



PHYS 1315.85 - Introduction to Physical Science

Course Syllabus: Summer 2017

Dale Loughmiller, Adjunct Professor of Physics

B.S. Political Science, Texas A&M University - College Station
 M.S. Educational Computing, Texas A&M University - Commerce
 M.S. Physics, Texas A&M University - Commerce

Office: Math/Science Building

Phone: (903)737-7473 (Paris ISD Central Office) Ask for "Dale Lock-miller"

Email: dloughmiller@ntcc.edu

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	Appointment	Appointment	Appointment	Appointment	Appointment	Everyday

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Course Description: 3 credit hours.

Lecture/Lab/Clinical: Three hours lecture.

Prerequisite: MATH 0305 or its equivalent, or an appropriate placement score.

This course emphasizes scientific principles that are taught at a non-science major level. Basic concepts are presented in physics, chemistry, astronomy, geology, and meteorology. The major emphasis of the first course will revolve around physics and astronomy. Each topic is discussed in the context of everyday life.

Required Textbook(s): Tillery. Physical Science, Tenth Edition. McGraw-Hill, New York, 2012.

Publisher: McGraw-Hill

ISBN Number: 978-0-07-786262-6

Student Learning Outcomes:

Upon successful completion of this course, students should (1) *understand simple qualitative concepts*, and (2) *solve algebraic problems of physics and astronomy* relating to:

- 1) Linear motion (displacement, velocity, acceleration, force, and Newton's Laws).
- 2) Energy, work, power, and the Law of Conservation of Energy.
- 3) Momentum and the Law of Conservation of Momentum.
- 4) Heat and thermodynamics.
- 5) Electricity and Magnetism.
- 6) Electromagnetic (transverse) waves and sound (longitudinal) waves.
- 7) The solar system, stars, and universe.

College Student Learning Outcomes:

Critical Thinking Skills

CT.1 Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

Communication Skills

CS.1 Students will effectively develop, interpret and express ideas through written communication.

Empirical and Quantitative Skills

EQS.1 Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form

EQS.2 Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

Teamwork

TW.2 Students will work with others to support and accomplish a shared goal.

Core Curriculum Purpose and Objectives:

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning.

Courses in the foundation area of mathematics focus on quantitative literacy in logic, patterns, and relationships. In addition, these courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

Lectures & Discussions:

Chapter 1: What is science

Chapter 2: Motion

Chapter 3: Energy

Chapter 4: Heat and Temperature

Chapter 5: Wave Motions and Sound

Chapter 6: Electricity

Chapter 7: Light

Chapter 14: The Universe

Chapter 15: The Solar System

Chapter 16: Earth in Space

Evaluation/Grading Policy:

The student's semester grade will use the following percentages:

Homework Assignments 20%

Chapter Quizzes 10%

Laboratory Assignments 20%

Test Average 50%

Tests/Exams:

There will be a Mid-Term Exam and a Final Exam. The Mid-Term Exam will cover Chapters 1-5. The Final Exam will cover Chapters 6-7, 14-16. Both exams will be taken online and require the use of Respondus Browser. If either exam asks for a password, then Respondus Browser needs to be loaded or reloaded.

Assignments:

Homework will be assigned from Chapters 1-7 & 14-16.

Extra Credit:

An opportunity for extra credit will be given four times the semester. More information can be found in the "Start Here" folder and specific instructions will be provided when the extra credit assignments are made.

Student Responsibilities/Expectations:

Lack of participation, two or more weeks without completing any assignments, can be considered a lack of attendance and may be subject to being withdrawn from the course.

NTCC Academic Honesty Statement:

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Academic Ethics

The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

ADA Statement:

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the NTCC Catalog or Student Handbook.

Family Educational Rights And Privacy Act (FERPA):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Basic Course Schedule (Subject to Change)

Chapter 1 – What is Science?

Physics

Chapter 2 – Motion

Chapter 3 – Energy

Chapter 4 – Heat and Temperature

Chapter 5 – Wave Motions and Sound

Chapter 6 – Electricity

Chapter 7 – Light

Astronomy

Chapter 14 – The Universe

Chapter 15 – The Solar System

Chapter 16 – Earth in Space

*During the course of the semester, substitute assignments may be made.