

Technical Physics II - PHYS 201

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Office: LSF L103I, (843) 661-1445

MWF 10:30 - 11:20 AM LSF 104

Office Hours: MRF 1:00 - 3:00 PM (or by appointment)

Textbook (**required**): University Physics Volume 1 from OpenStax, Print ISBN 1938168275,

Digital ISBN 1947172204, www.openstax.org/details/university-physics-volume-1

Homework will be completed via WebAssign: **webassign.net** **Class Key: fmarion 6585 2213**

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. Vectors
3. Linear Motion
4. Motion in Higher Dimensions
5. Newton’s Laws
6. Newton’s Laws, applied
7. Work and Kinetic Energy
8. Potential Energy, Conservation of Energy
9. Linear Momentum
10. Rotation
11. Angular Momentum
12. Universal Gravitation
13. Harmonic Motion
14. Special Relativity

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**). Homework is graded for completeness. **Failing the lab section will result in failing the course.**

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 campus police, as appropriate.