

Guidelines for DRP presentations

Spring 2020

Each quarter, the Stanford math DRP culminates in a colloquium 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.

DRP 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 remote 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

The presentation will be delivered virtually over Zoom. Given that constraint, you may use any format with which you are comfortable. Remote math talks have involved slides, tablets, and phones as improvised document cameras. Consult with your mentor about the best format for you.

General presentation advice

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

- 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). You can use annotate tools to add math or highlight parts of the slide as you speak.
- When answering questions, think for at least ten seconds first.
- Written notes for an hour long talk shouldn't be more than five pages long. Slide counts vary according to personal taste, but 15 slides in an hour is a rough benchmark. (Of course, these do not apply to the DRP talks, which are much shorter, but they are good guidelines for future talks.)

Organization

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

Writing

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

- If you're writing by hand, write legibly. You may need to write larger than you expect! Test the legibility of your writing before the talk.
- Never erase what you have just written.
- Err on the side of writing more in the form of complete sentences, thoughts, and pictures. Use words like "Definition," "Theorem," "Proof," "Step 1," etc. Write down definitions and statements in *full English sentences* (not just formulæ!).
- Start writing in the top left.

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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