

**29:027****Physics I****Fall 2014**

**Instructor:** Professor Gregory Howes  
**Office:** 505 Van Allen Hall  
**Phone:** (319)335-1221  
**E-mail:** gregory-howes@uiowa.edu  
**Office Hours:** 1:30–2:30pm W, 9:45am–11:45am Th, or by appointment  
**Department:** Physics & Astronomy, 203 Van Allen Hall, Prof. Fred Skiff, Chair

**Catalog Description:** The emphasis in this course is on the rigorous structure of classical physics and the development of the ability to solve problems. Topics include mechanics, heat, and sound. This course is part of a four-semester sequence (029:027-028-029-030) intended primarily for physics and astronomy majors. The three weekly lectures and one-hour discussion are given by a professor, and the weekly lab is conducted by a TA.

**Lectures:** Monday, Wednesday, and Friday 12:30–1:20pm  
70 Van Allen Hall

**Discussion:** Thursday 12:30–1:20pm  
172 Van Allen Hall

**Required Text:** Halliday, Resnick, & Walker, *Fundamentals of Physics*, 10th edition, Volume 1

**Required Lab Text:** C. Williamson and J. A. Goree, *Experiments in Mechanics, Wave Motion, and Heat*, Fall 2014 edition.

**Clickers:** The course will make extensive use of Student Response Systems, or “clickers,” during class meetings. Clickers are required for every class lecture and discussion and may be purchased along with your texts at the bookstore. You must register your clicker online at ICON <http://icon.uiowa.edu/> by selecting Student Tools, then Clicker Registration. If you require help with your clicker or lose it, stop by the ITS Help Desk in the Old Capitol Mall, or e-mail [its-helpdesk@uiowa.edu](mailto:its-helpdesk@uiowa.edu). The clicker channel is 18 for 70 VAN.

**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/phys27/index.html>  
 ICON: <http://icon.uiowa.edu/>  
 WileyPLUS: <http://edugen.wileyplus.com/edugen/class/cls411899/>

**Exam Schedule:**

<b>Three Midterm Exams:</b>	Wednesday, September 24, 2014, 12:30–1:20pm	Chaps 1–5
	Wednesday, October 22, 2014, 12:30–1:20pm	Chaps 6–9
	Wednesday, November 19, 2014, 12:30–1:20pm	Chaps 10–12, 15
<b>Final Exam:</b>	To be determined	Chaps 1–15

**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.wileyplus.com/edugen/class/cls411899/>. With the exception of Homework #0, all assignments must be completed online by 11:00pm 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 precedence over night exams. Only 9 of 10 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 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 the TILE Commons Room, 310 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 CLAS Academic Policies Handbook at <http://clas.uiowa.edu/students/handbook>.

### **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, k.11).

### **Accommodations for Disabilities**

A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See [www.uiowa.edu/sds/](http://www.uiowa.edu/sds/) for more information.

### **Academic Honesty**

All CLAS students or students taking classes offered by CLAS have, in essence, agreed to the College's Code of Academic Honesty: "I pledge to do my own academic work and to excel to the best of my abilities, upholding the IOWA Challenge. I promise not to lie about my academic work, to cheat, or to steal the words or ideas of others; nor will I help fellow students to violate the Code of Academic Honesty." Any student committing academic misconduct is reported to the College and placed on disciplinary probation or may be suspended or expelled (CLAS Academic Policies Handbook).

### **CLAS Final Examination Policies**

The final examination schedule for each class is announced by the Registrar generally by the fifth week of classes. Final exams are offered only during the official final examination period. *No exams of any kind are allowed during the last week of classes.* All students should plan on being at the UI through the final examination period. Once the Registrar has announced the date, time, and location of each final exam, the complete schedule will be published on the Registrar's web site and will be shared with instructors and students. It is the student's responsibility to know the date, time, and place of a final exam.

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

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

### **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 Department of Public Safety website.

Week	Lab	Class Meeting	Date	Reading	HW/Exam/Review
1	No Lab	1	8/25	Chap. 1, Sec. 1–3, p. 1–8	Diagnostic Test  HW 0 due 8/29, 12:00pm
		2	8/27	Chap. 2, Sec. 1–4, p. 13–27	
		3	8/29	Chap. 2, Sec. 5–6, p. 27–31	
2	No Lab	4	9/3	Chap. 3, Sec. 1–3, p. 40–56	HW 1 due 9/4, 11:00pm
		5	9/5	Chap. 4, Sec. 1–4, p. 62–75	
3	M1	6	9/8	Chap. 4, Sec. 5–7, p. 76–82	HW 2 due 9/11, 11:00pm
		7	9/10	Chap. 5, Sec. 1–2, p. 94–106	
		8	9/12	Chap. 5, Sec. 3, p. 106–114	
4	M2	9	9/15	None	HW 3 due 9/18, 11:00pm
		10	9/17	Chap. 6, Sec. 1–2, p. 124–132	
		11	9/19	Chap. 6, Sec. 3, p. 133–138	
5	Exam 1 Review	12	9/22	Chap. 7, Sec. 1–2, p. 149–155	Exam 1
		13	9/24	None	
		14	9/26	Chap. 7, Sec. 3–4, p. 155–162	
6	M3	15	9/29	Chap. 7, Sec. 5–6, p. 162–169	HW 4 due 10/2, 11:00pm
		16	10/1	Chap. 8, Sec. 1–3, p. 177–191	
		17	10/3	Chap. 8, Sec. 4–5, p. 191–200	
7	M4	18	10/6	Chap. 9, Sec. 1–3, p. 214–225	HW 5 due 10/9, 11:00pm
		19	10/8	Chap. 9, Sec. 4–6, p. 226–236	
		20	10/10	Chap. 9, Sec. 7–9, p. 237–244	
8	M5	21	10/13	None	HW 6 due 10/16, 11:00pm
		22	10/15	Chap. 10, Sec. 1–3, p. 257–271	
		23	10/17	Chap. 10, Sec. 4–6, p. 271–278	
9	Exam 2 Review	24	10/20	None	Review/Diagnostic Test Exam 2
		25	10/22	None	
		26	10/24	Chap. 10, Sec. 7–8, p. 279–286	
10	M6	27	10/27	Chap. 11, Sec. 1–3, p. 295–302	HW 7 due 10/30, 11:00pm
		28	10/29	Chap. 11, Sec. 4–6, p. 302–309	
		29	10/31	Chap. 11, Sec. 7–9, p. 310–318	
11	M7	30	11/3	Chap. 15, Sec. 1–3, p. 413–424	HW 8 due 11/6, 11:00pm
		31	11/5	Chap. 15, Sec. 4–6, p. 424–434	
		32	11/7	None	
12	M8.5	33	11/10	Chap. 12, Sec. 1–2, p. 327–337	HW 9 due 11/13, 11:00pm
		34	11/12	Chap. 12, Sec. 3, p. 338–343	
		35	11/14	None	
13	Exam 3 Review	36	11/17	Chap. 13, Sec. 1–3, p. 354–362	Exam 3
		37	11/19	None	
		38	11/21	Chap. 13, Sec. 4–6, p. 362–371	
Thanksgiving Break					
14	M9	39	12/1	Chap. 13, Sec. 7–8, p. 371–377	HW 10 due 12/4, 11:00pm
		40	12/3	Chap. 14, Sec. 1–3, p. 386–393	
		41	12/5	Chap. 14, Sec. 4–5, p. 393–397	
15	M10	42	12/8	Chap. 14, Sec. 6–7, p. 398–405	HW 11 due 12/11, 11:00pm Final Exam Review
		43	12/10	None	
		44	12/12	None	