

## Physics 496—Introduction to Physics Research—Spring 2014

### Syllabus and Homework Assignments

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**Homework assignments are to be emailed to both instructors by the posted deadline**

Date Fridays	Writing Workshop (257 LLP) (Usually 2:00–2:45 p.m., unless noted otherwise)	In Class Activities (322 LLP) (Usually 2:50–4:50 p.m. unless noted otherwise)	Homework Due Today
Jan 24	Intro to Writing Workshop—goals and rationale Complete WW #1—“Finding the Right Word”	Course introduction and expectations (DHB) Technical communications in science (CME) Evaluating a science talk (DHB/CME)	None
Jan 31	<b>13<sup>th</sup> Undergraduate Research Symposium</b> 2:00–5:00 p.m., 141 LLP; attend the talks in lieu of class—no Writing Workshop today; no homework due today		
Feb 7	WW #2—“Using the Right Word”	Tools for the scientific skeptic (DHB) Outlining for structure in tech writing (CME) Writing an abstract (DHB) Effective titles & in-class exercise (CME)	#1—Evaluating Scientific Presentations
Feb 14	WW #3—“Them Thar”	Documenting research (DHB) Using persuasion in science (CME) Building good paragraphs (CME) Doing Experimental Physics—Prof. L. Yang	#2—Abstract (register for April GRE by February 28)
Feb 21	WW #4—Literature search group exercise	Results of lit search—team presentations How to read a paper (DHB) Using analogies to explain science (DHB)	#3—Paragraphs
Feb 28	WW #5—“The Naked ‘This’”	Creating good figures (DHB) Effective figure captions (CME) Doing Computational Physics—Prof. A. Aksimentiev	#4—Analogies
Mar 7	WW #6—Figure critique group exercise	Figure critiques—team presentations Giving a talk (DHB) Effective slide titles (CME)	#5—Evaluating Figures and Captions Journal club teams & papers

Mar 14	WW #7—"Caps and Acronyms"	Writing instructions & group exercise (CME) Expressing numbers in science writing (CME)	#5—Creating Effective Figures and Figure Captions
Mar 21	<b>No WW—go directly to Room 322 at 2:00 p.m.</b>	Journal-club instructions and team meetings Professional ethics for physicists (DHB) A framework for ethical decisions (CME) Standards and values (group activity)	no homework assignment
<b>Mar 28</b>	<b>SPRING BREAK—NO CLASS</b>		
Apr 4	WW #8—"The Naked 'This'"	Giving a journal club talk (DHB) Refereeing papers and proposals (DHB) Copyrights and intellectual property (CME) Voice and tense—making verbs work (CME)	no homework assignment— Physics GRE tomorrow!
Apr 11	<b>No WW—go directly to Room 322 at 2:00 p.m.</b>	Journal Club presentations (P496 students)	#7—Journal Club Presentation
Apr 18	WW #9 & 10 "With" and "Only"	Writing a grant proposal (CME) Preparing a CV (DHB) Preparing a proposal budget (CME) Doing Theoretical Physics—Prof. S. Vishveshwara	#8—Referee Report
Apr 25	<b>No WW—go directly to Room 322 at 2:00 p.m.</b>	Estimations in research (DHB) Fermi problems (group activity) Avoiding fluff in scientific writing (CME) The last word on "due to," Ms. Particular (guest appearance)	#9—Proposal
May 2	<b>No WW—go directly to Room 322 at 2:00 p.m.</b>	Proposal Review Panel (group activity)	#10—Proposal Reviews (2)

In addition to the homework assignments listed in the table, students will be required to submit four "colloquium reviews" during the semester. Written instructions for each homework assignment are provided at <http://courses.physics.uiuc.edu/courses/phys496/Spring14/Homework.html>.