OR 441 Operations Research I
Fall 2006

George Mason University
Department of Systems Engineering and Operations Research

Monday 4:30 pm-7:10 pm,
Science & Technology Building I, Room 206

Instructor: Yifan Liu
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Office Hours: Thursday 4:00pm-6:00pm or by appointment;
Text: *Wayn .L. Winston, Operations Research Applications and Algorithms, Fourth Edition*, *2003.*

Course Summary: This course will introduce the basic mathematical ideas and methods of Deterministic Operations Research. We will discuss modeling real life problems, the basic concepts of Linear Programming (LP), methods for solving LP problem, and some applications. We will also cover some basic knowledge of Integer Programming (IP) and Non-linear Programming (NLP).

Tentative Course Schedule

Date	Topic
8/18	Introduction to operations research & linear programming
9/4	(Labor Day, no class)
9/11	Linear Programming, Formulation techniques and Geometry
9/18	The Simplex Method
9/25	More Simplex Method
10/2	Sensitivity Analysis & Duality
10/10(**Tue**)	More Sensitivity Analysis
10/16	The Transportation Problem
10/23	Midterm (Transportation Problem not on the midterm)

10/30	Networks
11/6	Introduction to Integer Programming
11/13	Integer Programming Methods
11/20	Introduction to Nonlinear Programming
11/27	Nonlinear Programming
12/4	Review
12/11	(Reading day, no class)
12/18	Final Exam

Grading:

Homework: 20%. Homework will be assigned each week, and due the following week in class (The homework assigned on 10/16 will be due on 10/30, the week after the mid-term). There are 12 homework sets in total. The worst two scores will be dropped, and the rest 10 will each count for 2% in the final grade. No late homework will be accepted.

Midterm: 30%: In class on 10/23, open book, open notes.

Computational Project: 20%: Using MPL languages software, available for downloading from www.maximal-usa.com, for a real-life problem. Short proposal on the project due on 11/13, and final version due on 12/11.

Final Exam: 30%: 12/18, place to be announced, open book, open notes.

(Make-up exams will only be given for extreme situations, and only if I am contacted before the exam is given and full arrangements are established.)