

12.307: Weather and Climate Laboratory

Guidelines for Oral Presentations and Written Reports

Oral Presentations (Projects 1-3)

Oral presentations scheduled at the end of projects 1-3 are intended to offer an informal setting for discussing results with peers and instructors and developing effective oral presentation skills. We'll provide feedback after oral presentations, but your presentation grade for projects 1-3 is based only on whether you *complete* the presentation.

You'll give oral presentations for projects 1-3 with your project group. You should plan to spend about 30 minutes presenting as a group, and presentations should include:

1. Introduction;
2. Results from the fluids lab experiments, including relevant theory;
3. Results from the data lab, including relevant theory;
4. Discussion of connections between the fluids lab, data lab, and topics from guest lectures.

You can design your slides as a group using Google Docs, PowerPoint, or Keynote; and you should organize your talk so that each group member spends about the same amount of time presenting. Please include slide numbers in these presentations—this makes it much easier for instructors to provide feedback!

Written Reports (Projects 1-3)

In addition to oral presentations, you'll critically summarize results from projects 1-3 in written reports. You can continue to work in your project groups to analyze data and prepare figures for written reports, *but reports should be written individually and represent your own interpretation of results*. You're welcome to include figures prepared by other members of your group, but you should note who prepared the figure in the caption, and your report should include at least one figure that you prepared yourself.

The structure of reports should be similar to the oral presentations, and should include

1. Abstract (maximum 300 words);
2. Introduction;
3. Results from the fluids lab experiment, including a description of the apparatus and relevant theory;
4. Results from the data lab, including a description of the data source and relevant theory;
5. Concluding discussion of connections between the fluids lab, data lab, and topics from guest lectures; disagreements between theory and results from the fluids or data labs; and remaining questions that could be addressed with additional experiments or analysis;
6. References.

Results should be presented primarily through appropriate figures. For project 1, *your results section only needs to include figures and a bulleted outline of supporting text*. The abstract, introduction, and

concluding discussion should be fully written out, but we'll provide a template for you to follow when organizing these sections. Reports for projects 2 and 3 should include fully written results sections. There's no strict minimum or maximum length for reports, but a reasonable length (for reports with fully-written results sections) is about 2,000-3,000 words.

We'll assign a provisional grade on the first submission of written reports, but your final grade will be based on revisions made after receiving comments from instructors. **Written reports should be submitted on Canvas as a single PDF document by 11:59pm on the due date.**

Report Revisions (Projects 1-3)

We'll return comments on written reports one week after you submit them in the form of a written "review". Reviews will be structured like peer reviews of scientific papers: we'll provide a summary of overall impressions of the report (including a provisional grade—actual peer reviews instead provide a recommendation on whether the paper is ready for publication) followed by a numbered list of ways the report could be improved. Reports should be revised in response to the review, and resubmitted once revisions are complete. Additionally (as is common when revising scientific papers), students should submit a written "response to reviews" alongside the revised report. In the response to reviews, students should provide a *brief* summary of how they modified their report, and annotate the numbered list of suggested improvements to the report with *brief* but specific descriptions of how they addressed each suggestion.

Final grades for projects 1-3 will be based on the revised report. Rubrics used for evaluation are available on the course website. **Report revisions and responses to reviews should be submitted on Canvas as PDF documents by 11:59pm on the due date.**

Conference-style Oral Presentation (Project 4)

We don't require a written report for project 4; instead, grades are based on individual presentations. The presentation format will follow a style typical for academic conferences in the geosciences: each student will give a short 15 minute presentation, followed by time for questions. The structure (but not length!) of presentations should follow the format of oral presentations for projects 1-3, and should include

1. Introduction, including the motivation for and goals of your dig deeper project;
2. Results from your project;
3. Concluding discussion of your results, connections with previous labs and guest lectures, and potential future work.

These presentations will be given individually, and the time per presentation is substantially shorter compared to projects 1-3. Conferences are quite strict about enforcing the time limit on presentations, and depending on the number of students in class we may need to be, too—so practice beforehand to make sure your presentation takes less than 15 minutes!

Final grades for project 4 will be based on your presentation and your slides, which you'll submit afterwards. Rubrics used for evaluation are available on the course website. **Slides for the project 4 oral presentation should be exported to a PDF and submitted as a single PDF document by 11:59pm on the day of presentations.**