ISyE 3232
Stochastic Manufacturing & Service Systems

Instructor: Hayriye Ayhan (hayhan@isye.gatech.edu); Office: Room 329, Groseclose Building.

Instructor's Office Hours: Tuesdays, Wednesdays, and Thursdays from 12:30 to 1:30

T-square: Homework assignments and solutions, information on Littlefield Technologies, old exams and other announcements will be posted on T-square.

Brief Course Description: Manufacturing & service systems typically have random components to their behavior such as the demand for products and services. We will learn quantitative methods which are useful in analyzing, designing, and operating stochastic systems particularly manufacturing and service systems. Much of our attention will be focused on understanding, managing and reducing variability for inventory, production and service systems.

Textbook: is optional. You can use *Applied Probability and Stochastic Processes* by Richard Feldman and Ciriaco Valdez-Flores or *Modeling, Analysis, Desing, and Control of Stochastic Systems* by V.G. Kulkarni as reference books.

Required Course Packets: You should obtain and read a copy of *The Goal: A Process of Ongoing Improvement (Second Revised Edition)* by E. M. Goldratt and J. Cox, North River Press, 1992. The ideas in this book should be useful when you and the other members of your team are managing a factory for Littlefield Technologies. There will be a homework assignment related to this book.

You should buy a course packet from the bookstore to allow you to play the Littlefield Technologies games. The packet contains your individual Littlefield access code. More information about Littlefield Technologies will be posted on the class website.

Grading: The grading will be based on two tests (30% each), a final (30%), and homework and projects(10%).

Tests: Two tests will be given during the semester. The first test is scheduled for Tuesday, October 4. The second test is scheduled for Thursday, November 17. During tests, you will not be allowed to use books, notes, or calculators. If you cannot take a test at the specified time, please make prior arrangement with your instructor. No makeup exams will be given but the percentage of the other exams will be adjusted.

Assignments: There will be both individual and group assignments in this course. The first individual assignment is already on the class web site. Assignments will be graded by our TA. On most assignments, selected problems will be graded.

You may discuss your assignments with your professor, TA, fellow students, and others. However, you are expected to write up your solutions to individual homeworks on your own. All members of a group are expected to contribute to group assignments. During the semester, students will be asked to evaluate the performance of the other members of their team. **Using the solutions, in any manner, to assignments given in previous semesters to prepare solutions for current assignments is a violation of the student honor code for ISyE 3232.**

TA: Andrew Elhabr. His office hours will be from 3pm to 5pm on Mondays in the ISyE Studio.

Littlefield Technologies: Several of the team assignments will involve how well your team manages a simulated factory, which will be described in "Littlefield Technologies: Overview".

The first Littlefield simulation will begin on Tuesday, the 20th of September at 5:03 p.m. and end on Tuesday, the 27th of September at 5:03 p.m. The report on the first project will be due Thursday, 29th of September. The second Littlefield simulation will begin at 5:03 p.m. Tuesday, 1st of November at 5:03pm and end on Tuesday, the 15th of November at 5:03 p.m. The report on the second project will be due Tuesday, 22nd of November.