

Operations Research (MAT 2461)
Sean L. Forman
Spring 2001

Office Hours: Monday 1:00-2:15, Tuesday-Thursday 10:00-11:15, and others by appointment.

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Course Time and Place: Tues. & Thurs., 8:30 - 9:45, Barbelin 225

Textbook: *Optimization in Operations Research*, First Edition, by Ronald Rardin *The Compleat Strategyst*, Second Edition, by J.D. Williams

Goals and Prerequisites: This is an introductory course in Operations Research. OR is studied in a wide variety of fields like mathematics, computer science, biology, management science and industrial engineering. Since we are generally interested in finding the “best” solution, we will look at OR through the lens of optimization. We will do quite a bit with the formulation and solution of various problems arising in Operations Research. Topics we will cover include Linear and Integer Programming, Duality, Network Models, Project Management, Dynamic Programming and perhaps some Queuing Theory, though this will possibly change depending on the speed and ability of the class. In addition, we will do a short section on Game Theory that will use the Williams text.

I will expect you to remember some multivariable calculus like gradients and some matrix algebra like matrix multiplication, inverses, rank, etc. I will give refreshers when applicable.

Homework: We will have from 6-12 homework assignments spaced throughout the semester. They will contain both programming and problem sets. The programming will utilize the solution of larger problems using OR packages provided to you. You may also be required to learn some simple MAPLE programming to solve some of the problems. In lieu of homework sets, we may also do a larger individual project.

You are certainly allowed to work and discuss the homework with others, but the work you turn in must be your own. Any copying of homework will result in a zero on the assignment for all involved.

Tests: There will be one mid-term exam and a cumulative final exam. These may be take-home exams.

Grading: I will follow roughly a 100-90-80-70-60 grading scale.

Homework sets	50%
Midterm	20%
Final	30%

Attendance: If you know you will be missing an exam, you are expected to notify me in advance, make up exams beforehand, and turn in any homework early. In cases where you are ill and miss an exam, you will need a note from a physician in order to make up an exam. When in doubt, e-mail or call me. Attendance will be important for this class as we will likely work through a large number of problems in class and we have an opportunity for a great deal of participation due to the small class size.

Academic Honesty: You are expected to know and follow the University's academic honesty policy. Both copying other's work and allowing others to copy yours are violations of this policy. On exams, you are only permitted to use materials authorized by the instructor, and use of unauthorized materials or other forms of cheating will result in a **0** on the quiz or exam, the notification of the Registrar's office, and potentially an F in the course.

Webpage: My course webpage will contain information regarding homework, tests, quizzes, and, possibly, interesting links. The URL is

<http://www.sju.edu/~sforman/courses/>.

There is also a chance that I will be producing recurring e-mail grade reports as well.

Changes: If they become necessary, I will notify you of any changes made to the syllabus.