

## **Math 4580 Linear Programming**

Math 4580 is not taught on a regular basis and is currently inactive.

## Linear Programming

**Department:** MATH

**Course Number:** 4580

**Hours - Lecture:** 3

**Hours - Lab:** 0

**Hours - Recitation:** 0

**Hours - Total Credit:** 3

**Typical Scheduling:** Every odd spring

**Description:**

A study of the linear programming problem, including the simplex method, duality, and sensitivity analysis with applications to matrix programming and networks

**Prerequisites:**

[Math 1502](#) or [Math 1512](#) or (Math 15X2 + [Math 1522](#))

**Course Text:**

At the level of *Linear Programming*, V. Chvatal

**Topic Outline:**

- Simplex algorithm

- Duality theorem

- Revised simplex method

- Cutting stock problem. This is an excellent application of the revised simplex algorithm.

- General duality scheme and duality theorem

- Approximation of data

- Games

- Network simplex method

- Applications of network simplex