

# ISyE 3101

## Introduction to Supply Chain Modeling: Logistics

Fall 1999

### Administrative Info

**Instructor:** Anton J. Kleywegt  
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**Teaching Assistant:** To be announced

**Class Room:** IC209  
**Class Times:** Monday, Wednesday, Friday 9:00-10:00am  
**Lab:** Monday 3:00-6:00pm

### Description:

An introduction to logistics systems, including

- the components of logistics systems, such as supplies, 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;
- to understand the 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:**

Probability and Statistics at the level of ISyE2027 and ISyE2028, Modeling at the level of ISyE2030. You must know how to use a spreadsheet and a database, whether or not you have taken a database class.

**Textbook:**

- Ballou, Ronald H., *Business Logistics Management*, 4th edition, Prentice Hall, Englewood Cliffs, NJ, 1998.

**References:**

- Magee, John F., Copacino, William C., and Rosenfield, Donald B., *Modern Logistics Management*, Wiley, New York, NY, 1985.
- Ballou, Ronald H., *Basic Business Logistics*, 2nd edition, Prentice Hall, Englewood Cliffs, NJ, 1987.
- Coyle, John J., Bardi, Edward J., and Langley, C. John, *The Management of Business Logistics*, 5th edition, West Publishing Company, St. Paul, MN, 1992.
- Blanchard, Benjamin S., *Logistics Engineering and Management*, 4th edition, Prentice Hall, 1992.
- Graves, Stephen C., Rinnooy Kan, Alexander H.G., and Zipkin, Paul H., *Logistics of Production and Inventory*, North-Holland, 1993.
- Narasimhan, Seetharama L., McLeavey, Dennis W., and Billington, Peter J., *Production Planning and Inventory Control*, 2nd. edition, Prentice Hall, 1995.
- Robeson, James F., Copacino, William C., and Howe, R. Edwin, *The Logistics Handbook*, Maxwell MacMillan, 1994.
- Tersine, Richard J., *Principles of Inventory and Materials Management*, 3rd edition, North-Holland, 1988.
- Vollmann, Thomas E., Berry, William L., and Whybark, D. Clay, *Integrated Production and Inventory Management*, Business One Irwin, 1993.

**Topics Covered:**

- Logistics Concepts
- Information Systems
- Estimation and Forecasting
- Order Processing
- Transportation
- Location

**Grading:**

Grades will be assigned as follows:

- Homework: 15%
- Quizzes: 15%
- Midterm exam 1: 20%
- Midterm exam 2: 20%
- 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 (and understand) questions in class before the homework is due. Late homework will be accepted only in case of unavoidable occurrences, such as illness or death in the family. You are encouraged to discuss homework and learn from each other, but each person must submit his/her own work, unless the homework specifically indicates that you should work in groups. You may be asked to present your group assignments in class. Any queries on homework grades must be submitted in writing to the instructor, together with the homework in question.

**Quizzes:**

Quizzes will cover material discussed in class, as well as reading assignments and homeworks. Quizzes may be given without prior notice. Any queries on quiz grades must be submitted in writing to the instructor, together with the quiz in question.

**Exams:**

Exams will cover material discussed in class, as well as reading assignments, homework and quizzes. The exams will be comprehensive. Exams will be 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. 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.