

## Homework Assignment #5, Writing for a General Audience

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### ***N.B. This assignment will be peer-reviewed (HW #6).***

The purpose of this assignment is to practice explaining scientific concepts in a way that is clear, concise, and meaningful for non-experts. For this assignment, your audience is juniors and seniors majoring in physics.

First, select a physics topic to write about. You should choose a topic where you have a solid grasp of the physics; the point of this assignment is to communicate that understanding to a general audience, not necessarily to learn some new physics (although don't let us discourage you). You may choose to focus your paper on explaining a physical concept directly or on explaining a particular application of that concept, as you prefer. Do one or the other—not both.

We've provided a list of topics to get you started; you may choose one of these topics or pick a topic from your coursework or research. If you opt for the latter, you must submit your proposed topic to [phys496@physics.illinois.edu](mailto:phys496@physics.illinois.edu) for approval *before* you start writing.

Your paper, which should be no more than two pages, including text and figures, must contain the following elements:

1. An engaging title.
2. A “byline” (your name and the date of the article).
3. A strong opening to capture the audience's interest.
4. A single main idea.
5. At least two illustrative images, with appropriate credit given to the sources. (You do not have to create these figures yourself, but you must credit the original authors and identify where they came from.)
6. At least three embedded hyperlinks\* to related, supplementary material that the audience can use to learn more about your topic. Links should be to content appropriate for the intended audience—no links to technical papers.

Sample topics, including possible applications:

- Fermi surfaces; applications—metals vs. insulators, neutron stars
- Total internal reflection; applications—fiber optics, underwater scenery, anything from this laundry list: [https://en.wikipedia.org/wiki/Total\\_internal\\_reflection#Applications](https://en.wikipedia.org/wiki/Total_internal_reflection#Applications).
- Chemical equilibrium; applications—the Saha equation and the cosmic microwave background, carbon monoxide poisoning
- NMR; applications—magnetic resonance imaging (MRI)
- Hyperfine splitting; applications—21-cm radiation, atomic clocks, quantum computing

Due: **Friday, October 12, 9:00 p.m.** Email your assignment to [phys496@physics.illinois.edu](mailto:phys496@physics.illinois.edu). Assignments submitted after the deadline will have points deducted and will be ineligible for rewrite points.

Total—100 points; 70 points on the accuracy of the physics and 30 points on clear, concise writing

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\* See <http://www.gcflearnfree.org/word2010/13.2> for instructions on how to insert a hyperlink in a Word document.