

CORE CURRICULUM COMPONENT APPLICATION
Texarkana College

Part I: Course Information

Course Type

- Existing/Restructured
 New Course

Course Prefix & Number: **PHYS 1304**

Texas Common Course Number (TCCN): **1304**

Course Title: **Solar System**

Course Catalog Description

Solar System (4,3,3). A journey through the solar system. Begins with the history of Astronomy and covers such topics as the sun, earth, moon, planets, comets, meteors, and asteroids. Recent developments and discoveries are presented. Star maps, telescopes, and sky observations are stressed in lab.

Course Prerequisites:

MATH 1314, MATH 1324, or Math 1332

Available Online?

- Yes
 No

Part II: THECB Course Objectives

Upon successful completion of this course, students will:

- 1) Describe basic measurements in studying the solar system.
- 2) Describe the early history of astronomy.
- 3) Describe how light can be used in astronomy measurements
- 4) Describe the forms of telescopes used in astronomy.
- 5) Describe the birth of the solar system.
- 6) Describe the moon
- 7) Describe the Terrestrial planets and moons.
- 8) Describe the Jovian planets and moons.
- 9) Describe the other objects in the solar system.

Part III: THECB Skill Objectives

1. Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information

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- 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)

- 10) Describe basic measurements in studying the solar system.
- 11) Describe the early history of astronomy.
- 12) Describe how light can be used in astronomy measurements
- 13) Describe the forms of telescopes used in astronomy.
- 14) Describe the birth of the solar system.
- 15) Describe the moon
- 16) Describe the Terrestrial planets and moons.
- 17) Describe the Jovian planets and moons.
- 18) Describe the other objects in the solar system.

Skill Objective:	Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information
THECB Course Objective	Describe the Terrestrial planets and moons.
Course Student Learning Outcome	Describe the Terrestrial planets and moons.
General Learning Activities	After a discussion on retrograde motion of the planets, students would discuss the speeds of Earth and Mars. They then would plot the path of Mars on a star chart. Next they would fill in a line of sight map of Earth and Mars. They would then discuss how the line of sight map would produce the star chart map and what must be true for retrograde motion to occur.
Assessment <i>Must Include Assignment & Rubric</i>	The assignment will be to carry out the experiment on the Retrograde Motion of Mars. The Critical Thinking Skills rubric will be used

Skill Objective:	Communication Skills: to include effective written, oral, and visual communication
THECB Course Objective	Describe the Terrestrial planets and moons.
Course Student Learning Outcome	Describe the Terrestrial planets and moons.

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General Learning Activities	Students will be grouped and asked to perform the experiment on the Retrograde Motion of Mars. After the data is collected, the group will be asked to 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 <i>Must Include Assignment & Rubric</i>	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	Describe the Terrestrial planets and moons.
Course Student Learning Outcome	Describe the Terrestrial planets and moons.
General Learning Activities	Students will discuss the scientific ideas, make plots, and draw diagrams to show how empirical evidence can be explained by scientific concepts.
Assessment <i>Must Include Assignment & Rubric</i>	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
THECB Course Objective	Describe the Terrestrial planets and moons.
Course Student Learning Outcome	Describe the Terrestrial planets and moons.
General Learning Activities	Students will be divided into groups and given the basic concepts of group dynamics. They will work as a group to carry out the experiment and analyze it. 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.
Assessment <i>Must Include Assignment & Rubric</i>	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.

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