

Algebraic Geometry II

Math 682

Winter 2026

Lecture: MWF 2:00–2:50, 213 University Hall
Instructor: Nick Addington
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Office Hours: Thursdays 9:00–11:00
Web Page: pages.uoregon.edu/adding/courses/682
Text: *Introduction to Schemes* by Geir Ellingsrud and John Christian Ottem,
free version linked from Canvas and from my web page.

Reading. I'll assign reading from Ellingsrud and Ottem. You'll submit questions through Canvas. I'll answer on Canvas or (if time allows) address the question in lecture.

Writing. Read all the problems in the chapter and write up a solution to at least one of them. If you work in a group (which is fine), say who you worked with, and don't all of you write up the same problem.

Grades. Since this is a post-qual course, I'm not going to require you to work hard, but of course you'll get out what you put in. Here's the grading scheme:

A: Attended regularly, did all the reading and homework.
B–: Attended two days a week, minimal reading or homework.
In between: In between.
Less: Less.

If you're taking the course pass/fail, note that a B– counts as a pass.

Learning outcomes. The successful student will understand the relationship between divisors, line bundles, and maps to $\mathbb{P}^n$, and why “ $\mathbb{Z}[\sqrt{-5}]$ is not a UFD” is secretly a statement about line bundles.