Classes
The class will meet on Fridays, 2:00–4:50 PM.

An integral part of the class is “Writing Workshop” (WW), a series of online activities designed to improve your writing skills by analyzing and editing writing samples that show specific, common rhetorical 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.

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

Instructors

<table>
<thead>
<tr>
<th>Instructors</th>
<th>Office Hours</th>
<th>Where</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brian L. DeMarco</td>
<td>by appointment</td>
<td>329 Loomis</td>
<td><a href="mailto:bdemarco@illinois.edu">bdemarco@illinois.edu</a></td>
</tr>
<tr>
<td>Celia M. Elliott</td>
<td>by appointment</td>
<td>215 Loomis</td>
<td><a href="mailto:cmelliot@illinois.edu">cmelliot@illinois.edu</a></td>
</tr>
</tbody>
</table>

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, news stories, and journal articles, and 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 rhetorical errors. You will also have an opportunity to ask questions and get detailed feedback from the instructors during WW on your other class assignments.

The written homework assignments consist of specific writing tasks, including written evaluations of presentations and papers, abstracts, analogies, 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.


Course Reserves

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


This book presents a set of graphical methods for displaying quantitative data. Highly recommended.


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.


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 rubric 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.

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 rubric.

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 98 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 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 absolutely honest in all their dealings. 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 consequences for your academic career.

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 will be downgraded proportionately, depending on lateness, and will not be eligible for rewrite points.

Deadline extensions will not be granted except for extraordinary circumstances (kidnapping; 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 note that it is 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 Writers Workshop, which provides free, one-to-one help to all UIUC writers. 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 students with anything related to their writing, including grammar, brainstorming, organizing, polishing final drafts, citing
sources, and more. Bring a draft to revise or just stop by for help with getting your ideas together. 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 and provides hands-on presentations about academic writing skills.

Peer Review

Two 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”—“Review unto others as you would have them review unto you.” Your reviews will be assessed and will count as part of the “participation” grade.

Attendance

Class attendance is mandatory. Much of what you will gain from the classes will come from interacting with your fellow students and the instructors during in-class activities. A portion of your final grade will be for “participation,” and unexcused absences will count against 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 DeMarco for suggestions on alternative arrangements.

As you listen to the colloquium speaker, think critically and analytically not only about the technical content, but also about his or her strengths and weaknesses as a speaker and communicator. Did the slides enhance the talk or detract from it? What parts were unclear? How did the speaker handle questions? Did the speaker have any annoying mannerisms? What did he or she do particularly well?

Completed colloquium reports should be emailed to Celia. Note that colloquium reports 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 DeMarco.
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.