Physics 1444 Section 001
Summer 2019, Science Hall, Room 125
Time: MoTuWeTh 1:00 p.m. - 3:00 p.m.
Textbook: Douglas C. Giancoli "PHYSICS FOR SCIENTISTS & ENGINEERS"

Instructor: Joseph Ngai   Email: jngai@uta.edu   Office: Science Hall 120F   Phone: 817-272-2032

Office hours: MoTuWe 3 pm to 4 pm, or by appointment.

Faculty Profile: https://www.uta.edu/mentis/profile/?11464

Description of Course Contents: PHYS 1444 covers electricity, magnetism, and light (Chapters 21-31 of course textbook). A companion lab course is to be taken concurrently.

Student Learning Outcomes: Through the lectures and accompanying lab course, students will learn and understand fundamental principles regarding electricity and magnetism. Students will be able to better appreciate natural phenomena they encounter and apply their understanding to solve basic problems.

Other Requirements & Course Prerequisites: PHYS 1443 and Calculus.

Grading:

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<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Attendance</td>
<td>5%</td>
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<tr>
<td>Homework</td>
<td>10%</td>
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<tr>
<td>Lab</td>
<td>20%</td>
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<tr>
<td>Midterm 1</td>
<td>10%</td>
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<td>Midterm 2</td>
<td>10%</td>
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<td>Midterm 3</td>
<td>10%</td>
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<tr>
<td>Final</td>
<td>35%</td>
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Homework: Homework will be done through “Mastering Physics” (www.masteringphysics.com Course ID: NGAI1444SM19) Assignments must be finished and submitted on time to receive credit.

Lab: Lab attendance is required. If you have already taken a lab section, then you will require my signature to obtain credit.

Description of Major Assignments and Examinations: The three midterms and final exams will be comprised of short-answer questions and derivational type problems, similar in style to homework questions. (HINT: The best way to prepare for exams is to do the required homework). Exams are closed book, and aids such as calculators and other electronic devices (cell phones, tablets, laptops etc.) are not permitted unless told otherwise. A standard formula sheet will be given to each student at the beginning of each exam.

Midterm 1: Chapters 21-23
Midterm 2: Chapters 24-26
Midterm 3: Chapters 27-29
Final: Comprehensive, Chapters 21-31 (Monday August 12, 2019, 1:00 pm – 3:00 pm)
**Policy on missed exams:** No make-up exams will be given except in the case of extreme medical emergencies, which will require a Doctor’s note.

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student’s responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance.** Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships ([http://www.uta.edu/ao/fao/](http://www.uta.edu/ao/fao/)). Last day to drop: July 30, 2019.

**Americans with Disabilities Act:** The University of Texas at Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including the *Americans with Disabilities Act (ADA)*. All instructors at UT Arlington are required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Any student requiring an accommodation for this course must provide the instructor with official documentation in the form of a letter certified by the staff in the Office for Students with Disabilities, University Hall 102. Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Academic Integrity:** Students enrolled in this course are expected to adhere to the UT Arlington Honor Code: *I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence. I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.* UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule 50101, §2.2*, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University.

**Lab Safety Training:** Students registered for this course must complete all required lab safety training prior to entering the lab and undertaking any activities. Once completed, Lab Safety Training is valid for the remainder of the same academic year (i.e., through the following August) and must be completed anew in subsequent years. There are no exceptions to this University policy. Failure to complete the required training will preclude participation in any lab activities, including those for which a grade is assigned.

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this...
account, which remains active even after graduation. Information about activating and using MavMail is available at [http://www.uta.edu/oit/cs/email/mavmail.php](http://www.uta.edu/oit/cs/email/mavmail.php).

**Student Feedback Survey:** At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit [http://www.uta.edu/sfs](http://www.uta.edu/sfs).

**Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located across the hall as you exit the lecture hall. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist handicapped individuals.

**Course Schedule:**

July 9, 10, 11: *Chapter 21 Electric Charge and Electric Field* and *Chapter 22 Gauss’ Law*
July 15, 16, 17: *Chapter 23 Electric Potential* and *Chapter 24 Capacitance, Dielectrics, Electric Energy*
July 18, 22, 23: *Chapter 25 Electric Currents and Resistance* and *Chapter 26 DC Circuits*

**July 25: Midterm 1**

July 24, 29, 30, 31: *Chapter 27 Magnetism* and *Chapter 28 Sources of Magnetic Fields*

**August 1: Midterm 2**

August 5, 6, 7: *Chapter 29 Electromagnetic Induction* and *Faraday’s Law* and *Chapter 30 Inductance, Electromagnetic Oscillations and AC Circuits*
August 8: *Chapter 31 Maxwell’s Equations and Electromagnetic Waves*

**August 8: Midterm 3**

**August 12: Final exam**

*As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.*