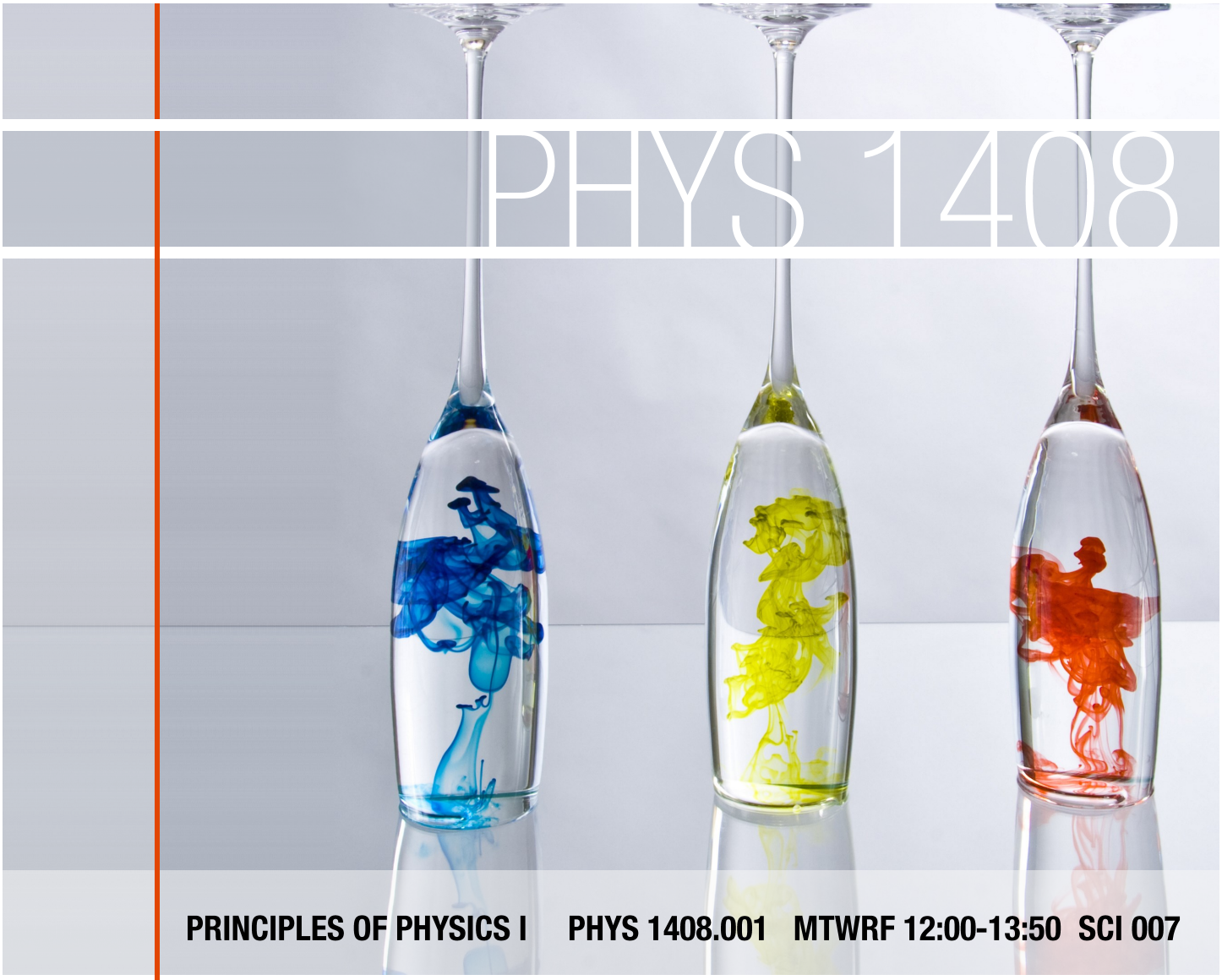
PHYS 1408



PRINCIPLES OF PHYSICS I PHYS 1408.001 MTWRF 12:00-13:50 SCI 007

SUMMER II 2015

Instructor | Michael Holcomb

michael.holcomb@ttu.edu | 806.834.0217

Office Hours | SCI 122

MWF 14:00-17:00, TR 8:30-11:30, *or by appointment*

This course will cover kinematics, mechanics, statics, rotation, and gravity. We may also touch upon mechanical waves, fluids, and periodic motion if time permits.

This course is intended to acquaint students with the scientific method and basic laws of physics, to help students develop a better understanding of physical science in general and develop reasoning skills and strategies to prepare them for other upper-division science and engineering classes. To this end, the course will emphasize a mix of laboratory, conceptual understanding, and standard end-of-chapter homework solving skills.

Required Texts

- Physics for Scientists and Engineers with Modern Physics,
  9th edition by Serway and Jewett with access to WebAssign (ISBN for bundle is 9781133947271)
  We will cover material from chapters 1-22 in the text, time permitting.
- Laboratory Manual for Physics 1408 Principles of Physics I
  You must have your laboratory manual before *you will be admitted to lab. It is available for purchase by SPS in the lab room during the first two weeks of the term—buy it before your first laboratory session.*

Course Components

Homework

Online homework from the WebAssign website will be assigned and graded roughly weekly. You must register yourself using your purchased access code. Use both your legal name and your TTU ID (ex: R12345678) when setting up your account. The class key is ttu 6743 7054.

Even though the homework is weighted lightly in your final grade, it is not in any way optional; it is crucial for your understanding of the course material. Homework will be made available before the material is covered in lecture and will be due on the posted date before the exam covering that material.

Lecture

Attendance is mandatory and will be taken daily, but is not a part of your grade in the lecture portion of the class. A spirit of honesty will be maintained in the attendance policy. Note that you are responsible for everything that we do in lecture, so it is to your advantage to attend.

Please thoroughly read the section on the next page regarding classroom etiquette for further information on expectations for lecture attendance.

We will be using Top Hat this semester during lecture. You must purchase access and register yourself at www.TopHat.com. Use both your legal name and your TTU ID (ex: R12345678) when setting up your account. The course code is 086677.

Lecture Preparation

You are expected to bring your assigned texts, paper for notes, and a suitable writing utensil (preferably a pencil with an eraser), a scientific calculator, and your Texas Tech Student ID with you to every class meeting. You will likely find it helpful to read ahead in the textbook before each class.

Discussion and Laboratory

You will receive one grade for the lecture, discussion, and laboratory combined. They are not separate courses and they are not optional. The course grading policy on the last page of this syllabus describes how each will be weighted in your final grade.

Discussion will help you understand and practice problems related to homework and exams. Laboratory is an opportunity to learn the material from a hands-on perspective. The laboratory section of this course has a separate syllabus which you will receive during your first laboratory session. Laboratory and discussion will be conducted during the assigned periods for those components of the course.

Attending your laboratory and discussion sections is the only way to get credit for those components of this course. *The laboratory component is essential for your success in this course; if you fail the laboratory portion of this course, you will fail the whole course.*

Exams

Two (2) in-class exams will be administered as scheduled. No makeup exams will be given, so please plan accordingly. You are permitted to bring one (1) 3x5 notecard to each exam, on which you may list any desired information. You may bring three (3) notecards to the final exam. All exams will be given in our normal classroom. Please see the course schedule on the last page of this syllabus for the scheduled dates.

Exam Rules

Scientific calculators *only* are permitted. All other electronics must be stowed out of sight during the exams. Cell phones are not considered to be calculators regardless of what apps may have been installed. If you are seen attempting to use a cell phone during the exam, you will be asked to leave and issued a zero for the exam without exception.

Policies and Grading

Classroom Etiquette

Attending lecture is mandatory. You are considered both advised and responsible for anything discussed during lecture. Leaving lecture early or arriving late is considered both rude and distracting. If you have an expected reason to depart early, please inform the lecturer at the beginning of class and sit in a convenient location for leaving without disturbing the class.

All students are expected to be respectful of their peers during lecture by not becoming a distraction. If you become a distraction to other students, then you will be dismissed from class for the day. Some actions, including but not limited to the following, will result in you being considered a distraction to your peers: repeatedly arriving late, reading unrelated material, using your cell phone in any way outside of approved exercises, visiting with your neighbor, sleeping, eating, "vaping," and the use of any and all tobacco products. No laptops or any other electronic devices are allowed in class unless the need for such a device for reason of a disability is documented by Student Disability Services (Access TECH).

Strategies for Success

Be prepared! Study your notes, read the material in the text before we cover it in class, and take advantage of the online resources. This will help you keep up, make for more productive classroom interaction, and help keep you prepared for homework, labs, and exams that make up your semester grade. Pay special attention to examples worked in class.

Begin all homework assignments as soon as possible. Don't get behind or wait until the due date to begin. If you are stuck, use available department resources including your lecture instructor, TAs, and SI. Once you can work through a problem with your notes, book, study group, etc., be sure you can rework it entirely on your own.

Don't "blow off" any exam just because there is a dropped score. The purpose of the dropped score is in case of illness or other extenuating circumstances.

Expected Learning Outcomes

The expected learning outcomes for the course, listed below, will be assessed through performance on guided classroom discussions, lab exercises, homework, and embedded questions within the in-class exams.

1. Be able to apply scientific reasoning to the solution of problems
2. Understand and apply concepts of force, energy, and momentum to translational and rotational motion
3. Recognize and address instances of simple oscillatory motion

Academic Integrity

It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and high standard of integrity. The attempt of students to present as their own any work not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offenders liable to serious consequences, possibly suspension. For details, see TTU OP 39.12.

Accommodations

Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, you may contact the Student Disability Services office in 335 West Hall (806-742-2405).

Religious Holidays

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.

Policies and Grading, con't.

Grading Scale

Your letter grade will be determined on the following scale: F (≤ 49), D (50-64), C (65-79), B (80-89), A (90-100).

Grades which are two points on either side of a grade boundary will receive the appropriate +/- qualifier. For example, grades of 78 or 79 earn a C+ while grades of 80 or 81 earn a B-.

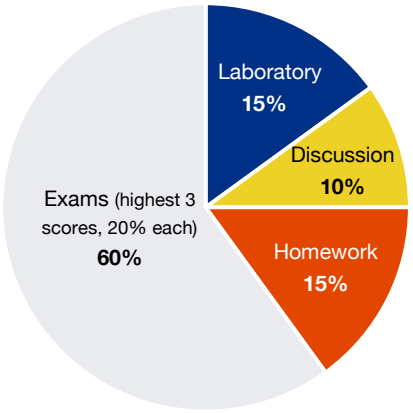
Course Components

Laboratory	15%
Discussion	10%
Homework	15%
Exam	20%
Exam	20%
Exam	20%
TOTAL	**100%**

Reminder: *even though the combined laboratory and discussion sections of the course are worth a total of 25% of your grade, failing the laboratory portion will result in a failing grade for the whole course.*

Grading Policy

The following scores will be accumulated during the course of the semester: Homework, Laboratory, Discussion, Exam 1, Exam 2, Final Exam, Final Exam. The course grade will be the weighted average of Laboratory at 15%, Discussion at 10%, Homework at 15%, and the three highest exam scores of the four listed above at 20% each.



Tentative Course Schedule

Week of	Day	Chapter	Lecture	Laboratory
July 6	T	1	Tuesday, July 7th - First class day	
	W, R	1-2		*Experimental Uncertainty*
	F	3	Friday, July 10th - Last day to drop *without academic penalty*	
July 13	M, T	4-5		*Vector Analysis*
	W, R	5-6		*1-D Motion Part I*
	F	EXAM	**Friday, July 17th - Exam 1 (Ch. 1-6)**	
July 20	M, T	7-8		*2-D Motion*
	W, R	8-9		*Force, Mass, Acceleration*
	F	9		
July 27	M, T	10	Monday, July 27th - Last day to drop	*Work and Energy*
	W, R	11		*Conservation of Linear Momentum*
	F	EXAM	**Friday, July 31st - Exam 2 (Ch. 7-11)**	
August 3	M, T	12-13	Monday, August 3rd - Last day to withdraw from the university	*Statics and Torque*
	W	13	Wednesday, August 5th - Last class day	
August 6	**R**	**EXAM**	**Comprehensive Final Exam - Thursday, August 6th, SCI 007, 8:00-10:30 a.m.**	