Course Syllabus

Course Information

Course number/Section: PHYS1302.001.16F
Course title: College Physics II
Credits: 3

Term: Fall 2016
Days and times: MW 11:30 pm - 12:45 pm
Location: SLC 2.303

Professor Contact Information

Professor: Xiaoyan Shi
Office phone: 972-883-3805
Email: xshi@utdallas.edu
Office location: PHY 1.902
Office hours: MW immediately after class, or by appointment

Teaching Assistants

(TBA)

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Pre-requisite: PHYS 1301
Co-requisite: PHYS 2126

Course Description

Continuation of PHYS 1301. This is an algebra-based course. Topics include electricity, magnetism, electromagnetic waves, optics, and modern physics.

Student Learning Objectives/Outcomes

Upon completing this course, students will be able to:

- Determine the electric and magnetic fields produced by continuous distributions in both the symmetrical and unsymmetrical cases
- Analyze force problems including electric and magnetic forces
- Analyze electrical circuits including capacitance, resistance, and inductance
- Apply Faraday's Law and Lentz's law to induction
- Classify electromagnetic waves and their spectra
- Explain interference, diffraction, reflection and refraction of light
- Explain behaviors of light ray in optical elements and instruments
- Explain atom model and explain related experimental observations
- Explain binding and decay of nucleus

Required Textbooks and Materials

- Please read the whole syllabus before you buy any textbooks or materials.
- The official textbook for this class is:
  College Physics (10th Edition)
  by Hugh D. Young, Philip W. Adams, Raymond J. Chastain

There are several variations of this textbook as listed in the table below.

ISBN	Notes
321902564	Hardbound book plus MasteringPhysics
133863719	ALC plus MasteringPhysics
133863662	MasteringPhysics with Pearson eText -- Standalone Access Card

- College Physics (10th Edition) is recommended, but it is NOT required. ANY college level algebra-based physics book, which covers the topics listed below (see Assignments & Academic Calendar section), is acceptable.
- Because all homework assignments are given online through the MasteringPhysics, the MasteringPhysics access is REQUIRED, which can be purchased through http://www.masteringphysics.com or when you buy a MasteringPhysics-bounded textbook.
- MasteringPhysics course ID for this class is **XSHIF16PHYS1302**

Assignments & Academic Calendar

- Calendar (Tentative schedule. 17.1 et al. are the sections of the recommended textbook)

Date	Reading assignment	Lecture	Homework Assigned	Homework Due
8/22/16	No assignment	Introduction; Charges		
8/24/16	17.1-4	Conductor; Insulator; Coulomb's law	hw-01	
8/29/16	17.5-9	E field; Gauss's law		
8/31/16	18.1-3	Potential; Equipotential surfaces; Voltage	hw-02	hw-01
9/5/16	No assignment	Labor day (No class)		
9/7/16	18.4-7	Capacitors; Dielectrics	hw-03	hw-02
9/12/16	19.1-3	Current; EMF		
9/14/16	19.4-6	Resistance; DC circuit (R)	hw-04	hw-03
9/19/16	19.6-9	DC circuit (R,RC); Measuring instruments		
9/21/16	No assignment	Exam 1	No homework	
9/26/16	20.1-4	B field and force; Motion of charged particles in B field		
9/28/16	20.5,20.7-8	Long current carry wire: force and B field	hw-05	hw-04
10/3/16	21.1-4	Flux; Faraday's Law; Lenz's Law		
10/5/16	21.5-10	Induction; B field energy; Magnetic phenomena	hw-06	hw-05
10/10/16	21.11-12	R-L circuit; L-C circuit		
10/12/16	No assignment	Exam 2	No homework	
10/17/16	23.1-5	EM waves		
10/19/16	23.6	Review of midterm; Light as EM waves	hw-07	hw-06
10/24/16	23.7-8	Reflection; Refraction		
10/26/16	23.9-11	Dispersion; Polarization; Huygens's principle	hw-08	hw-07
10/31/16	24.1-3	Mirrors		
11/2/16	24.5-6	Thin lens	hw-09	hw-08
11/7/16	25.1-5	Optical instruments		
11/9/16	26.1-3	Interference	hw-10	hw-09
11/14/16	26.4-7	Diffraction		hw-10
11/16/16	No assignment	Exam 3	hw-11	

11/21/16	No assignment	Fall break		
11/23/16	No assignment	Fall break	No homework	
11/28/16	28.1-3	Photoelectric effect, Line spectra, H atom, Bohr model		
11/30/16	28.6-7	Wave-particle duality, Uncertainty principle	hw-12	hw-11
12/5/16	29.1-2, 30.11-7	Atomic structure, Periodic table, Nucleus		hw-12
12/7/16	No assignment	Review		
12/12/15	No assignment	Final week. Final exam date will be announced later		

- Assignments
  There are two types of assignments in this course: POST-LECTURE assignments (i.e., homework, which are named as 'hw-##' in the MasteringPhysics website) and PRE-LECTURE assignments (including two parts. The first part is to read related book chapters before class as listed in the class calendar, and the second one is to complete some self-assessment assignments named as 'pre-##'). All post-lecture assignments are mandatory while pre-lecture ones are optional. More details about assignments are in Course & Instructor Policies below.

Grading Policy

Final grades are determined from a combination of the items below.

Quizzes*	5%
Homework*	25%
Exam 1**	25%
Exam 2**	25%
Exam 3**	25%
Final exam	25%
Total:	105%

* For Quizzes and Homework, the final score is the normalized score of the student-earned points over the total points available for this item. For examples, if the total points available for all homework are 200 points and one student earned 180 points, this student's final score for Homework will be 180/200*25%=22.5%.

** Only two highest scored exams and the Final exam will be counted into your final score.

There will be NO curving in grades.

Students could have a total score more than 100% if they earn extra points from class activities, such as bonus from MasteringPhysics assignments (bonus for 'no hint', adaptive questions, and pre-lecture assignments) and participating pre- post-tests, etc. More details see below.

Grades: A (90 and above), B (80-89.9), C (70-79.9), D (60-69.9), F (below 60). Each grade (except F), for example grade A, has three finer grades: A- (90-93.2), A (93.3-96.5), A+ (96.6 and above).

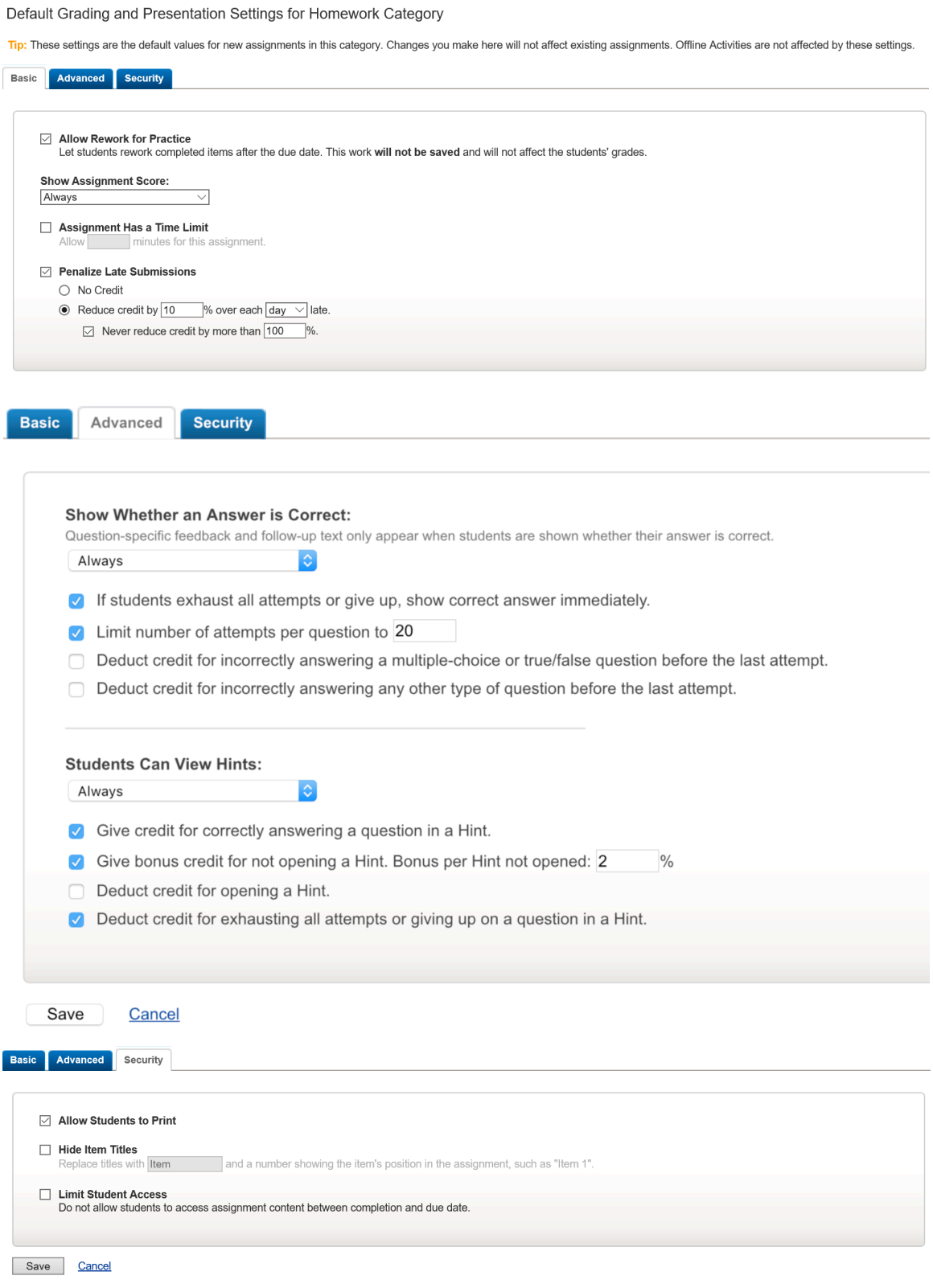
Course & Instructor Policies

Websites

- Three websites will be frequently used for this class. One is the MasteringPhysics website (http://www.masteringphysics.com for all course assignments and homework grades, etc.); the second one

is the elearning website (http://elearning.utdallas.edu for class announcement, midterm/final grades, etc.); and the last one is the galaxy website (http://galaxy.utdallas.edu for your midterm/final grades, etc.).
- Do the assignment called "**Introduction to MasteringPhysics**" as soon as possible. There is no credit for doing this assignment but it is designed to familiarize you with the site.

Homework
- Homework will be given through the website http://www.masteringphysics.com
- The course ID in the MasteringPhysics is listed at the end of the "Required Textbooks and Materials" section.
- Make sure the name you give to the website matches your name of record.
- No handwritten homework will be accepted.
- HW assignments are listed under the "homework" category in MasteringPhysics and named as 'hw-##'.
- HW assignments are generally released on Wednesday and are due at one week (7 days) later.
- Late HW submissions WILL be accepted with penalty. Credit falls (linearly) to 0% over the interval of ten (10) days after the due date.
- Since late homework is accepted you must never press GIVE UP in MasteringPhysics. I have withheld all answers. You will not get to see them if you press GIVE UP. Also never press SUBMIT PROBLEM at the end of the problem until you have actually finished the entire problem. I cannot reopen a problem for you if you press either of these buttons.
- You will be allowed to 20 attempts per question. There is a bonus (2%) for not using hints and penalty for using any hints that are in questions. Credit is offered for answering questions in the hints, too. (The bottom line on hints is that you should use them if you get stuck. You can earn enough credit inside hints to offset losing the bonus for not using them.)
- I also enabled the "adaptive follow-up assignments" in Mastering Physics (named as 'hw-## adaptive follow-up'). This type of assignment is totally OPTIONAL. It is a new type of learning method provided by MasteringPhysics, utilizing the adaptive learning engine to provide personalized help based on your personal performance on the homework (thus the quantity and contents of problem set could be very different among students). The assignment is available immediately AFTER you finish your corresponding homework (parent homework) and due 2 days after the due day of parent homework. No late submission allowed for this type of assignment. Up to 3% bonus score can be earned for this type of assignment. For students who did very well (>90% correct) in the parent homework, you will not see the adaptive follow-up assignment, but you will automatically earn the bonus score here. Learn more at http://www.masteringsupport.com/videos/adaptive_students/adaptive_students.html
- With the bonus for not using hints (2%) and for completing adaptive follow-up assignments (3%), you could contribute more than 25% in final grade (nominal full score for Homework is 25% in final grade).
- You are responsible for making sure that you get credit for the homework you have done. Check by going to 'my scores' on MasteringPhysics and make sure that your score has been recorded.
-The MasteringPhysics invites homework comments. Bear in mind that there is no compulsion to make comments and no extra credit is offered for them. I will read your comment if you submit one, though I personally prefer you email me directly.
- You are welcome to work together on homework but everyone must do your own problems. You will notice everyone has different numbers.
- I will also have a Redo for Practice available so you can study for exams. It is also helpful to print out your homework problems and do the work on your printouts. It is a convenient way to keep everything together.
- Detailed grading policies are shown below (screenshots in MasteringPhysics).



Pre-lecture assignments

- Pre-lecture assignments are OPTIONAL and due BEFORE the class. The purpose of this type of assignment is to encourage you READ the related text and BRING QUESTIONS to the class. In addition, your performance and feedback on those assignments can help me to adjust the lecture accordingly.
- Pre-lecture assignments consist of two parts: (1) Read related book chapters as shown in the table in "Assignments & Academic Calendar" section. (2) Complete multiple-choice questions and related tutorials assigned in MasteringPhysics with names as 'pre-##'.
- Pre-lecture assignments weigh 3% bonus to the final score. The 3% bonus points are a normalized score. That means, for example, if you earned 30 points of total 45 available points, you will have 30/45*3%=2% bonus in your final.
- Grading settings of "pre-lecture assignment" category in the MasteringPhysics is the same as that for Homework (see screenshots in previous subsection).

Exams
- There will be three (3) exams and one final exam in this class. Final exam will be CUMULATIVE.
- One exam, which has the lowest score, will be dropped for your final grade. The final exam can not be dropped.
- There will be NO make-up exam.
- Exams will be in class and written. Each exam lasts 75 minutes.
- Valid picture ID (Comet card or driver's license) must be on your desk during exams. These will be checked.
- Calculators will be necessary for all exams. Graphing calculators and programmable calculators will not be allowed in the exams. A little scientific calculator that has trig functions can be obtained very inexpensively and should be all that is used on the exams.
- All exams will be closed book. Formula sheet will be provided with the exam. You must know the concepts and vocabulary for the exams. Exams will cover both in-class examples and homework.
- Exams must be done in ink.
- Any question about an exam grade must be addressed within a week after the grade is posted. After that all grades are final.

Quizzes
- Quizzes will be given randomly during the class sessions.

Class participate and attendance
- You should plan to attend all class sessions and exams.
- You will need to do the pre-lecture assignments beforehand. This will be very crucial for your success in this class, and you will find out that the class is easy and enjoyable.
- I encourage everyone to sit in the front rows so that you will be able to participate in-class discussions.
- Electronics, such as cell phones and computers, are allowed for class related activities only. In addition, all electronics should have sound muted.

Peer-Led Team Learning (PLTL)
- Since many previous students highly praised the PLTL sessions, and stated that PLTL does help them understand the class better. Several PLTL sessions will be provided for this class. Check http://www.utdallas.edu/studentsuccess/leaders/pltl.html to learn more about the program.
- Unlike the Math Lab (http://www.utdallas.edu/studentsuccess/mathlab/index.html), which is an ad-hoc help solution for quick questions, PLTL requires participant to stay inside the program for a whole semester. Please try to maximize your success by utilizing those university resources.
- Based on previous experience, seats will be very limited. Please login http://coursebook.utdallas.edu and choose PHYS1302 'class details'. Then you can find the PLTL information under 'events' tab.
- PLTL sessions normally start at the 2nd or the 3rd week of a semester. More information will be announced in the class.

Bonus points for Pretest/Posttest (up to 3% credit points)
- This is not a mandatory part of our class PHYS 1302, but highly recommended.
- It has 2 quizzes, a pretest and a posttest, which will be available at the beginning (pretest) and the end (posttest) of this semester, respectively.

- The two quizzes are not designed as learning tool for student, but are a tool for us to look at learning in our courses.
- There is no penalty for not taking these two quizzes. However, you will get 2% of bonus credit in the course for doing both tests. 1% of more credit in the course for doing both tests and scoring above average in the second test (posttest).
Specifically,
If you take pretest test only, then 0 point.
If you take protest test only, then 0 point.
If you take both quizzes and your second test score is less than the average of the second test, then 2 points.
If you take both quizzes and your second test score is not less than the average of the second test, then 3 points (the maximum points).
- A pretest will be available from **8:30 am on Tuesday Sept. 6th to 9:00 pm on Monday Sept. 19th**. Students need to reserve a seat in the Testing Center for this quiz at www.utdallas.edu/studentsuccess/testingcenter.
- A posttest will be available from **8:30 am on Monday Nov 28th to 9:00 pm on Monday Dec. 12th**. Students need to reserve a seat in the Testing Center as for the first quiz.
- The quizzes must be done in the (proctored) Testing Center in the basement of the McDermott Library MC 1.304. The quizzes will be posted on eLearning sites, which are separate from the eLearning sites of our class. The quiz sites will be called **"(MERGED) PHYS 1302.701 - PHYS 2326.701-702 - F16"**.
- Contact Dr. Paul Mac Alevey paulmac@utdallas.edu if you have questions about pre- and posttest.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.