

SEMESTER AT SEA COURSE SYLLABUS

Voyage:	Summer 2013
Discipline:	Business
Course Title:	SEMS 3500-102: Operations Management
Division:	Upper
Faculty Name:	Laseter
<u>Pre-requisites:</u>	None

COURSE DESCRIPTION:

Operational excellence represents table stakes in an increasingly competitive world. This course explores the tools and techniques of world-class operation management using a mix of readings, cases, simulations, field projects, and exercises. Students will develop a personal tool kit covering the critical topics of workflow design, statistical quality control, inventory management, scheduling, queuing theory, purchasing, and project management as well as an introduction to Operations Strategy.

COURSE OBJECTIVES

Structured as a foundational course in Operations Management, this course will cover the core topics from a leading textbook in the field. Readings, lectures and group exercises will instill individual competency with the key tools and techniques. Students will reflect more deeply on each topic by exploring case studies, typically based upon global companies or ones based in the port-of-call countries. The case studies also provide the opportunity to synthesize the techniques in a pragmatic, real world context. Accordingly, the course design frontloads the technical material delivered through text readings, lectures, hands-on simulations, and problem-sets and then shifts to a heavier emphasis on cases and practitioner articles for the latter half.

REQUIRED TEXTBOOKS

AUTHOR:	Jay Heizer and Barry Render
TITLE:	Operations Management
PUBLISHER:	Pearson/Prentice Hall
ISBN-10 #:	0136119417
ISBN-13 #:	978-0136119418
DATE/EDITION:	Tenth Edition

A bound course pack containing all assigned cases and articles will be provided on the first day of classes to all students taking the course. The fee for the course pack will range from \$50 to \$80 depending on the number of students in the final enrollment.

TOPICAL OUTLINE OF COURSE

C1- June 19: COURSE INTRODUCTION

Reading: Chapter 1, *Operations and Productivity, Operations Management* (10th Edition), Heizer and Render

Assignment: After reading the assigned chapter work individually to complete the full set of questions at the end of the chapter. We will collectively review them in class.

C2- June 20: DESIGNING OPERATIONS

Exercise: Gazogle Factory Simulation

Assignment: Read the assigned materials and come prepared to participate in a hands-on factory simulation. The exercise will provide each student a first-hand, holistic experience with many of the concepts of the course before focusing in on individual tools and techniques.

C3- June 21: FORECASTING

Reading: Chapter 4, *Forecasting, Operations Management* (10th Edition), Heizer and Render

Assignment: After reading the assigned chapter work individually to complete the full set of questions at the end of the chapter. We will collectively review them in class.

C4- June 22: FORECASTING

Case: Wilkins, A Zurn Company: Demand Forecasting, Ivey-906D06, (2006)
Richard Ivey School of Business, Prahinski and Olsen

Assignment: Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. What are the strengths and weaknesses of the current forecasting process at Zurn?
2. How might you improve the forecasting process?
3. Demonstrate your improved approach by developing a quarterly forecast for 2006 and 2010 using the case data provided.

June 23-June 26: Casablanca

C5- June 27: PRODUCT DEVELOPMENT

Reading: Chapter 5, *Design of Goods and Services*,
Operations Management (10th Edition), Heizer and Render

Assignment: After reading the assigned chapter work individually to complete the full set of questions at the end of the chapter. We will collectively review them in class and also conduct a short hands-on exercise.

C6- June 28: CAPACITY MANAGEMENT

Reading: Supplement 7, *Capacity Planning*,
Operations Management (10th Edition), Heizer and Render

Assignment: After reading the assigned chapter work individually to complete the full set of questions at the end of the supplement. We will collectively review them in class.

C7- June 29: SUPPLY CHAIN MANAGEMENT

Reading: Chapter 11, *Supply Chain Management*,
Operations Management (10th Edition), Heizer and Render

Exercise: Supply Chain Coordination Simulation (AKA “The Beer Game”)

Assignment: Read the assigned chapter to provide a high-level perspective on Supply Chain Management. During class, we will conduct an exercise known as “The Beer Game” which explores the challenges of managing a multi-tier supply chain using the beer industry structure of retailers, distributors, wholesalers, and manufacturers as a model.

C8- July 1: INVENTORY MANAGEMENT

Reading: Chapter 12, *Inventory Management*,
Operations Management (10th Edition), Heizer and Render

Assignment: After reading the assigned chapter work individually to complete the full set of questions at the end of the supplement. We will collectively review them in class.

C9- July 2: INVENTORY MANAGEMENT

Case: Jeni’s Splendid Ice Cream, UVA-OM-TBD, (2012)
Darden Business Publishing, Laseter, Hawkes, and Barnett

Assignment: Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. What are the strengths and weaknesses of the inventory management system at Jeni's Splendid Ice Cream?
2. How might you improve the process? Which approach would you use: Reorder Point, Periodic Review, or JIT/Kanban?
3. What do you recommend as the inventory targets and reorder quantities for each of the following three products:
 - Cream
 - Flour
 - Fresh Mint

July 3-5: Antalya

C10- July 6: PROJECT MANAGEMENT

Reading: Chapter 3, *Project Management, Operations Management* (10th Edition), Heizer and Render

Assignment: After reading the assigned chapter work individually to complete the full set of questions at the end of the chapter. We will collectively review them in class.

C11- July 7: PROJECT MANAGEMENT

Case: Tour Planning at Cirque du Soleil, HEC025, (2011)
International Journal of Case Studies in Management, Jobin and Talbot

Assignment: Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. What are the strengths and weaknesses of Cirque du Soleil's approach to scheduling its tours? How can Project Management disciplines help?
2. Develop a generic project plan covering the logistics for a show?
3. Use the generic plan to consider the critical activities required for the Istanbul project. Where are the risks?
4. Develop a forecast of the profitability of each option. Which of the two projects (if either) would you recommend?
 - Turkey's Ministry of Culture and Tourism
 - Turkish Television and Entertainment Society
 - Neither

July 8-11: Istanbul

C12- July 12: MANAGING WAITING TIME

Reading: Quantitative Module D, *Waiting-Line Models, Operations Management* (10th Edition), Heizer and Render

Assignment: After reading the assigned chapter work individually to complete the full set of questions at the end of the module. We will collectively review them in class.

C13- July 13: MANAGING WAITING TIME

Case: Zappos Customer Loyalty Team, UVA-OM-1452, (2011)
Darden Business Publishing, Laseter and Carter

Assignment: Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. What is Zappos's strategy? How does it compete?
2. How does the Customer Loyalty Team feed into this strategy?
3. Determine the number of Customer Loyalty Team members needed for each half hour slot of the day during the first full week of January 2011 based upon the goal of achieving 80% utilization and an average caller wait time of 20 seconds.
4. How many operators will you need to employ using the current set of schedule options? What impact does that have on utilization?
5. Looking forward, what approach better fits the Zappos business strategy—filling shift requests by seniority or performance? Which do you recommend? What else might improve performance?

July 14-17: Piraeus

C14- July 18: QUALITY MANAGEMENT

Reading: Chapter 6, *Managing Quality, Operations Management* (10th Edition), Heizer and Render

Assignment: After reading the assigned chapter work individually to complete the full set of questions at the end of the module. We will collectively review them in class.

C15- July 19: QUALITY MANAGEMENT

Case: It's a Dirty Job..., UVA-OM-1207, (2005)
Darden Business Publishing, Weiss and Gonce

Assignment: Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. Define the problem. Develop a one-sentence definition of the problem that addresses the scope of the problem and the defect.
2. Quantify the problem. Using an F(X) cascade, determine the cost savings that would result if the problem were solved. Estimate what a realistic project outcome might save in terms of dollars per year.
3. Assess the factors. Evaluate the following factors and determine their influence on the defect count:
 - outside temperature/humidity
 - days of the week
 - primer ovens
4. Theorize the cause. Hypothesize what the root cause of the problem might be. Try using the “five-whys” technique and determine what other actions might help to resolve the issue.
5. Identify actions. For each of the relevant factors, determine a potential containment action that could be tested.

C16- July 20: **LEAN OPERATIONS**

Reading: Chapter 16, *JIT & Lean Operations*,
Operations Management (10th Edition), Heizer and Render

Case: Toyota, HBS Case 9-703-497, (2006)
Harvard Business Publishing, Ghemawat and Nueno

Assignment: After reading the assigned chapter work individually to complete the full set of questions at the end of the module. We will collectively review them in class.

Next, imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. What aspects of the Toyota Production System support producing defect-free products at the lowest possible costs?
2. What is your hypothesis on the causes of the seat defects?
3. What recommendations do you have for Doug Friesen for addressing the seat quality problem on Monday morning?

July 21-23: Livorno

July 24-26: Civitavecchia

C17- July 27: OPERATIONS STRATEGY

Reading: *An Essential Step for Corporate Strategy, strategy+business(57), Laseter*

Case: Columbus Tubing: Steel is Real, HBS Case 9-609-042, (2009)
Harvard Business Publishing, Snow and Pisano

Assignment: Read the assigned article and then the case. Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. Which of the options should Antonio Colombo pursue? Why?
2. What would you like to know to give you greater confidence in your recommendation?
3. Is Colombo's decision a strategic one? What does it have to do with *Operations Strategy*?

C18- July 28: EXPANSION STRATEGY

Case: Instituto Clinicio Humanitas (A) HBS Case 9-609-042, (2009)
Harvard Business Publishing, Bohmer, Pisano, and Tang

Assignment: Read the assigned chapter supplement and then the case. Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. How well is Instituto Clinicio Humanitas performing?
2. How do they realize this level of performance?
3. Why doesn't everyone do this?
4. Should Instituto Clinicio Humanitas affiliate with the University of Milan?

July 29-31: Malta

C19- August 1: DECISION AREAS

Case: ZARA: Fast Fashion, HBS Case 9-703-497, (2006)
Harvard Business Publishing, Ghemawat and Nueno

Assignment: Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. What are the reasons behind Zara's success? What does it do well and how does it do them?
2. What are the key decisions encompassed by Zara's operations strategy? As the VP of Operations at Zara, what would be your major concerns? What changes, if any, would you recommend in Zara's operations strategy?
3. What recommendations would you make to Inditex management about the geographic focus of Zara's stores in the future? Why?

C20- August 2: COMPETITIVE COST ANALYSIS

Reading: *Competitive-Cost Analysis: Cost Drive Framework*, UVA-OM-1254 (2006)
Darden Business Publishing, Laseter and Huang

Case: Tork Corporation: Competitive Cost Analysis, UVA-OM-1171, (2005)
Darden Business Publishing, Laseter and Hammer

Assignment: Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. What are the primary cost drivers for room air conditioning? How do the drivers differ between LG and Tork?
2. Is LG's cost advantage in the small room air conditioning unit sustainable? What are the key risks?
3. Does LG's advantage extend to the larger range of room air conditioning products? *Note: Use case data from the small units to extrapolate across the product line making reasonable assumptions. Hard numbers expected, not just opinions.*
4. How should Tork respond to the LG offer? Why?

August 3-5: Marseille
August 6-8: Barcelona

C21- August 9: STRATEGIC SOURCING

Reading: Chapter 4, *Creating Sourcing Strategies, Balanced Sourcing* (1997), Laseter

Case: Elekrikraft Global Sourcing Initiative (A), Darden Publishing OM-1484, (2010)
Darden Business Publishing, Laseter and Ranjan

Assignment: Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. Consider the AES Global Sourcing Initiative overall. What are they doing well? What could be improved?
2. Assess the progress the Meters team has made versus the elements of a good commodity strategy described in Balanced Sourcing. What are the strengths and weaknesses of their efforts to date?
3. How should the AES Electric Meters team proceed?
 - What are the key leverage points to consider in developing the strategy?
 - Which suppliers hold the greatest promise for AES?
 - How many suppliers would be appropriate?
 - Should AES conduct a reverse auction with FreeMarkets?

Note: be as specific as possible in answering question 3 and support your position with analysis of case data, making any necessary assumptions.

C22- August 10: GLOBAL OUTSOURCING

Reading: *Competitive-Cost Analysis: Cost Modeling Techniques*, UVA-OM-1255 Darden Business Publishing, Laseter and Huang, (2006)

Case: CFNA Credit Corporation: Call Center Outsourcing, OM-1072, (2003) Darden Business Publishing, Laseter

Assignment: Imagine yourself in the role of the case protagonist and come to class prepared to discuss the following questions:

1. Do the price quotes make sense? This is, do they reflect the underlying economics of the different suppliers?
2. Calculate the utilization for each supplier. What might be the reasons it varies?

3. How would the cost structure change for the suppliers if they reached maximum utilization?
4. Was scale a big factor for Call Center Operations? Can it be quantified?
5. What were the strategy implications of this cost modeling?

Note: Be prepared to explain your calculations of the following values for each supplier:

- a) Current cost per call*
- b) Current utilization*
- c) Cost per call at 100% utilization*

August 11-13: Cadiz
August 14-16: Lisbon

C23- August 17: GLOBAL PROVERBS AND COURSE REVIEW

Assignment: Select a proverb which offers a key takeaway from the course. Come to class prepared to share your proverb and explain its relevance. Also, bring any open questions and points of confusion. We will collectively review the course in entirety in preparation for the final exam.

August 18: Study Day

C24-August 19: FINAL EXAM

August 20: Reflection/Reentry
August 21: Convocation/Packing
August 22: Southampton

FIELD WORK

Scheduling multiple plant visits in and around Barcelona such as an apparel factory, a brewery and a meat processing plant. We also hope to have lunch visit a top-ranked IESE Business School at the Universidad de Navarra. Academic objectives:

1. First-hand observation of factory operations
2. Opportunity to view Lean principles in action
3. Appreciation of global dissemination of “best practices”

Students will write a group paper on their observations from the plant tying the observations to the course content.

METHODS OF EVALUATION / GRADING RUBRIC

Grading will be comprised of four components:

- Class Contribution: 30%
- Problem Sets/Pop Quizzes: 20%
- Field Lab Paper: 20%
- Final Exam: 30%

RESERVE LIBRARY LIST

Balanced Sourcing: Cooperation & Competition in Supplier Relationships

AUTHOR: Timothy M. Laseter
TITLE: *Balanced Sourcing: Cooperation & Competition in Supplier Relationships*
PUBLISHER: Jossey-Bass
ISBN 10 #: 0787944432
ISBN 13 #: 978-0787944438
DATE/EDITION: September 1998, 1st Edition

ELECTRONIC COURSE MATERIALS

Current articles from the business press may be identified during 2013 and added to the syllabus and posted to the ship Intranet.

ADDITIONAL RESOURCES

None

HONOR CODE

Semester at Sea students enroll in an academic program administered by the University of Virginia, and thus bind themselves to the University's honor code. The code prohibits all acts of lying, cheating, and stealing. Please consult the Voyager's Handbook for further explanation of what constitutes an honor offense.

Each written assignment for this course must be pledged by the student as follows: "On my honor as a student, I pledge that I have neither given nor received aid on this assignment." The pledge must be signed, or, in the case of an electronic file, signed "[signed]."