

# **OM 335: OPERATIONS MANAGEMENT**

**Fall 2010**

## **SYLLABUS**

**MW 3:30 - 5:00PM in GSB 5.142A**

Instructor: Dr. Ozgur Araz

Office Hours: Mondays 12:30-14:30pm (or by appointment)

Office: CBA 3.410

Mail Box: IROM Dept., **CBA 5.202**

Phone: 512-232-8193

e-mail: [Ozgur.Araz@mcombs.utexas.edu](mailto:Ozgur.Araz@mcombs.utexas.edu)

Web: All web material is on the Blackboard

### **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 and create economic value. 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, HP, Southwest Airlines, Toyota and Wal-Mart have shown that good operations leads to superior performance.

### **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. 2009. *Matching Supply with Demand: An Introduction to Operations Management*. New York, NY: McGraw-Hill / Irwin, Second Edition. (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*, 3<sup>rd</sup> Revised Edition (20<sup>th</sup> 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*. I will refer to this book throughout the course but we will discuss the book in class as well.
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 schedule at the end of this document lists, for every class session, the topic, readings, cases, assignments, and anything else of importance. Please read this schedule 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 Blackboard, usually *after* each session.

**PERFORMANCE EVALUATION**

The performance criteria are weighted as follows:

Test 1 (see course schedule for the date)	<b>15%</b>
Test 2 (see course schedule for the date)	<b>15%</b>
Final Exam (Wednesday, Dec 8, 7:00–10:00 pm)	<b>30%</b>
Individual Homework Assignments (see course schedule for due dates)	<b>15%</b>
Group Homework Assignments (see course schedule for due dates)	<b>15%</b>
Class Participation	<b>10%</b>

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.

**Tests and Final Exams:** The 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. The final exam 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 about one to two weeks in advance of the due date (see the course schedule 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), 7-3 (depending on the

level of your attempt) and 0 (otherwise). All assignments are due at the *beginning* of class on the date listed in the course schedule 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 in the course because an important element of this course is teamwork. However, the solution that you turn in must be your own – photocopies are not accepted. At the end of the semester, your lowest individual homework assignment grade will be dropped *if you return the last optional homework*. Each individual homework will weigh equally into your final individual homework grade.

**Group homework assignments** are more substantial case exercises completed in self-selected groups of five people. Teamwork on these assignments is not only beneficial but essential. Each group will work as a team to answer the assignment questions and submit a single group solution set. The group homework needs to be typed doubled-spaced in 12pt font. Please form your groups and email this information to the instructor. Since the first group homework report is due on 09/20/10, your groups should be formed as soon as possible. Each group homework will weigh equally into your final group homework grade.

Note, I will not add an assignment beyond what is already listed in the course schedule but I may choose to shift an assignment later in the schedule or eliminate it altogether if necessary.

**Class Participation:** Significant proportion of your class participation grade will be based on attendance at class sessions during the semester (I will take attendance for each class session). The remaining 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, test, 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 follows 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, laptops and other 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.

## OM335: Tentative Schedule

Date	Topic	Readings	Homework Assignment Due
<b>Introductory Sessions</b>			
8/25 W	Course Introduction and Overview; Introduction to Operations Management	Textbook, Chapter 1 (all)	
8/30 M	Introduction to Operations Strategy; Introduction to Process Design and Analysis: State Automobile License Renewal Case	Operations Strategy Chapter (CRP); Textbook, Chapter 2 (Sections 2.0-2.2, 2.6); State Automobile License Renewal Case (distributed by Professor)	
<b>Process Design and Analysis</b>			
9/1 W	Statistics Primer	Statistics Primer (will be distributed by the professor)	
9/6 M	LABOR DAY HOLIDAY		
9/8 W	Intermediate Process Analysis: Flow Time, Flow Rate and Inventory (Little's Law); Discussion of the CRU Computer Rentals Part 1	Textbook, Chapter 2 (Sections 2.3-2.5); CRU Computer Rentals Case (CRP)	Individual Homework 1
9/13M	Visiting Speaker from AMD, Inc.		
9/15W	Supply Process: Evaluating Process Capacity; Multiple Types of Flow Units	Textbook, Chapter 3 (Sections 3.0-3.7)	Individual Homework 2
9/20 M	Improving Processes, Line Balancing, and Reducing Labor Costs: State Automobile License Renewal Case Revisited; Intermediate Process Analysis: Other Ways of Improving Process Capacity	Textbook, Chapter 4 (Sections 4.0-4.6),	Group Homework 1
9/22 W	Intermediate Process Analysis: The Link Between Operations and Finance	Portable Garage Manufacturing Case (distributed by Professor) ; Textbook, Chapter 5	Individual Homework 3
9/27 M	Intermediate Process Analysis: Discussion of the CRU Computer Rentals Part 2; Flow Interruptions: Batching and Set-up Times	CRU Computer Rentals Case (CRP); Chapter 6 (Sections 6.0-6.3, 6.6, 6.7);	Group Homework 2
9/29 W	Advanced Process Analysis: Waiting Line Management: System Characteristics, Basic Models and Performance Measures	Textbook, Chapter 7 (Sections 7.0-7.6)	Individual Homework 4
10/4 M	Advanced Process Analysis: Waiting Line Economics and Managing Variability; Discussion of the <i>The Goal</i>	Textbook, Chapter 7 (Sections 7.8-7.12); <i>The Goal</i>	Group Homework 3
<b>10/6 W</b>	<b>Test 1</b>		
<b>Project Management</b>			
10/11M	Project Management: The Critical Path	Project Management Chapter (CRP)	
10/13W	Project Management: Project Crashing; Accounting for Risk (PERT),	Project Management Chapter (CRP)	Individual Homework 5
<b>Inventory Management</b>			
10/18 M	Inventory Management: Forecasting and the Newsvendor (Single Period) Model	Textbook, Chapter 11 (Sections 11.0-11.2, 11.4); Umbra Visage, Inc. Case (distributed by the Professor)	Individual Homework 6

10/20 W	Inventory Management: Key Performance Measures (Newsvendor Model);	Textbook, Chapter 11 (Sections 11.5-11.8)	
10/25 M	Continuous Review (Multiple Period) Inventory Models	Textbook, Chapter 6 (Sections 6.4-6.5); A Note on Inventory Management Systems (distributed by Professor)	Individual Homework 7
10/27 W	Discussion of the A Tale of Two Electronic Components Distributors Case	A Tale of Two Electronic Components Distributors Case (CRP)	Group Homework 4
11/1 M	Risk Pooling Strategies, Review for Exam 2	Textbook, Chapter 13 (Section 13.1) Chapter 14 (skim this chapter for the <i>ideas</i> );	
<b>11/3 W</b>	<b>TEST 2</b>		
<b>11/8 M</b>	<b>No class because of an evening meeting for the Beer game on 11/17/10</b>		
<b>Supply Chain Management</b>			
11/10 W	Supply Chain Management	“What is the Right Supply Chain for Your Product” (CRP)	
11/15 M	Introduction to Supply Chain Coordination	Textbook, Chapter 16 (Sections 16.0 – 16.2)	Individual Homework 8
<b>11/17 W (Evening)</b>	<b><i>Beer Game (This will be held from 6:30-8:30pm in XXX)</i></b>	<b><i>Beer Game Instructions (distributed by Professor)</i></b>	<b>11/8 M (Evening)</b>
11/22 M	Beer Game Debrief, Supply Chain Coordination and Contracting (cont.)	Textbook, Chapter 16 (Sections 16.3 – 16.6)	
<b>Quality Management</b>			
11/24 W	Introduction to Quality Management and Quality Control, Controlling Quality and the Impact of Quality on Processes	Textbook, Chapter 9 (Sections 9.0 – 9.9)	Individual Homework 9
11/29 M	Discussion of Quality Wireless Case (A & B); Total Quality Management: Six Sigma and The Toyota Production System	Quality Wireless Cases (A & B) (CRP) Textbook, Chapter 10	Individual Homework 10
12/1 W	Application of The Toyota Production System: Discussion of Virginia Mason Medical Center Case Course Evaluations; Review for Final Exam	Textbook, Chapter 10; Virginia Mason Medical Center Case (CRP);	Group Homework 5 (Optional: Individual Homework 11)
12/3 M	LAST DAY OF CLASSES		
<b>12/8 W</b>	<b>FINAL EXAM 7:00-10:00 PM</b>		