

SYLLABUS -- Fall 2022

Course Title: PHYS 1315 – 200 Introduction to Basic Science.

Semester/Year: Fall 2022

Instructor: Caylene Caddell My email is Cmatswin@aol.com Home phone: 794-7644 Cell PHONE: (806)789-9101. Call anytime you need to - always leave a message, and I will return your call. (The cell number is the best one to call)

Office Location: Students can make arrangements to meet the instructor before or after class when needed

Course Description: A basic non-laboratory survey course serving to introduce and integrate the fundamental concepts of Chemistry, Physics, Geology, and Biology. PHYS 1315 does not satisfy a laboratory science requirement.

Course Goals: (1) Increase vocabulary of scientific terms. (2) Improve understanding of science as it applies to everyday experiences. (3) Recognize the importance of various branches of science and how they relate to each other.

Text and Other Materials: Shipman, J., Wilson, J., Todd, A. *An Introduction to Physical Science*. (2014). Boston, Ma.: Houghton Mifflin Co.

Diversity Statement: In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

Disabilities Statement: Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Service Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness) 806-716-2577, Reese Center (Building 8) 806-716-4674, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

*** “ ANY STUDENT WHO, BECAUSE OF A DISABILITY, MAY REQUIRE SOME SPECIAL ARRANGEMENTS IN ORDER TO MEET COURSE REQUIREMENTS SHOULD CONTACT THE INSTRUCTOR AS SOON AS POSSIBLE TO MAKE NECESSARY ACCOMMODATIONS.” ***

Non-Discrimination Statement: South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

Title IX Pregnancy Accommodations Statement: If you are pregnant, or have given birth within six months, under Title IX you have a right to reasonable accommodations to help continue your education. To activate accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact the Director of Health and Wellness at 806-716-2362.

Attendance: You are expected to be in attendance at each class meeting - failure to attend class can result in your being dropped from the class.

Examination Policy: Four unit exams and the final - exams will be objective in nature and will include matching, multiple choice, true/false, fill in the blank, and short answer type questions. If you miss an exam, it may be made up during the week following the exam date.

Determination of Grade: 4 Unit tests and the final exam. Each counts 20% of the final grade. Final grade based on the following: 90-100=A, 80-89=B, 70-79=C, 60-69=D, 59-below=F.

SCANS Foundation and Competence Skills: (see attachment) 1,2,4,10,11,12

*** "FOOD OR DRINK WILL BE ALLOWED IN DESIGNATED AREAS ONLY AND NOT PERMITTED IN CLASSROOMS, LABORATORIES, LIBRARY, SHOPS, ELEVATORS, ETC. YOUR COOPERATION IS CERTAINLY APPRECIATED AND WILL BENEFIT THE OVERALL LEARNING ENVIRONMENT." ***

Content Outline:

Unit 1 - Physics

Unit Objectives: Students will be able to (1) state the fundamental quantities of nature, (2) Convert from standard measurement to metric measurement, (3) Distinguish between speed and velocity, (4) Define the two types of waves, (6) State properties of waves, (7) State Newton's laws of nature.

Week 1 – Introduction to Physics

Chapter 1 – Measurement

Chapter 2 – Force and Movement

Chapter 3 – Force and Energy

Week 2 – Labor Day Holiday

Week 3 - Review chapters 1-3

Chapter 4 Work
Chapter 6 - Waves

Week 4 - Review chapters 4 & 6
Chapter 7 - Wave Effects
Physics Test Review

Week 5 - TEST - PHYSICS
Introduction to Chemistry

Unit 2 - Chemistry

Unit Objectives: Students will be able to (1) Describe the chemical classification of matter, (2) Using the Periodic Table tell an element's atomic number, atomic mass, number of protons, and number of electrons, (3) Name simple compounds, and know the uses of some compounds and elements, (4) State the octet rule, (5) State properties of ionic and covalent bonds.

Week 6 - Chapter 11 - The Periodic Table
Chapter 12 - Compounds, Molecules, Ions

Week 7- Review chapters 11 & 12
Chapter 13 - Chemical Reactions
Phases of Matter
Chemistry Test Review

Week 8 - TEST - CHEMISTRY
Introduction to Astronomy/Geology

UNIT 3 - Astronomy/Geology

Unit Objectives: Students will be able to (1) Describe the shape, motions, relative size, and positions of the objects that make up the solar system, (2) List the terrestrial planets and the Jovian planets, and state ways in which they are different, (3) Describe and differentiate among comets, asteroids, and meteoroids.

Week 9 - Chapter 16 - the Solar System
Chapter 25 - the Atmosphere
Chapter 26 - Atmospheric Effects

Week 10 - Review chapters 16, 25 & 26
Chapter 20 - Minerals and Rocks
Chapter 21 - Structural Geology

Test Review - Astronomy/Geology

Week 11 - TEST - ASTRONOMY/GEOLOGY

Introduction to Biology

Unit 4 - Biology

Unit Objectives: The students will be able to (1) Give the three parts of the Cell Theory (2) Label the parts of a cell, (3) Determine the probability of the outcome of various genetic crosses, (4) Show the relationship of photosynthesis and respiration, (5) Differentiate between mitosis and meiosis.

Week 12 - Classification

The Cell - Cell Division

Asexual - Sexual Reproduction

Week 13 - Photosynthesis - Respiration

Basic Genetics

Week 14 - Basic Genetics - Punnett Square

Biology Test Review

Week 15 - BIOLOGY TEST

Review - Final Exam

Week 16 - FINAL EXAM