667: Commutative Algebra, spring 2008

Tentative syllabus:

Week 1 - 1/23: Introduction

Week 2 - 1/28: Noetherian rings, graded rings

Week 3 - 2/4: Properties of ideals

Week 4 - 2/11: Affine algebraic varieties

Week 5 - 2/18: Morphisms/extensions

Week 6 - 2/25: Normalization

Week 7 - 3/3: Tensor product, localization

Week 8 - 3/10: Inverse/direct limits, completion

Week 9 - 3/24: Dimension theory

Week 10 - 3/31: Dimension theory

Week 11 - 4/7: Differentials, singularities

Week 12 - 4/14: Modules and exact sequences

Week 13 - 4/21: Flatness

Week 14 - 4/28: Deformations

Week 15 - 5/5: Projects

Grading policy: 40% project, 40% homework, 10% scribe assignment, 10% short presentation.

Books:

Kunz

Dummit/Foote: 15,16

Eisenbud

Matsumura

Assignment 1 - due 1/28: Read Reid chapter 0. Discuss in class Friday 1/25. Jointly hand in typed list of 10 insightful responses (themes, questions, exercises).