



**PHYS 2326 University Physics II – Class number -44402  
2013 Summer-II**

**Instructor: Professor L. Bytautas**  
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**Phone (cell): 409-354-8352**

Office Location: (Faculty room)      Office Time: **By appointment.**

**Monday, Tuesday, Wednesday, Thursday:**

**Lecture: 12:15 PM – 3:30 PM    (CE-Learning Hub Sci)**

**Course Description:**

This is a calculus-based course. Topics include **electricity and magnetism, light and optics and relativity**. This course is designed for science and engineering majors and related disciplines. If you have any questions concerning the transferability of this course, please contact the school you plan to transfer this course to.

**Prerequisites**

The prerequisites for this course are the completion of differential, integral calculus and Physics 2325. Contact the instructor should you have any questions.

**Course Goals**

- To learn about scientific methods and to develop an understanding of the concepts of calculus-based physics.
- To develop ability how to apply the concepts of physics to critical thinking and problem solving.

**Course Learning Outcomes:**

On successful completion of this course, students should be able to

- Explain physical processes by applying their knowledge of the laws of physics.
- Solve problems in electricity and magnetism.
- Solve problems optics, quantum physics, and atomic physics.
- Solve problems using the theory of relativity.

### **Textbook:**

*Physics for Scientists and Engineers*, by Raymond A. Serway and John W. Jewett, Jr., 8th edition. Students are allowed working with a used textbook.

### **Textbook Chapters Covered:**

Electric Charge and Electric Fields, Gauss Law  
Electric Potential, Capacitance and Dielectrics  
Electric Current, Direct-Current Circuits and Resistance  
Magnetic Fields and Magnetic Fields Due to Currents  
Faraday's Law of Induction and Inductance  
Alternating-Current Circuits  
Maxwell's Equations; Magnetism of Matter  
Electromagnetic Waves  
Nature of Light and Principles of Ray Optics  
Images, Interference, Diffraction  
Modern Physics: Relativity.

### **Quizzes:**

Quizzes include reading assignments completed in class.

### **Exams:**

Exams will include questions and problems similar to problems and concepts discussed in class and assigned as home-works.

**Make-up exams are not administered.** The *lowest* of the three in-class exams will be dropped.

### **Final Exam:**

Final Exam is comprehensive and mandatory. Check the published schedule for time and date.

### **Grade Calculation:**

Quizzes – 15%;  
Two of three exams - 50%;  
Final Exam – 35%

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<b>Grading Scale:</b>	90-100	A
	80-89	B
	70-79	C
	60-69	D
	<60	F

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**Disabilities:**

Any student with documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the appropriate Disability Support Service Counselor at the beginning of each semester. Faculty is authorized to provide only the accommodations requested by the Disability Support Services Office.

Students who are requesting special testing accommodations must first contact the appropriate (most convenient) DSS

office for assistance. Disability Support Services Offices:

System: 713.718.5165

Central: 713.718.6164 – also for Deaf and Hard of Hearing Services and Students Outside of the HCC District service areas.

Students who require testing accommodations need to schedule an appointment for testing to ensure that staff will be available for proctoring and to arrange for any adaptive equipment that may be required. Students should contact their distance education instructor's "Instructional Support Specialist" the week prior to each of their exams throughout the semester to confirm that the requested testing accommodations will be met. If you need assistance in determining your instructor's Instructional Support Specialist, please contact your instructor or the Distance Education Counselor.

**Academic Responsibility**

It is the student's responsibility to be aware of HCCS conduct and academic conduct requirements. It is the student's responsibility to withdraw from the course by the appropriate date as listed in the schedule. Please read the Student Handbook. Any student using unauthorized material on a test is subject to administrative withdrawal from the course and/or a grade of zero for the respective test or report. If any student is caught cheating on a test or plagiarizing papers, the student will receive a grade of zero on that test or assignment. A second infraction will result in a grade of "F" for the semester. Academic dishonesty includes, but is not limited to, unauthorized collusion on tests or papers, copying directly from another person's work but passing it off as your own, or using unauthorized "cheat sheets, notes, or other forms of information during a test. Review your obligations in the HCC Student Handbook, page 28.

**HCC Course Withdrawal Policy**

The State of Texas imposes penalties on students who drop courses excessively. Students are limited to no more than SIX total course withdrawals throughout their educational career at a Texas public college or university. To help you avoid having to drop/withdraw from any class, contact your DE professor regarding your academic performance. You may also want to contact your DE counselor to learn about helpful HCC resources (e.g. online tutoring, child care,

financial aid, job placement, etc.). HCC has instituted an Early Alert process by which your professor will “alert” you and Distance Education (DE) counselors that you might fail a class because of excessive absences and/or poor academic performance.

**In order to withdraw from your DE class, you MUST first contact your DE professor, PRIOR to the withdrawal deadline to receive a “W” on your transcript.** After the withdrawal deadline has passed, you will receive the grade that you would have earned. Zeros averaged in for required coursework not submitted will lower your semester average significantly, most likely resulting in a failing grade of an “F”. It is the responsibility of the student to withdraw from the class; however, your professor reserves the right to withdraw you without your request due to excessive absences. If you do not feel comfortable contacting your professor to withdraw, you may contact a DE counselor. However, please do **not** contact both a DE counselor and your DE professor to request a withdrawal; either one is sufficient.

Classes of other duration (mini-term, flex-entry, 8-weeks, etc.) may have different final withdrawal deadlines. Please contact the HCC Registrar’s Office at 713.718.8500 to determine mini-term class withdrawal deadlines.

### **International Students**

International Students are restricted to **ONLY ONE** online/distance education class per semester. Please contact the International Student Office at 713-718-8520 if you have additional questions about your visa status.

### **Course Calendar and Content: (July 8- August 11, 2013)**

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<b>Day</b>	<b>Date (M/D)</b>	
1. Lecture	07/08/2013	Introduction, Syllabus review, etc <b>Ch 23.</b> Electric Fields.
2. Lecture	07/09/2013	<b>Ch 24.</b> Gauss Law.
3. Lecture	07/10/2013	<b>Ch 25.</b> Electric Potential.
4. Lecture	07/11/2013	<b>Ch 26.</b> Capacitance and Dielectrics.
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5. Lecture	07/15/2013	<b>Ch 27.</b> Current and Resistance.
6. Lecture	07/16/2013	<b>Ch 23-26. TEST-1</b>
7. Lecture	07/17/2013	<b>Ch 28.</b> Direct Current Circuits.
8. Lecture	07/18/2013	<b>Ch 29.</b> Magnetic Fields.
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9. Lecture	07/22/2013	<b>Ch 30.</b> Sources of the Magnetic Field.
10. Lecture	07/23/2013	<b>Ch 31.</b> Faraday's Law.
11. Lecture	07/24/2013	<b>Ch 27-31. TEST-2</b>
12. Lecture	07/25/2013	<b>Ch 32.</b> Inductance.

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13. Lecture	07/29/2013	<b>Ch 33.</b> Alternating-Current Circuits.
14. Lecture	07/30/2013	<b>Ch 34.</b> Electromagnetic Waves.
15. Lecture	07/31/2013	<b>Ch 35.</b> Light and Principles of Optics
16. Lecture	08/01/2013	<b>Ch 32-35. TEST-3</b> <b>Ch 36.</b> Image Formation.

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17. Lecture	08/05/2013	<b>Ch 37.</b> Wave Optics. <b>Ch 38.</b> Diffraction patterns and polarization.
18. Lecture	08/06/2013	<b>Ch 39.</b> Relativity.
19. Lecture	08/07/2013	<b>Study Guide for the Final.</b>
20. Lecture	08/08/2013	<b>FINAL EXAM (comprehensive).</b>

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### Disclaimer

To accommodate emergent circumstances, the instructor reserves the right to make reasonable changes in the syllabus while the course is in progress. Any question of interpretation of course requirements or of understandings between a student and the instructor will be at the discretion of the instructor and/or the Chair of the Science Department.