles to determine a time sequence of geologic events, outlines the major stages in Earth's evolution and geologic events.

### 2. Which CLOs were addressed for the academic year?

1 - 6 CLO's were assessed through information literacy assignment (Research paper) (In both Fall 2022 and Spring 2023) and cumulative final exam (in both Fall 2022 and Spring 2023).

### 3. Which CLOs are being addressed in your assessment plan in the upcoming academic year?

CLOs 2-6 will be assessed in the next academic year.

4. How does this report connect or map to program-level or institutional-level outcomes?

(ILO link: <https://uaptc.edu/college-academics/resources/student-learning-outcomes>  
PLO list will vary depending on your Program.)

The assessment report which is presented in this course clearly meets the UA-PTC's General Education Learning Outcome, GELO 5: **Make Scientific Inquiries**: Apply the scientific method, understand the criteria for scientific evidence and use that evidence to draw conclusions and make informed decisions which in turn connects to the Institutional learning outcome , ILO #4 – Critical Thinking.

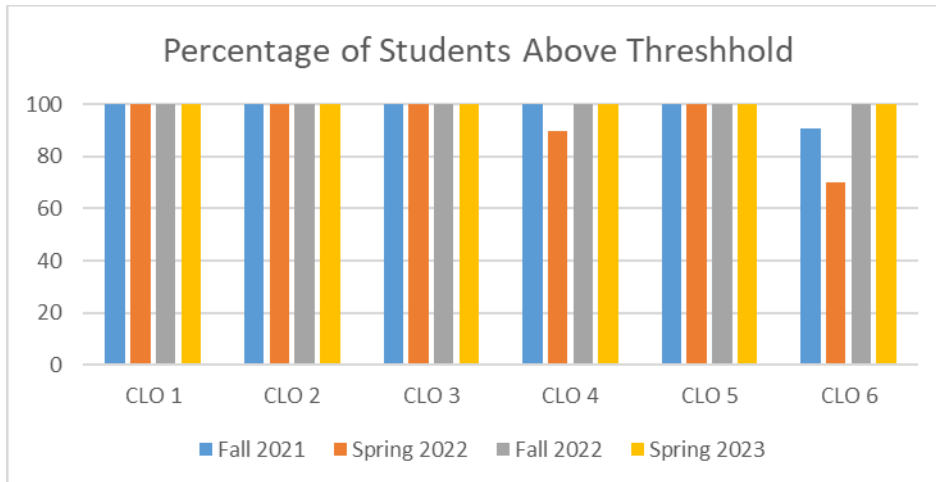
For each Course Level Outcome assessed this academic year, please complete the chart below, providing the assessment data for both fall and spring, and then a total for the academic year.

<p>Assessment Methods- How did you assess student learning (define direct assessment methods used) in relation to the course level outcome being reported?</p> <p><i>Note: If more than one assessment method was used, you may insert an additional row.</i></p>	<p>Students across all sections completed a common comprehensive final exam. Questions were linked to specific course learning outcomes (CLO's 2-6). Item analysis was performed to determine proficiency.</p> <p>Each Fall semester, in course PHYS1307, CLO 1 is assessed through Information Literacy Research Paper. A 4-page research paper based on a topic relating to Earth Science is assigned as a part of their course to assess for evidence of influence of scientific thought on individuals and society. Information literacy research papers will be assigned related to below expectation (grade less than 70), Meets expectation (between 70 – 89) and exceeds expectation (between 90 - 100) per the instructor.</p>	
<p>Were indirect assessment methods also used to assess students? If 'yes', please describe the method used.</p>		<p><i>No</i></p>
<p>How do you define success for an individual student on the CLO assessment assignment or measure?</p>	<p><i>In both Fall 2022 and Spring 2023 semester's, students achieved 100% scores on the questions linked to the CLO's 1-6 in the cumulative exam.</i></p>	

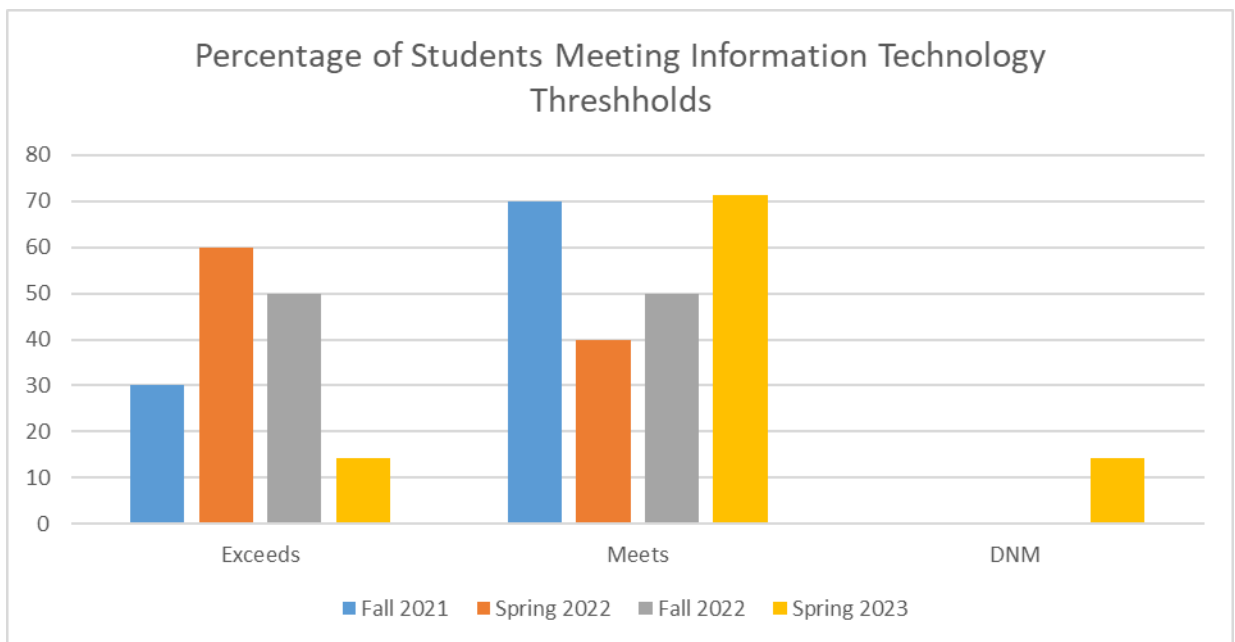
<p>How do you define success for the course level outcome? What is the benchmark for the Course Level Outcome?</p>	<p><i>We make sure the assessment methods are rigorous and identifies the areas where the students are having difficulty with. Make sure that all instructors are covering the content as agreed upon by the department.</i></p> <p><i>Students were doing well on the exam. In both Fall 2022 and Spring 2023 semester's, students achieved 100% for CLO's 1-6. With the increase in average scores from 2022 to 2023, adjustments made since 2018 seems to have had a positive effect.</i></p> <p><i>Research Paper assessment: In Fall 2022, only 50 % of the students exceeded the expectation whereas, in Spring 2023, only 14.28 % of the students exceeded the expectation. (Please see the data analysis attachments). Improvement in better quality of writing and topics was observed.</i></p>	
<p>How many students completed the assessment, and how many were successful?</p>	<p><b>Fall 2022</b> 8 students assessed 8 successful (100% success rate)</p>	<p><b>Spring 2023</b> 7 students assessed 6 successful (85.71% success rate)</p>
<p>Academic Year Total (add the numbers from Fall and Spring)</p>	<p>15 students assessed 14 successful (93.33% success rate)</p>	
<p>Was the benchmark/goal for this academic year met?</p>	<p>Yes</p>	
<p>Were standardized rubrics, tests, or checklists used?</p>	<p>Yes</p>	

## 5. What is your analysis of the findings?

*For CLO 6- "The student will be able to explain the principle of uniformitarianism/catastrophism, distinguish between numerical and relative dating, define fossils and principles to determine a time sequence of geologic events, outlines the major stages in Earth's evolution and geologic events", Fall 2022 and Spring 2023 semesters show a success rate of 100% as compared to Spring 2022 (success rate of 70%) and Fall Semester 2021 (90% Success rate). The assessment is largely memorization and students tend to do well with those types of assessments. Our goals were met for this learning objective. This assessment method will be employed for the next academic year to make sure students are understanding concepts well especially for CLO 6.*



**Research Paper assessment:** In Fall 2022, 50 % of the students exceeded the expectation whereas, in Spring 2023, 14.28 % of the students exceeded the expectation. (Please see the data analysis attachments). Improvement in better quality of writing and topics was observed.



6. What is the action plan for the upcoming academic year?  
Explain.

*For the cumulative final exam assessment Method: If the results remain above the desired threshold, the assessment will likely to be continued for couple of more semesters. This assessment method will be employed for the next academic year to make sure students are understanding concepts well especially for CLO 1, CLO 3 and CLO 6.*

*For the Research paper assessment: If the results remain above the desired threshold, the assessment will likely be continued for more semesters. Instructors will meet again after the spring semester ends to identify trends and consider adjustments for the next academic year.*