

Guidelines for DRP presentations

Each quarter, the Stanford math DRP culminates with presentation sessions in which the undergraduate participants give short talks on the material they've covered. The talks are capped at fifteen minutes; this is not enough time to present everything a DRP participant has learned in one quarter. Instead, students should think of the presentations as a chance to talk about a small sample of the material they have studied: to give some basic definitions, present one or two interesting examples, and/or give one or two theorems. Abstracts for past talks can be found on the DRP website at mathdrp.stanford.edu.

The DRP presentation colloquia are intended to be a low-stress way for students to gain experience in communicating math to an audience in a formal setting. Below are some tips for giving DRP presentations and math talks in general.

Practice

Practice is the most important thing you can do to ensure that your talk is successful. Since the DRP talks are so short, you can and should practice the talk at least twice, and at least once with an actual audience (e.g., your mentor).

Format

We highly encourage students to give board talks instead of slide talks. Mentors and mentee pairs should discuss which format is appropriate for the mentee's talk.

General presentation advice

First of all, make sure that you fully understand the whole content of your talk. Also:

- Face the audience as much as possible. Try not to stand between the public and what you have just written on the blackboard.
- If you're using slides: don't just read your slides! It's best to have as few words on your slides as possible (use them for diagrams, visualizations, etc). If you want a large chunk of words to be both spoken and shown, consider writing those sections on a blackboard; the audience will digest it better that way.
- When answering questions, think for at least ten seconds first.
- The notes for an hour long talk shouldn't be more than five pages long. (Of course this does not apply to the DRP talks, which will be much shorter, but is a good guideline to keep in mind for future talks.)

Organization

Start by giving a short outline of the talk, and make sure to make clear when you are changing sections.

Boardwork and writing

You should think about your board organization ahead of time (again, practice!). Also:

- Write legibly. You'll need to write bigger than you probably expect! Try writing out part of your talk on a blackboard and then go sit at the back of the room to see how readable it is.
- Never erase what you have just written.
- Err on the side of writing more on the board in the form of complete sentences, thoughts, pictures. Use words like "Definition," "Theorem," "Proof," "Step 1," on the blackboard. Write down definitions and statements in *full English sentences* (not just formulae)!
- Design the talk so that someone who comes in half way through can get the gist from what is on the board.
- Use the blackboard like a sheet of paper: start in the top left. On long blackboards, cutting the board in two by drawing a vertical line often helps.

Material

Two important tips:

- Don't assume knowledge from the audience; after studying something for a whole quarter sometimes things are obvious to you but may not be to everyone else. Be careful not to use specialized definitions that others in the room will not know. A good talk will feel like you are assuming your audience is very stupid: you need to write more, repeat more, and explain more than you think you should have to.
- Give people a reason to care. Try to relate what you are talking about to other mathematical objects that the audience might be familiar with or give some applications, perhaps even to the real world. In general, be considerate of your audience, and remember that the purpose of a talk is for those listening to learn something.

Authorship

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