

Math 328 – Computational Algebra and Algebraic Geometry (Fall 2010)

Instructor: Kevin Woods, King 220B, Kevin.Woods@oberlin.edu

Class: MWF 10-11am, King 203.

Office Hours:

Monday 2:30-3:30pm, Wednesday 11am-12pm, Thursday 1:30-2:30pm, Friday 9-10am.

Also, feel free to stop by any time my door is open (but be understanding if I say I am too busy), or you can make an appointment via email.

Required Textbook:

D. Cox, J. Little, and D. O'Shea, *Ideals, Varieties, and Algorithms*, 3rd. ed., Springer. We will cover the first four chapters. If there is time at the end, we'll hit a few other topics.

Blackboard:

<http://oncampus.oberlin.edu>. I will post homework, reading, and other announcements on Blackboard.

Grading:

Problem Sets (40%),

Project (15%),

Two Take-Home Midterms (15% each),

Final Exam (15%).

Problem Sets (40%).

The best way to learn the concepts in this course is to get your hands dirty! I hope you will work in groups on these, though your written solutions must be in your own words. This is also an opportunity to work on writing careful, clear proofs and explanations. Good mathematics is articulate mathematics! Explain things carefully and in complete sentences. Imagine that another student in the class who hasn't done this problem yet will read your solution: they should be able to understand it without having to ask you questions. These problems will be graded very strictly for how coherently written they are. Problem sets will be due approximately every Friday.

Honor Code: You should (but aren't required) to work together on these problems, but your written solutions must be your own. Please indicate on your solutions who you worked with.

Late Work Policy: If they are handed in before I leave my office that day (no guarantee when that is), you get full credit. If they are handed in the next school day before I leave, you get 90%. Two school days, 70%, three school days 50%, more than that 0%.

Project (15%).

Exact details may change, depending on class size. You will work in groups of 2 on a topic not covered in the course. This could be a topic in the textbook or some other book, or it could be a topic from a journal article. Your group will give a 25-50 minute

presentation to the class on your topic, in the last couple of weeks of the semester. I will give more information soon about possible topics, requirements, etc.

Take-home midterms (15% each).

Tentatively due Friday, October 15 and Friday, November 19. These will be open book, and you'll get several days to work on them. I'll give you more information as the time approaches.

Final Exam (15%).

Monday, December 20, 2-4pm. The final exam will cover the entire course. It will be closed book, but you will be able to use something like an 8.5x11 sheet with notes.

Disabilities:

If you have a disability of any sort that may affect your performance in this class, please consult with me and with Jane Boomer in the Office of Disability Services. All requests for accommodation must go through that office.