ISyE 6203
Transportation and Supply Chain Systems
Spring 2002
Syllabus

Instructor: Alan L. Erera
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Class Location: Weber SST III Room 1
Class Times: Tuesday, Thursday 1:35-2:55pm

Description:
A study of logistics systems, with emphasis on the design and analysis of transportation and supply chain systems, including

• the components of transportation and supply chain systems, such as suppliers, storage, materials handling, production, inventory, orders, transportation, and information systems;

• the interactions and trade-offs between these components;

• models and techniques for the analysis of logistics systems and the development of decision support systems.

Objectives:
• to develop a familiarity with logistics concepts, especially transportation and supply chain concepts;

• to understand the important issues in logistics system design and operation;

• to develop the ability to formulate models of systems and to analyze results obtained with such models;

• to develop skill in applying a variety of techniques to solve logistics problems.
Prerequisites:
Optimization at the level of ISyE6669. You must also have or develop working knowledge of optimization modeling software: AMPL, Visual XPressMP, or OPLStudio. A knowledge of probabilistic modeling on the level of ISyE6650 will also be assumed, as will working knowledge of spreadsheet and database software.

Reference Texts:


Other References:


Logistics Modeling Software:

- **Visual XPRESS** Windows interface for XPRESS\textsuperscript{MP}. Available in graduate computer lab.

**Topics Covered:**
- Logistics concepts and terminology
- Supply chain concepts, information and decision-support systems
- Logistics costs
- Transportation systems modeling
  - Routing models
  - Location models
  - Scheduling models
  - Integrated models
- Estimation and forecasting
- Revenue management

**Grading:** Grades will be assigned as follows:
- Homework: 20%
- Case Studies and Class Participation: 20%
- Midterm exam: 30%
- Final exam: 30%

**Homework:**
Homework will be assigned approximately once every two weeks. You should start working on each homework early, that way you will have time to ask questions (and understand) in class before the homework is due. Late homework will be accepted only in case of serious, unavoidable occurrences. You are encouraged to discuss homework and learn from each other, but each person must submit his/her own work in his/her own words, unless the assignment specifically indicates that you should work in groups. Any queries on homework and case grades must be submitted in writing to the instructor, together with the homework/case report in question.

**Case Studies:**
We will discuss a number of case studies in class. You will need to prepare for the discussion by reading the assigned material, and developing answers to case questions. Answers to case questions are due in the class in which the case is to be discussed. Grades are assigned for case preparation and class participation.
Exams:
Exams will cover material discussed in class, as well as reading assignments, homework and case studies. The exams will be comprehensive, and closed book. Any queries on exam grades must be submitted in writing to the instructor, together with the exam in question. Make-up exams will be scheduled only in case of unavoidable occurrences. It is your responsibility to take the exams at the designated times. The midterm exam is scheduled for Thursday February 28, and will be held in class. Travel arrangements are not sufficient reason to warrant a make-up exam or an incomplete grade.

Academic Honor Code:
It is your responsibility to familiarize yourself with the Georgia Tech Honor Code. Specifically, you must do your own work in all homeworks, quizzes and exams; when homework is specifically assigned as group homework you may and should work with the other members of your group.