COURSE INTRODUCTION

Course Faculty
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Section Hours: 204-101 Monday, 8:00 - 9:00 a.m., C125
204-201 Monday, 9:00 - 10:00 a.m., C125
204-301 Monday, 1:00 - 2:00 p.m., C210
204-401 Monday, 4:00 - 5:00 p.m., C210

Course Overview and Objectives

This course introduces you to concepts and techniques related to the design, planning, control and improvement of service and manufacturing operations. The course attempts to make you conversant in the language of operations management, provide you with quantitative and qualitative tools to analyze basic operations issues, and allow you to see the role of operations management in the overall strategy of the firm. We will cover topics in process analysis, quality program implementation and management, inventory and supply chain management and operations strategy. In each module of the course, we will introduce basic tools for analyzing operations problems, methods of managing that aspect of operations, as well as provide a strategic view, typically using cases, of that aspect of operations. Through this approach we hope to have you learn about operations management tools and about the context in which they operate.

To pursue these objectives most effectively, we will require you to prepare cases and discuss them in class, prepare written analyses of cases and problem sets, participate in simulations and exercises, complete a project with a local organization, and execute both a midterm and a comprehensive final exam. Our objective is to create as much hands-on interaction with operations issues as possible, allowing you to examine how they impact the overall performance of an organization.

Expectations for Class Preparation

We highly recommend, but do not require, that you form study groups of three to five members and that you meet with your study group each week to prepare for class discussion. We find that this approach increases learning, develops a sense of teamwork and encourages good preparation for class discussion. Three problem sets, one at the end of each of the first three class modules, will be accepted from groups with NO associated grade penalty. Thus, group work is encouraged. We strongly prefer groups that contain members from sections taught by the same instructor.
In a typical class session, one or more students will be asked to begin discussion of a selected topic. If you have thoroughly prepared the case and/or readings you should have no difficulty in handling such a lead-off request. Questions for each class session provided in this syllabus guide your thinking about the readings and cases. During case discussions, we will build a complete analysis of the case situation and address the problems and issues it presents. We will ask students to make recommendations, and will discuss the implementation of those recommendations. Frequently, a portion of the class will be a lecture/discussion of concepts and techniques brought out in the case or reading, but useful in a much broader range of situations.

Development of verbal skills is given a high priority in this course. The classroom should be considered a laboratory in which you can test your ability to present your analyses and recommendations clearly, to convince your peers of the correctness of your approach to complex problems, and to illustrate your ability to achieve the desired results through the implementation of that approach.

Some of the criteria that we will use to judge effective class participation for grading purposes include:

- Is the participant a good listener?
- Are points made relevant to the current discussion? Are they linked to the comments of other?
- Do the comments show clear evidence of appropriate and insightful analysis of the case data?
- Is there a willingness to participate?
- Is there a willingness to test new ideas, or are all comments “safe”?
- Do comments clarify and highlight the important aspects of earlier comments and lead to a clearer statement of the concepts being covered?

Written Assignments
You will have three problem sets to complete during the semester, each a comprehensive summary of materials covered in one of the class modules. You are strongly encouraged to work with a study group in discussing and completing these assignments. Once again, there will be NO grade penalty for turning in group work, so it is strongly encouraged. The problem sets, however, will be representative of materials to be covered on the exams, so we encourage each of you to ensure that you fully understand the problems in the homework. The TAs will use Monday sections to review materials that will be useful to you in completing your assignments and provide correct solutions to past problem sets.

**WRITTEN ASSIGNMENTS ARE DUE ON THE SCHEDULED DATES SHOWN IN THE SYLLABUS. LATE ASSIGNMENTS WILL NOT BE ACCEPTED. HAND IN ONLY ONE COPY OF THE ASSIGNMENT PER GROUP.**

Mid-Term Exam
There will be a mid-term exam in the 9th week that will include questions on course content covered up to that time. It will contain both quantitative and qualitative reasoning questions.

Final Exam
There will be a comprehensive final exam at the end of the semester on which students will be expected to show their knowledge of all materials presented in the course. Executing and fully understanding the problem sets and preparing the material for each class will be critical to performance on the final exam.

Other Administrative Information
There are only 15 sessions in this course. We consider this the minimum required to cover the essentials of operations management. Other demands may require you to miss a class, but you should not have more than one such absence. It will be difficult to receive a passing grade in BA 204 without **regular attendance**. All of the course sections will present the same materials during the same week. Should you HAVE to miss the meeting of your section, you may attend another section. Please inform us when you choose to do so,
so that we may properly record the switch in our records. You are asked NOT to switch sections on a regular basis.

We require that you be completely prepared for every class. Since we frequently call on individuals whose hands are not raised, you should let the instructor know before class if an emergency has made it impossible for you to prepare adequately. In these situations, we still encourage you to attend.

To help the faculty and teaching assistants to learn your names as quickly as possible, we ask that you use your namecards regularly.

Group work is encouraged for purposes of general class preparation and for the written assignments. You should not, however, benefit from anyone who has already participated in a faculty-led discussion of the case at Haas or any other school.

**Grading**

Your course grade will be determined by an evaluation of your performance on the following activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Class participation</td>
<td>25%</td>
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<tr>
<td>Written assignments</td>
<td>10%</td>
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<tr>
<td>Mid-Term exam</td>
<td>15%</td>
</tr>
<tr>
<td>Group project</td>
<td>25%</td>
</tr>
<tr>
<td>Final exam</td>
<td>25%</td>
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Class participation grades will be determined by the faculty on the basis of your comments in each class session. We are highly biased towards comment quality as opposed to comment quantity. Written assignments will be graded by the TAs and reviewed by the faculty. Final projects and exams will be graded by the faculty. Details on the group project follow.

**Group Project**

The group project will provide you and your group an opportunity to demonstrate your grasp of operations management concepts in a real-world situation. You may select either a service or a manufacturing organization for your study. In past years, students have studied a range of organizations including The Nature Conservancy, Triple Rock Brewery, Noah’s Bagels, Bingo Burrito, Biscotti Nucci (a cookie manufacturer), Napa Valley Kitchens, Wells Fargo Bank, Williams Sonoma, Body Time, Peet’s Coffee, the Haas Career Center and high-tech companies such as Intel, Hewlett-Packard, Storm Technologies and Cisco Systems. The TAs will provide you with further guidance in selecting an organization, and will focus on some of the early sections on review of a few of last year’s projects. There are two options for completing the project. One entails doing operations consulting with the chosen organization, and the other entails preparing a case analysis or study. Following are our expectations for these types of group projects:

**OPTION 1 – Operations Consulting:**

1) Briefly describe the organization’s overall business strategy and the supporting operations strategy of the organization. Analyze the relationship between the two, and assess the fit between the operations strategy and the overall business strategy. This section should be brief, but provide context for your subsequent analysis.

2) Select a particular process within the organization and conduct a thorough analysis of that process. It is best to identify a process with which the organization is having trouble (e.g., incorrect posting of new real estate listings) or that provides an opportunity for improvement (e.g., expanding capacity to accommodate increased demand). If they are specific about a problem (opportunity) that they are having, you will have a target for your analysis. Avoid the temptation to analyze the entire organization. Be specific and focus on a single process. Characterize the process using tools that have been covered in class that you believe are appropriate to the situation. For example, students in the past have found the quality tools
covered in the Memory Jogger to be particularly useful in assessing the situation. Numbers are essential for a better understanding of the process and for utilizing quantitative tools learned in class. You should think about data you can collect to better understand what is going on with the process, and should plan to collect some data from the organization you study and perform appropriate analysis.

3) Develop recommendations for how the organization should improve the selected process. Your target audience for the recommendations should be the people responsible for the process in the organization you are studying. Discuss specific ways to improve the current process. Make specific, actionable recommendations. Show the value of your recommendations (assuming they are adopted.) Finally, define metrics that the organization can put in place to monitor the process on an ongoing basis and the analyses they might use.

Chapter 4 (“Manager as Problem Solver”), pages 134 - 156, in the text Operations Management: A Value-Driven Approach which is on reserve in the library provides a very nice overview of how managers approach and solve problems. It provides substantive guidance for the process you employ in executing your project so is highly recommended reading.

The format of the final group report can be a written report, a presentation or a specific deliverable such as a spreadsheet model. (You should select the format that best meets the needs of your client organization.) If you elect to prepare a presentation, plan on delivering that presentation to your client organization in person and invite one of the faculty or TAs to attend the presentation. Be constructive and helpful in your report. Adopt a professional attitude, and think of the organization you are assisting as a client. Should you choose to give a presentation, plan to turn in an annotated hardcopy of the presentation along with copies of the detailed analyses you performed in creating the presentation. Similarly, if you develop a specific deliverable such as a spreadsheet model, you should plan to spend time with your client during its development working out the bugs and accommodating changes they suggest, and then show the model to the faculty. It should be turned in with annotations indicating how it works.

OPTION 2 – Case Write-up
Little has been done to document operations management issues in Internet-driven businesses. You may certainly choose to do “consulting” with an Internet-based business (in Option 1). Alternatively, you may want, instead, to document the operations management issues in an Internet-driven business in one of the following two ways:

1) Prepare a case study on a real organization that specifically addresses one of the problem areas we are covering in class. For example, a case on queuing issues in managing websites or on-line catalogs would make the queuing materials we cover more current. We expect that any case that is written will include both the case itself and a teaching note that describes the important objectives of the case, presents basic analyses and summarizes anything that has happened relative to the case problem since the time of the case.

2) Write a thorough paper describing the operations management issues in a specific Internet-driven business (e.g., e-tailing, search engines). This paper would take a broader view of an industry than the case study, but would clearly delineate with specific examples the operations management issues in that industry and how they are handled. This paper should be written as if it will be shared with future classes to inform them of the operations management issues in the Internet business sector.

ALL TYPES OF PROJECTS
We will adhere to the following project milestones as a means of maintaining steady progress on the project:

February 8/10: Option 1 – Submit a one-page description of your target organization and the process you wish to analyze along with a succinct statement of the problem you have been asked to resolve (or opportunity you have been asked to explore) and the name and title of the primary contact at the organization. By this time, you should have made initial contact with the organization, have received approval from them to conduct the project and have agreed upon a first-pass definition of the problem/opportunity you will study. Option 2 – Submit a one-page description of your intended case study
or paper topic. Identify the sources you will use to collect your information. Be specific about the objectives you have for the case study or paper in terms of what you think it will teach future classes of students.

**March 20/23:** Option 1 -- Submit a (maximum) five-page paper describing your first-pass analysis of the problem and process you are studying. Include a clear problem/opportunity statement, a description of the process (including process flowcharts if appropriate), a description of the tools that you expect to apply and the data you expect to collect for further analysis of the problem, and a brief outline of your plan to complete the project. Upon review of these papers, we may ask some teams to meet with us to clarify project focus and/or direction. Option 2 – Submit a (maximum) five-page paper describing what you have learned to date. This paper should serve as a detailed outline for the final case study or paper you will submit.

**April 3-7:** Sign up to meet with a faculty member to spend ½ hour reviewing work on your project. Bring data you have collected to date, models you are building, data collection forms you are using, etc. along with any questions you have about tool use, model development, proposed recommendations, etc. to the meeting. The objective of this meeting is to provide real-time feedback and last minute corrections to your project efforts. You are, of course, welcome to meet with the faculty at any time during your project.

**May 2-15:** Written reports are due on May 2/4th. Submit one copy of your report to your BA 204 professor and one to your “client.” Final presentations may be made during the week of May 8 - 12 (or before!) Please schedule presentations through the TAs who will coordinate schedules with faculty members.
## BA 204
Introduction to Operations Management

### Course Outline

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<th>Case/Reading</th>
<th>Topic Area</th>
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<td>1</td>
<td>1/18 and 1/20</td>
<td>• Note on How to Approach POM Cases</td>
<td>Introduction: Role of Operations in Corporate Competitiveness, Examples of Operations, Operations Strategy</td>
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<tr>
<td>2</td>
<td>1/25 and 1/27</td>
<td>• Kristen’s Cookie Company (A) • Process Fundamentals</td>
<td>Process Analysis: Vocabulary and Basics</td>
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<td>3</td>
<td>2/1 and 2/3</td>
<td>• El Cerrito DMV Case (On-line) • Queueing Models (Ragsdale) • Ringing Up Big Business, Vijay Mehrotra, OR/MS Today, August 1997</td>
<td>Process Analysis: Queue Management</td>
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<td>4</td>
<td>2/8 and 2/10</td>
<td>• Simulation as a Decision-Aid PROJECT PROPOSAL DUE</td>
<td>Process Analysis: Simulation as a Process Analysis Tool</td>
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<td>5</td>
<td>2/15 and 2/17</td>
<td>• Process Control at Polaroid (A) • Constructing and Using Process Control Charts • Memory Jogger PROBLEM SET #1 DUE</td>
<td>Quality Management: Vocabulary and Basics</td>
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<td>6</td>
<td>2/22 and 2/24</td>
<td>• Florida Power &amp; Light’s Quality Improvement Program (Q1) Story Exercise (A) • A Note on Quality: The Views of Deming, Juran, and Crosby</td>
<td>Quality Management: Total Quality Management Program Implementation</td>
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<td>8</td>
<td>3/7 and 3/9</td>
<td>• Manager’s Guide to Forecasting (HBR January-February 1986) • A Note on Production Inventories • Note on Newsboy Problem PROBLEM SET #2 DUE</td>
<td>Production and Inventory Management: Vocabulary and Basis of Forecasting and Inventory</td>
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<td>9</td>
<td>3/14 and 3/16</td>
<td>• Toyota Motor Manufacturing, U.S.A, Inc. • Handout on MRP</td>
<td>Production and Inventory Management: Integrated Management Approaches – Just-in-Time and MRP</td>
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<td>10</td>
<td>3/20 and 3/23</td>
<td>• BEER GAME PROJECT UPDATE DUE PROBLEM SET #3 DUE</td>
<td>Current Issues in Operations Management: Supply Chain Management – Understanding the Problem</td>
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<td>3/27 to 3/31</td>
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| 11         | 4/4 and 4/6| • Effective Supply Chain Management, Sloan Management Review, Summer 1993  
              • Shape Up, Ship Out, OR/MS Today, April 1996                      | Current Issues in Operations Management: Supply Chain Management – Identifying Solutions |
| 12         | 4/11 and 4/13 | • Cisco Systems, Inc.: Implementing ERP                        | Current Issues in Operations Management: Managing Information Systems             |
| 15         | 5/2 and 5/4   | **FINAL PROJECT DUE**                                         | Summary: Evaluation and Review                                                   |
|            | 5/19                            | **FINAL EXAM: 8:00 – 11:00 A.M.**                                  |                                                                                 |
BA 204
Introduction to Operations Management
Course Outline and Assignments

Required Text and Course Materials

Most required reading for this course is available in the course packet and a small book called The Memory Jogger by Goal/QPC. We have also drawn some reading materials and spreadsheet models from your BA200Q text, Spreadsheet Modeling and Decision Analysis, Cliff Ragsdale, 2nd Ed. Some additional readings will be handed out in class.

Recommended Books

For those of you wishing supplemental reading to support course materials, we have suggested readings in the following textbook which is on reserve at the Business Library: Operations Management: A Value Driven Approach by Steven Melnyk and David Denzler, Irwin Publishing, Inc., 1996. You will find reference to readings in this book throughout the syllabus under the heading “supplemental reading.”

Other relevant books you may find interesting:
Ben Hamper, Rivethead: Tales from the Assembly Line, Warner Books

Class 1: Introduction

Read: Note on How to Approach POM Cases (HBS 9-685-061)

In this introductory session we will frame the operations management issues in their strategic context and introduce basic terms to be used throughout the semester. Come prepared to discuss what operations management means to you, what the key elements of managing operations are, and what constitutes a “process.”

Supplemental reading (for those interested in more background):
Chapter 1: Operations Management: A Field in Transition, pages 2-15
Chapter 3: Identifying the Elements of Value, pages 72-84, 93-109, 113-117
Chapter 12: Designing the Delivery Process, pages 547-589
See textbook title in “recommended books” section above.

Class 2: Process Analysis – Vocabulary and Basics

Case: Kristen’s Cookies (A) (HBS 9-686-093)
Read: Process Fundamentals (HBS 9-696-023)

This session introduces the standard tool of process analysis, the process flowchart. It also defines basic terms: set-up time, run time, throughput time, cycle time, labor content and capacity. The case puts you in the position of being about to open a two-person midnight cookie baking operation that you will operate from your apartment. You are asked to analyze the design of this simple process. Using the standard tools of process analysis you will gain insight into whether or not the process will work, how well it will work, how much it will cost, and what improvements are possible. All the analysis is performed in a deterministic environment. In the latter part of the class, we will introduce the concept of uncertainty in a process and discuss basics of queue analysis and management. Prepare the following questions for class discussion:
1. Answer the case’s six key questions. Be sure to consider the effects of a second oven.
2. Answer the case’s five problems for further thought.

NOTE: There is flowcharting software, VISIO, available in the computer center for those of you who are interested. The TAs can provide more information on how to use the software. Some of you may find it useful for this case and others throughout the semester, as well as for your projects.

Supplemental reading:

Class 3: Process Analysis – Queue Management

Case: El Cerrito DMV (on-line)
Read: Ringing Up Big Business, Vijay Mehrotra, OR/MS Today, August 1997
Read pages 594-616 in your Ragsdale text (copies on reserve)

In this class session we will introduce basic models for the analysis of queues. This class will concentrate on mathematical models for queue analysis, while the next class will introduce simulation models. We will discuss some basic relationships and tradeoffs in queueing systems including Little’s Law and the relationship between the queue length and utilization.

1. Perform the following experiments with the spreadsheet Q.xls (from Ragsdale) to get a better understanding of queuing systems.
   a. Open the M/M/s spreadsheet and enter arrival rate = 10, service rate = 1.01 and number of servers s= 10. Note the server utilization, the queue length (L) and the waiting time (W). Increase the number of servers to 11, 12, 13, 14, 15, and 16 and note the above values. Plot server utilization vs. queue length. Also plot waiting time vs. number of servers and waiting time vs. queue length.
   b. Use the M/M/s model and set s=1 (this now corresponds to a M/M/1 queue). Set the arrival rate = 10, service rate = 20. Note the queue length (L) and the waiting time (W). Change arrival rate to 11, 12, 13, 14, 15 and note down L and W. Plot waiting time vs. queue length.
   c. (1) Use the M/G/1 model and enter average service time = 0.05 (this is equivalent to a service rate of 20) and standard deviation of service time = 0.03. (What was the standard deviation in b?) Repeat exercise (b) with these new settings. (2) Next, change the standard deviation to 0.07 and again repeat (b). (3) Finally change the standard deviation to 0.0 (this corresponds to a M/D/1queue) and repeat (b). What are the similarities and the differences in the plots for (b), c(1), c(2) and c(3) ?

2. See questions associated with on-line case

Class 4: Process Analysis – Simulation as a Process Analysis Tool

Read: Simulation as a Decision-Aid (HBS 9-697-062)

In this class, we will revisit queuing theory concepts and relate them to operations both in the service and manufacturing industry. We will discuss the role of variability in systems and how to tackle it. In real situations, queuing models may not always be appropriate. Simulation, which is a more general tool, will be introduced and its uses discussed.

Supplemental reading:
Chapter 15: Capacity Management, pages 693-715

Class 5: Quality Management – Vocabulary and Basics

Case: Process Control at Polaroid (A) (HBS 9-693-047)
Read: Constructing and Using Process Control Charts (HBS #9-686-118)
Memory Jogger
This class commences our module on quality management. We start with an examination of the basic tools of quality management, building and interpreting control charts with the Polaroid case. We will then review the implementation of tools such as these in a Total Quality Management program, and finally will understand the strategic implications of engaging in quality programs.

At the time of the case, Polaroid is in the midst of introducing statistical process control (SPC) to their R2 plant. The results of their work to date suggest that quality is declining rather than improving according to the quality assurance organization. The case gives you a chance to understand the roles of product sampling and process control in quality management.

1. Describe the product sampling process in place at Polaroid. What does this process accomplish? Why is it structured as it is?
2. How does process control differ from product sampling in achieving quality output? Which is better? What are the long-term implications for improvement of each approach?
3. Using the data in case exhibits 4 and 5 (provided to you in spreadsheet form), construct control charts for Polaroid. What do the control charts tell you? What next steps would you take as a result of analyzing these charts?
4. What other tools from Memory Jogger would be particularly useful in this case? How would you use them?
5. How should Polaroid incorporate consumer interests into their process control system? How should they handle ongoing concerns people have about the system? Should they change their program once defect rates drop below 1%?

Supplemental reading:
Chapter 4: Decision-Making in Operations Management, pages 156-171
Chapter 8: TQM: Tools and Techniques, pages 338-350, 353-365, and 373-375


Case: Florida Power & Light Quality Improvement Story Exercise (A)
Read: A Note on Quality: The Views of Deming, Juran and Crosby (HBS 9-687-011)

This case study and exercise describe a large-scale, company-wide quality improvement program (QIP) at Florida Power & Light Company (FP&L). FP&L’s QIP has been praised as one of the best in the United States. The case provides a strategic perspective of FP&L’s QIP. The exercise brings to life the methodology used by FP&L to make quality improvement happen, and allows you to see the implementation of the quality tools reviewed in the last class. In particular, the exercise presents an application of the heart of FP&L’s QIP, a problem-solving mechanism known as a quality improvement story. To prepare the case, answer the following questions:
1. What are the strengths and weaknesses of FP&L’s QIP?
2. What factors are responsible for the success of FP&L’s QIP? Consider both organizational issues and contextual factors.
3. What are the characteristics of businesses in which an FP&L-style program is appropriate? Inappropriate?
4. WITH YOUR STUDY GROUP, GO THROUGH THE EXERCISE, STOPPING TO ANSWER EACH QUESTION BEFORE CONTINUING. TRY TO IMAGINE WHAT IT WOULD ACTUALLY BE LIKE TO BE ON THE TEAM.

Supplemental reading:
Chapter 7: Total Quality Management: Frameworks and Standards, pages 290-311, 319-333

Class 7: Quality Management – Knowledge Creation and Management

Case: Solagen: Process Improvement in the Manufacturing of Gelatin
Read: Managing and Measuring Technical Knowledge, Sloan Management Review
In this class, the last in our module on quality management, we will integrate material from the prior two sessions on quality with an understanding of the role of knowledge management in an organization. Prepare the following questions for class discussion:

1. Should Kodak build a new gelatin manufacturing plant based on the new Solagen process?
2. What issues do you think Mr. Bolten should be considering? What roles do learning and knowledge play in the gelatin manufacturing strategy?
3. What are the key issues in implementing change to the gelatin manufacturing process?

Supplemental reading:
Chapter 6: Managing the Human Resource, pages 261-266
Chapter 19: Future Challenges for Operations Managers, pages 935-942

Class 8: Production and Inventory Management – Vocabulary and Basics of Forecasting and Inventory

Read:
Manager’s Guide to Forecasting (HBR January-February 1986)
A Note on Production Inventories (HBS 9-683-065)
Note on Newsboy Problem

This commences a module on inventory management that will cover the basics of inventory management, forecasting, Just-In-Time and planning tools. In this class we will learn about the role of inventory and how to manage it effectively. We will cover three inventory models that apply under conditions of deterministic demand: (1) Economic Order Quantity (EOQ), (2) Production Lot Sizing, and (3) Quantity Discount models. For demand that is uncertain, as it is in most real life situations, we will use incremental analysis in the Newsboy problem. Come to class prepared to discuss the readings and the practice problems provided online.

Supplemental reading:
Chapter 16: Inventory Management, pages 739-779

Class 9: Production and Inventory Management – Integrated Management Approaches

Case: Toyota Motor Manufacturing, U.S.A, Inc. (HBS 1-693-019)
Read:
Handout on MRP
SAP, Baan, PeopleSoft websites (see links on class website)

In this class, the last in our inventory management and production planning module, we will examine the JIT philosophy through a case which describes a situation of defective seats in the Toyota Camry assembly line and how that situation could be handled utilizing the principles of Just-In-Time manufacturing. We’ll also introduce the basic principles of MRP and talk about how MRP and JIT work together in many organizations. Prepare the following questions for case discussion:

1. What is MRP? Why does it affect all of the functions in the company? Why is inventory record accuracy critical to its performance? Are there parallel data management issues in other types of organizations?
2. As Doug Friesen, what would you do to address the seat problem? Where would you focus your attention and solution efforts?
3. Do you think the current routine for handling defective seats deviates from the principles of the Toyota Production System? Why/why not?
4. What is the real problem facing Doug Friesen?

Supplemental reading:
Chapter 10: Demand Management and Demand Forecasting, pages 453-480
Chapter 17: Materials Management, pages 793-795, 801-818, 830
Chapter 9: Just-In-Time Operations Management, pages 385-434

Class 10: Current Issues in Operations Management – The Supply Chain Management Problem

We will run a short simulation game during this class session called the “Beer Game.” Developed at MIT’s Organizational Learning Center, the game’s purpose is to introduce you to “systems thinking.” In the simulation, you will have the opportunity to participate as a member of a beer production and supply chain. Come prepared with clever ideas as to what you might name your beer. DO NOT TALK WITH YOUR CLASSMATES, OR WITH SECOND YEARS, ABOUT THE GAME. WE WILL RESERVE REFLECTION AND CONVERSATION FOR THE NEXT CLASS SESSION. (We will ask for volunteers early in the semester to help us run the game. If you have played the game before, you may wish to volunteer.)

Class 11: Current Issues in Operations Management – Identifying Solutions to the Supply Chain Management Problem

Read: Effective Supply Chain Management, Sloan Management Review, Summer 1993
Shape Up, Ship Out, OR/MS Today, April

DO NOT TALK WITH YOUR CLASSMATES, OR WITH SECOND YEARS, ABOUT THE BEER GAME!! Jot down your impressions, feelings, and reactions to the Beer Game. Are there ideas in the readings of ways that you might have changed your Beer Game experience? What changes do you believe would have had the most effect? We’ll spend part of our class time debriefing your experiences and talking about the critical aspects of supply chain management.

Class 12: Current Issues in Operations Management – Managing Information Systems

Case: Cisco Systems, Inc.: Implementing ERP

In this class session we’ll talk about Enterprise Resource Planning Systems, and their importance in running operations in both manufacturing and service companies today. Prepare the Cisco case for class discussion.
1. At the end of the case, Pete Solvik has a number of questions. Think about them and be prepared to give your answers. What factors made the difference between success and failure of the Cisco ERP project? Where was the ERP team “smart”? Where was the ERP team just plain lucky? Do you think that the Cisco team could do such a project again if they had to? Why? Why not?
2. Consider the role of the ERP in the overall Cisco IT architecture. How important is ERP to the overall architecture? Do you see the ERP component as something that will be undertaken by some, most or all companies as they build their Information Age IT architectures?

Class 13: Current Issues in Operations Management – Managing Global Operations

The Sport Obermeyer case describes the forecasting, planning and production processes of a global skiwear supply channel. Sport Obermeyer is a high-end fashion skiwear design and merchandising company headquartered in Aspen, Colorado that sells its product through U.S. department stores and ski shops. Although the company has a global supply network, most of its critical outerwear products are sourced through the Hong Kong-based Company, Obersport, a joint venture between Sport Obermeyer and a Hong Kong partner. Obersport, in turn, manages supply and production operations in Hong Kong and China. The case provides an in-depth description of the planning and production processes Sport Obermeyer and its supply channel partners undergo each year to develop and deliver Obermeyer’s product line, with particular emphasis on the nature of the information that flows among the members of the supply chain and the timing of key decisions and events.
1. 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 price differences among styles in your initial analysis.)

2. What operational changes would you recommend to Wally to improve performance?

3. How should Obermeyer management think (both long-term and short-term) about sourcing in Hong Kong versus China?

Supplemental reading:
Chapter 13: Supply Chain Management, pages 612-630

Class 14: Current Issues in Operations Management – New Product Development Processes

Case: Product Development at Dell Computer Corporation

New product development and operations are closely linked activities in many organizations. In this case we’ll explore critical issues in managing new product development and the linkages between operations and new product development management. Prepare the following questions for class discussion:

1. What are the competitive forces shaping the computer industry in 1993?

2. What has been the state of Dell Computer Corporation prior to and including 1993? Its finances? Its customer base? Its products and product development process?

3. Why has Dell’s senior management introduced the new 18-month development process? What are they trying to change or improve?

4. Which battery option should Holliday’s team select? Stay with the proven NiHi battery technology? Or go with the new LiOn battery technology under development at Sony? Or should they defer the decision until the qualification phase review?

Class 15: Class Summary

We will dedicate the last class session to a summary of the materials covered during the class and a discussion of where operations managers will find their challenges and opportunities in the future. We’ll also talk about your group projects and share learning from them.

Supplemental reading:
Chapter 19: Future Challenges for Operations Managers, pages 907-935, 942-950