

Instructor: Adrienn Ruzsinszky, Ph.D.

Assistant Professor

Department of Physics

Office Hours: T & Th 2 – 3:30 pm, BA 226

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Lectures: Tuesday & Thursday, **9:30 – 10:50**, Barton Hall, Lecture Hall **BA 0A130**

Recitations: Monday, **10:00 – 10:50, 11:00 – 11:50, 12:00 – 12:50**, Barton Hall Barton Hall Classrooms 00400, **2:00 – 2:50**, Rm. Beury Hall 00415,

Labs: Barton Hall, Rm. BA 0A105 (See Department web page for schedule and lab manual information)

Course Description: Physics 1061 is offered primarily for physics, chemistry, engineering, geology, and mathematics majors, but open to others. Topics include elementary vector algebra, one-dimensional motion, particle dynamics, work and energy, conservation of energy, conservation of linear momentum, collisions, rotational kinematics and dynamics, conservation of angular momentum, oscillations, waves, and gravitation.

Text: Fundamentals of Physics, 10th ed. (text is required for every student) Authors: David Holliday Robert Resnick, & Jearl Walker Publisher: John Wiley & Sons, Inc. ISBN: 978-1-118-23061-9 (binder version) ISBN: 978-1-118-23072-5 (hardcover)

Conduct of the Course and Requirements:

1. Lectures: Lectures will be given by the instructor. Students should bring the text and come to class on time. Sound understanding of physics requires a good study habit. It is very important to preview the corresponding chapters/sections in the text for every lecture, recitation, and lab, and review the contents promptly and thoroughly afterward.

2. Recitations: Recitation classes with small groups will also be taught by the instructor. Further instruction with emphasis on how to solve problems will be given, and some assigned homework problems will be explained. Students will strengthen their understanding of the physics principles and learn a great deal of problem-solving skills through close interactions with the professor and classmates. Attendance will be recorded for each recitation class.

3. Homework: Homework problems for each chapter will be assigned every week throughout the semester. In order to master the learned materials and to improve problem solving skills, students should make honest attempts to complete homework assignments on time, and make sure in the end of practice that the assigned problems can be solved by themselves independently (not facing a solution book).

4. Labs: 11 laboratory experiments have been scheduled. The teaching assistants will give necessary instructions in each lab section and grade your reports. No make-up labs.

5. Quizzes: Pop-up quizzes (about 10 minute in length) may be given in recitation classes.

6. Exams: There will be two mid-semester examinations and a final examination. The exams will include multiple choice questions, questions for short answers, and problems that require step-by-step derivations and calculations. There will not be makeup exams. Exceptions can only be granted after discussing relevant issues with the instructor in advance, or as soon as possible should any emergent situation occur (official proofs for the excuses must be provided in both cases).

7. Tutoring: Physics Department Tutoring Service will be provided on weekdays from 8:00 am to 4:00 pm, in room BA 234. Temple's Math and Science Resources Center also provides tutoring with convenient schedule.

8. Attendance: Attending all classes will be important for the success in this course. Learning will be the most effective when we combine reading, listening, thinking, discussing, and observing. It will be difficult to duplicate such classroom learning environment at home for any absent students. Also, the absent will lose the credits from the missed quizzes and labs.

9. Time needed for studying the course: For an average student, about eight hours of well concentrated home study per week (excluding the class-meeting time at school) will be needed for success in this course. Please take a moment to review your current semester schedule, and make a commitment for the required time and effort.

10. Miscellaneous: Students should prepare notebooks, pencils, and rulers for taking notes, drawing diagrams, and working on problem solving exercises. Calculators will be needed some times.

Course Grade Evaluation: 1) Quizzes: 15% 2) Labs: 20% 3) Midterm Exam 1: 20% 4) Midterm Exam 2: 20% 5) Final Exam: 25%. Disability Statement: Any student who has a need of an accommodation based on the impact of a disability should contact me privately to discuss the specific situation as soon as possible. Also contact Disability Resources and Services at 215-204-1280, 100 Ritter Annex.

Freedom to teach and freedom to learn are inseparable facets of academic freedom. The University has adopted a policy on Student and Faculty Academic Rights and Responsibilities (Policy # 03.70.02) which can be accessed through the following link:

[http://policies.temple.edu/getdoc.asp?policy_no=03.70.02.](http://policies.temple.edu/getdoc.asp?policy_no=03.70.02)

Course Units/Calendar:

Date	Chapter	Lab of the week
Aug. 26, 28:	1. Measurement & 2. Motion Along a Straight Line (Motion in 1D)	No lab
Sept. 2, 4:	3. Vectors	No lab
Sept. 9, 11:	4. Motion in 2D & 3D	#1: The Physics Laboratory
Sept. 16, 18:	5. 6. Force & Motion I, II	#4: Vectors
Sept. 23, 25:	7. Kinetic Energy & Work	#6: Motion in One Dimension
Sept. 30, Oct.2:	8. Potential Energy & Conservation of Energy, Sept. 30. Exam 1	#8 Newton's 2 nd Law
Oct. 7, 9:	9. Center of Mass & Linear Momentum	#7 Coefficient of Kinetic Friction
Oct. 14, 16:	10-11. Rotational Motion	#16 Circular Motion
Oct. 21 (last day to withdraw course), 23:	12. Equilibrium & Elasticity	#14 Projectile Motion
Oct. 28, 30:	13. Gravitation	#11 Momentum - Elastic & Inelastic Collisions
Nov. 4, 6:	14. Fluids	Nov 4. Exam 2.
Nov.11, 23:	15. Oscillation	#15 Simple Harmonic Motion and Spring Constant
Nov.18, 20:	16. Waves I	# 17 Archimedes' Principle
Fall Break and Thanksgiving		#25: Wave Phenomena
Dec. 2, 4:	17. Waves II	No lab
Dec. 9:	Study Day	
Dec. 11:	Final Exam 8:00-10:00	