

How to give mathematics seminars

School of Mathematics and Statistics, University of Sydney

This is a very short document outlining some important ideas for writing/giving good mathematics seminars. It is primarily aimed at Honours/MMathSci students, but is also relevant to HDR students and academics.

Why do seminars matter? Giving research seminars to other mathematicians is a fundamental part of academic research.

- All Honours/MMathSci students are required to give a talk in their final semester. Your talk is graded and counts towards your thesis mark.
- For HDR students and academics, giving talks is one of the main ways to advertise your research to your peers (and is often a requirement when applying for academic jobs)

Getting the content right Having engaging and relevant content is the most important part of a good seminar.

- Know your audience! What do they already know about the topic (if anything)?
 - Honours/MMathSci: your audience will likely be other students in your program, supervisors, and maybe other people interested in the topic (PhD students, etc.)
- You are talking to smart people, so if they don't understand, that's your problem. People don't leave a seminar saying "that was terrible, I understood everything!"¹
- Don't overwhelm your audience with details: show the simplest interesting examples of an idea; you don't have to state theorems in full generality (e.g. "I will work in \mathbb{C} , but this works for any field...")
- What one thing do you want your audience to remember?

Presentation

- Board talks are common in pure maths, slides (e.g. Beamer LaTeX package) are nearly universal in applied maths/statistics
 - Aim for 1–2 minutes per slide, including 'padding' slides (e.g. title, contents)
- Talk clearly and loud enough for everyone to hear you (if you are writing on the board you sound quieter)
- Any figures should be easy to read on a projector and clearly labelled

More information A more detailed set of slides on this topic is also available.

¹But don't just talk in generalities; make sure your talk is clearly a mathematics talk for other mathematicians!