Weatherhead School of Management
Case Western Reserve University

OPERATIONS MANAGEMENT
OPMT 405          Spring 2007

INSTRUCTOR:    Professor Matthew J. Sobel
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Office:        PBL 327

OFFICE HOURS:  Monday and Wednesday 3 – 4 and by appointment

COURSE DESCRIPTION
Operations Management deals with the part of an enterprise that creates value for its customers. It involves designing goods and services and the processes to create them, producing goods and preparing to provide services, and the physical distribution of goods and provision of services. As global competition in both goods and services increases, a firm's survival depends upon how well it integrates the operations function into overall planning and strategy. Thus, it is essential for all business managers to acquire an understanding and appreciation of operations.

The objective of OPMT 405 is to provide you with an understanding of operations and the roles that it plays in an organization. By the end of the course, you should appreciate the challenges in providing world-class products and services and you should be able to use some analytical tools and conceptual frameworks to guide your thinking about operations. In particular, you should leave this course with a better understanding of:

• The role of operations in supporting business strategy
• How to identify and define key business processes.
• How to define clear performance objectives and process measures.
• How to use data and analytical tools to improve the effectiveness of processes.
• The impact of an organization’s context upon process management and improvement.
• Key issues and techniques for managing an organization’s supply chain

COURSE MATERIALS
1. Cases and readings: course pack at the campus bookstore.
4. Articles from the Wall Street Journal and other periodicals.
COURSE REQUIREMENTS
The course involves a combination of lectures and class discussions of cases and readings. The workload consists of class participation, written assignments, and a final examination. The course grade will be based on the weights shown in parenthesis.

Class Participation (10%)
Students are expected to come to class well prepared to be active participants in the learning process. So before each class you should read all the assigned materials and be fully prepared to participate in the case discussion. Your semester’s participation is evaluated based on the quality and quantity of your contributions, with a strong emphasis on quality.

Individual Skill Building Exercises (16%)
During the semester there are four exercises assigned to help you practice particular techniques. These assignments should be written and handed in individually, although groups of students may discuss and work together on the problems.

Group Case Analysis Reports (20%)
There are four case analysis reports due during the semester; each one pertains to a case that will be discussed in class. This syllabus has leading questions to guide your analysis of each case. Groups of no more than four students may work together and submit a single report.

Report on The Goal (10%)
The Goal is an entertaining and deceptively simple business novel. It helps you to develop some basic insights that are useful in operations, but also in general management. You are advised to read it twice: once at the beginning of the semester to give you a taste for what is to come, and again near the end of the semester to tie everything together.

On the last day of class, you should turn in a report (at most three pages) on The Goal. In your report, be sure to answer the specific questions listed in a related homework assignment.

Mid-term Examination (15%)

Final Examination (29%)

COURSE POLICIES
The overriding principle is that you are expected to display good professional behavior.

1. **DO NOT use your laptop computer during classes.** You will need your computer only to do your homework outside of class.
2. **TURN OFF your cellular phones in the classroom.**
3. Late submission of exercises and reports will NOT be accepted and will NOT be graded.
4. Submit your group reports and skill building exercises as hard copies and **bind/staple them properly** whenever you have multiple pages. Electronic submissions are NOT acceptable, unless permission has been requested and obtained from the instructor.
5. Skill building exercises and group reports are due at 8:30 a.m. (both sections).
6. You may not use your laptop computer during examinations, but bring a simple calculator to examinations.
ACADEMIC INTEGRITY
All students in this course are expected to adhere to university standards of academic integrity. Cheating, plagiarism, and other forms of academic dishonesty will not be tolerated in this course. This includes, but is not limited to, consulting with another person during an exam, turning in written work that was prepared by someone other than you, and making minor modifications to the work of someone else and turning it in as your own. Ignorance will not be permitted as an excuse. If you are not sure whether something you plan to submit would be considered either cheating or plagiarism, it is your responsibility to ask for clarification. When your name appears on a group product for a class, you are responsible for the integrity of the work, even if you did not personally write the offending material. Either ask me about it or consult credible sources of information on the subject. Two useful internet sites are http://www.indiana.edu/~wts/pamphlets/plagiarism.shtml and http://www.unc.edu/depts/wcweb/handouts/apa.html. Please remember that you have agreed to Standards Regarding Academic Integrity (a copy of which can be found at http://weatherhead.case.edu/pdpao/policy/policyhome.html) which outlines your responsibility in greater detail.

COURSE PACK CONTENTS
1. Kristen’s Cookie Company (A)
2. Blanchard Importing and Distributing Company, Inc. (2003 revision)
3. Why (and How) to Take a Plant Tour
4. Deutsche Allgemeinversicherung
5. Sport Obermeyer
6. Making Supply Meet Demand in an Uncertain World
7. The Beer Game: Board Version
8. Barilla SpA (A)

ARTICLES
The majority of classes will begin with a brief discussion of an article (usually from the Wall Street Journal). These are listed in the course outline and are available to you on the Blackboard course site. These materials are for your individual use and any other use is subject to copyright restrictions.

GROUP REPORTS
Each case group report should be an executive summary. That is, it should contain (a) at most three pages that present the primary results of the group’s analysis of the case, and (b) additional pages with data, calculations, graphs, tables, etc. on which the analysis is based. This syllabus has questions associated with the analysis of each case. However, a good executive summary is not a list of answers to these questions. Instead, it is a managerial report that (i) briefly describes the managerial situation, (ii) identifies the major decision options that are worthy of consideration, (iii) notes the major advantages and disadvantages of each option, (iv) selects one of the options as the recommended course of action, and (v) summarizes how the recommended
option would be implemented.

In each group report you should assume that the reader is familiar with the facts of the case. Therefore, it is not necessary to repeat case facts except when supporting an argument. While conforming to the three-page limitation, double-spacing is not required but use 12-point font and reasonable margins.

\textbf{COURSE SCHEDULE}

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Topics and Assignment</th>
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<tbody>
<tr>
<td>1</td>
<td>1/17, Wed.</td>
<td>Course overview, Introduction to OM</td>
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<td>Syllabus; text chapter 1</td>
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<td>Article 0A: Six sigma at Home Depot – \textit{WSJ}, 1/4/07</td>
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<td>Article 0B: Goodbye, production – \textit{NY Times}, 12/24/06</td>
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<td>2</td>
<td>1/22, Mon.</td>
<td>Process analysis</td>
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<td>Text chapter 2</td>
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<td>3</td>
<td>1/24, Wed.</td>
<td>Products and processes</td>
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<td>Video: Manufacturing Processes</td>
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<td>Text chapter 2</td>
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<td>\textit{The Goal} (first reading)</td>
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<td>Article 2: Process redesign at Louis Vuitton – \textit{WSJ} (\textit{Wall St. J.}), 10/9/06</td>
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<td>4</td>
<td>1/29, Mon.</td>
<td>Process capacity</td>
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<td>Text chapter 3</td>
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<td>Article 3: Growth in laptop demand at Dell – \textit{WSJ}, 8/30/06</td>
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<td>5</td>
<td>1/31, Wed.</td>
<td>Kristen’s Cookies</td>
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<td>Kristen’s Cookies Company (A)</td>
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<td>Prepare for class by drawing a process flow diagram and answering questions B and C.</td>
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<td>A. Draw a process flow diagram for cookie production at Kristen’s.</td>
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<td>B. How quickly can Kristen fill an order for 1 dozen cookies? 2 dozen? 3 dozen?</td>
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<td>C. What is the maximum rate at which Kristen can produce cookies if she makes</td>
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<td>batches of 1 dozen, 2 dozen and 3 dozen respectively?</td>
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<td>What assumptions do you have to make?</td>
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<td>6</td>
<td>2/5, Mon.</td>
<td>Labor cost</td>
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<td>Text chapter 4</td>
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<td>Due: Skill builder exercise #1</td>
</tr>
</tbody>
</table>
7 2/7, Wed.  Setup times and costs
Read:  Text chapter 5
Article 5: Did BP cuts contribute to blast? – WSJ, 12/12/06

8 2/12, Mon.  Economic order quantity
Read:  Text chapter 5
Article 6: JIT doesn’t work – WSJ, 3/15/99
Article 7: Follow up article 6 – WSJ, 10/29/02

9 2/14, Wed.  Variability
Read:  Text chapter 6
Article 8: Cancer patients’ waiting costs billions – NY Times, 1/3/07

10 2/19, Mon.  Blanchard Importing & Distributing Co., Inc.
Read:  Blanchard Importing & Distributing Co., Inc. (2003 revision)
Due:  Blanchard group report
Guide your analysis by answering the following questions as you analyze the case:
• Consider the EOQ and ROP quantities for each of the five items mentioned in the case. How do the corrected figures compare with the quantities calculated in 1999 and with the production volumes scheduled for the June 2002 bottling run?
• What are the disadvantages of the formal EOQ/ROP system and the actual system used for scheduling bottling runs at Blanchard? Which system do you prefer? What improvements can be made?
• What should Hank Hatch recommend to his boss, Toby Tyler?

11 2/21, Wed.  Job shops
Read:  chapter 7

2/26, Mon.  No class
Due:  Skill builder exercise #2

3/1, Wed.  No class

12 3/3, Fri.  Plant visit
Read:  Why (and How) to Take a Plant Tour

3/5 – 3/9  Mid-term examinations (no classes)
3/6, Tues.  9:00 a.m.  OPMT 405 mid-term examination
3/12 – 3/16  Spring break (no classes)
13 3/19, Mon.  Variability and process performance
   Read:  Text chapter 7
   Article 10: Starbucks store design – WSJ, 10/20/06

14 3/21, Wed.  Quality management
   Read:  Text chapter 8
   Article 11: Porche takes lead in major quality study – WSJ, 6/8/06
   Article 0: Six sigma at Home Depot – WSJ, 1/4/07

15 3/26, Mon.  Forecasting
   Read:  Notes on forecasting
   Article 1: West coast port capacity crunch – Logistics Today, Sept. 2006

16 3/28, Wed.  Deutsche Allgemeinversicherung
   Read:  Deutsche Allgemeinversicherung
   Due:  Group report on Deutsche Allgemeinversicherung
   Guide your analysis by answering the following questions as you analyze the case:
   • Why is DAV using SPC? What are the primary challenges in applying SPC to a service industry compared with manufacturing?
   • How would you explain the concept of a p-chart to a group of bank tellers (without a background in SPC) in about 30 minutes?
   • How large should each sample be for the experiment that Schoss and Kluck describe on page 7?
   • The first 12 weeks of the data in Exhibit 4 represent the diagnostic period for the Policy Extension Group. What are the 3-sigma control limits for the process? In which of the subsequent weeks is the process out of control (if any)?
   • What specific implementation plans would you recommend for solving the problems that Annette Kluck faces (described on page 9 of the case)?
   • How would you begin to improve the performance of the operation now?

17 4/2, Mon.  Balancing the risks of too many with the risks of too few
   Read:  Text chapters 9 and 13 (parts)
   Article 12: Amtrak raises prices as trains get full – WSJ, 2/14/06
   Due:  Skill builder exercise #3

18 4/4, Wed.  Agility in operations: quick response
   Read:  Text chapter 10
   Read:  Article 13: JIT push system works at JC Penney – WSJ, 9/11/03
   Article 14: JIT works in retailing (Zara) – WSJ, 5/18/01
19 4/9, Mon.  Supply chain services  
  Read:  Text chapter 11  
  Article 15A: Global supply lines – WSJ, 12/8/04  
  Article 15B: Getting Xbox 360 to market – WSJ, 11/18/05  
  Due:  Skill builder exercise #4  

20 4/11, Wed.  Supply chain coordination  
  Read:  Text chapter 14  
  Article 16: Wal-Mart supplier – WSJ, 10/17/06  
  Article 17: Credit risk and supply disruption at Ford – WSJ, 10/18/06  

21 4/13, Fri.  Beer Game  
  Read:  The Beer Game: Board Version  

22 4/16, Mon.  Sport Obermeyer  
  Read:  Sport Obermeyer  
  Due:  Group report on Sport Obermeyer  
  Guide your analysis by answering the following questions as you analyze the case:  
  • Using the sample data given in Exhibit 10, make a recommendation for how many units of each style Wally Obermeyer should order during the initial phase of production. Assume that all ten styles in the sample problem are made in Hong Kong, and that Obermeyer’s initial production commitment must be at least 10,000 units. (Ignore process differences among styles in your initial analysis.)  
  • What operational changes would you recommend to Wally to improve performance?  
  • How should management think short-term and long-term about sourcing in Hong Kong vs. China?  

23 4/18, Wed.  Guest speaker on supply chain management  
  Read:  Materials distributed in advance  

24 4/23, Mon.  Barilla SpA  
  Read:  Barilla SpA (A)  
  Due:  Group report on Barilla SpA (A)  
  Guide your analysis by answering the following questions as you analyze the case:  
  • Diagnose the underlying causes of the difficulties that the JITD program was created to solve. What are the benefits and drawbacks of this program?  
  • What conflicts or barriers internal to Barilla does the JITD program create? What causes these conflicts? As George Maggiali, how would you deal with them?  
  • As one of Barilla’s customers, what would be your response to JITD? Why? In Barilla’s 1990 environment, do you believe JID (or a similar program) would be feasible? Effective?  
  • If so, which customers would you target next? How would you convince them that the JITD program was worth trying? If not, what alternatives would you suggest to combat some
of the difficulties that Barilla’s operating system faces?

25 4/25, Wed.  The Goal and course review
   Read:  The Goal (second reading)
   Due:  Report on The Goal

5/1, Tues.  9:00  OPMT 405 final examination

ARTICLES
1/17, Wed.  Article 0A: Six sigma at Home Depot – WSJ, 1/4/07
   Article 0B: Goodbye, production – NY Times, 12/24/06
1/22, Mon.  Article 1: West coast port capacity crunch – Logistics Today, Sept. 2006
1/24, Wed.  Article 2: Process redesign at Louis Vuitton – WSJ (Wall St. J.), 10/9/06
1/29, Mon.  Article 3: Growth in laptop demand at Dell – WSJ, 8/30/06
2/7, Wed.  Article 5: Did BP cuts contribute to blast? – WSJ, 12/12/06
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3/19, Mon.  Article 10: Starbucks store design – WSJ, 10/20/06
3/21, Wed.  Article 11: Porche takes lead in major quality study – WSJ, 6/8/06
4/2, Mon.  Article 12: Amtrak raises prices as trains get full – WSJ, 2/14/06
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   Article 15B: Getting Xbox 360 to market – WSJ, 11/18/05
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   Article 17: Credit risk and supply disruption at Ford – WSJ, 10/18/06