

MATH 648 SYLLABUS

DUSTIN CARTWRIGHT

Course description: This course will provide a broad introduction to tropical geometry. Tropical geometry is the study of algebraic varieties via the min-plus semiring. Topics include: tropical varieties, Gröbner basis and fans, Bergman fans, tropical convexity, tropical curves, and tropical moduli spaces.

Text: Introduction to Tropical Geometry, draft book by Diane Maclagan and Bernd Sturmfels, available online.¹

Prerequisites: Familiarity with commutative algebra and algebraic geometry.

Class: TTh 2:30-3:45, LOM 200

Course webpage: <http://users.math.yale.edu/~dc597/math648/>

Grading: homework (70%), end of term project (30%)

Homework: Homework will be due at the beginning of class every other Tuesday. Assignments will be posted on the course webpage in advance.

You are welcome and encouraged to collaborate with other students, but please acknowledge your collaborations in your write-up.

Term project: You will conduct an independent project on a topic related to the course material. Further details to be provided later in the semester.

¹<http://homepages.warwick.ac.uk/staff/D.Maclagan/papers/TropicalBook.html>