

# PHYS:1702

# Physics II

# Spring 2016

**Instructor:** Jasper S Halekas  
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**Office Hours:** 2:00-3:00 pm Tuesday,  
9:00-10:00 am Wednesday,  
4:00-5:00 pm Thursday,  
Or by Appointment

**Department:** Physics and Astronomy, 203 Van Allen Hall, DEO Fred Skiff

**Description:** This course will introduce students to gravity, electricity, and magnetism. We will focus on building a strong conceptual understanding of gravitational fields, electric charge, electric and magnetic fields, electric circuits, and electromagnetic oscillations, as well as developing skills and experience in problem solving. This course is a continuation of PHYS:1701, and is part of a four-semester sequence intended primarily for physics and astronomy majors, or science majors who want an in-depth introductory physics course. This course uses calculus. We will cover Ch. 13 and Chs. 21-32 in the text, at a pace of roughly one chapter per week. Specific reading and homework assignments will be given in class and on the course web page. The three weekly lectures and a one-hour discussion are given by Prof. Halekas, with the weekly lab conducted by a TA.

**Lectures:** MWF 11:30-12:20, 70 Van Allen Hall

**Discussion:** Th 12:30-1:20, 70 Van Allen Hall

**Required Text:** *Fundamentals of Physics, Halliday & Resnick*, 10<sup>th</sup> Edition, Volumes 1-2, Jearl Walker.

**Required Lab Text:** *Experiments in Electricity, Magnetism, & Light + Quantum Physics*, John Goree and Anthony Moeller.

**Course Web Pages:** [http://www.physics.uiowa.edu/~jhalekas/teaching/physII\\_2016/index.html](http://www.physics.uiowa.edu/~jhalekas/teaching/physII_2016/index.html)  
ICON: <https://icon.uiowa.edu/d2l/home/2448875>  
WileyPLUS: <http://www.wileyplus.com/class/491564>

**Clickers:** The course will make extensive use of Student Response Systems, or “clickers,” during class meetings. Clickers are utilized for every class

lecture 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 Work:** 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, as a first approximation.

**Exam Schedule:**

<b>Two Midterm Exams:</b>	Wednesday, Feb. 24	Ch. 13, 21-24
	Wednesday, Apr. 6	Ch. 25-29
<b>Final Exam</b>	TBD	Ch. 13, 21-32

**Grading:**

Homework	20%
Labs	20%
Midterms	15% Each
Final Exam	30%
Participation	Extra Credit (see below)

Course grades will follow the standard College of Liberal Arts and Sciences grading system tabulated below. The grade of A+ will only be assigned for performance that is a full grade above an A, and +/- grades will in general be used sparingly. The college of liberal arts recommends the following grade distributions for intermediate level courses: A 18%, B 36%, C 39%, D 5%, F 2%. This distribution will be utilized as a first approximation in assigning final grades, but the final distribution will take into account the overall understanding and competency demonstrated by the class as a whole.

Grade	Description	Grade Point per Semester Hour
A+ / A / A-	Superior	4.33 / 4.00 / 3.67
B+ / B / B-	Above Average	3.33 / 3.00 / 2.67
C+ / C / C-	Average	2.33 / 2.00 / 1.67
D+ / D / D-	Below Average	1.33 / 1.00 / 0.67
F	Failing	0.0

**Homework:**

Weekly homework assignments, which will include both conceptual and mathematical portions (assigned separately, since you get one try for conceptual problems, but two tries for mathematical problems), are to be completed online using WileyPLUS. All assignments must be completed online by 11:00pm on Wednesdays. Late homework will not be accepted. You are allowed to work with other students on the homework, but each student must calculate the solutions to his/her own questions and submit the answers on WileyPLUS. WileyPLUS homework is electronically graded.

Twice per semester (one before each midterm – announced in advance in class and on the course web page), homework solutions will be required in hard-copy format (pencil-and-paper or equivalent), with all work shown. These two homework assignments will count the same as others, but will be graded in the same way as the exams.

**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:**

Midterm exams will be held during regular class hours on the dates specified above. The final exam will be two hours, scheduled during finals week at a time to be announced. Midterm exams will cover the material specified above, and the final exam will be comprehensive. Exams may cover material not explicitly discussed in class – reading is important! 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.

Exams will be closed book, but each student may bring one 8.5x11 sheet with anything the student desires written on it on one side (nothing on back side) – this equation sheet should be turned in with the exam, so the student may wish to photocopy it. Exams will include both conceptual questions and questions requiring calculations – the latter will require all

work to be shown explicitly. Partial credit may be granted for correct methodology, even if the final answer is incorrect.

**Participation:** Participation will be tracked by student's response to clicker questions during lectures. These questions are un-graded, so any response, correct or incorrect, counts as participation. Extra credit will be assigned based on participation on a lecture-by-lecture basis (answering a question during a lecture counts as participation for that lecture), up to a maximum of 2% of the overall points in the course. In other words, the extra credit will be worth up to 10% of the value of the homework and labs, and up to 13.33% of the value of each of the midterms. Extra credit will be awarded based on the following sliding scale:

>60% participation	0.5% of overall points
>80% participation	1.0% of overall points
>90% participation	2.0% of overall points

Note that for the purposes of this credit, 90% participation earns you the maximum points. This is to allow for a few unavoidable absences, lost clickers, dead batteries, incorrectly set clicker channels, etc. etc.

**Absence Policy:** Attendance is encouraged but not required for all regular class meetings, but the participation-based extra credit 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 a completed UI Student Absence form and supporting documentation such as a doctor's note, or other statement regarding authorized activities signed by a responsible official.

**Communication:** Students may communicate with the professor by phone, e-mail, or in person. E-mails and phone calls may not be answered immediately (other than in true emergencies). Students with issues or questions should if possible raise them in person, in discussion, by attending office hours, or by scheduling an appointment with the professor.

**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.

# College of Liberal Arts and Science Policies & Resources

## 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 with the course instructor privately in the instructor's office to make particular arrangements. See <http://sds.studentlife.uiowa.edu/> 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](#).