

**Math 223A (Graduate Algebraic Geometry) Syllabus**  
Spring 2009

**Instructor:** Professor Samit Dasgupta, [sdasgup2@ucsc.edu](mailto:sdasgup2@ucsc.edu), [math.ucsc.edu/~sdasgup2](http://math.ucsc.edu/~sdasgup2)

**Class:** Tuesday and Thursday, 2pm–3:45, in JBE 379

**Textbook:** *Algebraic Geometry* by Robin Hartshorne

**Requirements:** Weekly homework assignments are due every Tuesday. There will be an in-class midterm exam on Tuesday, May 5th. There will be a final exam.

**Summary:** In this course we will cover chapter 1 and sections 1–3 of chapter 2 in the textbook. We will begin by defining algebraic varieties and morphisms between them. We will discuss rational maps, singularities of varieties, and the theory of curves.

Next we will discuss sheaves, locally ringed spaces, and schemes. We will conclude with some basic properties of schemes.