

# Physics 30: General Physics

Joint Science Department — Fall 2008  
TTh 9:35 AM — Keck B31 (Burns Lecture Hall)

Professor Steuard Jensen

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**Office Hours:** M 2:30–3:30; T 3–4; W 10:30–11:30, **4:30–5:30**; Th 3–4, or by appointment.

## Course description:

This is the first half of a calculus-based introduction to physics for students not majoring in the physical sciences. The central goal is for you to learn physical reasoning and problem solving skills (*not* to memorize dry facts). You will learn conceptual and mathematical connections between core ideas in physics, including Newtonian mechanics, conservation laws, waves, relativity, and more. With luck, you'll also come to appreciate the beautiful simplicity of the laws that govern our complex world and to recognize them in your work and everyday life.

**Textbook:** *Principles of Physics* by Serway and Jewett (4th edition) ISBN: 0-534-49143-X

**Required materials:** scientific calculator, ruler and protractor (sometimes handy), sleep  
Discussion and handouts on **Sakai:** <https://sakai.claremont.edu:8443/portal>

**Website:** <http://faculty.jsd.claremont.edu/sjensen/teaching/classes/phys30/>

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## Midterm Exams: (3 Evening Exams)

**Oct. 2** (Thur., 6:30–8 pm), **Oct. 30** (Thur., 6:30–8 pm), and **Dec. 4** (Thur., 6:30–8 pm)

These exam dates will not be changed. If you have a specific conflict with any of these dates, you must let me know in writing **during the first week of class**.

## Cumulative Final Exam: Friday, Dec. 19, 9:00am–12:00pm

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**Grading:** Your work will contribute to your final grade with the following weights:

3 Midterms:	50% (= 14% + 18% + 18%)	Homework:	20%
Final Exam:	30%	Lab:	(see below)

Grades may be scaled up, but never down. You are welcome to ask me for your overall grade at any time. The correspondence between percentages and letter grades is as follows:

A	A-	B+	B	B-	C+	C	C-	D+	D	F
92–100	88–92	84–88	80–84	76–80	72–76	68–72	64–68	60–64	52–60	< 52

## Grading philosophy

In this class, the focus in grading is on your methods, explanation, and understanding, not simply on whether you got the right answer in the end. You can expect substantial partial credit if you make an effort. The details are on a separate handout. Pay special attention to the fact that part of your grade depends on the *clarity* of your work.

## Homework policies, collaboration, and academic honesty

Unless I announce otherwise, homework will be **due Thursdays in class at the beginning of class**. I encourage you to discuss the assignments with others in the class, but all work that you turn in must be your own (do not simply copy someone else's work). If you do get significant help on a problem from another person or a book besides our textbook, briefly give them credit at the beginning or end of your solution. Late homework assignments will receive half credit and should be turned in with the following week's assignment. Assignments over one week late will not be accepted. I will drop your lowest homework score from your final grade.

Most homework will be graded by student graders (I will grade the exams myself). If you feel that any grade on a homework or an exam is unfair, you may ask me to **re-grade** the problem. (Not all grades go up; some go down.) I don't expect any issues of academic honesty to arise, but I will follow your campus policy in cases of suspected cheating on homework or exams. That certainly means zero credit for that assignment and may also include reporting the issue to your Dean of Students or Registrar.

## Reading assignments

Our class time together is best spent discussing concepts and practicing problem solving, but we won't have time for that if I have to explain everything from scratch. Thus, we are using what I hope is a clear and readable textbook, and you are expected to read the material before class. (Come prepared with questions!) To encourage this, some homework questions may be assigned on upcoming material and I may ask you for feedback on the reading prior to class.

## Lab

Lab sections meet weekly in Keck 134 starting in the second week of class. During the first week of class, it is your responsibility to sign up for a lab section that fits your schedule. Labs will be graded as "High pass/Pass/Low pass/No credit". A "pass" reflects the expected level of work and will leave your overall course grade unchanged. High and low pass lab grades will contribute noticeably to your overall course grade (e.g. getting mostly high passes could raise a B+ to an A-). **If you cannot attend your lab section one week, you must arrange to attend a different section that same week instead.** Any lab that you miss or that receives "no credit" will count as *three* low pass grades.

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**Schedule:** Specific reading assignments will be announced in class. (Half weeks *italicized*.)

Topic	Chapters	Weeks	Exam
Translational motion	2, 3	1–2	} Midterm 1
Forces and Newton's laws	4, 5	3–4	
Conservation of energy	6, 7	5–6	} Midterm 2
Conservation of (linear) momentum	8	7	
Rotational motion, torque, angular momentum	10	8–9	} Midterm 3
Gravity and orbital motion	11	10	
Oscillations	12	11	
Waves and sound	13, 14	12–13	} (incl. on final)
Special relativity	9	14	
Fluids	15	15	