Syllabus

Instructor

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Office Hours: Thursday 3:00-4:00 PM.

Class Meetings

Lectures: Tuesday and Thursday 12:00 - 13:30, (12:00 - 1:30 PM), IC Room TBA.

Text

Francis R. L., L. F. McGinnis, and J. A. White 2nd Edition (1992). **Facility Layout and Location: An Analytical Approach**. Prentice-Hall, Englewood Cliffs, New Jersey.

Class Notes and Class Materials

Class notes and materials are available for downloading from the ISyE FTP site and from my home page. For each chapter there are three files, one with the full text of the notes, one with an overview of the overheads (six overheads to a page), and one with a full size copy of the overheads. The first two files are in the Adobe Acrobat 3.0 format (PDF) and are suitable for printing to any postscript printer. They have the PDF extension. You can also print these files to any printer installed under Windows using the Adobe Acrobat reader. The Acrobat reader can be downloaded free of charge from the Adobe site www.adobe.com. The third file is a ZIP archive that needs to be expanded into a separate directory, where a number of Hypertext Markup Language (HTML) files will be created. The archive file has the ZIP extension. An evaluation version of the Winzip archiving utility can be downloaded free of charge from the Winzip site www.winzip.com. The HTML files can be viewed with the Microsoft Internet Explorer web browser, which can be downloaded from the Microsoft site www.microsoft.com. Each presentation starts with the file *index.htm*. The files in PDF format are stored on the ISyE FTP server. The ZIP files related to

the overheads are accessible from my home page. You can also view the presentation overheads online from my home page.

For example, the file corresponding to this syllabus is called "*ISyE 6680 Syllabus.pdf*". The table of contents of the class notes is given in the files "*Logistics Systems Design.pdf*", "*Logistics Systems Design 6.pdf*" *and "Logistics Systems Design slides HTML.zip*".

Printed class notes are available from the bookstore under the name "Logistics Systems Design". This document contains the most current version of the text and overheads as of December 15th, 1997.

References and Other Materials

Love R. F., J. G. Morris, and G. O. Wesolowsky, (1988). **Facilities Location**. Elsevier Science Publishing Co., New York, New York.

Mirchandani, P. B. and R. L. Francis, (1990). **Discrete Location Theory**. John Wiley & Sons, New York, New York.

Drezner, G., (1995). **Facility Location: A Survey of Applications and Methods**. Springer-Verlag, New York, New York.

Course Objectives

The objective of this course is to teach the student the foundations of location theory so that the student can apply successfully algorithms and software tools to solve location problems.

Grading

Laboratory, homework, and reports count for 30 %.
The midterm exam counts for 30 % and the final exam for 40 %.

Comments and Rules

Teams

Homework, reports, and presentations, and class discussions are due in teams of a maximum of three people. One grade will be given per team. Teams can change on a homework by homework basis. Homework and reports are discussed and corrected during the class periods. The team can select the team member who will present a particular solution. For any presentation, at least a title page must be handed in. The persons listed on the title page of the report or presentation will receive a grade for that report or presentation. It is the responsibility of the team to assure that each team member has contributed

approximately equally to a report or presentation. Late homeworks and reports will neither be accepted nor graded. The team is responsible for assuring that at least one member of the team attends every class for getting all information, materials, and scheduling arrangements for the team member that attended the class.

Reports

Reports should be typewritten, double-spaced, on one side of 8.5 by 11 inch paper and *within* the length limit. All computer printouts and other material must be cut to the same 8.5 by 11-inch size. The reports should be of professional quality. Drawings should satisfy engineering standards; i.e. all elements must be properly dimensioned. Drawings can be created by computer or by hand using a ruler and compass, but lines or circles drawn without ruler or compass are not acceptable.

Presentation should be of professional quality. Audio-visual aids should be limited to overhead transparencies. The team member presenting the solution should be prepared to defend the team's solution and to answer questions. A clear and concise presentation of the solution and insight into the problem are of prime importance, and strict time limits will be imposed. Fifty percent of the grade will be on the content of the presentation; the other half will be on the format of the presentation.

Class Attendance

Class attendance is not mandatory, but highly recommended. The team is responsible for assuring that at least one member of the team attends every class for getting all the information, materials, and scheduling arrangements for the team. Students should display a sign with their first and last names. Software to create such signs is available in the ISyE Undergraduate Computer Lab.

Graduating Students

Students graduating at the end of this quarter should contact the instructor immediately.

Course Outline

Date	Lecture Topic	Reading
05+07-Jan	Introduction to Location Theory	Ch. F-1, Ch. G-1+4
12+14-Jan	Continuous Location, Minisum, Euclidean	Ch. F-4+6, Ch. G-5
19+21-Jan	Continuous Location, Minimax, Euclidean	Ch. F-4+6, Ch. G-5
26+28-Jan	Continuous Location-Allocation	Ch. F-4+6, Ch. G-5
02+04-Feb	Continuous Location, Rectilinear	Ch. F-4+6, Ch. G-6
04-Feb	MIDTERM	
09+11-Feb	Discrete Uncapacitated Location	Ch. F-8, Ch. G-7
16+18 Feb	Discrete Capacitated Location	Ch. F-9, Ch. G-8
23+25 Feb	Integrated Logistics Models	Ch. F-9, Ch. G-9+10
02+04-Mar	Discrete Warehouse Layout and Location	Ch. F-5, Ch. G-18+19
09+11-Mar	Facility Layout and Truck Loading	Ch. F-2+3, G-15+17
15-Mar	FINAL EXAM WEEK	

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