










PHYS II Lab Presentation

The presentations will take place on April 27. Your presentation will use PowerPoint or a similar program. Your presentation should include:

-  The theory/history behind the lab. (What is the lab trying to show)
-  How you perform the lab.
-  Your results.
-  Conclusions.
-  The presentation will be 15 minutes long.
-  You can use the Digital Camera and the Scanner in the Learning Center (talk to Mr. Snow in the Learning Center for help).
-  This will be worth 9% of your final grade. The grade will be based on the length, clarity of presentation, and how well you cover the material.

Some Rules for Making a Presentation

Golden rule

Human attention is very limited. Don't cram too much information, either in each slide, or in the whole talk. Avoid details: they won't be remembered anyway.

Organization

- ☺ Have a very clear introduction, to motivate what you do and to present the problem you want to solve. The introduction is not technical in nature, but strategic (i.e. why this problem, big idea).
- ☺ Use only one idea per slide.
- ☺ Have a good conclusions slide: put there the main ideas, the ones you really want people to remember. Use only one "conclusions" slide.
- ☺ The conclusion slide should be the last one. Do not put other slides after conclusions, as this will weaken their impact.
- ☺ Having periodic "talk outline" slides (to show where you are in the talk) helps, especially for longer talks. At least one "talk outline" slide is very useful, usually after the introduction.
- ☺ Don't count on the audience to remember any detail from one slide to another (like color-coding, applications you measure, etc.). If you need it remembered, re-state the information a second time.
- ☺ Especially if you have to present many different things, try to build a unifying thread. The talk should be sequential in nature (i.e. no big conceptual leaps from one slide to the next).
- ☺ Try to cut out as much as possible; less is better.
- ☺ Help the audience understand where you are going. Often it's best to give them a high-level overview first, and then plunge into the details; then, while listening to the details they can relate to the high-level picture and understand where you are. This also helps them save important brain power for later parts of the talk which may be more important.

Mechanics

- ☺ Use a good presentation-building tool, like MS PowerPoint.
- ☺ Humor is very useful; prepare a couple of puns and jokes beforehand (but not epic jokes, which require complicated setup). However, if you're not good with jokes, better avoid them altogether. Improvising humor is very dangerous.
- ☺ The more you rehearse the talk, the better it will be. A rehearsal is most useful when carried out loud. 5 rehearsals is a minimum for an important talk.
- ☺ The more people criticize your talk (during practice), the better it will be; pay attention to criticism, not necessarily to all suggestions, but try to see what and why people misunderstood your ideas.
- ☺ Not everything has to be written down; speech can and should complement the information on the slides.
- ☺ Be enthusiastic.
- ☺ Act your talk: explain, ask rhetorical questions, act surprised, etc.
- ☺ Give people time to think about the important facts by slowing down, or even stopping for a moment.
- ☺ Do not go overtime under any circumstance.
- ☺ Listen to the questions very carefully; many speakers answer different questions than the ones asked.

Text

- ☹ Slides should have short titles. A long title shows something is wrong.
- ☹ Use uniform capitalization rules.
- ☹ All the text on one slide should have the same structure (e.g. complete phrases, idea only, etc.).
- ☹ Put very little text on a slide; avoid text completely if you can. Put no more than one idea per slide (i.e. all bullets should refer to the same thing). If you have lots of text, people will read it faster than you talk, and will not pay attention to what you say.
- ☹ Don't use small fonts.
- ☹ Use very few formulas.
- ☹ Do not put useless graphics on each slide: logos, grids, affiliations, etc.
- ☹ Spell-check. A spelling mistake is an attention magnet.

Illustrations

- ☹ Use suggestive graphical illustrations as much as possible. Don't shun graphical metaphors. Prefer an image to text.
- ☹ Do not put in the figures details you will not mention explicitly. The figures should be as schematic as possible (i.e. no overload of features).
- ☹ Do not "waste" information by using unnecessary colors. Each different color should signify something different, and something important. Color-code your information if you can, but don't use too many different colors. Have high-contrast colors.
- ☹ A few real photos related to your subject look very cool. Real photos are much more effective during the core of the talk than during the intro.
- ☹ Sometimes a matte pastel background looks much better than a white one.
- ☹ Exploit animation with restraint. Do not use fancy animation effects if not necessary.
- ☹ However, there are places where animation is extremely valuable, e.g., to depict the evolution of a complex system, or to introduce related ideas one by one.
- ☹ Use strong colors for important stuff, pastel colors for the unimportant.
- ☹ Use thick lines in drawings (e.g. 1 1/2 points or more).

Results

- ☹ Don't put useless information in result graphs
- ☹ Label very clearly the axes of the graphs. Explain the un-obvious ones.
- ☹ Discuss the results numbers in detail; "milk" them as much as possible.