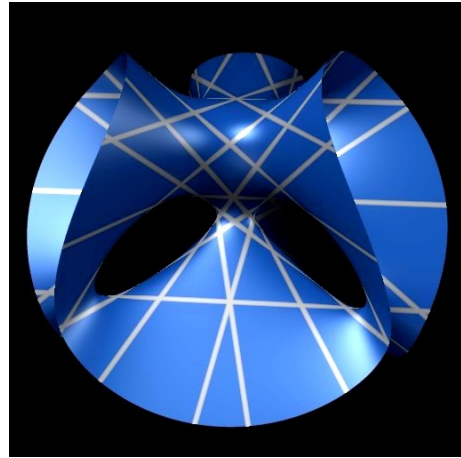


# Polynomials

## an REU Course

### Spring Semester 2013



- Sure, you've seen polynomials in your calculus class.
- But how much do you **really** know about them?
- Have you ever thought hard about quadratic polynomials?
- In more than three variables? What about integer solutions?
- How about polynomial equations of degree three?
- Or polynomials with strange “tropical” coefficients?

**Description:** This course will be a mixture of algebraic geometry, number theory and some topics of a contemporary nature. It is about polynomials in one and several variables: their algebraic properties, the geometry of their real, complex and tropical solution sets, and the number theory of their rational and integer solution sets. Polynomials have fascinated mathematicians for thousands of years, and yet most people probably can't say a single intelligent thing about them. You will have lots to say after taking this course.

**Tuition Benefit:** The department provides \$500 to help cover tuition.

**Prerequisites:** You really need to know your way around matrices, so Linear Algebra is a firm prerequisite. Everything else is negotiable. In particular, Number Theory (4400) or Complex Analysis (4200) will make this course all that much more meaningful for you.

#### **Practicalities.**

Time: Wednesdays, 4:30-7:30.

Place: JWB 308 (Meets with Topics in Contemporary Math)

Catalog Number: Math 4800

Credit Hours: 3

Instructor: Aaron Bertram