

Math 533 Algebraic Geometry II

Instructor: Jim Bryan.

Algebraic Geometry, continued. In this term we will develop some of the central machinery used to study varieties and schemes. We will study sheaves and sheaf cohomology in depth and we will learn the basics of intersection theory, including Chern classes and the Riemann-Roch theorem.

Texts: The material will mostly be drawn from Gathmann's notes chapters 6 through 10. Gathmann's notes are available online here:

<http://www.mathematik.uni-kl.de/~gathmann/alggeom.php>

Homeworks: There will be short weekly homework assigned. Our grader is David Steinberg. Assignments will appear on the course webpage:

<http://www.math.ubc.ca/~jbryan/2012T2math533/classpage.html>

At the end of the term we may have student projects or a take home final.

Course grades: The grades in this course will be based on homework (due either weekly or once every two weeks) and on take home exams (probably one midterm and one final). Depending on the size and interests of the class, we may replace the final take home exam with individual projects/presentations.