MthSc 440/640 — *Linear Programming* (Spring 2012)

Meeting Time: 8:00–8:50 MWF, M-204 Martin

Instructor: Dr. D. Shier, 656–1100, O-120 Martin, shierd@clemson.edu

Office Hours: M 1:25–2:25, Tu 12:30–1:30, W 11:15–12:15, and by appointment

Textbooks: *MTHSC 440 Course Notes*, 122 pages, available at Campus Copy, Rubin Square (**required**)

Web Page: www.ces.clemson.edu/~shierd/Shier/MthSc440/ms440.html

Prerequisites: MthSc 206 and MthSc 311

Learning Outcomes: Upon successful completion of this course the student will be able to

- formulate various problems as linear programming problems
- determine if linear optimization problems are feasible, unbounded or have optimal solutions
- solve linear programming problems using the Simplex algorithm
- detect degeneracy and multiple optimal solutions
- determine algorithmically an initial basic feasible solution to a linear programming problem
- carry out sensitivity analysis on linear programming problems
- execute the steps of several network flow algorithms

Grading Policy: 40% Two Hour Tests (February 13, March 14)

25% Homework Assignments

35% Comprehensive Final Exam (11:30–2:00, May 3)

No make-up hour tests will be given. No exemptions on the final exam. Grading scale:

A: 88+;   B: 76 – 88;   C: 64 – 76   D: 52 – 64   F: < 52

☞ Homework assignments are designed to be stimulating and educational experiences. General discussion among students is fine. However, be sure to turn in your *own* written work. Students enrolled in the honors section or MthSc 640 will be asked to complete additional learning experiences.

Course Objectives: To provide an understanding of the fundamental concepts of linear programming, including the simplex method, duality, sensitivity analysis, and networks. Model formulations and applications to various economic and managerial problems are also stressed.

Attendance Policy: All students are expected to be regular and punctual in their class attendance. Students are responsible for all material presented in the classroom, including test dates. Class is dismissed if the instructor is more than 15 minutes late.

*As a courtesy to others, **turn off** your cell phone and other messaging devices before entering class*.

Official Policies:

• It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities. Students are encouraged to contact Student Disability Services to discuss their individual needs for accommodation.

• Clemson's academic integrity policies will be followed; see the following web site:

http://www.registrar.clemson.edu/publicat/catalog/2011/acadReg.pdf