

Syllabus

Instructor

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

Class Meetings

Lectures: Monday, Wednesday, Friday 12:00 - 13:00 (1:00 PM), Weber SST III.

Text

Ballou, R. H., (1992). **Business Logistics Management**, 4th Edition. 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 Portable Document Format (PDF) and are suitable for printing to any postscript printer. They have the PDF extension. 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. The HTML files can be viewed with any contemporary World Wide Web (www) browser such Netscape Navigator or Microsoft Explorer. 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 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*". The file corresponding to this syllabus is called "*ISyE 6680 Syllabus.pdf*".

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 March 25th, 1999.

References and Other Materials

- Blanchard, B., (1992). **Logistics Engineering and Management**. Prentice-Hall, Englewood Cliffs, New Jersey.
- Drezner, G., (1995). **Facility Location: A Survey of Applications and Methods**. Springer-Verlag, New York, New York.
- 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.
- Johnson J. and D. Wood, (1996). **Contemporary Logistics**. Prentice-Hall, Englewood Cliffs, New Jersey.
- 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.
- Robeson, J. and W. Copacino, (1994). **The Logistics Handbook**. Free Press, New York, New York.
- Tompkins J. and D. Harmelink, (1994). **The Distribution Management Handbook**. McGraw-Hill, New York, New York.

Course Objectives and Approach

The objective of this course is to teach the student the foundations of transportation systems, distribution and warehousing systems, and supply chain systems so that the student can successfully design and manage such systems.

Study of the various elements of distribution systems, including demand analysis, customer service aspects, freight modes and rates, local delivery routes, warehouse operations, facility location, and inventory service levels. These elements will be combined into the study of integrated supply chains. Strong emphasis will be placed on software packages and tools to help design and manage logistics systems.

The basic concepts in each area are presented in lectures. Students perform computational exercises and library research and present results. Selected examples of student work are discussed in class.

Grading

Prerequisites

ISyE 6669 or ISyE 6661 “Linear Deterministic Models” or ISyE 6734 “Methods of Operations Research”.

Grading

The grade distribution is 30% for the midterm, 40 % for the final exam, and 30% for projects and homework. Exams will be open book and open notes. Homework and projects will be done in teams of three or four students. Homework and reports are due at the beginning of the class and will be discussed during that period. Late homework will not be accepted nor graded. Strong emphasis will be placed on discussion and participation in class.

Comments and Rules

Teams

Homework, reports, and presentations, and class discussions are due in teams of a maximum of four 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 homework 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, fonts no smaller than 12 points, 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 *must* 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

Week	Start Date	Lecture Topic	Reading Ballou	Reading Notes
1	March 31	Overview. Introduction to logistics systems.	Ch. 1, Ch. 2	Ch. 1
2	April 5	Transportation models and routes	Ch. 6	Ch. 2
3	April 12	Local delivery routing	Ch. 7	Ch. 3
4	April 19	Demand analysis, pricing, service levels	Ch. 3, Ch. 4	Ch. 9
5	April 26	Inventory systems	Ch. 9, Ch. 10	
5	April 28	MIDTERM		
6	May 3	Inventory and warehousing systems	Ch. 8	Ch. 19
7	May 10	Storage systems	Ch. 12	Ch. 20
8	May 17	Order Picking Systems		Ch. 21
9	May 24	Facility location and customer allocation	Ch. 13, Ch. 14	Ch. 5
10	May 31	Integrated logistics systems	Ch. 14	Ch. 10
11	June 7	FINAL EXAM WEEK		

ISyE 6515 Syllabus Spring 1999.doc, Version 11.0, March 25, 1999.