

Spring 2024 SCM 7330 (26070)
Demand and Supply Integration
Bauer College of Business, University of Houston
Department of Decision and Information Systems

Instructor: Dr. Mehdi Farahani, Assistant Professor of Operations Management
E-Mail: mfarahani@uh.edu (Use email to contact the instructor; do not use Canvas messaging system).
Class Time: 6:00 - 9:00 pm CT, Thursday
Office Hours: 3:00 - 5:00 pm CT, Thursday or by appointment
Office: MH 290D

COURSE DESCRIPTION

Supply chain management is the integrated management of the flow of materials, products, services, and cash from the suppliers all the way to the customers and often from the customers back to the suppliers. Due to the large-scale and complex nature of supply chains, effective management of these flows is a challenging task and requires integration within the firm and across the supply chain. This is often referred to as Demand-Supply Integration, where the challenge is to balance the customers' demand characteristics with the supply chain's capabilities for providing the product. Strategically managing both the customer's demand characteristics and supply chain processes accomplishes this balance through a deep understanding of a firm's distribution and manufacturing planning and control (DMPC) systems (which are embedded in Enterprise Resource Planning (ERP) systems in a great number of organizations) and by tailoring them to provide competitive advantage.

COURSE OBJECTIVES

This course provides an understanding of the strategies and techniques used to obtain demand and supply integration. Specifically, the focus is on (1) the components comprising the DMPC and their integration and (2) alternative strategies for balancing demand and supply.

PRE-REQUISITES: SCM6A01

COURSE TEXTBOOK AND OTHER MATERIALS

Textbook: *Manufacturing Planning and Control for Supply Chain Management- The CPM Reference – Second Edition* by Jacobs, F. R., Berry, W. L., Whybark, D. C. and Vollmann, T. E. (2018). ISBN 978-1-260-10838-5

Case studies: There is a course page created on Harvard Business Online for you, where you can access the cases required for the course. The link is listed below:

<https://hbsp.harvard.edu/import/1136588>

You will have to register with Harvard Business Online to get access to the cases the easiest and the least expensive way.

STRUCTURE OF THE COURSE

This course meets once a week. Hence, every session is important. Class activities are designed to discuss the material covered by the cases and readings. However, class activities only enhance the materials found in the texts, not replace them. In order to have meaningful live class sessions, you must read the assigned course material **BEFORE** the session and be prepared to discuss during the session!

GRADES

A 100 point scale is used for this course. Grades will be made up of the following items:

Exam 1: It measures the mastery of the course material. The exam will cover all material from lectures, readings, videos, exercises, study problems, etc. The exam format will be discussed during class time. Each student will be allowed to use a regular calculator during the exam. Cell phones cannot be used instead of calculators.

Exam 2: It measures the mastery of the course material. The exam format will be discussed during class time. Each student will be allowed to use a regular calculator during the exam. Cell phones cannot be used instead of calculators.

Quizzes: There will be quizzes during the semester. Each will entail knowledge of materials already assigned or discussed. Preparing notes on discussion questions, working assigned problems and reviewing material assigned will enhance performance on the quizzes.

Short Case Reports: Each student will submit three case reports. Each report should be around one page. In the report, the student should briefly answer the discussion questions provided for that case.

Case Analysis: Each student will be assigned to a team for case analysis. The team will prepare the case analysis for presentation. The presenting team should provide copies of the power point slides, a 2-page executive summary of the analysis and other relevant material to the professor on the due date.

In Class Performance: I view each class meeting as a business meeting. During this time the course material and topic will be discussed. You are expected to actively participate during class meetings. Your contributions toward advancing the class' understanding of the course material provide the basis for your in-class performance grade. The quality of one's contributions versus the quantity of contributions weigh more heavily in demonstrating a high level of in-class participation. Insightful analysis of the day's topics is a plus. Class attendance alone does not indicate in-class performance—you must make a contribution to class learning as appropriate.

| Grade Calculation: | <u>Percentage</u> |
|---|-------------------|
| Exam 1 | 30% |
| Exam 2 | 30% |
| Short Case Reports (3 Reports) | 10% |
| Case Analysis (Team Full Case Reports and Presentation) | 10% |
| Quizzes | 10% |
| In-class performance | <u>10%</u> |
| Total | 100% |

In determining the final course grade, the following scale is used to convert points into letter grades:

| | | | |
|------|--------------|------|--------------|
| A = | 94 - 100 % | C+ = | 78 - 79.99 % |
| A- = | 90 - 93.99 % | C = | 70 - 77.99 % |
| B+ = | 88 - 89.99 % | D = | 60 - 69.99% |
| B = | 80 - 87.99% | F = | 0 - 59.99% |

MAKE-UP EXAM POLICY

The syllabus contains the dates of the exams so that you can schedule your other activities around these dates. If a major exam is to be missed due to [an approved university absence](#), you should inform the instructor as soon as possible prior to the exam (if not possible, no later than 24 hours after the exam). A make-up exam will then be scheduled as soon as possible. The make-up exam will cover all the material presented up to the date of the make-up exam. The format of the exam may be different than the original exam format.

GENERAL POLICIES

As students enrolled in courses offered by the Bauer College, you are expected to adhere to the ethical principles described in the Bauer Code of Ethics and Professional Conduct (Bauer Code), in addition to those required by the UH Student Handbook. You may review the Bauer Code by clicking on the following link - <http://www.bauer.uh.edu/BCBE/BauerCode.htm>. You may obtain a copy of the UH Student Handbook from the Dean of Students Office located in room 252 of the University Center, or by visiting the publications webpage on the Dean of Student's website at <http://www.uh.edu/dos/pub.html>.

- 1. Excused Absence Policy:** Regular class attendance, participation, and engagement in other course-required activities are important contributors to student success. Absences may be excused as provided in the University of Houston [Graduate Student Excused Absence Policy](#) for reasons including: medical illness of student or close relative, death of a close family member, legal or government proceeding that a student is obligated to attend, recognized professional and educational activities where the student is presenting, and University-sponsored activity or athletic competition. Additional policies address absences related to [military service](#), [religious holidays](#), [pregnancy and related conditions](#), and [disability](#).
- 2. Technology Use during the Sessions:** It is expected that you attend to every live session on time and stay until the end of the session and be ready to participate in the discussion. In order to avoid any distraction during sessions, please close all non-course related programs/websites (email, Internet sites, chat, etc.) on your computers and put your cell phones on silent before joining the sessions. Access to a webcam is required for students participating remotely in this course. Webcams must be turned on during class time and assessments (quiz, exam, etc.). Please remember to mute your microphone unless you are speaking.
- 3. Recording of Class (in case a session is online):** Students may not record all or part of class, livestream all or part of class, or make/distribute screen captures, without advanced written consent of the instructor. If you have or think you may have a disability such that you need to record class-related activities, please contact the [Justin Dart, Jr. Accessibility Center](#). If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Classes may be recorded by the instructor. If recorded and shared by the instructor, students may use instructor's recordings for their own studying and notetaking. Instructor's recordings are not authorized to be shared with *anyone* without the prior written approval of the instructor. Failure to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.
- 4. Resources for Online Learning:** The University of Houston is committed to student success, and provides information to optimize the online learning experience through our [Power-On](#) website. Please visit this website for a comprehensive set of resources, tools, and tips including: obtaining access to the internet, AccessUH, and Canvas; requesting a laptop through the Laptop Loaner Program; using your smartphone as a webcam; and downloading Microsoft Office 365 at no cost. For questions or assistance contact UHOnline@uh.edu.
- 5. Student Communication:** It is expected that you follow rules of common courtesy in all course communication including, but not limited to email messages, discussions, and chats. All communication should be civilized and respectful to all. Course tools also need to be used in a respectful manner. Any disruptive behavior or activity will not be tolerated.
- 6. UH Email:** Please check and use your Cougarnet email for communications related to this course. To access this email, login to your [Microsoft 365](#) account with your Cougarnet credentials.
- 7. Office Hours:** There will be regularly scheduled office hours via Zoom. If, for any reason, you need to meet at an alternate time, please contact the professor for arrangements. You are encouraged to contact the professor at the first sign of any problem or lack of understanding. Do not wait until it is too late! However, office hours are not meant for lecturing on the course material you missed. You are expected to review all the lecture notes, read all the assigned course

material, work on the suggested problems before contacting the professor for assistance on a topic.

8. **Study Groups:** I strongly encourage students to form study groups for the course. This will provide a resource for information should you miss class, a venue for discussing assignments, and a study group for exams.

9. **Canvas:** Course materials, announcements, grades or changes to the course outline will be posted on Canvas. It is the student's responsibility to check Canvas before every class period for important announcements, class notes, emails, grades and changes to the course schedule.

10. **Respondus Monitor and LockDown Browser:** LockDown Browser is a locked browser for taking tests. It prevents you from printing, copying, going to another URL, or accessing other applications during a test. When a Canvas test requires that LockDown Browser be used, you will not be able to take the test with a standard web browser. LockDown Browser should only be used for taking Canvas tests. It should not be used in other areas of Canvas. You will be required to use LockDown Browser with a webcam, which will record you during an online exam/quiz. (The webcam feature is sometimes referred to as "Respondus Monitor.") You must have a reliable computer with a functioning webcam and a microphone. A broadband connection is also required.

Important Reminders About Completing Assignments & Taking Tests Online

Please be mindful of deadlines, testing dates, account logins, and your computer equipment. Recommendations for successful completion of the exam:

- Avoid taking online exams (if any) using a smartphone or smart device. Use a computer- laptop or desktop.
- Connect your computer to a charger, do not rely on the battery alone.
- Restart and run software updates (Windows or OSX, and Java updates) long before your test time.
- Make sure that your internet connection is stable. Connect to the internet using an Ethernet cable if available.
- During the exam, shut off all internet devices, including cellphones connecting to your local network.
- Save all bandwidth for your exam, tell people sharing your internet not to use it while taking exams, ask them to turn off Wi-Fi on all cellphones during this time.

11. **Academic Dishonesty:** Scholastic Dishonesty is defined as (1) Acquiring or attempting to acquire information from others (e.g., observing the work of others during an exam), (2) Providing others with information on quizzes/exams/assignments, projects, etc.; (3) Plagiarism, (4) Conspiracy to commit any of the above, (5) Fabrication of information. The University of Houston honor code statement applies to all students in this class. Any student caught providing or receiving assistance on an exam/quiz/homework assignment will immediately be given a grade of "F" for the course. Students may be asked to sign an honor code statement as part of their submission of any graded work including but not limited to projects, quizzes, and exams: *"I understand and agree to abide by the provisions in the ([University of Houston Graduate Academic Honesty Policy](#)). I understand that academic honesty is taken very seriously and, in the cases of violations, penalties may include suspension or expulsion from the University of Houston."*

12. **Students with Disabilities:** The University of Houston complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, pertaining to the provision of reasonable academic adjustments/auxiliary aids for disabled students. In accordance with Section 504 and ADA guidelines, UH strives to provide reasonable academic adjustments/auxiliary aids to students who request and require them. Any student who feels s/he may need an accommodation based on the impact of a disability should contact the professor privately within the first week of class to discuss his/her specific needs. The student also needs to contact the [Justin Dart, Jr. Accessibility Center](#) within the first two weeks for coordinating accommodations.

Justin Dart, Jr. Accessibility Center

CSD Building #568, Room #110, University of Houston, Houston, Texas 77204-3022

Phone: (713) 743-5400; TDD: (713) 749-1527; Email: JDCenter@central.uh.edu

13. **Counseling and Psychological Services (CAPS):** CAPS can help students who are having difficulties managing stress, adjusting to college, or feeling sad and hopeless. You can reach CAPS (www.uh.edu/caps) by calling 713-743-5454 during and after business hours for routine appointments or if you or someone you know is in crisis. Also, there is no appointment necessary for the "Let's Talk" program, which is a drop-in consultation service at convenient locations and hours around campus. <https://uh.edu/caps/outreach/lets-talk/>

14. **Title IX/Sexual Misconduct:** Per the UHS Sexual Misconduct Policy, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and state law and must report incidents of sexual misconduct (sexual harassment, non-consensual sexual contact, sexual assault, sexual exploitation, sexual intimidation, intimate partner violence, or stalking) about which they become aware to the Title IX office. Please know there are places on campus where you can make a report in confidence. You can find more information about resources on the Title IX website at <https://uh.edu/equal-opportunity/title-ix-sexual-misconduct/resources/>

15. **Security Escorts and Cougar Ride:** UHPD continually works with the University community to make the campus a safe place to learn, work, and live. Our Security escort service is designed for the community members who have safety concerns and would like to have a Security Officer walk with them, for their safety, as they make their way across campus. Based on availability either a UHPD Security Officer or Police Officer will escort students, faculty, and staff to locations beginning and ending on campus. If you feel that you need a Security Officer to walk with you for your safety please call 713-743-3333. Arrangements may be made for special needs.

Parking and Transportation Services also offers a late-night, on-demand shuttle service called Cougar Ride that provides rides to and from all on-campus shuttle stops, as well as the MD Anderson Library, Cougar Village/Moody Towers and the UH Technology Bridge. Rides can be requested through the UH Go app. Days and hours of operation can be found at <https://uh.edu/af-university-services/parking/cougar-ride/>

16. **Syllabus Changes:** Please note that the instructor may need to make modifications to the course syllabus and may do so at any time. Notice of such changes will be announced as quickly as possible through Canvas.

Helpful Information

COVID-19 Information: <https://uh.edu/covid-19/>

Coogs Care: <https://www.uh.edu/dsaes/coogscare/>

University Information Technology Services: <https://www.uh.edu/infotech/>

Student Health Center: <https://www.uh.edu/healthcenter/>

HAVE A GREAT SEMESTER!

SPRING 2024 SCM 7330 - Tentative Course Schedule

WEEK 1- JANUARY 18, 2024

| Topic | Action | Items to be Completed | Due No Later Than |
|--|--------|--|--|
| Introduction to Demand & Supply Integration | Watch | “What the rapid decline in China trade demand means for 2023 supply chain, inflation”, December 7, 2022 - https://www.cnbc.com/video/2022/12/07/why-continued-supply-chain-bottlenecks-in-china-could-stoke-inflation-in-early-2023.html?&qsearchterm=demand%20and%20supply | Before the session |
| | Read | “Miner Piedmont unveils plans to build lithium refining plant in push for domestic EV supply chains”, by Pippa Stevens, September 1, 2022- https://www.cnbc.com/2022/09/01/miner-piedmont-unveils-plans-for-new-lithium-refining-plant-in-push-for-domestic-ev-supply-chains.html?&qsearchterm=ev%20supply%20chain | Before the session |
| | Read | “In Pandemic Travel Bust, Cargo Shipments of Botox and Cheese Replace Passengers for Starving Airlines”, by Leslie Josephs, November 7, 2020 - https://cnb.cx/3n2TIOW | Before the session |
| | Read | Chapter 1: <u>Manufacturing Planning and Control</u> , pages 1-12. | After the session |
| | Attend | Discussion / Q & A Session | January 18 th 6:00 pm CDT. |

Discussion Questions (No need to turn in answers)

Chapter 1: Manufacturing Planning and Control, pages 1-12.

- a. What are the typical tasks performed by the MPC system and how do these tasks affect company operations?
- b. What are the key MPC components and how do they respond to a company’s needs?
- c. How do supply chain product- process issues affect MPC system design?
- d. What forces drive changes in the MPC and how do companies respond to forces?

WEEK 2- JANUARY 25, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|------------------------------|-----------------|--|---|
| Supply Chain Strategy | Read (Optional) | Article: “Operations Management Reading: Supply Chain Management” Harvard Business Publishing, #8031-PDF-ENG (Included in Course Packet) pages: 3-15 | After the session |
| Bullwhip Effect | Read | <u>Article:</u> “A Pain in the (Supply) Chain”, Harvard Business Review Case Study, May 2002, p. 31-37. https://hbr.org/2002/05/a-pain-in-the-supply-chain (Also Posted on Canvas) | Before the session |
| | Attend | Discussion / Q & A Session | January 25 th , 6:00 pm CDT. |

Discussion Questions (No need to turn in answers)

Case: “A Pain in the (Supply) Chain”, *Harvard Business Review Case Study*, May 2002, p. 31-37.

- What are the problems that Exceso is experiencing as a result of its promotion strategy?
- Should Exceso maintain its aggressive promotion strategy? What are the implications of its strategy?
- What would be your advice to Exceso in dealing with the problems it’s experiencing?

WEEK 3- FEBRUARY 1, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|------------------------------|---|--|---|
| Supply Chain Strategy | Read and submit report on Canvas | Case: Seven-Eleven Japan Co. Chopra, S. # KEL026-PDF-ENG (Included in Course Packet) | Before the session |
| | Read | <u>Article:</u> “What is the Right Supply Chain for Your Products?” Fisher, Marshall. Harvard Business Review. December 1, 2004 (HBR OnPoint Enhanced Edition) HBR# 8509-PDF-ENG (Included in Course Packet) | Before the session |
| | Read | <u>Article:</u> “When One Size Does Not Fit All.” Simchi-Levi, D., Clayton, A., and B. Raven. MIT Sloan Management Review. Winter 2013, Vol. 54 Issue 2, p15-17 (Posted on Canvas) | Before the session |
| | Complete | Quiz 1 (Please see instructions on Canvas) | February 1 st , 6:00 -6:20 pm CDT. |
| | Attend | Discussion / Q & A Session | February 1 st , 6:20 pm CDT. |

Discussion Questions

- Case: Seven-Eleven Japan Co. Chopra, S. # KEL026-PDF-ENG (**Submit a Short Case Report 1 page**)
 - What is Seven-Eleven’s supply chain strategy?
 - How is Seven-Eleven’s supply chain structured?
 - Is the structure matching the strategy?

2. Article: “What is the Right Supply Chain for Your Products?” Fisher, Marshall. *Harvard Business Review*. December 1, 2004 (HBR OnPoint Enhanced Edition) HBR# 8509-PDF-ENG **(No need to turn in answers)**

- a. What are the basic differences between functional and innovative products in terms of demand characteristics and the features of the supply chain that is best suited for each product type?
- b. How does the matrix titled “Matching Supply Chains with Products” help a company evaluate their supply chain?

WEEK 4- FEBRUARY 8, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|--------------------------|--------|---|--------------------------|
| Demand Management | Read | <u>Chapter 3</u> : Demand Management, pages 39-59. | Before the session |
| Forecasting | Read | <u>Chapter 4</u> : Medium and Long-Term Forecasting Techniques, Simple Regression Analysis, pages 65-76. | Before the session |
| | Read | <u>Article</u> : “A Better Model for Economic Forecasting During the Pandemic”, Demitry Estrin, Jane Tang, Vidya Subramani, November 10, 2020, # H05ZL0-PDF-ENG (Included in the course packet). | Before the session |
| | Visit | <u>Website</u> : Check out the following website to see how leading economic indicators can be used in medium/long term forecasting. http://www.census.gov/economic-indicators/ | Before the session |
| | Attend | Discussion / Q & A Session | February 8, 6:00 pm CDT. |

Discussion Questions (No need to turn in answers)

Chapter 3: Demand Management, pages 39-59.

- a. Explain the components of Manufacturing Planning and Control Systems and how they relate to demand management. (see Figures 1.1 and 2.1)
- b. What is the difference between “planning” and “execution” phases of demand management?
- c. The “customer order decoupling point” can be looked at as the point at which demand changes from independent to dependent demand. Explain what this means and why it is important?
- d. How do MTS, ATO and MTO relate to the customer order decoupling point?
- e. Collaborative Planning, Forecasting, and Replenishment (CPFR) attempts to improve communications between customers and suppliers in forecasting product demand. How does it work?

WEEK 5- FEBRUARY 15, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|--------------------|----------|---|--|
| Forecasting | Complete | Suggested Practice Problems on Medium/Long-Term Forecasting (Posted on Canvas; no submission required). | February 15 th , 4:00 pm |
| | Read | Pyramid Forecasting, pages 84-89. | Before the session |
| | Read | <u>Article</u> : “Why Forecasts Fail? What To Do Instead?” Makridakis, Sypros; Hogarth, Robin M.; Gaba, Anil. MIT Sloan Management Review. Winter 2010, Vol. 51, Issue 2, 83-90 (Posted on Canvas). | Before the session |
| | Read | <u>Article</u> : “Just In Time for the Holidays”. Eric McNulty. Harvard Business Review Case Study. December 2005, P.39-49. (Included in Course Packet) | Before the session |
| | Read | <u>Article</u> : “How One Boston Hospital Built a Covid-19 Forecasting System”, Stevens, J. P., Horng, S., O'Donoghue, A., Moravick, S. and A. Weiss #H05PWE-PDF-ENG (Included in Course Packet) | Before the session |
| | Attend | Discussion / Q & A Session | February 15 th , 6:00 pm CDT. |

WEEK 6- FEBRUARY 22, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|---|---|--|----------------------------------|
| Forecasting | Complete | Suggested Practice Problems on Medium/Long-Term Forecasting (Posted on Canvas; no submission required). | February 22, 4:00 pm |
| | Read and submit report on Canvas | Case: Managing with Analytics at Procter & Gamble, Davenport, T. H., Iansiti, M. and Serels, A. #613045-PDF-ENG (Included in Course Packet) | Before the session |
| | Read | <u>Article</u> : Predicting Consumer Demand in an Unpredictable World, November 2020, Cesar Brea; Sanjin Bicanic; Yue Li; Shweta Bhardwaj_# H0600A-PDF-ENG (Included in Course Packet) | Before the session |
| | Complete | Quiz 2 (Please see instructions on Canvas) | February 22, 6:00 - 6:30 pm CDT. |
| Inventory Management (Incremental Analysis & Newsvendor Model) | Attend | Discussion / Q & A Session | February 22, 6:30 pm CDT. |

Discussion Questions (Submit a Short Case Report 1 page)

Case: Managing with Analytics at Procter & Gamble

1. Describe P&Gs restructuring initiative including, objectives and the four independent global organizations. What did they hope to achieve?
2. How did Passerini structure the Global Business Services (GBS) organization with respect to Information Technology? What role did centralizing GBS and keeping IT activities in-house play?

3. Describe objectives and characteristics of the Information and Decision Solutions (IDS) group. How did IDS support the Global Business Units (GBU)?
4. Describe the forecasting and Business Sufficiency Models developed by IDS. How are they applied? What impact did they have on P&G's culture?
5. What advice can you provide Alan Torres with respect to detergent forecasts and the planned roll-out of the compacted detergents?

WEEK 7- FEBRUARY 29, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|--------------------|--------|---|---------------------------|
| Revenue Management | Watch | Video: https://www.youtube.com/watch?v=b2zg81CSZ64 - Inside the Hotel Pricing Game | Before the session |
| | Attend | Discussion / Q & A Session <u>In-Class Exercise: Revenue Management</u> | February 29, 6:00 pm CDT. |

Discussion Questions (No need to turn in answers)

Lecture Notes and Readings Posted on Canvas.

- a. What is the basic objective of Revenue Management?
- b. What are the basic assumptions underlying Revenue Management?
- c. What are the benefits/drawbacks of Revenue Management to the firm? Customer? Examples.

WEEK 8- MARCH 7, 2023

Exam 1- 6:00 pm. Please follow the instructions posted on Canvas and/or sent through email prior to the exam.

WEEK 9- MARCH 14, 2023 - No Class: Spring Break

WEEK 10- MARCH 21, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|--|--------|--|------------------------|
| Sales & Operations Planning | Read | <u>Chapter 5</u> : Sales and Operations Planning, pages 109-137. | Before the session |
| | Attend | Discussion / Q & A Session | March 21, 6:00 pm CDT. |

WEEK 11- MARCH 28, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|--|---|--|-------------------------------|
| Sales & Operations Planning | Complete | Suggested Practice Problems on Sales & Operations Planning (Posted on Canvas; no submission required). | Before the session |
| | Complete | Quiz 3 (Please see instructions on Canvas) | March 28, 6:00 - 6:20 pm CDT. |
| | Read and submit report on Canvas | Case: Cataumet Boats, Inc. Sasser Jr., E. and M. Davis, HBS# 917509-PDF-ENG (Included in the Course Packet) | Before the session |
| Master Production Scheduling | Read | <u>Chapter 7</u> : Master Production Scheduling (MPS), pages 185-207 | Before the session |
| | Attend | Discussion / Q & A Session | March 28, 6:20 pm CDT. |

Discussion Questions (Submit a Short Case Report 1 page)

Case: Cataumet Boats, Inc.

1. What is the overall goal of aggregate production planning (APP)?
2. How might Cataumet Boats benefit from APP?
3. What are the potential risks/rewards of using APP? What assumptions are made?
4. What are the major constraints in Cataumet's business?
5. Determine the total labor hours for all of the various tasks that are typically required to be completed over a year. Assume an average time for each task in which there is variability among completion time. How does this compare to the total labor hours that are currently available, not including the seasonal workers that are hired in the spring?
6. Given that the owners want to maintain the current full-time workforce of 11, calculate the costs of the following aggregate plans for both fall and spring:
 - a. Schedule the full-time workers for overtime up to a maximum of 60 hours a week.
 - b. Schedule the full-time employees for only 40 hours a week and hire seasonal workers to do the additional work needed to meet customer demand.
 - c. Level-load the work during the peak demand periods for fall and spring, and hire seasonal workers to meet the excess demand.
7. To address Uncle Pete's issue of needing to paint boat bottoms every spring, determine the cost of hiring two additional full-time workers.
8. What factors other than cost should be considered in evaluating the above alternatives?
9. What should Jaime Giancola recommend to her mother and uncle, and why?

WEEK 12- APRIL 4, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|---------------------------------------|----------|---|--------------------------------------|
| Master Production Scheduling | Complete | Suggested Practice Problems on Master Production Scheduling (Posted on Canvas; no submission required). | Before the session |
| | Read | Case: Four Star Industries Singapore –Managing the MPS. Viswanathan, S and D.G. Allampalli, NTU001-PDF-ENG (Included in the Course Packet) | Before the session |
| Material Requirements Planning | Read | <u>Chapter 8</u> : Material Requirements Planning (MRP), pages 223-253. | Before the session |
| | Attend | Discussion / Q & A Session | April 4 th , 6:00 pm CDT. |

Discussion Questions (No need to turn in answers)

Case: Four Star Industries Singapore –Managing the MPS

1. What are the problems facing Four Star Industries in the mattress manufacturing operations?
2. How does increasing mattress variety impact four Star's operations?
3. Analyze the various courses of action that Sia Meng is contemplating to solve the operations problems. How effective will these actions be?
4. Discuss possible ways in which Four Star can reconfigure its product design, manufacturing and order fulfillment strategies. How will this help to solve its operational problems?

WEEK 13- APRIL 11, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|--------------------------------|---------------|---|---------------------------------------|
| Team Case Presentations | Complete | Team Case Write-Up and PowerPoint Presentation (Submit on Canvas) – All teams submit their case analysis. | April 11 th , 5:30 pm CDT. |
| | Read | <u>Case:</u> L'Oreal's ACD Supply Chain Puzzle: Diagnosing the Root Causes of Underperformance. Ralf W. Seifert, Richard Markoff, IMD883-PDF-ENG | Before the session |
| | Attend | Discussion / Q & A Session | April 11 th , 6:00 pm CDT. |

WEEK 14- APRIL 18, 2023

| Topic | Action | Items to be Completed | Due No Later Than |
|--------------------------------|---------------|---|---------------------------------------|
| Team Case Presentations | Read | <u>Case:</u> Harmonizing Demand Forecasting and Supply at Mahindra & Mahindra Ltd. Alok Yadav, Sunil Ashra, W13569-PDF-ENG | Before the session |
| | Attend | Discussion / Q & A Session <u>Course Wrap-Up</u> | April 18 th , 6:00 pm CDT. |
| | Complete | Case Presentation Evaluation Form and Peer Evaluation Form (Submit on Canvas) | April 25 th , 6:00 pm CDT. |

WEEK 15- APRIL 25, 2023

Exam 2, 6:00 pm - Please follow the instructions posted on Canvas and/or sent through email prior to the exam.