SYLLABUS – MATH 6130

ALGEBRAIC GEOMETRY

Description: This is the first course in a two course sequence on the topic of Algebraic Geometry. We will cover topics including algebraic varieties (projective and affine), blowups, normalization, singularities, Zariski's main theorem, sheaves, divisors, differential forms, and more!

- **Time:** Monday, Wednesday, Friday 11:50 AM – 12:40 PM.
- **Location:** CSC 12
- **Instructor:** Karl Schwede
- **Contact information:**
  - email: schwede@math.utah.edu
  - office: JWB 323
  - website: `http://www.math.utah.edu/~schwede/math6130`
- **Office hours:** TBD
- **Textbooks:**

  Algebraic Geometry by Robin Hartshorne

  Introduction to Algebraic Geometry by Steven Dale Cutkosky

  The Rising See: Foundations of Algebraic Geometry by Ravi Vakil

Grade: Your grade will be determined by the following formula.

75% Homework, group worksheets, etc.

25% Final presentation / project.

Students are allowed, and even encouraged to work together when solving homework problems (although each student is responsible for their own write-up).

Prerequisites: Have familiarity with fields, polynomial rings, ideals, and point set topology.

Academic Integrity: All University of Utah policies regarding ethics and honorable behavior apply to this course.

Disabilities: The Americans with Disabilities Act requires that reasonable accommodations be provided to qualified individuals. To discuss any such accommodations, please contact me as well as the Center for Disability Services, (801) 581-5020, at the beginning of the semester.