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# College Physics I

Spring 2010

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**Office Hours:** 11:00am–12:00pm T, 10:30–11:30am W, 2:00–3:00pm W, or by appointment  
**Department:** Physics & Astronomy, 203 Van Allen Hall, Prof. Mary Hall Reno, Chair

**Catalog Description:** This course is intended for pre-medical, pre-dental, and other students who desire a physics course without calculus. Mechanics, special relativity, sound, heat, and thermodynamics are covered. Numerical examples and lab experiments are chosen to illustrate basic physical principles. Grades are based on in-class tests, homework, a final exam, and lab performance. Each week three lectures are given by the course professor and one 3-hour lab is conducted by a TA.

**Lectures:** Monday, Wednesday, and Friday 9:30am–10:20am  
Lecture Room 1, Van Allen Hall

**Required Text:** J.D. Cutnell and K.W. Johnson, *Physics*, 8th edition, Volume 1

**Required Lab Text:** C. Williamson and J. A. Goree, *Experiments in Mechanics, Wave Motion, and Heat*, Spring 2010 ed.

**Clickers:** The course will make extensive use of Student Response Systems, or “clickers,” during class meetings. Clickers are required for every class meeting and may be purchased along with your texts at the bookstore. You must register your clicker online at <http://icon.uiowa.edu/support/int/tt/clickerid.php>. If you require help with your clicker or lose it, you can stop by the ITS front desk in the Old Capitol Mall, or e-mail [clicker-support@uiowa.edu](mailto:clicker-support@uiowa.edu). The clicker channel for LR1 VAN is 44.

**Course Preparation:** This is a 4 semester-hour course with lab. CLAS guidelines are that students should expect to spend two hours per semester-hour on study outside of class. This means 8 hours per week on homework, reading, and other course preparation.

**Web Pages:** <http://www.physics.uiowa.edu/~ghowes/teach/phys11/index.html>  
ICON: <http://icon.uiowa.edu/>  
WileyPLUS: <http://edugen.wiley.com/edugen/class/cls158536/>

**Exam Schedule:**

<b>Three Midterm Exams:</b>	Wednesday, February 17, 2010, 9:30–10:20am	Chaps 1–4
	Wednesday, March 24, 2010, 9:30–10:20am	Chaps 5–9
	Wednesday, April 21, 2010, 9:30–10:20am	Chaps 10–13
<b>Final Exam:</b>	Tuesday, May 11th, 2010, 2:15–4:15pm	Chaps 1–16

**Grading:**

Homework:	15%
Labs:	15%
Midterm Exams:	15% each
Final Exam:	25%
Reading Quizzes:	extra credit (see below)

- Homework:** Weekly homework assignments are to be completed online using WileyPLUS at <http://edugen.wiley.com/edugen/class/cls158536/>. With the exception of Homework #0, all assignments must be completed online by 11:59pm on the Thursday that they are due. Late homework will not be accepted. You are encouraged to work together in groups on the homework, but each student must calculate the solutions to his/her own questions and submit the answers on WileyPLUS. Any solutions not available on WileyPLUS will be available on the ICON course website the day following the due date. If the score of the diagnostic test given in week 9 is higher, it will be used in place of your lowest homework score.
- Labs:** The laboratory assignments are a key part of the course, to be held under the supervision of your teaching assistant, who will also grade the laboratory reports. Questions about laboratory grading should be directed to your TA. Eating and drinking in the laboratory is not allowed. Conflicts between laboratory meeting times and night exams offered in other classes are to be resolved by the student asking for a make-up exam for the conflicting night exam. University policy is that instructors *must* offer such a make-up exam and that regularly scheduled class time, including laboratory, takes precedent over night exams. Only 10 of 11 labs will be counted toward grading, however, there will be *no* make-up labs.
- Exams:** Three midterm exams will be held during regular class hours on the dates specified above. Exams will be closed book, but each student may bring a single, one-sided 8.5 by 11 inch formula sheet—*no words* may be written on the sheet, only formulas, and the formula sheet *must* be turned in with your exam. Midterm exams will cover the material specified above, and the final exam will be comprehensive. Exam solutions will be available on the ICON course website. There will be no make-ups for the one-hour exams except in truly extraordinary circumstances for which the student comes to the instructor *before* the exam to plan a make-up.
- Reading Quizzes:** Reading assignments must be completed before lecture. Completion of the reading is essential for the interactive learning method to be effective. During the semester, we will have 10 unannounced reading quizzes to be taken in class using your clicker, intended to encourage reading and awareness of topics rather than in-depth understanding. The grades for the quizzes can only *help* your grade: at the end of the semester, you can improve your final exam grade (up to the maximum of 200 points) by your overall quiz percentage times 10 points. For example, if your final exam score is 150/200 and your quiz score is 80%, the the final exam score used for grading would be:  $150 + (80\% \times 10) = 158$ .
- Absence Policy:** Attendance is encouraged but not required for all regular class meetings, but any opportunities for extra credit through class activities, such as reading quizzes or diagnostic exams, will not be made up for any reason in the event of absence. Attendance during scheduled exams is required and make-up exams will only be given if the student comes to the instructor with appropriate justification *before* the exam to plan a make-up. Justification required is either a completed UI Student Absence form, available from the Registrar's website at <http://www.registrar.uiowa.edu/>, or other statement regarding authorized activities signed by a responsible official.
- Physics Tutorials:** Teaching assistants are available for free tutoring in Room 54, Van Allen Hall, during posted hours. While you are strongly encouraged to seek help from the TAs and the instructor, do not expect them to do your homework for you.

## The College of Liberal Arts and Sciences Policies and Procedures

### **Administrative Home**

The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall or see the Academic Handbook.

[www.clas.uiowa.edu/students/academic\\_handbook/index.shtml](http://www.clas.uiowa.edu/students/academic_handbook/index.shtml)

### **Electronic Communication**

University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail address (@uiowa.edu). Faculty and students should use this account for correspondences. (Operations Manual, III.15.2. Scroll down to k.11.)

### **Accommodations for Disabilities**

A student seeking academic accommodations should register with Student Disability Services and meet privately with the course instructor to make particular arrangements. For more information, visit this site: [www.uiowa.edu/~sds/](http://www.uiowa.edu/~sds/)

### **Academic Fraud**

Plagiarism and any other activities when students present work that is not their own are academic fraud. Academic fraud is a serious matter and is reported to the departmental DEO and to the Associate Dean for Undergraduate Programs and Curriculum. Instructors and DEOs decide on appropriate consequences at the departmental level while the Associate Dean enforces additional consequences at the collegiate level. See the CLAS Academic Fraud section of the Student Academic Handbook.

[www.clas.uiowa.edu/students/academic\\_handbook/ix.shtm](http://www.clas.uiowa.edu/students/academic_handbook/ix.shtm)

### **CLAS Final Examination Policies**

Final exams may be offered only during finals week. No exams of any kind are allowed during the last week of classes. Students should not ask their instructor to reschedule a final exam since the College does not permit rescheduling of a final exam once the semester has begun. Questions should be addressed to the Associate Dean for Undergraduate Programs and Curriculum.

### **Making a Suggestion or a Complaint**

Students with a suggestion or complaint should first visit the instructor, then the course supervisor and the departmental DEO. Complaints must be made within six months of the incident.

[www.clas.uiowa.edu/students/academic\\_handbook/ix.shtml#5](http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml#5)

### **Understanding Sexual Harassment**

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI Comprehensive Guide on Sexual Harassment for assistance, definitions, and the full University policy.

### **Reacting Safely to Severe Weather**

In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Public Safety web site.

Week	Lab	Class Meeting	Date	Reading	HW/Exam/Review
1	No Lab No Discussions	1	1/20	None	Diagnostic Test
		2	1/22	Chap. 1, Sec. 1.1–1.9, p. 1–20	HW 0 due 1/22, 9:30am
2	M1	3	1/25	Chap. 2, Sec. 2.1–2.5, p. 28–43	HW 1 due 1/28, 11:59pm
		4	1/27	Chap. 2, Sec. 2.6–2.8, p. 43–52	
		5	1/29	Chap. 3, Sec. 3.1–3.3, p. 59–73	
3	M2	6	2/1	Chap. 3, Sec. 3.4–3.5, p. 74–80	HW 2 due 2/4, 11:59pm
		7	2/3	Chap. 4, Sec. 4.1–4.7, p. 87–99	
		8	2/5	Chap. 4, Sec. 4.8–4.11, p. 99–115	
4	M3	9	2/8	Chap. 4, Sec. 4.12–4.13, p. 115–125	HW 3 due 2/11, 11:59pm
		10	2/10	None	
		11	2/12	Chap. 5, Sec. 5.1–5.5, p. 135–147	
5	Exam 1 Review	12	2/15	Chap. 5, Sec. 5.6–5.8, p. 147–154	Exam 1
				Chap. 6, Sec. 6.1–6.2, p. 160–169	
		13	2/17	None	
6	M4	14	2/19	Chap. 6, Sec. 6.3–6.6, p. 169–178	HW 4 due 2/25, 11:59pm
		15	2/22	Chap. 6, Sec. 6.7–6.10, p. 179–187	
		16	2/24	Chap. 7, Sec. 7.1–7.3, p. 195–209	
7	M5.5	17	2/26	Chap. 7, Sec. 7.4–7.6, p. 209–215	HW 5 due 3/4, 11:59pm
		18	3/1	Chap. 8, Sec. 8.1–8.5, p. 222–234	
		19	3/3	Chap. 8, Sec. 8.6–8.8, p. 234–240	
8	M6	20	3/5	Chap. 9, Sec. 9.1–9.2, p. 246–253	HW 6 due 3/11, 11:59pm
		21	3/8	Chap. 9, Sec. 9.3–9.5, p. 253–270	
		22	3/10	None	
		23	3/12	Chap. 10, Sec. 10.1–10.3, p. 285–297	
Spring Break					
9	Exam 2 Review	24	3/22	None	Review/Diagnostic Test Exam 2
		25	3/24	None	
		26	3/26	Chap. 10, Sec. 10.4–10.6, p. 297–302	
10	M8.5	27	3/29	Chap. 10, Sec. 10.7–10.9, p. 302–312	HW 7 due 4/1, 11:59pm
				Chap. 11, Sec. 11.1–11.3, p. 320–326	
		28	3/31	Chap. 11, Sec. 11.4–11.6, p. 326–334	
11	M9	29	4/2	Chap. 11, Sec. 11.7–11.12, p. 334–349	HW 8 due 4/8, 11:59pm
		30	4/5	Chap. 12, Sec. 12.1–12.5, p. 357–368	
		31	4/7	Chap. 12, Sec. 12.6–12.8, p. 369–377	
12	H1	32	4/9	Chap. 12, Sec. 12.9–12.11, p. 377–384	HW 9 due 4/15, 11:59pm
		33	4/12	Chap. 13, Sec. 13.1–13.2, p. 392–400	
		34	4/14	Chap. 13, Sec. 13.3–13.5, p. 401–409	
13	Exam 3 Review	35	4/16	Chap. 14, Sec. 14.1–14.3, p. 414–426	Exam 3
		36	4/19	Chap. 14, Sec. 14.4–14.5, p. 427–433	
				Chap. 15, Sec. 15.1–15.4, p. 438–444	
14	H3	37	4/21	None	HW 10 due 4/29, 11:59pm
		38	4/23	Chap. 15, Sec. 15.5–15.9, p. 444–453	
		39	4/26	Chap. 15, Sec. 15.10–15.13, p. 453–465	
15	W1	40	4/28	None	HW 11 due 5/6, 11:59pm Final Exam Review
		41	4/30	Chap. 16, Sec. 16.1–16.5, p. 473–480	
		42	5/3	Chap. 16, Sec. 16.6–16.9, p. 481–494	
		43	5/5	Chap. 16, Sec. 16.10–16.12, p. 494–499	
		44	5/7	None	