Math 4800/6080 Syllabus
Polynomials (Spring 2013)

Course webpage: www.math.utah.edu/~bertram/4800

Class meets: W 4:30-7:30 in JWB 308

Instructor: Aaron Bertram   Office: JWB 302

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Office Hours: Before and after class, TH 11-12, and by appointment.

Materials: There is no textbook for this course.

Grading: Weekly homework and one substantial end-of-semester project.

   Homework: Assigned each week, homework will consist of finishing up in-class work, sometimes supplemented with additional problems.

   Project: One 5-10 page paper together with a class presentation, on one of the topics covered over the first ten weeks of the course.

Prerequisites: Linear algebra.

Description: This is a project-based course in which we will explore properties of polynomials, usually involving more than one variable. For example, the geometry of a level-set of a polynomial is in the realm of **algebraic geometry**. The choice of a good vector space basis for symmetric polynomials is in the realm of **representation theory**, and the analysis of the set of integer or rational number solutions to a polynomial equation with integer coefficients is in the realm of **number theory**. Thus we will be "doing" geometry, representation theory and number theory in this course. If all goes well, more questions will be raised (for further study) than are answered.

ADA Statement: The Americans with Disabilities Act requires that reasonable accomodations be provided for every student with physical, sensory, cognitive, systemic, learning, and psychiatric disabilities. Contact me at the beginning of the semester to discuss whether any such accommodations are necessary.