Course Description: Quantitative models and approaches for modern supply chain management practices with an emphasis on capacity, production, inventory, distribution, and pricing applications.

Student Learning Outcomes: An ability to identify, formulate, and solve problems.

Instructor: Sila Cetinkaya, E-mail: silica@smu.edu, Caruth Hall 321, Phone: (214) 768 1117

Lab: N/A, TA: N/A

Distance Education Support: Tammy Sherwood, (214) 768 1100, tsherwoo@smu.edu

Books:

- Production and Operations Analysis by S. Nahmias, 6th or 7th Edition (required text book)
- Supply Chain Management by S. Chopra and P. Meindl
- Inventory Management and Production Planning and Scheduling by E. A. Silver, D. F. Pyke, and R. Peterson
- Operations Research in Production Planning, Scheduling, and Inventory Control by L. A. Johnson and D. C. Montgomery

Topics

- Demand management and forecasting, week 1
- Capacity planning, week 2
- Aggregate planning in the supply chain (heuristic approaches and exact approaches; multi-item models; multi-period models; models with time varying requirements, costs, and capacity limits), weeks 3—4
- Inventory control subject to deterministic demand (lot-sizing models for procurement, production and distribution; capacitated models; multi-item models), weeks 5—7
- Inventory control subject to stochastic demand (newsboy model; (Q,r) model and extensions; regenerative inventory systems; base-stock policies; (s,S) policies; service level constraints; multi-period models), weeks 8—10
- Inventory control models for optimization-based ERP systems, weeks 11—12
- Multi-echelon inventories, Practical initiatives enabling supply chain coordination: contracts, pricing, VMI, weeks 13—14

Office Hours: My official office hours are Tu-Th 3:30-5:00. However, you can stop by anytime when I am in the office. Alternatively, you can make an appointment by e-mail or phone. I encourage each one of you to ask any questions you might have on the material during the lecture or right after the class. It is to your benefit to get
these points cleared as soon as they occur. You are also strongly encouraged to come and see me in the office or make an appointment whenever you have problems.

**Grading and Exam Dates:** All exams are comprehensive and will be given during class hour on campus. A final exam is scheduled during the final exam period as noted at the official SMU site [http://www.smu.edu/EnrollmentServices/Registrar/Enrollment/FinalExamSchedule/Spring2015](http://www.smu.edu/EnrollmentServices/Registrar/Enrollment/FinalExamSchedule/Spring2015). All local distance students are required to take the exams with on campus students on the date and time indicated below.

- 30% Exam 1 – February 26, 2:00—3:20pm
- 30% Exam 2 – April 2, 2:00—3:20pm
- 35% Final Exam – May 12, 8am—11:00am
- 5% Assignments

If you must miss an exam or assignment, then I must be notified in advance. If your absence is not approved, then you receive a 0.

**Online Course Management:**

- Course materials will be posted on blackboard. These materials will include handouts, study sets, announcements (also via e-mail), grades, and other materials as appropriate. Please check it regularly.
- Submit all assignments on blackboard (http://courses.smu.edu). Your grades will be posted on blackboard. Please make sure that they are correct.

**Software:** Microsoft Excel and a linear programming solver of your choice including Excel Solver.

**OTHER IMPORTANT INFORMATION**

**Disability Accommodations:** Students needing academic accommodations for a disability must first be registered with Disability Accommodations & Success Strategies (DASS) to verify the disability and to establish eligibility for accommodations. Students may call 214-768-1470 or visit [http://www.smu.edu/alec/dass.asp](http://www.smu.edu/alec/dass.asp) to begin the process. Once registered, students should then schedule an appointment with the professor to make appropriate arrangements.

**Religious Observance:** Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. (See University Policy No. 1.9.)

**Excused Absences for University Extracurricular Activities:** Students participating in an officially sanctioned, scheduled University extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work. (University Undergraduate Catalogue).