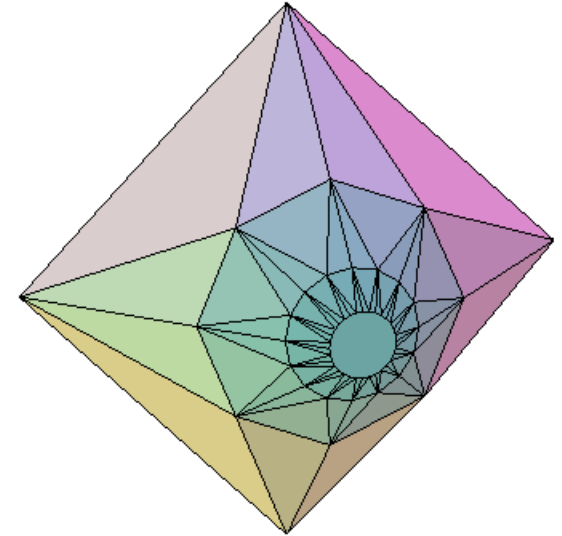


## COURSE ANNOUNCEMENT

# EE578: OPTIMIZATION AND SYSTEM SCIENCES (a.k.a. Convex Optimization and Applications)

**Winter 2008**

Instructor: Maryam Fazel  
mfazel@ee.washington.edu  
Tues/Thurs, 11am–12:20pm  
Loew Hall, Rm 206



- **Course description:**

This course concentrates on recognizing and solving convex optimization problems that arise in engineering. It provides an overview of the many areas where tools and ideas from convex optimization are making a deep impact, and enables the students to apply these in their own research. While also covering the essentials of convex optimization algorithms, we emphasize basic theory, modeling, and applications.

- **Topics:**

Basics of convex analysis and optimization theory. Linear, quadratic, geometric and semidefinite programming. Duality. Interior-point methods. Convex relaxations. With applications in: signal processing, systems and control, networks, communications, statistics, finance, circuit design, and mechanical engineering.

- **Prerequisites:**

Solid knowledge of linear algebra and matrix theory; ability to program in MATLAB. Exposure to numerical computing, optimization, and application fields is helpful but not required.

- **Main textbook:**

S. Boyd, L. Vandenberghe, *Convex Optimization*, Cambridge Press 2004.

**For more information, see** [www.ee.washington.edu/class/578/2008wtr](http://www.ee.washington.edu/class/578/2008wtr)