

MATH 7670, SPRING 2013 – GENERAL INFORMATION

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Office hours: By appointment

Web page: Coming soon at <http://math.cornell.edu/~tsh/7670-SP13.html>

Lectures. TuTh 11:40am–12:55pm in 205 Malott.

Textbook. The lectures will be loosely based on the textbook *Toric Varieties* by D. Cox, J. Little and H. Schenck, published in the *AMS Graduate Studies in Mathematics*, 2011 (ISBN 978-0821848197). I may spend some time at the end of the semester giving the symplectic perspective on the topic. I will likely follow Nick Proudfoot's notes, available on his website,

<http://pages.uoregon.edu/njp/tv.pdf>

Problem sets. There will be four or five problem sets during the semester. They will be available online at

<http://math.cornell.edu/~tsh/7670-SP13.html>

As usual, you may work together on your problem sets, and you are encouraged to do so. Problems will be discussed in class, as noted on the assignments.

Grading policy. Your grade will be determined by the problem sets and class participation.

Syllabus. The goal of this course is to introduce the main constructions and properties of toric varieties. This is a very rich class of varieties that lends itself to computation, for theory testing and intuition building. I will introduce several different constructions of toric varieties, and we will explore their algebraic, geometric and topological properties.