Technical Physics II - PHYS 201

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Office: LSF L103H, (843) 661-1445
MWF 10:30 - 11:20 AM LSF 102
Office Hours: T 10 - 11 AM, W 12:30 - 1:30 PM, TH 3:30 - 4:30 PM (or by appointment)
Textbook **(required)**: *Physics for Scientists and Engineers* Volume 1 (4th Edition), Douglas C. Giancoli, ISBN-13 978-0132273589

Rule 0.

No one is born knowing how to do physics. If you are struggling, please speak with me (and/or accept my help when offered). If you are concerned that you "don't have what it takes," please speak with me so that I can tell you that ***that is not a real thing***.

Learning Goals

By the end of this course, the student will be able to

- Apply physical reasoning to describe and predict the motion of objects (in 1, 2, and 3 dimensions, including rotational motion)
- Convert a physical scenario into a problem that can be solved using the kinematic equations and the concepts of force, momentum, and/or energy (and then solve it)
- Extrapolate from fundamental principles and think critically about the physical world
- Gain an appreciation of how science investigates and reveals the natural world

Very tentative course outline

1. Units and Measurement
2. Linear Motion
3. Vectors
4. Motion in Higher Dimensions
5. Newton's Laws
6. Newton's Laws, applied
7. Universal Gravitation
8. Work and Kinetic Energy
9. Potential Energy, Conservation of Energy
10. Linear Momentum
11. Rotational Motion and Torque
12. Angular Momentum
13. Static Equilibrium
14. Harmonic Motion

Evaluation

The final grade will be broken down in the following way

- Grade from Lab Course: 20%
- Participation: 5%
- Homework: 10%
- Mid-term 1: 20%
- Mid-term 2: 20%
- Final Exam: 25%

Attendance of all class sessions is expected and will be factored into the participation portion of the grade. I maintain an interactive classroom, and attendance will significantly improve your understanding of the course as well as your grade. Absences do not need to be documented, but all students are responsible for all material covered and all assignments regardless of attendance. Medical or other legitimate documented emergencies will be handled on a case-by-case basis, and I will do my best to work with you to make up missed material in these circumstances (**as long as I receive advance notice**). **Failing the lab section will result in failing the course.**

Homework will generally be assigned at the beginning of each week and will be due the first class period of the following week. Homework is graded for completeness, which means that you will receive full credit if you fully work out a solution to the problem, regardless of whether that solution is correct. You must show all work and use proper units to receive full credit.

ADA Statement

If you have a disability that qualifies you for academic accommodations, I am happy to accommodate you. The Office of Counseling and Testing will provide me a letter listing your needs, but please come talk to me about how we can implement them in the context of this class. More information can be found in the Student handbook.

Academic Integrity

All work must be the sole product of each student's brain and effort (in other words, all cheating or plagiarism will be reported and handled as detailed in the Student Handbook). For my part, I will not discriminate against any student for any reason and will make any reasonable accommodations necessary to meet a student's needs. No discriminatory or hostile behavior toward fellow students will be tolerated. If you experience or witness discriminatory, abusive, or other unwanted behavior, you should contact me, the Title IX Coordinator, and/or the Vice President of Student Affairs, as appropriate.