

25 August 2015  
Analysis I  
Paul E. Hand  
hand@rice.edu

## **In-class presentations**

In this course, you will present several mathematical ideas to the class. You will have 10 minutes for these presentations. Your goal is to isolate and convey what it means to understand the idea. For example, you should include the essence of the idea, important examples, and how it relates to other ideas. These short presentations will help you build judgement on which details are essential and which are not.

Comments:

1. Lead with the most important messages that you want the audience to remember.
2. Avoid notation and tedium. Include the bare minimum needed to convey the point.
3. Be punchy. Say things directly. Use formal words.
4. Use pictures as much as possible, even for proofs.
5. Choose examples that really teach us something. If an example is obvious, you may still choose to include it, but do not spend much time on it.
6. Write on the board the point of your pictures, examples, etc. If you look at the board when you are finished, the point of everything should be clear.

Suggested template for structure:

- Write down the theorem statement as we should remember it for years to come.
- Give an intuitive understanding of what the theorem is trying to say. Try to use a picture.
- Contrast the theorem to related ideas.
- Provide examples.
- Provide nonexamples that illustrate why the assumptions are needed.
- Provide problems or applications that can be solved by the theorem
- Write the theorem formally if you haven't done so.
- Say what the central argument is in one or two sentences.
- Write a few details and hopefully a visual picture of the proof.