Management 140-01 Winter, 2002

SYLLABUS

The Anderson School
Operations and Technology Area
Elements of Production and Operations Research

January 7, 2002 – March 13, 2002
Monday and Wednesday 8:30:00 - 9:50am in Room Bunche 3175

William Pierskalla, Ph.D.               Nicholas Medin
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Course Description

The topics of this course concern the principles and decisions related to effective utilization of factors of production in manufacturing and service activities. Analytic models and methods for solving forecasting, allocation, transportation, inventories, production planning and scheduling and facilities design problems are presented. Although the course is quantitative in nature, the emphasis is on applications and on the information and insight that can be gained from modeling. Class sessions will be a blend of lectures, analysis of problems and discussion.

The objectives of this course are to:

1. Introduce content and models for understanding, learning and decision-making for the improvement of the supply chain for goods and services for the consumer and the reduction of cost in the overall system;
2. Introduce operations research and operations management concepts and methodologies which are employed in manufacturing and service sectors, emphasizing their use in decision-making;
3. Prepare the interested student to recognize and evaluate these problems, issues and developments.
4. Focus on important future needs and scenarios in the growth of this area.

Text and materials

Required readings


Course materials will also be handed out in class.
Course requirements

Grades will be assigned on the following basis:

1. First Midterm 30%
2. Second Midterm 30%
3. Final Exam 40%

You are only responsible for the concepts and work covered in class, in the assigned readings and in the homework. Work not assigned will not be used in exams although the exam questions will be variations on the assigned work.

In addition, in recognition of noteworthy class participation, your grade will be adjusted upward or downward by a maximum of one-half letter grade. For example, a “B+” could become a “B” or an “A-“.

At the end of each section of the required book you will find numerous problems. From these, I will recommend problems you should do and later will provide an answer sheet to the recommended problems. To understand the material well and to do well on the exams, you must attempt to do the problems. However, they will not be graded and are not to be turned in.

Office hours are listed on the attached calendar. If there are any changes, you will be informed. My office is in room B411 of Gold Hall at the Anderson School.

E-mail Policies:

Because I travel a great deal, I do not always respond quickly to email messages when I am out of town. Before sending an email, please consider the following:

1. Administrative issues such as my office hours should be directed to my assistant Nicholas Medin by calling or e-mailing him.

2. If a matter is not urgent, please save your inquiry to our next class session or for discussion in office hours.

3. When sending an email, please put “Mgmt 140 Student” in the subject line so I will note that you are in my class and I will respond more promptly when I return to my home or office.

4. Please phrase your e-mail in the form of discrete, numbered questions that call for succinct answers, so I can give you more precise and prompt answers.

5. I am happy to discuss your grade with you in person during my office hours but, to protect your privacy, I won’t discuss grades or private matters in e-mail communications.
Course Outline

Topics (all readings listed below are from Steven Nahmias, Production and Operations Analysis, 4th Edition, McGraw-Hill Irwin, New York, 2001.)

Introduction
  Strategy and Competition
  Ch. 1 pp 3-13, 24-47, 51

Forecasting
  Ch. 2 pp 55-83 (maybe 106-108)

Aggregate Planning
  Ch. 3 pp 113-138, 147-148

Linear Programming
  (Integer Linear Programming)
  Ch. 3 Supplement 1, pp 161-191

Inventory Control-Known Demand
  Ch. 4 pp 193-213, 221-225, 231-232
  (maybe pp 239-240)

Inventory Control-Uncertain Demand
  Ch. 5 pp 243-271, 275-280, 293-294, 297-299

Supply Chain Management
  Ch. 6 pp 305-343

Queuing Theory
  Supplement 2 pp 473-501

Office Hours:
  M, W 10:00-11:00 except not on January 28, February 20 and March 4
Classes, Exams and Office Hours:

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