

## Course Description

Topics include vector algebra, motion in one-, two-, and three dimensions, energy and work, conservation of energy, conservation of linear momentum, collisions, rotational kinematics and dynamics, conservation of angular momentum, equilibrium and elasticity, gravitation, fluids, oscillations and waves. The course is designed primarily for physics, chemistry, engineering, geology and mathematics majors, but open to others.

## Instructors

**Lecture:** Alexander Gray, Ph.D., Assistant Professor, Department of Physics (SERC 442)  
Office Hours: Tuesday and Thursday, 4:00 pm – 5:00 pm

**Recitation Instructor:** Xuan Li, Ph.D., Research Assistant Professor, Department of Physics (SERC 451)  
Office Hours: Friday, 10:00 am - noon

**Lab Coordinator:** John Noel, Ph.D., Research Assistant Professor, Department of Physics (SERC 235A)  
Office Hours: Tuesday, 9:00 am – 10:00 am, and Wednesday, 3:00 pm – 4:00 pm

**Course Coordinator:** Michael Paolone, Ph.D., Assistant Professor, Department of Physics (SERC 445)  
Office Hours: Every work day, 10:00 am – 12:00 pm and then 1:00 pm – 4:00 pm

For all questions, send your emails to the Course Coordinator (Michael Paolone) at [1061sp15ag@temple.edu](mailto:1061sp15ag@temple.edu)

## Schedules

**Lectures:** Tuesday and Thursday, 2:00 pm – 3:20 pm, SERC 110B

**Recitations:** **Section 1:** Wednesday, 9:00 am – 9:50 am, Barton Hall B400  
**Section 2:** Wednesday, 10:00 am – 10:50 am, Barton Hall B400  
**Section 4:** Wednesday, 11:00 am – 11:50 am, Barton Hall B400  
**Section 7:** Wednesday, 12:00 pm – 12:50 pm, Barton Hall B400

## Required Materials

- **Textbook**

*Fundamentals of Physics, 10<sup>th</sup> edition* (text is required for every student)

Authors: David Holliday, Robert Resnick, & Jearl Walker

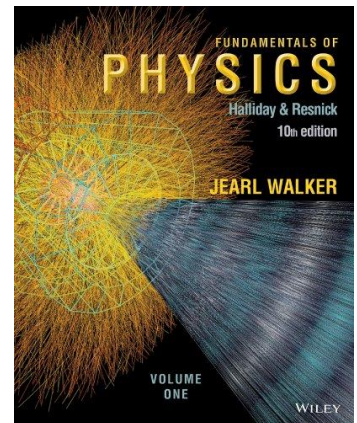
Publisher: John Wiley & Sons, Inc. ISBN: 978-1-118-23376-4 (Volume 1)

- **WebAssign**

You must purchase WebAssign access from [www.webassign.net](http://www.webassign.net) in order to complete your homework. See instructions on Page 3 of the syllabus.

- **Clicker**

In addition to the campus bookstore, students can purchase *Turning Technologies* response cards (RF clickers) at a discount directly from the *Turning Technologies online store* (online price: \$32 plus shipping). Note: When accessing the Turning Technologies online store, you will be prompted for a school code. The code for Temple University is **6mS4**. Once you get your response pad, you must register the Response Pad before you can use it in class.



- **Miscellaneous**

Students should prepare notebooks, pencils, and rulers for taking notes, drawing diagrams, and working on problem solving exercises. Occasionally, calculators will be needed. Simple scientific calculator with trigonometric functions, inverse trigonometric functions and logarithmic functions should suffice for this course.

## Grading

- Midterm 1: 15%
- Midterm 2: 15%
- Comprehensive Final Exam: 20%
- Pop-Up Lecture Quizzes: 10%
- Homework: 20%
- Lab Reports: 20%

## Attendance

Attendance in lectures, recitations and labs **is required** and will be taken. All absences must be documented (*e.g.* doctor's note), and the instructor / course coordinator has to be informed of the absence in advance.

- **Lecture attendance** will be recorded during random times using your Clicker devices. You are allowed one undocumented absence from the lecture (use it wisely). There will be no make-up lecture quizzes, so in case of any kind of absence your quiz grade will be *zero*.
- **Recitation attendance** will be recorded by the recitation instructor. You are allowed one undocumented absence from the recitation. Each additional undocumented absence from the recitation will result in your final class grade lowered by one-half letter grade (*e.g.* A to A-, A- to B+, B+ to B, etc.)
- **Lab attendance** will be recorded by the lab instructor. Please show up on time, you will get started working on the lab right away after the quiz and a brief introduction from the instructor. Students who arrive late and miss the instructions and safety precautions for the day's experiment will not be allowed into the lab. No lab report may be turned in if you did not attend the lab session.

## Homework (20% of the total grade)

Weekly problem sets will be assigned. Homework will be due every Tuesday by 2:00 pm (before the start of the Tuesday lecture). Late homework will not be accepted. Next week's homework assignments will be posted on Tuesdays, so that you will have one week to complete the homework problem set.

## Midterms (15% of the total grade each)

Midterm exams are scheduled tentatively for February 19 and April 2, during regular lecture time. All exams will be "**closed-book**". Each exam will consist of several questions and problems with multiple-choice answers. Scratch paper will be provided, and will have to be turned-in stapled to the exam.

## Final Exam (20% of the total grade)

Comprehensive Final Exam is tentatively scheduled for Thursday, April 30, 1:00 pm – 3:00 pm. The exam will consist of several questions and problems with multiple-choice answers. The exam will be "**closed-book**". Scratch paper will be provided, and will have to be turned-in stapled to the exam.

## Tutoring

Physics Department Tutoring Service will be provided on weekdays from 8:00 am to 4:00 pm, in the breakout area outside of room 484 in SERC. Temple's Math and Science Resources Center also provides tutoring with convenient schedule.

## 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.

## **WebAssign Homework**

Many of you will be familiar with Enhanced WebAssign by now. If you are not, WebAssign is an online homework tool you will need to purchase access to complete all assignments for this course.

## **Purchasing WebAssign**

You must purchase WebAssign access from [www.webassign.net](http://www.webassign.net) in order to complete your homework. This must be completed online using a credit-card or PayPal account. The total cost is \$44.95 for the homework alone, or \$89.70 for a combination homework AND eBook. Purchasing the online homework is necessary. You *may* also purchase the eBook for convenience, but you will only have access for the duration of the semester.

Instructions for purchasing the WebAssign Homework can be found online here:

[www.webassign.net/manual/student\\_guide/t\\_s\\_purchasing\\_access\\_ebooks\\_online.htm](http://www.webassign.net/manual/student_guide/t_s_purchasing_access_ebooks_online.htm)

## **Enrolling in WebAssign for Physics 1061**

Your course information is here:

Course Name: Phys1061

Start Date: 1/12/2015

Instructor Name: **Michael Paolone**

Class Key Code: **temple 8451 8112**

Go to: [www.webassign.net](http://www.webassign.net) and click on “I have a Class Key”, then enter the class key code listed above. If you have never used WebAssign before, you will also need to create a username and password. When you enter your first and last names into the student information box, **MAKE SURE TO DOUBLE CHECK THAT YOU SPELLED YOUR NAME CORRECTLY**. I know it sounds unlikely that you would misspell your own name, but typos happen. If I can not identify which account belongs to you, you will likely receive a zero for a homework grade.

## **Issues / Problems with WebAssign**

If you are having problems or issues using WebAssign, please contact the WebAssign customer support. They are very good about getting back to you quickly to help solve your problems. See:

<https://webassign.com/support/student-support/>

## **Homework Extensions**

Only the most serious of circumstances will be considered for homework extensions. Any medical excuse must be accompanied by an official doctor's note or its equivalent.

WEEK	DATE	DAY	LECTURE	CHAPTER	SUBJECT	HOMEWORKS	LABS
Week 1	Jan. 13	Tuesday	Lecture 1	Chapter 1	Measurement		No Labs
	Jan. 15	Thursday	Lecture 2	Chapter 2	Motion Along a Straight Line		
Week 2	Jan. 20	Tuesday	Lecture 3	Chapter 3	Vectors	Homework 1 Due (Ch. 1-2)	No Labs - Monday is Dr. Martin Luther King, Jr. Day
	Jan. 22	Thursday	Lecture 4	Chapter 3	Vectors		
Week 3	Jan. 27	Tuesday	Lecture 5	Chapter 4	Motion in Two and Three Dimensions	Homework 2 Due (Ch. 3)	Lab 1: "The Physics Laboratory"
	Jan. 29	Thursday	Lecture 6	Chapter 4	Motion in Two and Three Dimensions		
Week 4	Feb. 3	Tuesday	Lecture 7	Chapter 5	Force and Motion I	Homework 3 Due (Ch. 4)	Lab 5: "Velocities"
	Feb. 5	Thursday	Lecture 8	Chapter 5	Force and Motion I-II		
Week 5	Feb. 10	Tuesday	Lecture 9	Chapter 6	Force and Motion II	Homework 4 Due (Ch. 5)	Lab 6: "Motion in One Dimension"
	Feb. 12	Thursday	Lecture 10	Chapter 7	Kinetic Energy and Work		
Week 6	Feb. 17	Tuesday	Lecture 11	Chapter 7	Kinetic Energy and Work	Homework 5 Due (Ch. 6)	Lab 7: "Coefficient of Kinetic Friction and Drag Force"
	Feb. 19	Thursday	Lecture 12	MIDTERM 1	Chapters 1-7		
Week 7	Feb. 24	Tuesday	Lecture 13	Chapter 8	Potential Energy and Conservation of Energy	No Homework Due	Lab 8: "Newton's Second Law"
	Feb. 26	Thursday	Lecture 14	Chapter 8	Potential Energy and Conservation of Energy		
Week 8	SPRING BREAK						
Week 9	Mar. 10	Tuesday	Lecture 15	Chapter 9	Center of Mass and Linear Momentum	Homework 6 Due (Ch. 7-8)	Lab 14: "Projectile Motion and Conservation of Energy"
	Mar. 12	Thursday	Lecture 16	Chapter 9	Center of Mass and Linear Momentum		
Week 10	Mar. 17	Tuesday	Lecture 17	Chapter 10	Rotation	Homework 7 Due (Ch. 9)	Lab 11: "Momentum - Elastic and Inelastic Collisions"
	Mar. 19	Thursday	Lecture 18	Chapter 11	Rolling, Torque and Angular Momentum		
Week 11	Mar. 24	Tuesday	Lecture 19	Chapter 12	Equilibrium and Elasticity	Homework 8 Due (Ch. 10-11)	Lab 16: "Circular Motion"
	Mar. 26	Thursday	Lecture 20	Chapter 13	Gravitation		
Week 12	Mar. 31	Tuesday	Lecture 21	Chapter 13	Gravitation	Homework 9 Due (Ch. 12-13)	Lab 13: "Equilibrium of a Rigid Body"
	Apr. 2	Thursday	Lecture 22	MIDTERM 2	Chapters 8-13		
Week 13	Apr. 7	Tuesday	Lecture 23	Chapter 14	Fluids	No Homework Due	Lab 17: "Archimedes' Principle"
	Apr. 9	Thursday	Lecture 24	Chapter 15	Oscillations		
Week 14	Apr. 14	Tuesday	Lecture 25	Chapter 16	Waves I	Homework 10 Due (Ch. 14-15)	Lab 15: "Simple Harmonic Motion and Spring Constant"
	Apr. 16	Thursday	Lecture 26	Chapter 16	Waves I		
Week 15	Apr. 21	Tuesday	Lecture 27	Chapter 17	Waves II	Homework 11 Due (Ch. 16)	Lab 25: "Wave Phenomena"
	Apr. 23	Thursday	Lecture 28	Chapter 17	Waves II		