CORE CURRICULUM COMPONENT APPLICATION
Texarkana College

Part I: Course Information

Course Type
☒ Existing/Restructured
☐ New Course

Course Prefix & Number: **PHYS 1315**

Texas Common Course Number (TCCN): **1315**

Course Title: **Physical Science I**

Course Catalog Description

Physical Science I (4,3,3). A survey of the principles of physics, astronomy, geology, and weather with more emphasis on physics and geology.

Course Prerequisites:
None.

Available Online?
☐ Yes
☒ No

Part II: THECB Course Objectives

1. Construct, carry out, and analyze an experiment according to the scientific method.
2. Be able to explain the basic ideas of atomic structure and forces
3. Be able to explain the basic ideas of Electricity, heat, and sound
4. Be able to explain the basic ideas of the structure of the earth
5. Be able to explain the basic ideas of earthquakes, mountain building, and volcanos
6. Be able to explain the basic ideas of weather
7. Be able to explain the basic ideas of tornados and lightning
8. Be able to explain the basic ideas of the makeup of the universe and solar system

Part III: THECB Skill Objectives

1. Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
2. Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication
3. Empirical and Quantitative Skills: to include applications of scientific and mathematical concepts.
4. Teamwork: to include the ability to consider different points of view and to work effectively with

others to support a shared purpose or goal

Part IV: Course Student Learning Outcomes (SLO)

1. Construct, carry out, and analyze an experiment according to the scientific method.
2. Be able to explain the basic ideas of atomic structure and forces
3. Be able to explain the basic ideas of Electricity, heat, and sound
4. Be able to explain the basic ideas of the structure of the earth
5. Be able to explain the basic ideas of earthquakes, mountain building, and volcanoes
6. Be able to explain the basic ideas of weather
7. Be able to explain the basic ideas of tornados and lightning
8. Be able to explain the basic ideas of the makeup of the universe and solar system

Skill Objective:	**Critical Thinking Skills:** to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
THECB Course Objective	Construct, carry out, and analyze an experiment according to the scientific method.
Course Student Learning Outcome	Construct, carry out, and analyze an experiment according to the scientific method.
General Learning Activities	Students in groups will be given an assignment to set up and carry out an experiment to determine if the sun follows the same path across the sky each day or if the path differs from day to day. Students will be asked to hypothesize about the path of the sun. The students will then set up the experiment as to the time of the readings, the equipment used, location, type of measurements made, and the tasks each person in the group will perform. The students will then perform the experiment during the semester and collect data. That data will be used at the end of the semester to synthesize results of the experiment and make a report and presentation.
Assessment ***Must Include Assignment & Rubric***	The assignment will be to create and carry out the experiment on the sun path The Critical Thinking Skills rubric will be used

Skill Objective:	**Communication Skills:** to include effective written,

	oral, and visual communication
THECB Course Objective	Construct, carry out, and analyze an experiment according to the scientific method.
Course Student Learning Outcome	Construct, carry out, and analyze an experiment according to the scientific method.
General Learning Activities	Students will be grouped and asked to perform the experiment on the sun path. After the data is collected, the group will be asked to make a graph and write a report that analyzes the results. The group will then prepare and present an oral report with overheads and Power Points of their results.
Assessment ***Must Include Assignment & Rubric***	The assignment will be to communicate in a written report and in a class presentation the results of the experiment on the sun path. The Communication Skills rubric will be used.

Skill Objective:	**Empirical and Quantitative Skills:** to include applications of scientific and mathematical concepts.
THECB Course Objective	Construct, carry out, and analyze an experiment according to the scientific method.
Course Student Learning Outcome	Construct, carry out, and analyze an experiment according to the scientific method.
General Learning Activities	Students will gather data and plot the data to get general trends in the experiment. The data will be used to see if their hypothesis is correct. They will analyze how the changing data proves their ideas. Then they will be asked to relate their data to what is known about the earth and its path around the sun to produce a changing sun path across our sky. Emphasis will be given to showing the mathematics of the changing path.
Assessment ***Must Include Assignment & Rubric***	The assignment will be to apply scientific and mathematical principles to the analysis of the data collected in the experiment and come to a conclusion. The Empirical and Quantitative Skills rubric will be used.

Skill Objective:	**Teamwork:** to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

CORE CURRICULUM COMPONENT APPLICATION
Texarkana College

THECB Course Objective	Construct, carry out, and analyze an experiment according to the scientific method.
Course Student Learning Outcome	Construct, carry out, and analyze an experiment according to the scientific method.
General Learning Activities	Students will be divided into groups and given the basic concepts of group dynamics. They will work as a group to develop the experiment and to carry it out during the semester. Then they will get together as a group to prepare the report and presentation to the class. They will then present the report as a group. The last item to be to have the group fill out a questionnaire about the other team member's rolls in the group.
Assessment ***Must Include Assignment & Rubric***	The assignment will be to collect and carry out the experiment as a group and to meet as a group to analyze the data and make a report and presentation. We will use the Teamwork rubric.