PHYS 496, General Course Information, Spring 2018

Classes
The class will meet on Fridays, 2:00–4:50 PM, in Room 158 Loomis. Attendance is mandatory, and unexcused absences will result in a loss of points for the "participation" portion of your final grade. If you are unable to attend class, email the instructors *prior* to class, explaining the reason for your absence and your plan for making up the work.

An integral part of the class is "Writing Workshop" (WW), a series of in-class activities designed to improve your writing skills by analyzing and editing examples taken from published physics papers. The examples have been chosen to showcase specific, common scientific-writing flaws. You must bring a laptop or tablet equipped with MS Word to each class that has a WW scheduled to complete the exercises. If you do not have a computer that you can bring to class, contact the instructors immediately to arrange for a loaner. If you do not have Word, you can get Microsoft Office 365 for free from the UI Webstore (q.v. https://webstore.illinois.edu/shop/product.aspx?zpid=2816).

Some in-class activities will use i>clickers to review course content and stimulate group discussion. Please bring your i>clickers to class every day.

Course Website
The course syllabus, assignment summary, written instructions for assignments, announcements, lecture notes, and links to useful external resources are posted on the course website. Check it frequently.

Instructors

	Office Hours	Where	Email
Matthias Perdekamp	by appointment	469 LLP	`mgp@illinois.edu`
Celia M. Elliott	by appointment	215 LLP	`cmelliot@illinois.edu`

Course Rationale
The purpose of this course is to teach you valuable writing, presentation, teamwork, leadership, and organizational skills that will better prepare you for a successful career in science or technology. You will learn good communications practices and standard conventions for physics talks, abstracts, journal articles, figures, and communications for general audiences as well as specialists. You will be exposed to forefront physics research and the variety of career options that are available for physics majors.

Course Components
The course will consist of in-class writing practice, lectures, student presentations and group exercises, and written homework assignments. No formal exams will be given.

For the in-class writing practice (WW), you will gain experience in reading and revising technical material electronically and in correcting common writing errors. You will also have an opportunity to ask questions and get detailed feedback during WW on your other class assignments.

The homework assignments consist of specific writing tasks, including written evaluations of presentations and papers, abstracts, outlines, figure captions, and news stories for a general audience. You will also learn how to create effective figures to illustrate your written work.

Formal presentations will include an individual presentation, a team journal-club presentation, and informal individual and group presentations as part of in-class activities.

Refer to the class syllabus and written assignments for additional details and deadlines.

Textbook

No textbook is required for this course. Lecture notes are posted on the course website after each class. Some scientific papers published in the peer-reviewed literature will be assigned; all are available free of charge online through the University's library subscription.

Recommended Reading

The following books are well worth adding to your personal library.

William Strunk, Jr., and E.B. White, *The Elements of Style*, 4th ed. (New York, Longman, 2000).

Vernon Booth, *Communicating in Science: Writing a scientific paper and speaking at scientific meetings*, 2nd ed. (Cambridge, Cambridge University Press, 1993).

Herbert Michaelson, *How to Write and Publish Engineering Papers and Reports*, 3rd ed. (Phoenix, Oryx Press, 1990).

Course Reserves

The following materials are on reserve at the Grainger Engineering Library. All are excellent resources; consult them for completing your homework assignments.

William S. Cleveland, *Visualizing Data*. (Hobart Press, 1993).
This book presents a set of graphical methods for displaying quantitative data. Highly recommended.

Robert A. Day and Barbara Gastel, *How to Write and Publish a Scientific Paper*, 7th ed. (Greenwood Press, 2011).

Julie Steele and Noah Illinsky, *Beautiful Visualization: Looking at Data through the Eyes of Experts*. (O'Reilly Media, 2010).
This book presents the methods used by visualization experts to most effectively transmit information and generate new understanding.

Scott Montgomery, Chapter 9, "Graphics and Their Place," *The Chicago Guide to Communicating Science*. (University of Chicago Press, 2003). Required reading for WW #7 and Homework #8.

Grading

Timely submission of written assignments is required. You will be given feedback on both the physics and the technical writing components of your assignments, and each will contribute to your final grade. A grading matrix is posted on the course website.

Each WW exercise will be reviewed and points awarded for completing it. Missed WW exercises may not be made up, unless prior arrangements are made for an excused absence. The WW exercises are graded binarily; if you show up and make a good-faith effort to complete the exercise and participate in class, you will receive full points. If you don't, you will receive 0 points for that exercise.

Each homework assignment will be scored and points granted. The total points for each assignment are provided in the written instructions for that assignment and on the grading matrix.

To give you an incentive to complete your assignments on time and to revise your work, you will be able to earn additional points for rewrites on some assignments, *provided the initial draft is submitted by the posted due date and time.* Late submissions will be ineligible for "rewrite" points. You will be able to earn additional points for each eligible revision, up to 100 percent of the original points assigned to that exercise.

You may use the student gradebook for PHYS 496 available at `my.physics.illinois.edu` to check on your grades at any time and to confirm that all your submitted assignments have been graded. Incremental rewrite points will be added as they are earned to the total points awarded to each assignment in the gradebook.

Academic Integrity

The instructors for PHYS 496 take academic integrity very seriously, and we expect you to do so as well. Progress in science is not possible unless we can rely on its practitioners to be scrupulously honest in all their activities. Dishonesty in any form —cheating, plagiarism, representing others' work as your own individual work, or fabricating excuses for missed work—will not be tolerated. We encourage you to review the College of Liberal Arts and Sciences' excellent discussion of academic integrity. If you have *any* question about proper citation of sources, the reuse of materials (including your own) in a homework assignment, or the limits of work that can be done collaboratively, ***please*** consult us *before* you do something that could have serious adverse consequences for your academic career.

Part of academic integrity also involves the proper use of course materials. Do not share confidential course materials with others outside of PHYS 496 or repost them to shady internet sites that promote cheating.

Assignments

Assignments include both written work, team activities, and oral presentations. Detailed instructions for each assignment, along with its due date, are posted on the website. Most assignments are due by 9:00 PM on the designated due date, but *check the written homework instructions* for due dates and times. **Assignments turned in after the deadline date and time will be penalized by a deduction of up to 15% of the total points, if submitted within 48 hours of the deadline. Assignments submitted more than 48 hours late will receive 0 points. Furthermore, late assignments *will not be eligible for rewrite points*.**

Deadline extensions will not be granted except for extraordinary circumstances (transient global amnesia; severe, sustained chest pains; uncontrolled bleeding from a major artery...). Get *something* on paper and get it turned in by the deadline.

All assignments are to be emailed to phys496@physics.illinois.edu by the deadline noted on the assignment page. A summary of the homework assignments, including due dates, eligibility for rewrites, and points assigned, is posted on the course website.

Don't forget **to put your name at the top of the page for submitted assignments.**

Revisions of Previously Submitted Assignments: If you are submitting a revised assignment for regrading, please prominently identify it as a revision on the top of the page, e.g., "Homework #6_Rev. 1. Subsequent revisions should be labeled in ascending numerical order. Keep ***all*** files (originals and revisions) for your records.

For your written assignments, you may wish to consult the University's Center for Writing Studies *Writers Workshop*, which provides free, one-to-one help to all UIUC students. The Workshop's consultants can help with any kind of paper, in any class, at any stage of the writing process. While the Writers Workshop is not an editing service, the tutors will help you with anything related to your writing, including grammar, brainstorming, organizing, polishing final drafts, citing sources, and more. The Writers Workshop offers 50-minute sessions by appointment in five locations: the Undergraduate Library, Grainger Library, Ikenberry Commons, Burrill Hall, and the Pennsylvania Avenue Residence Halls. You can drop in for a quick 15–30 minute session in 251 UGL during the evening on Mondays through Thursdays. The Workshop also sponsors writing groups, online tutoring, and hands-on presentations about academic writing skills.

Peer Review

One of the homework assignments will be peer reviewed. The reviews will be done anonymously; please maintain the confidentiality of the review process. Your colleagues will be most helped by reviews that are specific, detailed, and objective. Be critical, but express your criticisms in a positive, nonjudgmental way. Strive for the "golden rule" for reviewers—"Review unto others as you would have them review unto you."

Writing Workshop

In-class exercises have been devised to help you identify common technical writing flaws and practice correcting them. These exercises will be completed in real time during WW and emailed to Celia at the end of the workshop. Each submitted WW exercise will contribute to your final grade. Missed exercises **may not be made up** unless prior arrangements are made with Celia.

Physics Colloquium

PHYS 496 students are required to ***attend at least four departmental colloquia*** during the semester and ***prepare a short written analysis*** of each, using the "Colloquium Report" template. Colloquium is held at 4:00 pm on Wednesdays in Room 141 Loomis. If you have a class conflict and cannot attend the Physics Department colloquia, consult Professor Perdekamp for suggestions on alternative arrangements.

Completed colloquium reports should be emailed to Celia. Note that colloquium reports and any revisions for additional credit must be ***submitted by the posted deadlines*** to receive full credit.

Class Administration

Any concerns, questions, or comments about the administration of the course should be directed to Professor Perdekamp.

Email

The instructors will communicate with you about the course via email to your ***University of Illinois*** email account; check it regularly! If you send email to the instructors, please put PHYS 496 in the subject line of each message. We do not use the "threading" feature of some email programs, so don't omit the subject line and be sure to include your full name in your message.