

MGT 171: Operations Management

Undergraduate Course: Spring 2021

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DESCRIPTION

Operations Management (OM) is a critical component and underpinning of the supply chain. It involves the systematic design, analysis, execution, and improvement of business processes, structure, customer, supplier and partner relationships. This course focuses on key Operations Management concepts, process analysis techniques and approaches, and relates them to the end-to-end supply chain. Effective management of operations is vital to every type of organization in today's global, competitive and uncertain environment, where execution drives competitive advantage. This course is an introduction to analyzing business processes, and the core set of issues that firms, large and small, must address in their journey towards sustained scalability, liquidity, growth and profitability.

OBJECTIVES

1. Understand the spectrum of operations management activities in the business and to the types of decisions made by operations managers
2. Make sound business decisions by assessing the basic trade-offs associated with operations management decisions
3. Predicting, anticipating, and taking into account how operations management interfaces with other functional areas such as strategy, accounting, finance, human resources, and marketing
4. Develop critical thinking skills to assess tradeoffs in process design, capacity allocation, inventory levels, and customer service
5. Apply critical thinking and problem-solving skills in the context of managing a lab (an experiential learning simulation), and make real-time decisions on capacity, quoted lead-times, work-in-process levels, contracts and inventory.

MATERIALS

Required

Littlefield Technologies Simulation

This simulation will build your understanding and analysis of production and inventory control issues that Plant Managers face when operating a factory. Each student must purchase an individual access code.

Fathomd Simulations

These simulations will include the following in-class simulations: beer simulation, forecasting simulation, and the following asynchronous simulation: newsvendor. You will understand the importance and difficulty of making decisions under uncertainty, the value of forecasting, and the impact of the bullwhip effect.

Case Pack

Harvard cases which exemplify the topics and concepts covered in class. These are to be read prior to class.

Purchase instruction details will be provided on Canvas prior to week 2. Each student must purchase an individual access code. Failure to do this by the deadline will result in lost points for this segment of the course.

CLASSROOM PROCEDURE

The course meets for 10 sessions for 3 hours each session, with a 15-minute break. Class sessions will begin and end on time. If you are unable to attend live, the session will be recorded.

LAP TOP COMPUTERS/TABLETS

The uses of Laptop Computers and/or Tablets are permitted during class sessions provided there is no private e-mailing, messaging, net surfing, etc.

CLASS ASSIGNMENTS

For certain class sessions, I shall provide a set of guiding questions, discussion points, and goals for the lecture. These will be given in the previous session. You are expected to prepare answers to these questions and be able to provide substantiated arguments on discussion points.

Feel free to work with others to prepare for these class assignments. I suggest that you work closely with your study group on these class assignments to share and discuss individual ideas so that you come prepared to class and contribute to a richer learning experience. It is required that you read the assigned readings before coming to class. This will help give you perspective on the topics to be covered.

HOMEWORK ASSIGNMENTS

There will be two individual homework assignments (write-ups). Details on the expectations of the write-up will be communicated accordingly.

Although you may work in your study group on the individual homework assignment, you must individually write up and submit your own solution.

SCHEDULE

Date	Week	Due	Class Topic & Activities	Assignments / Readings
March 30, 2021	Week 1		Introduction and Overview Metrics: Capacity, Time, WIP	
April 6, 2021	Week 2		Little's Law; Intro to Probability Case Discussion (Walmart) Case Discussion (BMW)	
April 13, 2021	Week 3		Waiting Lines / The Goal Linear Programming / Sensitivity Analysis Revenue Management: Decision Trees	
April 20, 2021	Week 4	The Goal Assignment (I)	Case Discussion (Xbox) Revenue Management: Capacity Control Revenue Management: Overbooking	Littlefield Game 1 Begins
April 27, 2021	Week 5	OM – Case Study Assignment (I)	Case Discussion (Mattel) Case Discussion (Why Some Factories Are More Productive Than Others) Demand Uncertainty and the Newsvendor Model	Newsvendor Game in class
May 4, 2021	Week 6	Mid-Term Exam (I)		
May 11, 2021	Week 7	Littlefield 1 Write-up (G)	Inventory Systems Intro to Inventory Management; the EOQ model	Littlefield Game 2 Begins Beer Game in Class

			Case Discussion (Bullwhip Effect in Supply Chains)	
May 18, 2021	Week 8		Case Discussion (CROCS) Intro to Forecasting	Forecasting Game in class
May 25, 2021	Week 9	Littlefield 2 Write-up (G)	Case Discussion (Zara) Supply Chain Dynamics Final Review	
June 1, 2021	Week 10	Group Presentations		
June 8, 2021	Week 11	Final Exam Write-Up Due		

**Schedule is subject to change.

ASSIGNMENTS

Assignment	Date/Time
The Goal Assignment	April 26, 2021 at 11:59pm
OM Case Study Assignment	May 3, 2021 at 11:59pm
Mid-Term Exam	May 4, 2021 during class
Littlefield Technologies # 1 (Capacity Scenario) (G)	Simulation Open April 20 (10pm) – 26 (10pm), 2021. Write-up Due May 3 at 11:59pm
Littlefield Technologies # 2 (Capacity Scenario) (G)	Simulation Open May 11 (10pm) – 17 (10pm), 2021. Write-up Due May 24, 2021 at 11:59pm
Presentation (Group)	June 1, 2021 during class
Final Exam – Write Up (Take Home)	June 8, 2021 at 11:59pm

All Teams must be finalized and registration for Littlefield and Fathomd by April 10, 2021.

GRADING

Component	Percentage of Final Grade
Rady School Research Participant Pool	5
OM Case Study Assignment	7.5
Goal Assignment	7.5
Littlefield Technologies Scenarios	20
Mid-Term Exam	30
Final Exam –Write Up (Take Home)	30
Total	100

Participation in Experiments

Participation in Experiments: Part of your grade is based on participation in an experiment offered by the Rady School Research Participant Pool. Each experiment will take up to one hour. If new to lab participation, to register for an account and to receive additional information about upcoming lab studies, visit: <http://radyclasscredit.sona-systems.com> and click "New Participant? Request an account here." When you register, you will be assigned a unique ID – you will need to provide this ID each time you participate in a study. Make sure to keep track of it!

If you have served as a participant before, you will need to update which classes you are registered for in order to receive credit. Log in to your account here: <http://radyclasscredit.sona-systems.com> and go to the "My Profile" page. There is an option near the bottom of the page to "Change Courses." Questions about lab studies can be directed to RadyClassCredit@ucsd.edu. Studies will shortly after the quarter begins

ACADEMIC INTEGRITY

Integrity of scholarship is essential for an academic community. As members of the Rady School, we pledge ourselves to uphold the highest ethical standards. The University expects that both faculty and students will honor this principle and in so doing protect the validity of University intellectual work. For students, this means that all academic work will be done by the individual to whom it is assigned, without unauthorized aid of any kind.

The complete UCSD Policy on Integrity of Scholarship can be viewed at:
<http://senate.ucsd.edu/Operating-Procedures/Senate-Manual/Appendices/2>

How the Honor Code applies to this course:

You can work with anyone in the class on Class Assignments. While you may discuss the work on Homework Assignments with your assigned teams, you must individually write-up your own solutions to be submitted.

STUDENTS WITH DISABILITIES

A student who has a disability or special need and requires an accommodation in order to have equal access to the classroom must register with the Office for Students with Disabilities (OSD). The OSD will determine what accommodations may be made and provide the necessary documentation to present to the faculty member.

The student must present the OSD letter of certification and OSD accommodation recommendation to the appropriate faculty member in order to initiate the request for accommodation in classes, examinations, or other academic program activities. **No accommodations can be implemented retroactively.**

Please visit the [OSD website](#) for further information or contact the Office for Students with Disabilities at (858) 534-4382 or osd@ucsd.edu.

TITLE IX

The Office for the Prevention of Harassment & Discrimination (OPHD) provides assistance to students, faculty, and staff regarding reports of bias, harassment, and discrimination. OPHD is the UC San Diego Title IX office. Title IX of the Education Amendments of 1972 is the federal law that prohibits sex discrimination in educational institutions that are recipients of federal funds. Rady students have the right to an educational environment that is free from harassment and discrimination.

Students have options for reporting incidents of sexual violence and sexual harassment. Sexual violence includes sexual assault, dating violence, domestic violence, and stalking. Information about reporting options may be obtained at OPHD at (858) 534-8298, ophd@ucsd.edu or <http://ophd.ucsd.edu>. Students may receive confidential assistance at CARE at the Sexual Assault Resource Center at (858) 534-5793, sarc@ucsd.edu or <http://care.ucsd.edu> or Counseling and Psychological Services (CAPS) at (858) 534-3755 or <http://caps.ucsd.edu>.

Students may feel more comfortable discussing their particular concern with a trusted employee. This may be a Rady student affairs staff member, a department Chair, a faculty member or other University official. These individuals have an obligation to report incidents of sexual violence and sexual harassment to OPHD. This does not necessarily mean that a formal complaint will be filed.

If you find yourself in an uncomfortable situation, ask for help. The Rady School of Management is committed to upholding University policies regarding nondiscrimination, sexual violence and sexual harassment.