IE 310 – Operations Research

Course Outline

Winter, 2004

<u>Week</u>	<u>Dates</u>	<u>Topic</u>	<u>Chapter(s)</u>
1	1/5-9	What is OR and What is OR modeling?	1
		Introduction to linear programming	2
2	1/12-16	Sensitivity analysis in linear programming	3
			19.1-19.12
3	1/19-23	Linear programming models	4
4	1/26-30	Network models and integer programming	5, 6
	1/30	**First quiz (Friday)**	
5	2/2-6	Probability – a quick introduction and review	7,8
6	2/9-13	A bit more probability	8
			11.1-11.13
7	2/16-20	Inventory models	12
	2/23	**Second quiz (MONDAY)**	
8	2/23-27	Queueing models	14
9	3/2-6	Simulation models	15
10	3/9-13	Slack, review, additional topics	as needed
	3/18	**FINAL EXAM, THURSDAY, 9-11 a.m.**	

INSTRUCTOR   TA

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Daskin
office hours: M W, 3-5; T 9-11 **or any other time** by appointment. I am serious
               about the **any other time** part. It is quite possible that these hours will
               not be convenient for some of you, so please just send me an e-mail to
               set up an appointment if you need/want to see me!

Francis
Office hours: Thursday 3:30 - 5:30 p.m.

REQUIRED TEXTBOOK

All material for the course will be from:

> Denardo, Eric V., 2002, <u>The Science of Decision Making: A Problem-Based
> Approach Using Excel</u>, John Wiley & Sons, Inc., NY.

GRADING

Students will be evaluated on five components of the course:

- Homework   25%
- Quizzes   40%
- Final Exam   35%

HOMEWORK

There will be approximately 7-8 homework assignments. They will be due **IN CLASS** on **Wednesday**. There will be **NO CREDIT** given for late homework.

Each question will be graded out of 4 units. You will get:

4	for correct solutions with work shown
3	for solutions with minor mistakes, i.e. computational, etc.
2	for correct solutions with no work shown, or for partially correct solutions with work shown.
1	for incorrect solutions
0	if no attempt is made

Each homework assignment is likely to include some computer work (typically, but not exclusively in Excel). This work should be submitted on a disk labeled with your name or, preferably, via BLACKBOARD.

QUIZ AND FINAL EXAM

There will be two 1-hour quizzes. Currently they are <u>**tentatively**</u> scheduled for **January 30** and **February 23** as shown above in the **tentative course outline**. These will be in-class exams. The final exam is scheduled for **Thursday, March 18, from 9-11 p.m.**

The exams are closed book exams. For each exam you can prepare a **one page** summary sheet of information to bring to the exam. For the second quiz you can bring the sheet from the first exam plus a second sheet. The final exam will be open book, open notes, etc. You should probably prepare a summary sheet for the final as well since doing so is a great way to study for the exam. **Each exam is cumulative** though they will tend to focus more on the most recent material**.**

AVAILABILITY OF EXCEL

EXCEL are available in the IE/MS Computing Lab in Tech C135.

ACADEMIC HONESTY

I have no problem with you working with others on the homework assignments. However, each student must hand in his/her own solutions to each assignment. The electronic components should also be done by each individual. In other words, it is not acceptable to simply copy someone else's spreadsheet, make a few cosmetic changes and then submit the work as your own.

If you do work with someone else on a problem set, please identify the person you worked with on your solutions.

The <u>quizzes</u> and the <u>final</u> are *clearly* to be done without consultation with any other student.

ATTENDANCE POLICY

Past experience has shown that students who attend class *regularly* and *on time* do significantly better in the course. While some of what we do (much of it) is covered in one way or another in the text, the perspectives offered in class are often different. In addition there will be some material presented in class that is NOT in the book. Students are **strongly** encouraged to be in class every day. If you cannot be here for some reason, I would appreciate knowing about it in advance (e.g., via e-mail).

NU DISABILITY POLICY
http://www.northwestern.edu/disability/policies/syllabus.html

To be eligible for disability-related services; students must have a visibly obvious or documented disability as defined by the Americans with Disabilities Act of 1990 (ADA) and Section ,504 of the Rehabilitation Act of 1973. Under the ADA and Section 504, a person has a disability if he/she has a physical or mental impairment that substantially limits one or more major life activities such as walking, standing, seeing, speaking, hearing, sitting, breathing, and/or taking care of oneself.

SSD is the designated office at Northwestern University that obtains and files disability-related documents, certifies eligibility for services, determines reasonable accommodations, and develops plans for the provision of such accommodations. Students with disabilities are also offered auxiliary services, including assessment, library and lab assistants, notetakers, tutoring, assistive/adaptive technology, academic, psycho/social support, and mentorship.

Certifying Eligibility for Services

When appropriate, SSD requests disability-related documents from the appropriate licensed professional to certify a student as having a disability and to determine reasonable accommodations. Students who suspect that they have a disability, and have not received a formal assessment, may be referred to on-campus (Counseling and Psychological Services, Department of Communication Sciences and Disorders) or off-campus resources for an evaluation. Pending receipt of documentation, SSD reserves the right to deny services or accommodations.