

COMP 401 Course Syllabus

Overview

Welcome to COMP 401 – the undergraduate research component of the CS&Bio joint major! This class will be utterly unlike most other classes you've taken. During this course, you will conduct a research project under the guidance of a professor (typically from either Computer Science or Biology).

Instructor

My name is Mathieu Blanchette – I'm a professor of Computer Science and, more importantly, I am the designated instructor for COMP 401 this semester. In this course, my job is to (1) ensure that each student is well situated to complete a solid research project and (2) participate in evaluating your research at the end of the semester (which culminates in your final grade).

You're welcome to come see me throughout the semester. I don't have official office hours for this class, so please send me an email if you'd like to meet and we'll find a time that works for both of us.

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Course Structure

Your COMP 401 experience will primarily stem from the research that you do. As a result, the structure of this course is built around making that time as focused and productive as possible. With this in mind, the course will proceed through the three stages described below.

Stage 1: Finalize project proposal

Weeks 1 – 3: identify a supervisor and a project. You will do this on your own. Once you've found a supervisor and narrowed in on a project, you'll write up a 1-page project proposal. You'll submit this to me and I'll use it to evaluate whether your research project satisfies the (relatively flexible) guidelines of the course. I'll be checking projects for three criteria:

1. *Scope*: is this project something that can be plausibly completed in a semester?
2. *Merit*: is this project sufficiently interesting/open that it counts as research?
3. *Topicality*: is this project within the range of topics that would fit a CS&Bio major focus?

In your proposal, please make sure that you provide enough information for me to evaluate this. It is possible that I'll ask you to clarify or revise certain aspects of the proposal. This is why I have two deadlines (see below) for the project proposal. The first deadline is the time by which you must submit a proposal. The second deadline is

the time by which we must have finalized the proposal (i.e., you've addressed any concerns or comments I have about the project).

In general, if you find a supervisor in the CS&Bio area, you shouldn't have a problem at all with this phase. Most often, your supervisor will provide you with a project idea that you'll work on. So you don't have to come to COMP 401 with any particular project ideas of your own.

Typically, you'll submit your project proposal and I'll immediately approve it – at which point you move onto the next stage. If I don't approve it, then we'll discuss my concerns and iterate on it until it's something we're both comfortable with.

Stage 2: Research

Weeks 3 – end of semester: conduct your research. I'm not involved in this at all.

Stage 3: Final Report

On the last day of class, you must submit your final project report. Project reports should be at least 5 pages (not including figures and bibliography). A report should be written in the style of a journal publication – meaning that it should include the following sections: Introduction, Background, Methods, Results, Discussion, and Conclusions. A bibliography is essential and must be included. Your project report will be lightly graded on presentation and with most emphasis placed on content. It's expected that you write your report with feedback from your advisor prior to submitting it to me (this will help with presentation and content). Note that I don't expect this to be a perfect, publication-worthy manuscript – but I expect it to be written well enough for me to understand what you did, why it was important, and so forth.

Key Deadlines

- 1. Jan. 25th: Project proposal due.** This is an informal document in which you provide a detailed description
- 2. Feb. 2nd: Final project proposal due.** If I respond to your initial project proposal with questions or concerns, you have until this date to revise and address them – ultimately submitting a revised version that will be considered the final proposal.
- 3. April 14: Final Project Report due.** As described above, the 5+ page project report must be submitted by the end of classes. Crucially, this is what I will use to assign you a grade – so you may well have additional work to do for your advisor. So don't think that you need to have finished your project in order for you to write your final report. Note that, except for personal emergencies and the like, *I will not give extensions.*

Grading

Your grade will be determined as follows:

60% grade given by supervisor

40% grade on final report