

PHYSICS 260: Matter and Motion

Syllabus --- Fall 2007

INSTRUCTOR: Prof. Donald Umstadter

OFFICE: 212 Ferguson Hall

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CLASS MEETING ROOM: Brace 201

CLASS MEETING TIME: MWF 9:30 AM – 10:20 AM

PRE-REQUISITES: Two years of high-school algebra are required.

REQUIRED MATERIALS: **Textbook** (listed below). You will need a **calculator** that is capable of doing sines and cosines, and a **registered radio-frequency clicker for the UNL personal response system**, both of which you will need to bring to class each day.

TEXT: Physics of Everyday Phenomenon, 5E, by W. Thomas Griffith

MATERIAL COVERED: We will cover part or all of Chapters 1, 2, 3, 4, 5, 6, 7, 8, 10, 11. You are responsible for *all* material presented in lecture, in recitation, and assigned for reading.

Course Description:

A course designed to develop an understanding of the phenomena of our everyday life via the laws of physics. The emphasis is on encouraging students to understand and appreciate their environment from a new perspective. Includes topics in mechanics and other physics subfields such as thermal physics. 3 hours.

Course Objectives:

1. Develop basic science literacy of students, particularly with regard to physics, so that they can better fulfill their role as knowledgeable citizens.
2. Improve students' quantitative reasoning skills.
3. Develop an appreciation for the processes by which scientific knowledge is obtained and evaluated.
4. Develop an understanding of some of the fundamental laws and principles of physics.
5. Develop an understanding of common phenomena from the perspective of physics.

LEARNING METHODOLOGY: This is a student-centered-learning course. This entails learning the concepts and methods associated with physics and physics problem solving. Extensive research on learning has shown that mastery of a subject comes not from the instructors or the text, but from the active engagement of every student in the consideration of the concepts and methods of physics. The course activities lead you through the stages of learning from *knowledge* and examples in the textbook and lecture, to *comprehension* of how the concepts work together, to *application* of your mastery in analyzing and solving problems.

COURSE MATERIALS, LECTURE NOTES, ETC.: All class materials, except the textbook, are accessible on the class BlackBoard website. In addition to reading assignments from the textbook, there are corresponding study materials online.

Resource Center: Besides your instructor and TA, you may get help from recitation instructors who at the Physics Resource Center located in Brace 120 at hours TBA. There is a set of interactive video discs (available in the physics library) with a variety of useful physics demonstration videos.

FINAL EXAM DATE: Dec. 18th, 10:00 AM -- 12:00 PM

Students with disabilities are encouraged to contact the instructor for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully

participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 132 Canfield Administration, 472-3787 voice or TTY.

GRADING: The components that contribute to your grade and their weights are shown in the table to the right.

Although the grading reflects the determination of grades under typical circumstances, the instructor reserves the right to adjust grades - *both up and down* - based upon the subjective assessment of elements such as participation, diligence, and improvement in class performance, among other factors.

Item	%
Quiz 1	5
Quiz 2	5
Quiz 3	5
Quiz 4	5
Midterm	15
Final Exam	25
Homework*	15
Reading Quizzes*	15
In-Class Work*	10
Expected Total	100