ASTRONOMY 300B: Satellite Presentation Project

Fall 2011
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(after a class activity suggested on the Exploratorium home page)

Introduction.
The ability to make a good oral presentation is extremely important, and a lot of your career advancement as an astronomer will depend on your effectiveness at making scientific presentations. Even if you don’t go the grad school/academic route after graduation, technical jobs involve making effective oral presentations. The best way to master this skill is practice, practice, practice.

In this assignment you will prepare a short presentation to the class -- described below. You will have 5 minutes for your presentation, and 5 minutes for questions. This may seem absurdly short, but note that at AAS meetings oral presentations (an important part of job interviews at the January meetings) have exactly this format. Short presentations are in some ways harder than longer ones, because you must be very organized and concise. You must limit yourself to only a few of the most important points to get across.

The Assignment.
You are the project manager for an astronomical satellite. Your assignment is to obtain continued funding -- many people are depending on you. In order to accomplish your assignment, you must convince the Congressional Subcommittee on NASA Spending (your classmates) that your mission merits continued funding. (The astrophysics part of NASA actually does this internally every few years in a process they call the "Senior Review"). Should you fail to convince the committee, your satellite will be decommissioned and allowed to burn up in the atmosphere.

Prepare no more than 3 pages of powerpoint describing the satellite, it's main contribution to science, and why it deserves continued funding. All students will present their talks in class (exact dates to be announced).

Step One: Choose a Satellite.

Surf the internet to find information on either an existing, defunct, or future satellite. Please choose a satellite whose primary mission is to make astronomical observations. NASA is very big on www pages so virtually every satellite has its own home page. You are also free to chose a satellite which was not launched by NASA.

Every student must pick a different satellite, so tell me your choice by email, jill@as.arizona.edu. I will accept choices on a first-come, first-served basis, based on the time of receipt of email.

Please chose a satellite by Wednesday, Jan. 19 at 2pm. Include the satellite home page URL in your email.
Places to start your search include a list of links, which can be found on the class web page.

**STEP 2: Prepare your talk.** You will convince your classmates that your satellite be allowed to continue. Include such information as launch date, purpose, data and pictures collected, and other little known facts. Remember your life's work is tied to this piece of hardware!

You may pick a satellite which has not been launched yet, and justify why the mission should be completed and launched. If so, you may wish to discuss what new technology development is required for the mission's success, how much the satellite will cost to build, what the projected launch date is, etc.

In addition to www pages, it may be useful to read articles in the popular-level literature, e.g. Astronomy magazine, Sky and Telescope, or Scientific American. Most major satellites have been described in feature articles in these magazines.

If you are participating in the UA Student Satellite Project, you may instead describe what your contribution has been so far. If more than one of you are, we will coordinate your presentations.

**Assessment.**

You will be graded on your:

1. **Presentation.**
   Preparation -- were you ready?
   Are your viewgraphs legible and organized?
   Clarity and effectiveness -- were you interesting and convincing?

2. **Written Report.**
   Email your presentation to me so I can post it on the class web site.
   Hand in a one-page research log -- URL and other references you used in preparing your presentation.
TIPS FOR GIVING ORAL PRESENTATIONS

No matter what course your career takes after graduation, you will often be called upon to present your work in the form of an oral presentation. Oral presentations will be an important way in which you are evaluated professionally. The ability to give an excellent presentation is therefore a necessary skill for your future success. Here are some tips:

1. Speak loudly and enunciate. Always use a microphone in a large room.
2. Don't speak in a monotone. Also avoid the "valley girl" tendency to speak sentences as if they are questions.
3. Make eye contact with the audience.
4. Giggling, making jokes, or otherwise goofing around is really a bad idea. Be serious.
5. Lettering on the viewgraphs or slides should be large and legible. Don't put too much information on one viewgraph.
6. Know your audience and be sure that your talk is neither too elementary nor too advanced.
7. Plots and pictures should be well-labeled, and symbols and labels should be large enough to read. When showing a plot, describe it and say what you want the audience to see in it ("Here is a plot of temperature as a function of radius. The dotted line shows ..."). Give the audience a few moments to understand it.
8. Use color in your viewgraphs or ppt presentations. However, be careful not to use graphics which are distracting, or combinations of colors which do not project well. For important talks, borrow a projector and test that your slides are legible in a large room.
9. Preparing a good talk takes time. Allow enough time to prepare your presentation.
10. Be sure to cite references when appropriate. Nothing upsets a person in the audience more than to see their work used without credit.
11. Dress neatly and professionally. Err on the side of being conservative; the people who care how you dress expect you to dress conservatively.
12. For talks at conferences, ask your research advisor to listen to you rehearse your talk. This means you have to have your talk ready far enough in advance that you have time to practice it with your advisor.
13. If English is not your first language, have a native speaker proof-read your slides, and listen to your talk. Preparing your talk will take more work for you, so be prepared to practice your talk a few times. Take advantage of the ESL center on campus.
14. Think about the first sentence and last sentence of your presentation. If you think you will be nervous, write out the first and last sentence on an index card. Start with a bang, and end with a bang!
15. NEVER apologize for any aspect of your presentation.