One of our goals for this class is not only to teach you how to present good talks, but also how to listen to them.

A good communicator recognizes the three major constraints on speakers and plans his talk with them in mind:

1. Who is the audience? What is their level of expertise? How motivated are they to listen? What is likely to confuse or bore them?
2. What is the purpose of the talk? To present new results? To inform? To solicit feedback on a new idea? To entertain? To get a job?
3. How much time has been allotted? It takes about 5–7 minutes to adequately motivate, explain, and summarize one main point in an oral talk. A speaker cannot cover six main points in a 10-min. APS-style presentation, no matter how fast he talks.

As you listen to a talk, ask yourself how well the speaker planned for these three constraints.
Giving good talks is not an art, it is a *craft*.

And like any other skill, it requires learning specific techniques, practicing them over and over, getting feedback from experts, and listening to a lot of talks so that you learn to recognize excellence and emulate it.
Excellent advice from Professor DeMarco:

“Few people take the time to evaluate a talk that they have heard. Doing so is really the key to learning how to give a better talk.

“If you want to become a better speaker, after giving or listening to a talk *every time*:

**Think:** What was ineffective about the talk? What are a few things that could be improved? Be specific. Try to identify details and larger issues.

**Think:** What was effective? Find three things. Be specific. Try to identify details and larger issues.”
Specifics
What makes a good talk?
PHYS 496, Celia M. Elliott

Content
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Your audience often knows less than you think

Many speakers overestimate the audience’s knowledge-base

Processing information during a talk is also challenging!

Gauge your audience, and then lower your expectation by 20%-100%!
Every aspect of a talk should be evaluated in light of the overarching goal for giving the talk: How well does this aspect (the title, the appearance of the slides, the structure of the talk, the language, the figures, the summary) help my audience understand the important points that I’m trying to communicate?
Unlike printed materials, where we can flip back and reread something if we need to understand it before proceeding, we cannot “rewind” an oral talk. Good speakers anticipate this need and tell you the important points more than once.

Common advice to speakers is to tell the audience your important points three times:

1. Tell them what you’re going to tell them (preview).
2. Tell them (body of the talk).
3. Tell them what you told them (summary at the end).

Take it from a mother, telling somebody something important three times is not overkill.
Most people remember images much longer and more clearly than they remember words. Every illustration shown in a talk should be directly related to one of the speaker’s important points and should explain, amplify, or clarify it.

If somebody else’s figure has been used, the speaker should at a minimum give credit for it and perhaps provide a URL or bibliographic reference for where the original may be found.

Another tip for ALL figures—a photograph or drawing of something should include some sort of visual clue to its scale. The audience may have no idea if the apparatus shown below is something that sits on a tabletop or has to be hauled around on a truck.
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The example on the left shows how a plot can quickly show a trend or reveal an underlying relationship. The actual numerical data are not as important as the slope of the line.

Note also that this plot has axis labels and tick marks that are large enough to be seen by somebody sitting in the back row.

The example on the right shows how tabular data can be presented in a form that people listening to a talk can immediately process. Highlighting the relevant line conveys the main idea—that Illinois was ranked far down the list. The audience probably doesn’t care that Illinois’s score was 4.66 and Harvard’s was 4.91; they care that Illinois is ranked toward the bottom of its peers, and its percent of women was in single digits. (We’ve improved substantially since 1998.)
Equations are tied to important points and are needed to understand them

\[ \frac{\partial^2 u(x,t)}{\partial t^2} = \sum_{m=0}^{\infty} \left( b_m \frac{\partial^m}{\partial x^m} \right) u(x,t) \]

Did the speaker...
Define terms?
Talk through the equation step by step?
Explain relevance?
Make equations large enough to be easily read?

Equations should not be sprinkled thoughtlessly through talks; they should be used only when they’re essential to understanding one of the speaker’s key points. It’s often helpful to substitute words for blocks of standard terms in equations; words are usually easier for the audience to process.

Here’s an example:
\[ \Gamma \propto (\text{phase space}) \times M_{ij} \]
Presentation
A speaker should maintain an even pace throughout the talk, not rush through the last 10 slides in a panic because he failed to rehearse and check his timing.
The speaker enunciates words clearly and distinctly and speaks in a conversational tone of voice.

Avoid mumbling
Avoid monotone

Even if you’re a native English speaker, remember that many members of your audience may not be. Slow down and pronounce every word distinctly.

If you’re a non-native English speaker, slow down and pronounce every word distinctly.

Factor the need to speak slowly and distinctly into your calculations of how much material you can cover in your allotted time.
The speaker should provide a summary slide that recaps key points and cues the audience that the Q&A is about to start. The summary slide should help people review what they’ve learned and remind them of questions they want to ask.
Learning how to handle questions is an important skill for all speakers. Later on in this class we’ll explore strategies for you to use to master questions.
No distracting mannerisms

Pacing, arm-waving, too much gesturing...
Verbal fillers, “um...”
Jingling keys or coins
Fiddling with the microphone
Forgetting to silence the cell phone or other electronica
Turning away from the audience and reading off the screen
Laser-pointer acrobatics

Did the speaker have any annoying mannerisms that made it hard for you to pay attention? Make note of them and resolve to correct your own bad habits.
For colloquium reports:

- Attend four Physics Colloquia, 141 LLP, Wednesdays @ 4:00 PM
- Listen actively and attentively
- Think critically about the science being presented
- Take notice of speakers’ strengths and weaknesses
- Identify styles you’d like to emulate (or avoid)
- Submit colloquium reports by deadlines

Download the “URS_Review” document to use for your review. See the course website for a complete description of Homework Assignment #1.