

## Physics 1A Syllabus

Fall Quarter 2014

Course Website: <http://smartsite.ucdavis.edu>

Physics 1A is an introduction to classical mechanics and the laws of motion. We will be exploring how motion can be described and understood using basic physical principles. My goals for this course include not only that students learn the physics that governs motion, but also that students learn critical thinking skills and a deeper scientific perspective, applicable in a broad range of areas outside of physics.

### Logistics:

Lecturer:	Benjamin Cain, Ph.D.
Email:	<a href="mailto:bmccain@ucdavis.edu">bmccain@ucdavis.edu</a> - please put "1A" in the subject line
Lecture:	TR 1:40-3pm in Roessler 66
Office Hours:	TR 11am-12pm in EPS2314 for class content R 3-4pm in Physics 541 for administrative issues only Or by appointment for either
TA:	John Wilson
Email:	<a href="mailto:jhnilson@ucdavis.edu">jhnilson@ucdavis.edu</a> - please put "1A" in the subject line
Office Hours:	MW 12pm-1pm in EPS2314 for class content

### Learning Resources

- **Course Text:** *Physics: Principles with Applications, 7th ed.*, by Douglas C. Giancoli.
- **Homework:** Homework will consist of both problems assigned from the text and additional problems created by me. They will be assigned (roughly) weekly. Collaboration on homework is allowed (encouraged!) so long as the work you submit is your own and all student collaborators are listed on your homework. **Homework will be due at 1:42pm on Thursdays unless otherwise stated.**
- **Suggested Problems:** Along with the homework's, I will recommend additional book problems which emphasize key concepts and will be useful for practice. These will not be graded, but instead are a way for students to get additional practice.
- **Smartsite:** Additional course materials including homeworks, lecture notes, announcements and the chatroom will be available on Smartsite. There will also be a blog, where I'll be putting in some of my thoughts on the course material as we go.
- **Lecture:** I will be using this time to emphasize important and/or difficult concepts, make connections, work examples, and give both general and specific problem solving techniques. There will also be fun and informative demonstrations!
- **Office Hours:** These will be guided work sessions where I will answer questions, clarify concepts, help students work problems and facilitate peer learning.

### Course Structure and Grading:

Your course grade will consist of the better of either: (40% quizzes+homework, 60% final exam) or (60% quizzes+homework, 40% final exam). The homework grade will be weighted equal to one quiz. Either one quiz or the homework grade will be dropped and the overall grades will be curved to match previous quarters' grade distributions.

- **Quizzes:** There will be 3 quizzes (30 minutes each, tentatively). Quizzes are generally not comprehensive, but the overlap of some fundamental concepts will be unavoidable. Quizzes will be closed book, and closed notes however key equations and numerical constants will be provided. Calculators are allowed, so bring one to lecture, but no phones, tablets, computers, or related devices are allowed. Makeup quizzes after the quiz date are not possible. If you have emergencies or extenuating circumstances, please talk to me as soon as possible to discuss your options.

Quiz #	Date	Tentative Quiz Scope	Topics
1	Tuesday October 21	Chapters 1-3	Kinematics: Quantifying motion
2	Tuesday November 4	Chapters 4-6	Dynamics: Forces & Energy
3	Tuesday November 25	Chapters 7-9	Momentum & Rotation
-	(Will be on the Final Exam)	Chapters 10,18&19	Fluid Flow & Electrical Current

- **Quiz Regrades:** Once a quiz is returned, you will have one week to evaluate your quiz to ensure it was graded accurately by comparing to the posted rubric and solutions. If not, fill out a quiz regrade form (available under Smartsite: Resources) and submit it to me for a regrade.
- **Final Exam:** Tuesday December 16, 10:30am-12:30pm. It will be comprehensive, closed book, closed notes, however key equations and numerical constants will be provided. Calculators will be allowed, so bring one. Final exams must be taken at the above time. For emergencies or extenuating circumstances, please talk to me as soon as possible to discuss your options. The last day of class will be a review session, potentially with an additional review session TBA.

**Any deviations from the course structure outlined here will be communicated and a corrected syllabus will be posted.**