

**Mississippi State University  
Bagley College of Engineering  
Department of Industrial and Systems Engineering  
IE 4543/6543 – Spring 2013**

**Course Title** : Logistics Engineering  
**Class Meetings** : T R, 11:00 – 12:15  
**Classroom** : Walker 304

**Instructor** : Sandra D. Eksioglu  
**Office** : McCain 260Q  
**Phone** : (662) 325-9220  
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**Office Hours** : TBA

**Text:** Supply Chain Management: Strategy, Planning, and Operation, Chopra and Meindl, Prentice Hall, 4th, 2009. ISBN: 978-0-13-608046-06-4.

**Reading:** \* Direct from DELL: Strategies that revolutionized an industry, Michael Dell and Catherine Fredman, New York, Harper Business, 2006  
\* Sam Walton: Made In America, Sam Walton and John Huey, 1993

**Prerequisite:** IE 4613 and senior or graduate standing  
**Corequisite:** IE 4733 (Linear Programming)

**Catalog Description:** Analysis of complex logistics networks. Integration of supply, production, inventory, transportation, and distribution. Strategies for reducing logistics costs and lead times. Customer-supplier partnerships.

**Course Objectives and Outcomes:**

This is the basic course in logistics engineering and supply chain management. The goal is to give the students an overall introduction on various engineering and management issues dealing with supply chain operations of a manufacturing or service company. Specifically, the course will:

- Introduce issues involved in the relatively new and growing area of supply chain management (SCM). (1.1; ABET (i))
- Provide solution techniques to some of the problems in logistics and supply chain management.
- Develop an understanding of the tradeoffs inherent in supply chain management and a facility with quantitative analysis tools required to address these tradeoffs. (5.1; ABET (h))
- Develop familiarity with the techniques currently used throughout industry in addressing the many complex supply chain problems. (1.2; ABET (j))

**MSU Honor Code:**

Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the

philosophy and rules of the Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code.

***“As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do.”***

**Expectation from students:** Show up for each class on time, pay attention during class, read ahead and prepare to discuss the material in class, open discussion in class.

**Tests:** All tests are closed book and closed notes. You are allowed to bring a formula sheet and a calculator only. No make-up tests will be given regardless of what the excuse is. There will be a short test almost every week on the material that is covered in class the previous week. There will be about eleven quizzes of which the best eight will contribute to your average.

**Assignments:** Students are expected to have basic computer skills and some linear programming skills. Assignments will be given about every other week. I expect to give about five assignments. The homework assignments will typically require the use of a software package (primarily MS Excel). Four of your best assignments will contribute to your average. The assignments can be done in groups of two. Late assignments will not be accepted.

**Course Assessment:**

Grade distribution:

Assignments – 40 points (10 points each)  
Quizzes – 40 points (5 points each)  
Final – 20 points

Letter grades will be given as follows:

A: 90-100    B: 80-89.9    C: 70-79.9    D: 60-69.9    F: Below 60.

Grades will be posted on the course web site and updated periodically. It is your responsibility to verify that your grades have been correctly entered. You have **one week** after an assignment or a test is returned to discuss changes in your grade. Note that grade changes may result in either an increase or a decrease in your grade.

**Tentative List of Topics Covered:**

- Understanding the supply chain
- Achieving strategic fit and scope
- Supply chain drivers and metrics
- Designing distribution networks
- Network design in supply chains
- Designing global supply chain networks
- Aggregate planning in a supply chain
- Sales and operations planning
- Managing uncertainty: safety inventory
- Determining the optimal level of product availability