

MATH 5385 SPRING 2019 SYLLABUS

1. OVERVIEW

The text for this class is *Ideals, Varieties, and Algorithms*, by David Cox, John Little, and Donal O'Shea. It is available online through the University Library.

2. COURSE STRUCTURE

- Course Time: MW, 2:30-3:45
- Course Location: Amundson 156
- Office: Vincent 204
- Office Hours: Monday 10:30-12:00 and Tuesday 10:30-12:00
- Webpage: http://www-users.math.umn.edu/~jkyang/teaching/math5385_s19/
- Email: jkyang@umn.edu

There will be weekly homework and a semester long project. The lowest homework grade will be dropped. The grades will be weighted as follows

- 60% Homework
- 40% Project

3. HOMEWORK

Homework will be assigned weekly on Wednesday and due the following Wednesday. No late homework will be accepted. You are expected to use well reasoned mathematical arguments in the homework. Be clear, write as if the homework is to be read and understood by your fellow classmates. You are encouraged to discuss the homework with your classmates, but each of you must turn in a solution written individually. If you receive any assistance, or use resources other than the textbook you should acknowledge it on the assignment.

4. PROJECT

The project will span the whole of the semester, including a final presentation and writeup due near the end of the semester, the aim of the project is to introduce you to mathematical writing and to allow you to learn a topic on your own. More details will be available here http://www-users.math.umn.edu/~jkyang/teaching/math5385_s19/project.pdf.

5. RESOURCES

You are strongly encouraged to learn and use \LaTeX for your homework and the project (I am requiring it for the first assignment). \LaTeX is a program for typesetting mathematics. There are many tutorials online, but here is a decent one <https://www.latex-tutorial.com/>. You can use whatever editor you'd like, including online editors like <https://www.overleaf.com>. One note is that if you use an online editor, make sure the document is not publicly visible.

We will at various parts of the semester be using Macaulay 2 <https://macaulay2.com>. I encourage you to install it on a personal computer if possible. If you can't or don't wish to install it on your computer, you can also use it via the web at <http://web.macaulay2.com/>, alternatively, you've been given remote access to the mathematics servers. In particular, you should be able to ssh into `remote.math.umn.edu` using your university username and password. For some quick information see <https://cseit.umn.edu/knowledge-help/remote-linux-applications-over-ssh>.

6. ACADEMIC HONESTY

It is the obligation of each student to uphold the University of Minnesota Student Conduct Code regarding academic integrity. Students are encouraged to discuss the homework problems but should write up the solutions individually. Students should acknowledge the assistance of any books, software, students, or professors.