

OPMGT 560: Supply Chain Management

Spring 2022 (subject to change)

Instructor: Hamed Mamani	
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Course Outline and Assignments

Class will be a mix of lectures, case discussions and applications. The course objectives are to develop modeling skills and to provide new concepts and problem-solving tools, applicable to the design and planning of supply chains.

Course requirements are to come to class prepared, and to participate in the class. There will be a number of group assignments throughout the class. The grading will depend on the assignments and contribution to the class.

Course Materials

There will be no paper reader (course pack) for OPMGT 560. I believe that posting the readings online is more flexible, less expensive, and friendlier to the environment. I will bring some copies to each Session.

Most of the class material will be posted on the class web site at <http://canvas.uw.edu> and clicking on the OPMGT 560 link after you log in. I

recommend the following book, and will suggest complementary readings throughout the class, as well as use several of its cases:

Textbook(recommended): Simchi-Levi, Kaminsky and Simchi-Levi, *Designing and Managing the Supply Chain*, Irwin McGraw Hill, 3rd edition, 2008 (SKS),

I also recommend and suggest the following books as useful references or complements:

Simchi-Levi, *Operations Rules*, MIT Press, 2011 (SL)

Hopp and Spearman, *Factory Physics*, 2ndedition, Irwin, 2000. (HS)

Hopp, *Supply Chain Science*, McGraw-Hill/Irwin, 2008 (H)

Nahmias, *Production and Operations Analysis*, 4thedition, Irwin, 2000 (N)

Chopra and Meindl, *Supply Chain Management*, Prentice Hall, 2ndedition 2004 (CM)

Shapiro, *Modeling the Supply Chain*, Duxbury, 2001 (S)

Silver, Pyke, Peterson, *Inventory Management and Production Planning and Scheduling*, Wiley, 3rdedition, 1998.

You are expected to have done the required readings for each class, listed in the class schedule on the Canvas site (<http://canvas.uw.edu>). Other readings, such as supplemental articles, will be posted on the course web site.

Assignments

Three individual homework assignments and two written group case assignments are to be done by students. Each group must have at least three and no more than five students. Each group needs to stay together for the term.

Each assignment will be posted on UW-Canvas. Late assignments will be accepted but no more than half credit will be given.

A written analysis for the case (posted on UW Canvas) should be prepared by each study group prior to class discussion; the written analysis for the case should respond to the study questions that follow each case. While study groups will submit a single written analysis for the case, every class member is responsible for understanding the issues in the assignment and should be prepared to contribute to the class discussion.

Assignment Submission

You should submit completed assignments electronically via Canvas. It is highly recommended that you include all of your supplementary materials with your submission in a single file. The case assignment should be at most 2500 words; please include the

word count in your submission. The TA need not review any text beyond 2500 words. In addition to at most 2500 words of text, you might have tables, figures and possibly an appendix.

For the case there is an opportunity to do some analysis to develop and/or support your recommendations. In your write-up you should describe clearly the analysis that you have done.

As appropriate, you should document what assumptions or approximations are being made, where the data comes from and what the limitations are from your analysis.

Final Presentation

During the final week of classes, each team is required to prepare a 15-minute presentation that examines an issue related to supply chain management. Each presentation should contain some analysis of current practice, future challenges, and recommendations. Below are some potential topics.

- Green or Sustainable Supply Chain Management (e.g., recycle, re-manufacturing)
- Service Supply Chain Management (e.g., service outsourcing and management issues, healthcare, etc.)
- Supply Chain for Product Safety (e.g., supply chain initiatives for ensuring product safety)
- Supply Chain Management Issues in Emerging Markets (e.g., child labor, unsafe working conditions)
- Supply Chain Management for Disaster Relief
- Topic of your own choice

Supply Chain Negotiation Game

In preparation for this game you will need to build a spreadsheet model that solves the negotiation exercise for different values of demand and product cost. During class you will be assigned a role (supplier or retailer) and will receive private information based on your role; you will have 20 minutes to adjust the model with the new information received. You will then negotiate with your supplier / retailer counterpart on the wholesale price, the buyback price, the revenue / profit share and the order quantity and submit your contract at the end of class (and analysis on Canvas after class).

Supply Chain Simulation Game

An important part of the course is the Supply Chain Simulation Game. This is a Web-based simulation game whose purpose is to expose participants to the difficulties of making decisions within a supply chain context and to explore the dynamic behavior of supply chains in which individual firms make decisions, which can impact the entire industry. This game builds upon the Beer Game that you played in the core operations

management class. You will receive your two group assignments and additional information one week before playing the game.

Grading

The written group assignments is graded on a fifteen-point scale. Each problem set is to be submitted individually and graded on a fifteen-point scale. Each of the two reports for the supply chain simulation game are to be submitted for teams and graded on a ten-point scale. The final presentation is graded on a twenty-point scale. The grading criteria for the final presentation are as follows: originality (5 points), presentation (8 points), and analysis (7 points).

1. Team Assignments (3)	30%
2. Individual Assignments (2)	20%
3. Two Supply Chain Simulation Game Reports	20%
4. Supply Chain Negotiation Game	5%
5. Participation	5%
6. Final presentation	20%

At the end of the course, I will ask you to confidentially rate the other members of your team; I will use these intra-group evaluations to adjust scores for individuals. In addition, individual students can earn up to ten points from their participation. I will judge class participation based on the quality of answers given to posted questions, contributions to a discussion of case material, and questions raised by the student.

Academic Integrity

In the context of this class, we expect you to work in groups; but groups should work independently and should not consult with each other about a particular assignment. The following web site states the Foster School MBA Program Honor Code:

<http://www.foster.washington.edu/academic/mba/currentstudents/Documents/Honor%20Code/Honor%20Code%20Booklet%202011-12.pdf> (Links to an external site.)

Supply Chain Management (check Canvas regularly for updates)	
M: Mar. 28	Introduction and Course Overview: <i>Read:</i> SKS, Chapter 1

W: Mar. 30	<p>Multi Period Inventory Models</p> <p>This class will cover two fundamental inventory models: periodic review order-up-to policy; continuous review reorder point policy.</p> <p><i>Read:</i> SKS, Chapter 2.1 – 2.4</p>
M: Apr. 4	<p>Inventory Systems</p> <p><u>Prepare case: Steel Works.</u> (SKS, pp 27 – 30)</p> <p>Case permits an application of inventory models and principles. Preparation questions are attached to the case.</p>
W: Apr. 6	<p>Single Period (Newsvendor) Inventory Models & Risk Pooling</p> <p><i>Technical reading:</i> Posted on Canvas</p>
M: Apr. 11	<p>The Value of Information</p> <p><i>Read:</i> SKS, Chapter 5</p> <p>Assignment 1 Due</p>
W: Apr. 13	<p>Supply Chain Partnership</p> <p><u><i>Read:</i> the Barilla case (SKS, pp. 143-152) and come to class prepared</u></p>
M: Apr. 18	<p>Push-Pull Strategies I</p> <p><i>Read:</i> SKS, Chapter 6</p>
W: Apr. 20	<p>Push-Pull Strategies II</p> <p>Supply Chain Simulation Game 1 Debrief</p>

M: Apr. 25	<p>Delayed Product Differentiation and Postponement</p> <p>Prepare case: Reebok NFL Replica Jerseys (SKS, pp 172 - 177)</p> <p>Case requires application of inventory modeling tools to evaluate and optimize an opportunity for postponement. Preparation questions are posted with the case.</p> <p><i>Read: SKS, Chapter 5</i></p>
W: Apr. 27	<p>Supply Contracts I</p> <p>This class will introduce various types of supply chain contracts and examine how these mechanisms work, and in particular, how they help to accomplish supply chain coordination.</p> <p><i>Read: SKS, Chapter 4.</i></p>
M: May 2	<p>Supply Chain Negotiation Game</p> <p>Assignment 2 Due</p>
W: May 4	<p>Supply Contracts II</p>
M: May 9	<p>Supply Chain Network Design</p> <p>Prepare Case: Kulicke & Soffa Industries, Inc. Designing a Supply Chain Network (HBS UV5148)</p> <p>Case illustrates global supply chain challenges in implementing and understanding how design alternatives influence firm performance.</p>
W: May 11	<p>Supply Chain Design & Risk Mitigation Strategies</p>
M: May 16	<p>Flexibility in Supply Chains</p>
W: May 18	<p>Supply Chain Strategy</p>

M: May 23	Guest Lecture Supply Chain Simulation Game 2 Debrief
W: May 25	Course Summary Team Presentations
M: May 30	No Class – Memorial Day
W: Jun. 1	No Class – Business Trip