

Syllabus Fall 2004

Instructor

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Office Hours: Tuesday 5:00-6:00 PM.

Class Meetings

Lectures: Tuesday and Thursday 9:30-11:00 AM.

Text

Handbook Of Quantitative Supply Chain Analysis: Modeling In The E-business Era in the International Series in Operations Research and Management Science by David Simchi-Levi (Editor), S. David Wu (Editor), Zuo-Jun Shen (Editor), Hardcover: 832 pages, Kluwer Academic Publishers; (May 2004), ISBN: 1402079524.

Additional materials consist out of recent journal articles in the field of material handling and industrial logistics. One copy of any article not distributed in class will be placed on reserve in the library or an Internet URL will be provided from which the article can be downloaded.

Class Notes and Class Materials

Class notes and materials other than the articles are available for downloading from WebCT. Files are in the Adobe Acrobat 5.0 format (PDF) and are suitable for printing to any postscript printer. They have the PDF extension. The first two files are in the Adobe Acrobat 5.0 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.

Course Objectives

The objective of the course is to examine, discuss, and evaluate the latest research results for the analysis, modeling, and design of material handling and industrial logistics systems. Topics will be chosen from a list of research areas such as block stacking, order picking, strategic distribution systems design, facility layout, etc. For each area, the latest research papers will be reviewed, an attempt will be made to integrate and synthesize these results, and other research topics and issues in this area will be identified.

A parallel objective of the course is to provide the students with examples and experience in reading, reviewing, and discussing scientific papers as preparation for their professional careers.

Grading

This class is intended and structured as an *advanced Ph.D. level reading class*. As such there will be no midterm or final exams. The students will be judged in four areas. The first area is the presentation of a student selected research paper in the area of analysis of material handling or industrial logistics. The second area is the active participation in class discussions on material handling and industrial logistics topics, especially while reviewing other students' paper and presentation. The third area is the individual creation of a review of an instructor selected research paper on a topic in material handling or industrial logistics. The fourth area is a literature review of the state of the art in an individual student selected logistics area. All four areas have equal weight.

Reading Framework

A framework for the presentation and the critique of scientific papers can be based on the following sequence of questions:

1. What problem does the paper discuss?
2. Is this problem significant in real life?
3. What was the state of the art before this paper was written?
4. What is the contribution of this paper (case study, methodology, taxonomy, review and synthesis)?
5. Do you agree with the paper (is it scientifically correct and are the conclusions sound and supported)?
6. Is the contribution of the paper significant?
7. Did you learn anything by reading this paper about solving the real life problem?

Comments and Rules

A normal sequence of two class meetings will be organized as follows. No less than ten days in advance the students will have received the reading assignment for the paper to be covered that day. There will be a designated

presenter or advocate who will review the paper and stress its advantages and strengths. Then a randomly chosen student will be asked to critique the paper and identify its weaknesses. Each student, except the designated presenter, is expected to read and review each reading assignment in order to critique the paper in class. After the randomly chosen student has completed, other students can volunteer to further critique the paper. After presentation and critique, class discussion will attempt to resolve and reconcile those two viewpoints.

Exact timing and length of presentation depend strongly on the class size. It is expected that presentation, critique, and discussion of a paper combined will last three hours or two class periods. For a class size of ten students, the students should only present *one* analytical paper. A prepared overview of the issues in that field or an overview paper can be distributed additionally as background material but will not be reviewed explicitly. The overview paper should contain only minimal analysis. For each presentation, all students except the advocate should prepare a *single page* review of the paper that will assist them if they are asked to critique the paper in front of the class. This one page review also should contain the questions the students may want to ask the presenter. There should be at least one question. All students have to hand in their one page review. The quality of the reviews and the questions contribute to the class participation grade.

Reports and reviews should be of professional quality. Spelling and grammar errors are penalized with significant point deductions. 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. Handwritten items, comments, and corrections are not acceptable. Fifty percent of the grade will be on the content of the report; the other half will be on the format of the report.

Presentation should be of professional quality. Audio-visual aids should be limited to overhead transparencies. A clear and concise presentation of the defense or critique 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.

Unless explicitly stated otherwise, cooperation between the students for the preparation of their discussion topic and class discussion is strongly encouraged. Only the creation of the review of the instructor selected research paper and the literature review on a logistics topic are an individual exercises and no cooperation in this task is allowed. Reports and one page reviews should be typewritten on 8.5 by 11 inch paper, double spaced and single sided. Any computer output must be converted to the 8.5 by 11 page format. Figures and formulas drawn or written by hand or not allowed.

Class Attendance

Class attendance is mandatory. Students should display a sign with their first and last names. Software to create such signs is available in the ISyE Undergraduate Computer Lab. A picture will be taken from every student during the first class period to create a visual class roll.

Graduating Students

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

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