

OM 335H: OPERATIONS MANAGEMENT
Spring 2007

SYLLABUS

Unique No. 03855: MW 12:30-2:00 in CBA 4.304

Unique No. 03860: MW 2:00-3:30 in CBA 4.304

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COURSE DESCRIPTION

Operations Management is concerned with the *execution* of strategy. It involves the *systematic* design, operation, control and improvement of business processes to achieve organizational goals, most often by providing the customer maximum value with minimum firm resources. Successfully managing operations is vital to the long-term viability of every type of organization. This fact has become even clearer in recent years as competition has increased with more globalization and improved information technology. By integrating operations into the firm's business model, companies such as Dell, Toyota, and Wal-Mart have shown that good operations make good business sense.

COURSE OBJECTIVES

The objective of this course is to provide you with an understanding of Operations Management and the role that it plays within an organization. We will spend a great deal of time on how to effectively manage the resources of the firm to make it more productive and profitable because this is the role of the operations manager. By the end of the course, you should have developed an appreciation for the challenges in providing world-class products and services and the ability to use some analytical tools and conceptual frameworks to guide your thinking about operations. In particular, you should leave this course able to:

- Integrate operational perspectives into your overall business toolkit
- Analyze key business processes
- Understand how variability impacts processes
- Rigorously improve business processes (including identifying the likely impact of information technology)
- Discuss some recent operations trends at a high level.

COURSE MATERIALS

This course is a mixture of lectures and case-discussions. The readings for the class come from the following sources:

1. Cachon, G. and C. Terwiesch. 2006. *Matching Supply with Demand: An Introduction to Operations Management*. New York, NY: McGraw-Hill / Irwin. (This is the course textbook and will be referred to as the “Textbook” throughout the rest of this document. It is an excellent introduction to Operations Management.)
2. Goldratt, E. M. 2004. *The Goal: A Process of Ongoing Improvement*, 3rd Revised Edition (20th Anniversary Edition). Great Barrington, MA: North River Press, Inc. (This international best seller is a novel that captures many of the concepts and issues addressed in the course. According to *Financial Times*, “The only book that [managers] have actually read right through over the years is THE GOAL.” The book is funny yet deep, *requiring careful reading*. We will discuss the book in class on 02/14/07.)
3. A *Course Reading Packet* (CRP) available from the University Co-op which contains case studies and readings to supplement the other materials.

The course outline at the end of this document lists, for every class session, the topic, readings, cases, assignments, and anything else of importance. Please read this outline carefully before every session. Because class time is our most precious and inelastic resource, **please come to every class prepared. Essential preparation includes reading the assigned readings and cases, doing the assignments, and bringing these resources and materials to each class.**

I will provide hard copies of the PowerPoint slides (handouts with six slides per page) at the beginning of each class session. Copies of class overheads (and any electronic documents used in class) will be downloadable from the course website *after* each session.

PERFORMANCE EVALUATION

The performance criteria are weighted as follows:

Two In-Class Tests (see course schedule for the test dates)	30%
Final Exam (Regular exam schedule)	35%
Individual Homework Assignments (see course schedule for due dates)	20%
Group Homework Assignments (see course schedule for due dates)	10%
Class Participation	5%

Homework assignment, tests, and exam grades will be posted at Blackboard shortly after they are graded. Please check your grades repeatedly throughout the semester and report any discrepancies to me immediately. The expected course grade distribution is: A \leq 60%; grades lower than B \leq 5%. Grades lower than B will be assigned on a case by case basis.

Tests and Final Exams: The tests and exams will require both quantitative and qualitative responses. The split will, however, be weighed more to the quantitative due to the emphasis in this class and on the homework assignments. You will be allowed to bring in *one (1)* sheet of 8 1/2”x11” paper (double sided) with your formulas and notes and your calculator to the each test

and exam. Any probability distribution or other tables will be provided with the exam, so you needn't waste your sheets on these details.

The final will be a comprehensive exam covering materials from the class notes, readings, and assignments.

Homework Assignments: Homework assignments will be downloadable off Blackboard. Each homework assignment will be posted on the web at least two weeks in advance of the due date (see the course outline at the end of this document for assignment due dates). Each question on an homework assignment will be graded as a 10 (perfect), 9 (minor errors), 8 (good attempt), 6.5 (attempt) and 0 (otherwise). All assignments are due at the beginning of class on the date listed in the course outline at the end of this syllabus. No late assignments will be accepted.

Homeworks are designed to promote class preparedness, provide learning reinforcement, and extend the knowledge you have gained in class and from your readings. You will find that the homeworks provide excellent learning feedback and are a confidence-building tool. The assignments will also help with your preparation for the tests and exams.

There are two types of homework assignments: individual and group. **Individual homework assignments** are skill building exercises. As the name suggests, you will turn in your homework as individuals. For these assignments, you are permitted to work with other students because an important element of this class is teamwork. However, the solution that you turn in must be your own – photocopies are not accepted. Note, I will not add an assignment beyond what is already listed in the course outline but I may choose to shift an assignment later in the schedule or eliminate it altogether if necessary.

Group homework assignments are more substantial case exercises completed in self-selected groups of four people. Teamwork on these assignments is not only beneficial but I think essential. Each group will work as a team to answer the assignment questions and submit a single group solution set. Please form your groups as soon as possible and email this information to the TA. Since the first case report is due on 2/07/07, your groups should be formed no later than 1/29/07.

Class Participation: Sixty percent of your class participation grade will be based on attendance at certain critical class sessions during the semester (simulation exercises, case discussions, guest speaker, etc. – see course outline). The remaining 40 percent will be used to encourage a productive learning environment. It is important that everyone come to class prepared and willing to contribute to discussion. Ideally, you will make concise, insightful, and eloquent comments in every class. However, I also recognize the importance of making smaller contributions, including asking good questions. I believe that the learning environment is best when the discussion is not dominated by a few, but moved along incrementally by all of us. Do not be afraid to make points that you may regard as minor, ask clarifying questions, or otherwise contribute in small ways.

Regrade Requests: If you wish a regrade of any homework assignment, text, or exam, please appeal it within SEVEN (7) CALENDAR DAYS of:

- a) For the tests and homework assignments, the date that I attempt to return it to you in class.
- b) For the final exam, the first class day of the semester immediately following your course.

After these seven days, I will consider all grades final unless they have been appealed.

Please realize that there are standard policies for point deductions for each problem with any exam or assignment, so unless the grader has misapprehended your intent or misread your work, any partial credit is unlikely to change.

OTHER IMPORTANT INFORMATION:

Feedback: You and I will work together to create the best learning environment we can. Your informal feedback is very important to me. Please let me know throughout the semester if there is anything I can do to make this class better for you.

Logistics: Attendance at each class session is expected unless otherwise noted. If you are unable to attend a class on a given day, please check with your classmates to find out whether any in-class announcements were made. Please use e-mail for questions wherever feasible versus the telephone.

Honor Code: By teaching this course, I observe all of the faculty responsibilities with regard to the Honor System. By enrolling in this class, you have agreed to observe all the student responsibilities with regard to the Honor System

McCombs Classroom Professionalism Policy: The highest professional standards are expected of members of the McCombs community. The collective class reputation and the value of the McCombs experience hinges on this.

Faculty are expected to be professional and prepared to deliver value for each and every class session. Students are expected to be professional in all respects. Classroom expectations of students include:

- Students will arrive on time.
- Students will be fully prepared for each class.
- Students will attend the class section to which they are registered.
- Students will respect the views and opinions of their colleagues. Disagreement and debate are encouraged. Intolerance for the views of others is unacceptable.
- Plagiarism will not be tolerated and will be dealt with severely.
- Phones and wireless devices are turned off.

Academic Accommodations: The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. If you have a condition (e.g. learning disability, chronic medical condition, etc.), or holiday that needs accommodation, please see me early in the semester so that we can take appropriate steps. For additional information about the University's policies, contact the Office of the Dean of Students at 471-6259 or 471-4641.

Miscellaneous Information: From 05/04/07 – 05/7/06, I may have a professional commitment off-site. On these dates, it is likely that I will have an email connection but it may be limited.

OM335H: Tentative Schedule

Date	Topic	Readings	Homework Assignment Due
Introductory Sessions			
1/17 W	Class canceled due to inclement weather		
1/22 M	Course Overview: Introduction to Operations Management and Supply Chain Management	Textbook, Chapter 1 (all)	
Process Design and Analysis			
1/24 W*	Introduction to Processes Design and Analysis; The Face Game	Textbook, Chapter 2 (Sections 2.0-2.2, 2.6); Chapter 3 (Sections 3.0-3.5)	Resume; Individual Homework 1
1/29 M	Discussion of the Face Game; Improving Processes and Reducing Labor Costs: State Automobile License Renewal Case;	State Automobile License Renewal Case (distributed by Professor); Chapter 4 (Sections 4.0-4.3)	Individual Homework 2
1/31 W	Line Balancing and Other Ways of Improving Process Capacity; Multiple Products and Shared Resources: Kristen Cookies Case	Textbook, Chapter 4 (Sections 4.4-4.6); Kristen Cookies Case (CRP);	Individual Homework 3
2/5 M*	Guest Speakers: Jon Holztrager, Director of Distribution Operations, Personal Care, and Bill Rohrer, Director of Supply Chain Career Development, Kimberly-Clark		
2/7 W*	Intermediate Process Analysis: Shouldice Hospital Case Discussion	Shouldice Hospital Case (CRP)	Group Homework 1
2/12 M	Relating Flow Time, Flow Rate and Inventory (Little's Law); Analyzing and Improving Financial Performance Using Operational Measures	Textbook, Chapter 2 (Sections 2.3-2.5); Handout from Professor	
2/14 W*	Flow Interruptions: Batching and Set-up Times Discussion of the <i>The Goal</i>	Textbook, Chapter 5 (Sections 5.0-5.3); <i>The Goal</i>	Individual Homework 4
2/19 M	Test 1		
Managing Waiting Lines and Inventory			
2/21 W	Waiting Line Management: System Characteristics, Basic Models and Performance Measures	Textbook, Chapter 6 (Sections 6.0 – 6.6)	
2/26 M	Waiting Line Economics and Managing Variability; Simulation of Waiting Line Models	Textbook, Chapter 6 (Sections 6.8-6.12); Kristen's Cookie Company Case Extension (distributed by Professor)	
2/28 W	Inventory Management: Forecasting and the Newsvendor (Single Period) Model	Textbook, Chapter 9 (Sections 9.0-9.2, 9.4); Umbra Visage, Inc. Case (distributed by the Professor)	Individual Homework 5
3/5 M	Inventory Management: Key Performance Measures (Newsvendor Model);	Textbook, Chapter 9 (Sections 9.5-9.8)	
3/7 W	Continuous Review (Multiple Period) Inventory Models	Textbook, Chapter 5 (Sections 5.4-5.5); A Note on Inventory Management Systems (distributed by Professor)	Individual Homework 6
3/19 M	Period Review or Order-up-to (Multiple Period) Inventory Models	A Note on Inventory Management Systems (distributed by Professor)	
Supply Chain Management			

3/21 W	Supply Chain Management	“What is the Right Supply Chain for Your Product” (CRP); Buyer-Supplier Relationships (CRP)	Individual Homework 7
3/26 M*	Risk Pooling Strategies	Textbook, Chapter 11 (Section 11.1) Chapter 12 (skim this chapter for the <i>ideas</i>); HP Company DeskJet Supply Chain Case (A)	Group Homework 2
3/28 W (03855)* 3/29 Th (03860)*	<i>Beer Game</i> (These sessions will be held from 6-8pm in CBA 4.326)	Beer Game Instructions (distributed by Professor)	
4/2 M	Beer Game Debrief	Chapter 14 (Sections 14.0 – 14.2)	Individual Homework 8
4/4 W	Supply Chain Coordination and Contracting	Chapter 14 (Sections 14.3 – 14.7)	
4/9 M	Test 2		
Project Management			
4/11 W	Project Management: Mars II Platform, Risk Assessment/Management, Contingency Planning, The Critical Path	Mars II Platform Handout (distributed by Professor); Project Management Chapter (CRP)	
4/16 M	Project Management: Accounting for Risk (PERT), Project Crashing, The Critical Chain	Project Management Chapter (CRP)	Group Homework 3
Quality Management			
4/18 W	Introduction to Quality Management and Quality Control	Chapter 8 (Sections 8.0 – 8.4)	Individual Homework 9
4/23 M	Controlling Quality and the Impact of Quality on Processes	Chapter 8 (Sections 8.5 – 8.8)	
4/25 W*	Discussion of Quality Wireless Case (A & B)	Quality Wireless Cases (A & B) (CRP);	Group Homework 4
4/30 M*	Discussion of Toyota Motor Manufacturing, USA Case	Textbook, Chapter 8 (Section 8.9); Toyota Motor Manufacturing, USA Case (Course Packet); “The Power of Integration: An Interview with Michael Dell”	Group Homework 5
5/2 W	Course Evaluations; Review for Final Exam		Individual Homework 10

* Attendance will be counted as class participation.