LOM 6332  
Logistics and Supply Chain Strategic Modeling  
Spring 2015-JCP 63  
Mon & Wed 5:30pm-6:45pm  
Draft Syllabus

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Office Hours: Mondays and Wednesdays from 3:00 pm – 5:00 pm and by appointment. After class appointments will usually be possible.

Introduction

This course is designed to familiarize the student with (1) strategic models of the economic and performance tradeoffs involved in supply chain and logistics management, (2) the data and parametric requirements of contemporary strategic supply chain models, and (3) the application of leading software packages to real world problems and issues that arise in the strategic modeling and management of logistics networks and supply chains. Issues such as location of facilities, assignment of production and distribution missions to facilities, identification of sourcing relationships, and identification of cost and customer service consequences of alternative supply chain designs are addressed through the application of commercial decision support software packages. This "hands on" course is designed to prepare students for completing high-level supply chain analyses and consulting work.

We will investigate the state of the art in planning techniques and management tools for strategic decision support in designing and managing supply chains and logistic networks. The course will emphasize understanding and using current commercial software packages that have proven effective for designing and managing supply chains. In particular we will focus on the design of logistics networks and integrating Decision Support Systems (DSS) into the management of the logistics network to achieve the cost effective distribution of products while respecting customer service requirements.

Course Objectives

1.) Develop a practical understanding of strategic modeling and analyzing the behavior of large and complex supply chains and logistics networks.
2.) Explore technologies and approaches to reduce production, inventory and transportation costs when designing or redesigning supply chains while respecting customer service requirements.
3.) Develop experience in applying commercial DSS software tools for use in modeling and managing supply chains and logistics networks.
Fundamental Topics Covered in This Course

Identification of Strategic Supply Chain Issues
The Design and Planning of Logistic Networks
Deterministic Strategic Supply Chain Models and Optimization
Stochastic Strategic Supply Chain Models and Their Use

Course Software

*IBM ILOG LogicNet Plus XE*

Participants will learn how this Decision Support Software application can be used to strategically optimize a supply chain network. IBM ILOG LogicNet Plus XE is a component of a suite of cloud based software as a service (SaS) decision support tools used in the integrated management of manufacturing and logistics. We will cover basic optimization logic and the process of modeling, analyzing, and creating an optimal supply chain. We will combine lectures and exercises designed to enable the student to define, model, and optimize a supply chain network using LogicNet Plus XE.

*Insight SAILS21 V4.7*

Insight Corporation’s SAILS (Strategic Analysis of Integrated Logistics Systems) is a fully integrated Decision Support System (DSS) that is used to build, modify, solve, and interpret sophisticated strategic logistics network design models. Different from LogicNet Plus, SAILS is a stand alone, off-the-shelf software package, designed to be customized through an extensive array of model building, input data, and processing options. Flexibility is the hallmark of SAILS. We will combine lectures and exercises designed to enable students to define, model, and optimize a supply chain network using SAILS.

*Micro Saint Sharp Gold V3.6*

Participants will learn how this discrete random event simulation tool can be employed to optimize the strategic design of an existing distribution network. We will combine lectures and exercises designed to enable students to characterize, model and optimize the strategic operation of an existing distribution network with stochastic operating parameters using Micro Saint Sharp.

Course Structure, Workload, and Grading

There will be four assignments that will weigh equally in determining the student’s final course grade. Three of the assignments will be group or individual projects consisting of an application of the decision support software covered in class to a strategic supply
chain issue. Two of the projects will be group projects and the third project will be an individual project. The fourth assignment will be a paper reporting on a real world case study of the use of decision support software in managing a real world strategic supply chain issue. The four assignments will determine 95 percent of the student’s final course grade. The remaining 5 percent of the final grade will be determined by the student’s participation in and contribution to class discussions.

**Class Schedule:** Mondays and Wednesdays from 5:30 pm – 6:45 pm.

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<td>Introduction to Modeling Concepts</td>
<td>Sweeney</td>
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<td>3,4,5</td>
<td>1/28, 2/2, 2/4</td>
<td>Issues in Supply Chain Network Design</td>
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<td>6 - 13</td>
<td>2/9 – 3/4</td>
<td>IBM ILOG LogicNet Plus XE</td>
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<td>14</td>
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<td>Large Group Project Presentations</td>
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<td>15-22</td>
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<td>Final Paper Due and Class Conclusion</td>
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**Course Materials:** There is no required textbook for this class. A good reference text is *Business Logistics/ Supply Chain Management*, 5th edition, by Ronald H. Ballou. Another good reference text is *Designing & Managing the Supply Chain*, 3rd Edition, by David Simchi-Levi, Philip Kaminsky, and Edith Simchi-Levi. Required course materials will be made available at the MyGateway course website or distributed in class.

**Class Attendance and Preparation:** Please come to class on time and prepared. Late arrival is very disruptive for other students. You should prepare for class by reading the relevant materials before class and by completing relevant assignments. Students are responsible for all materials and announcements covered in class.
**Drop Policy:** If you drop the course before the first group project is completed, you will receive a grade of "Excused". If you drop after the first group project is completed, you will receive an "Excused" or "Failing" grade based on your grade at the time the instructor receives written notification that you are dropping the course.

**Academic Honesty:** According to the University Standard of Conduct, Section 6.0101, “The Board of Curators recognizes that academic honesty is essential for the intellectual life of the University. Faculty members have a special obligation to expect high standards of academic honesty in all student work. Students have a special obligation to adhere to such standards." Any student who is caught cheating on any exam or assignment will receive a grade of zero for that assignment or exam. Further, a recommendation may be made to the appropriate university officials that additional formal disciplinary action be taken.

**Disabilities:** This University abides by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) which stipulates that no student shall be denied the benefits of an education solely by reason of a disability. If anyone has a health condition or disability which may require accommodations in order to effectively participate in this class, please contact the Disability Access Services Office in 144 Millennium Student Center at 516-6554.