

## Final Project

There will be a final project due on **Monday, December 20**. We'll spend our last day of class (**Monday, December 6**) workshoping your final projects. So, you should plan to submit an informal proposal or project summary to me by **Sunday, December 5**, so that I can arrange you into groups for discussion on Monday. (This will also give me a chance to chime in, if your project looks like it is going to hit a snag!)

The aim of the final project to provide you with an opportunity to practice presenting your mastery of some portion of material in a different form than you're asked to do on problem sets. Final projects should involve **roughly 5-8 pages of polished writing**. (This is shorter than a typical term paper, because technical writing is often much more dense, and I want you to be especially focused on clarity and concision.) Beyond that, however, I intend to be *very* flexible about the nature of the final project.

**Some forms** the project could take:

- A detailed presentation of some technical result(s) related to content covered in class (e.g. meta-theoretic results for systems of modal logic)
- A substantive resource for teaching and learning one of the topics covered in the course: e.g. a summary of a topic with examples and other practice resources, a section of course notes, a 15-30 minute video tutorial or recorded lecture, a 10 question problem set with hints and answer key, etc. *(If you do a recorded lecture, the writing component should be a detailed outline of the content covered, but this needn't be 5-8 pages)*
- An introductory overview of an application of modal logic in philosophy (e.g. deontic logic, the logic of vagueness, tense logic, epistemic logic) or a nearby field (e.g. computer science, math, linguistics).
- A philosophical discussion of some topic related to modal logic: e.g. worries about the logic of metaphysical modality, metaphysical worries about SQML, controversial principles of deontic, epistemic, or tense logic, etc. *(If you go this route you might find that you need closer to 10 pages. Contact me before writing more than that!)*

**Project Proposal.** Your project proposal will be an informal document, prepared mostly to ensure that we can productively workshop ideas on the last day of class. In your proposal, you should briefly describe what kind of project you plan to do (e.g. are you presenting a technical result? providing an introductory overview? writing a philosophy paper?), and introduce your topic clearly. Include also a proposed bibliography, even if you're only using resources from the course so far. This proposal is your primary opportunity to get feedback from me and your classmates, so the more seriously you take it, the more useful it will be for you. **I'm happy to schedule individual meetings in advance of December 6, as well!**

**Final Project Ideas.** Here are some suggested topics to give you a sense of the *kind* of thing you might do. These are just examples, and are certainly not exhaustive in topic or format.

- **Technical Presentation.** Summarize and explain the soundness results for systems B, S4, and S5 of MPL.
- **Teaching Resource.** Create course notes introducing the axiomatic systems for (some) normal modal logics, including example proofs.
- **Introductory Overview.** Introduce *epistemic logic* and discuss the epistemic interpretation of the model theory, as well as some object language principles of interest in epistemic logic.
- **Creative Challenge.** Create a modal logic! Think of an operator that applies to propositions/sentences (but not one of the ones we've talked about). Introduce and explain a modal logic for the operator: say what the operator is, argue that it contains system K (e.g. includes axiom **K** and rule **Nec**), and consider some candidate axioms for your modal logic. Does the operator obey any of the systems we've encountered so far? (Eg. is it an *alethic modality*?) Is it characterized by any new axioms of interest? Explain how we should understand the significance of models of this modal logic (eg. what does the "accessibility relation" represent?), or if there are any challenges in using the possible worlds model theory to interpret your operator.
- **Philosophical Discussion.** We've bumped up against a lot of philosophical questions in the class so far. You may engage with one of these questions, or explore a new one as introduced in a paper we haven't covered. For ideas, you can consult the bibliography on Canvas, look at the *papers discussed by* the papers that we've read in class, or look at *papers that discuss* the papers we've read in class. You can always talk to me to try to narrow down a topic appropriate for a 10-page paper.