2017

MGMT 551-03 Operational Analysis

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INSTRUCTOR:
Dr. Alan H. Jin, CPIM, CSCP, CPSM, CCEP
OFFICE: Smith Hall 332
OFFICE HOURS: M 4:00 pm – 6:00 pm; T&R 9:30 am-11:00 am, & by appointment
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TEXTBOOK (Recommended): OM, 6th edition, by David A. Collier, and James R. Evans, South-Western


Course Packet (Required): The packet includes the following items from Harvard Business School Publishing:
(1) Teaching Note: Process Fundamentals. (HBS# 6-696-023); (2) Teaching Note: Customer-Introduced Variability in Service Operations, Frances X. Frei (HBS# 9-606-063). This packet is available for purchase from hbsp.harvard.edu. You can search for individual items or the entire course packet for which I will send you the link.

Additional materials: Teaching notes (slides) will be posted on Canvas. Please feel free to bring a hardcopy of PPT slides to class, as this will help us use the class time more effectively and efficiently and can save you some time when taking notes in class. Other handouts such as additional teaching notes, cases, some additional reading materials, and exercise/quiz/homework questions will be provided by the instructor in the classroom.

Recommended additional books:


WCB MISSION: We educate students of business, enabling them to improve organizations and society, consistent with the Jesuit tradition.

INTRODUCTION TO OPERATIONS

Operations Analysis refers to the systematic design, direction, and control of business processes that transform inputs into services and products for external, as well as internal customers. In this MBA core course, we will introduce various concepts and decision-making models related to issues such as operations strategy, performance measurement, process improvement, quality control, lean management, inventory, and supply chain management.

COURSE OBJECTIVE

1
The purpose of this introductory course is to provide MBA students with a thorough introduction to the concepts and analytical skills of operations management needed to understand and improve the business of various organizations. The course aims to expand their managerial (soft) skills as well as hands-on analytical (hard) skills so that they understand how to deliver superior organizational performance in practical business settings. In particular, we focus on developing student strategic thinking and critical thinking capabilities, in terms of understanding how and when to implement the tools of operational analysis, ensuring that enterprise resources are used as efficiently and effectively as possible.

**STUDENT LEARNING OUTCOMES (SLO)**

At the conclusion of the course our students are expected to be able to:
1. Explain the basic issues, concepts, and terminologies in operations management theory;
2. Formulate operations strategies and set and prioritize strategic objectives and relevant action plans;
3. Demonstrate fundamental skills as how to measure organizational performance, analyze and improve processes, control process quality, manage inventory, and improve customer service;
4. Clarify problems, generate and evaluate alternatives using appropriate analytical and quantitative techniques, and draw conclusions;
5. Illustrate capability to apply theory to practical business scenarios and propose possible solutions to improve performance;
6. Develop perspectives on how and where today’s business and environmental trends fit into the ethical, global atmosphere;
7. Show effective written and oral communication skills to present and justify operational analysis results including recommendations.

**PREREQUISITES AND FOLLOWING COURSES**

MGMT 500 and basic knowledge of calculus and probability (i.e., STAT 500); or consent of the instructor. Related further courses include MGMT 633 Global Supply Chain Management, BUAD 623 Health Care Operations, and MGMT 654 Project Management.

**COURSE REQUIREMENTS**

**Class Meeting Attendance:** Regular class attendance is expected since it is important for the mastery of course material. Attendance will be part of your course grade, along with preparation and participation. You are expected to attend class (including exams) **on time** each and every time, and not leave before the class ends. Being late (or leaving before the class ends) is very disruptive to the class. I understand that circumstances may cause you to be late on a rare occasion, but continually being late is very disruptive to the class, and will result in a reduction of your final grade. You are responsible for information provided in class even if you are not present. If you miss class for a legitimate reason (i.e. incapacitating illness, death in the family) please provide me with a note and documentation (if applicable) to file with the attendance sheet. Students missing three or more classes will automatically get an “incomplete” for the course. If you miss two classes or part of two class sessions without the approval of the instructor, you final class participation grade will be “rounded downward” by one letter grade (5%). If you have an urgent need to miss a class, you are still responsible for the materials covered and expected to complete the required work.

During class periods, please conduct yourself in a professional manner, and minimize unscheduled personal breaks. The learning environment improves when disruptions are limited. No materials or activities unrelated to class please, such as newspapers, continuous talking or other activities. Cell phones must be turned off or on vibrate during class. Unprofessional or distracting conduct (including, but not limited to, cell phone use or laptops) will disrupt others and result in a significant reduction of your final grade. **No cell phone use and no open laptops (unless asked by the instructor to solve practice or quiz questions) during class. If you have to use laptop during class to take notes, you must communicate with the instructor first.** In that case, the first
row is saved for laptop use. Email, instant messaging, surfing the Internet, reading the news, or playing games, or any type of activities unrelated to course material are not considered legitimate classroom purposes. Such use of cell phone or laptop is major distraction/disservice to those seated around you and is unprofessional. Fellow students cannot benefit from the insights of the students who are not engaged. There are cases where learning is enhanced by the use of laptops in class. The instructor will let you know when it is appropriate to use them. Thank you for your cooperation.

Food: Please do not confuse the classroom for the cafeteria. Eating your meal (e.g., tacos, wraps, salads, potato fries) in classroom is distracting to others. Please plan accordingly. Energy bars (and similar snacks without strong smells and distracting noise) are permitted. Please be respectful of others in the classroom in your choices. We have a break (around 10 minutes) in the middle of each class, and you may use that time to finish your meal if you have brought one. Thank you for your cooperation.

Preparation & Participation: Active participation of students in all class discussions are expected and encouraged. It is an integral part of a graduate level class, and your final grade. Each student is expected to be prepared (including completing assigned reading assignments/questions before class), and make regular, voluntary contributions to class discussions.

To maximize learning efficiency, everyone is encouraged to work in a study group of no more than 3 students in class. Every team member is expected to make active contributions on an equal basis.

In-class Quizzes/Case Analysis: In-class quizzes (which may include some case analysis) will be given regularly covering material from previous class and/or the current class. You may work on those in-class quizzes individually or collaborative with no more than two other students in the classroom. If you choose to work in a team, every team member is expected to make active contributions on an equal basis. Everyone needs to hand in a copy of the work. More specific information will be provided in class. Each quiz will be graded on a 10-point scale. One lowest grade you made on in-class quiz will be dropped. There will be NO make-up in-class quiz. In-class quiz will be open book and open notes.

Take Home Assignments: Homework will be assigned in class regularly and must be turned in at the start of the class on the assignment due date. Late submission will result in a reduction of your grade. Due dates will be announced in class. Normally you will have one week to complete the assignments. It’s your responsibility to pay attention to any announcement made in class regarding homework and its due date. Homework must be legible, and organized. Each assignment will be graded on a 10-point scale. There will be NO make-up assignments.

Homework can be done individually, or in study groups of no more than 4 students. I expect that each member of the group will have worked on each assignment. You should be able to solve all the problems individually after each assignment. (Please note the exams are individual-based.) Everyone needs to hand in 1 hard copy of the assignment (with all your teammates’ names listed below yours if you have worked with someone else). The wording has to be yours. You need to show your detailed work in the assignment, rather than just showing only the final result.

Reading: from the textbook and other sources, may be assigned regularly.

Reflection Paper (The Goal: A Process of Ongoing Improvement; Individual-Based): You are asked to read The Goal and prepare a two-page reflection paper (single-spaced, font size #11, 1-inch margins) report that discusses the most important lessons from this book about managing operations. Your paper shall NOT be a summary of the book/story, or repetition (or summary) of the principles/theories in the book. Your paper should be about how it’s related or applicable to YOUR work, career, and/or life. Otherwise, your paper will NOT receive credit for this assignment. There is no need to repeat the story, or what the characters did in the story. This paper is due on October 2, Monday. Everyone will be asked to share her/his ideas during class discussions.
Exams (Individual Based): Two non-cumulative exams will be given. You may bring no more than three 8.5x11 inch (single-sided) sheets of paper to each exam with anything you want to have on them. You need to bring a calculator to each exam. Make-up exams will require documentation of illness or other unavoidable emergency. Request must be made as early as possible before the exam date. Please note make-up exam will only be given during daytime.

Operations Analysis Term Project (including Presentation and Paper; Group-Based): Each group of three or four will be required to complete a term paper describing and analyzing some aspect(s) of the operations function of a community/local business of your choosing in order to real-world activity with theory and principles by applying concepts / tools / knowledge covered in this course. Each member should contribute equally to the paper and presentation. Your entire group also needs to give a 20-minute presentation to the class. Peer evaluation will be conducted at the end of the semester.

Each group will also submit a project paper (6 pages of text, excluding appendix, Times New Roman, font size #11, one-inch margins, single-spaced), plus a cover page that should include the title of the paper, your names, and the course. You may attach any additional materials (e.g., appendix) or additional analysis to the paper. The paper will describe the aspect(s) of the operations of the organization, point out the issues/problems/challenges that need to be solved, and provide suggestions to improve its performance. A good paper is expected to be original, in-depth, focused, with creative and feasible thoughts/ideas/solutions. Preferably the organization is one that you are very familiar with, for instance, as its owner, employee, customer, a frequent visitor, or a close observer, etc.

The instructor has high expectation for your performance on each activity, and an even higher expectation for your term project. Please note your grade will be based on your individual performance which includes the quality of your work, your contribution to the project at each stage of the project, AND your efforts (from both the peer evaluation and the instructor’s own observation). As an effort to keep each group on track, a hard copy of project proposal and update report needs to be turned in on time, to avoid a 2% percent reduction in your final grade for each delay.

I encourage you to start the project early and talk with me regarding your questions or thoughts.

Each group will talk with the instructor sharing their group formation and initial idea/plan by September 11, Monday, and submit a 1-2 page project proposal (using the format provided above) by October 2, which states the organization the group is going to investigate, the issues the group is going to describe and analyze, and sources she/he is going to use, and the major steps in the project.

I encourage you to share/discuss your thought/progress with me as early as you can, and as often as you want.

Peer Learning Assignment (Individual-Based): This is an individual-based presentation assignment. The goal is to expand knowledge scope and enhance awareness and appreciation of the variety of operations applications in real world. Peer learning is an integral and important part of graduate-level education. Graduate students have richer personal work and/or life experience which is a precious resource of learning for the class and shall not be underestimated. People learn a great deal by explaining their work OR life experience/observation/ideas to others and by hearing others’ personal experience/observation/ideas. For this project, you will describe a real-world (preferably local or personal or from your own workplace, and preferably interesting and/or innovative and/or advanced and/or latest) operations (or supply chain) practice (or technique) that is relevant to our course concepts/principles, and valuable and understandable to your fellow students’ learning, or an operations issue/problem that you believe is important and you have suggestions or experience to solve it. Please note this individual-based project topic needs to be different from your group-based term project. You need to share your initial plan with me before your write up your proposal, so I could have chance to assess and give you feedbacks at earlier stage. A proposal (no more than one page) is due by October 2, Monday. A one-page (Times New Roman, font size #11, one-inch margins, single-spaced)
A summary of your presentation is due on November 13, Monday. You may make revisions to this summary later on when finalizing it for the hard copy that will be provided to the class and the instructor.

You will give a 5-7 minute (and no more than 7 minutes) presentation on November 27, Monday, and provide a hard copy of one-page (Time New Roman, single-spaced, font size #11, one-inch margins) summary (final version) to everyone in the class, 21 copies total. Your presentation needs to be relevant to the course knowledge, and be focused. Power Point slides (including pictures if applicable, either shown on screen or provided to the class as hard copies) are optional. Use them if they will help you get your thoughts across, or help the class understand your presentation better. Given the limited timeframe, please limit the number of the PPT slides (including pictures) to no more than 5.

COMMUNICATIONS:
My contact information is listed at the beginning of the syllabus. Besides visiting my office hours and making appointments, you may stop by whenever my office door is open. If your email comes from a non-XU email address, please identify yourself as a student in the subject line.

GRADING:

<table>
<thead>
<tr>
<th>Percentage of Grade:</th>
<th></th>
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<tbody>
<tr>
<td>Mid-term Exam</td>
<td>15%</td>
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<tr>
<td>Final Exam</td>
<td>15%</td>
</tr>
<tr>
<td>Quiz/Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Class Attendance/Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Reflection Paper &amp; Sharing</td>
<td>10%</td>
</tr>
<tr>
<td>Peer Learning Assignment</td>
<td>10%</td>
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<tr>
<td>Project (25%, including presentation and paper, see below)</td>
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</tr>
<tr>
<td>Paper</td>
<td>12.5%</td>
</tr>
<tr>
<td>Presentation</td>
<td>12.5%</td>
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</tbody>
</table>

Grading Scale:

A = 94.0 – 100
A- = 90.0 – 93.9
B+ = 87.0 – 89.9
B = 83.0 – 86.9
B- = 80.0 – 82.9
C+ = 77.0 – 79.9
C = 73.0 – 76.9
C- = 70.0 – 72.9
D = 60.0 – 69.9
F = < 60.0
I = incomplete
VF = stopped attending

TENTATIVE COURSE SCHEDULE – Any change will be announced in class

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/21</td>
<td>Course Introduction; Operations &amp; Operations Strategy</td>
<td>Syllabus, teaching slides, textbook, in-class handouts</td>
</tr>
<tr>
<td>8/28</td>
<td>Process &amp; Capacity Analysis</td>
<td>Teaching slides, “The Goal”, the two HBS teaching notes, in-class handouts</td>
</tr>
<tr>
<td>9/04</td>
<td>Labor Day, No Class</td>
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</tr>
<tr>
<td>9/11</td>
<td>Constraint Management; Project Management Share with the instructor: group formation &amp; initial plan for term project</td>
<td>Teaching slides, textbook, in-class handout, “The Goal”; the two HBS teaching notes</td>
</tr>
<tr>
<td>9/18</td>
<td>Project Management (cont.) &amp; Supply Chain Management</td>
<td>Teaching slides, in-class Handout, Textbook, “The Goal”</td>
</tr>
<tr>
<td>9/25</td>
<td>Guest Speaker on SCM &amp; Supply Chain Management (cont.)</td>
<td>Guest speaker, teaching slides, in-class handouts</td>
</tr>
<tr>
<td>Date</td>
<td>Event</td>
<td>Details</td>
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<tr>
<td>10/02</td>
<td>Reflection paper due, &amp; thoughts sharing; Lean application &amp; Its Relation with SCM; Mid-term Review</td>
<td>Teaching slides, textbook; “The Goal”; the two HBS teaching notes</td>
</tr>
<tr>
<td></td>
<td>Group project proposal due; Peer learning (individual-based) assignment proposal due</td>
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<tr>
<td>10/09</td>
<td>Midterm Exam</td>
<td></td>
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<tr>
<td>10/17</td>
<td>Decision Analysis</td>
<td>Teaching slides, textbook, in-class handouts; <strong>Bring your laptop for practice and quiz</strong></td>
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<tr>
<td>10/23</td>
<td>Quality Management</td>
<td>Teaching slides, the two HBS teaching notes, in-class handout, textbook</td>
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<tr>
<td>10/30</td>
<td>Statistical Quality Control</td>
<td>Teaching slides, in-class handout, textbook</td>
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<tr>
<td>11/06</td>
<td>Inventory Analysis; <strong>Briefly update your group project status with the instructor; Briefly update your individual-based peer learning assignment status;</strong></td>
<td>Teaching slides, in-class handout, “The Goal”, the two HBS teaching notes, textbook</td>
</tr>
<tr>
<td>11/13</td>
<td>Working on Experiential Group Term Project; <strong>One-page summary for peer learning assignment due</strong></td>
<td>Details TBA in class</td>
</tr>
<tr>
<td>11/20</td>
<td>Group-based term project update report due</td>
<td>Detail TBA in class</td>
</tr>
<tr>
<td>11/27</td>
<td>Peer learning assignment presentation (Individual-Based)</td>
<td>Detail TBA in class</td>
</tr>
<tr>
<td>12/04</td>
<td>Group-Based Term Project Presentation; <strong>Group project paper Due</strong></td>
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<tr>
<td>12/11</td>
<td>Final Exam (12/11, Monday, 6:00 pm-8:30pm)</td>
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</table>

Some additional reading materials and websites of general interest

<table>
<thead>
<tr>
<th>Source</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>About: Supply Chain / Logistics</td>
<td><a href="http://logistics.about.com/">http://logistics.about.com/</a></td>
</tr>
<tr>
<td>American Shipper magazine</td>
<td><a href="http://www.americanshipper.com">www.americanshipper.com</a></td>
</tr>
<tr>
<td>Association for Operations Management (APICS)</td>
<td><a href="http://www.apics.org">www.apics.org</a></td>
</tr>
<tr>
<td>Bureau of Transportation Statistics</td>
<td><a href="http://www.bts.gov">www.bts.gov</a></td>
</tr>
<tr>
<td>Council of Supply Chain Management Professionals (CSCMP)</td>
<td><a href="http://www.cscmp.org">www.cscmp.org</a></td>
</tr>
<tr>
<td>Inbound Logistics magazine</td>
<td><a href="http://www.inboundlogistics.com">www.inboundlogistics.com</a></td>
</tr>
<tr>
<td>Institute for Supply Management (ISM)</td>
<td><a href="http://www.ism.ws/index.cfm">http://www.ism.ws/index.cfm</a></td>
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<tr>
<td>Logistics Management magazine</td>
<td><a href="http://www.logisticsmgmt.com">http://www.logisticsmgmt.com</a></td>
</tr>
<tr>
<td>Purchasing magazine</td>
<td><a href="http://www.purchasing.com">www.purchasing.com</a></td>
</tr>
<tr>
<td>Supply-Chain Council</td>
<td><a href="http://www.supply-chain.org/index">http://www.supply-chain.org/index</a></td>
</tr>
</tbody>
</table>
Learning Goals – Williams College of Business MBA

• **Strategic Thinking and Leadership**
  
  *Learning Goal:* WCB MBAs will be able to position organizations in chosen market areas, compete successfully, and satisfy stakeholders with the objective of achieving superior organizational performance.

  *Corresponding Objectives:*
  
  • (1) MBA students will demonstrate the appropriate knowledge of accounting, finance, management, marketing, and strategic integration.
  
  • (2) MBA students will demonstrate the ability to articulate a vision and set and prioritize strategic objectives.
  
  • (3) MBA students will formulate business strategies utilizing their understanding of the key functional areas of business.
  
  • (4) MBA students will practice and assess their capacity to influence others, collaborate, and encourage cooperation toward organization goals.

• **Global Perspective and Cultural Diversity**
  
  *Learning Goal:* WCB MBAs will be able to work across cultural boundaries, whether these are geographical or societal, in that they possess a recognition and appreciation of the global environment of business and an understanding and appreciation of diversity.

  *Corresponding Objectives:*
  
  • (1) MBA students will evaluate and integrate economic, political, technological, environmental and societal issues into their decision making and show competencies required to compete in the global environment in their analyses.
  
  • (2) MBA students will incorporate the concepts of global diversity and inclusiveness in their analyses and decision making.

• **Ethics and Social Responsibility**
  
  *Learning Goal:* WCB MBAs are able to foster an ethical climate in their roles and responsibilities in business and society.

  *Corresponding Objective:*
  
  • MBA students will recognize ethical issues and demonstrate the skills necessary to analyze information and make informed, ethical decisions in complex, conflicting or ambiguous environments or situations.

• **Critical Thinking**
  
  *Learning Goal:* WCB MBAs are able to clarify problems, generate and evaluate alternatives using appropriate analytical and quantitative techniques, and draw conclusions.

  *Corresponding Objective:*
  
  • MBA students will evaluate organizations and recommend optimal strategies and actions demonstrating their ability to understand context, frame problems and use appropriate analytical and quantitative techniques.
• **Effective Written and Oral Communication**

*Learning Goal:* WCB MBAs are proficient in written and oral communication.

*Corresponding Objectives:*

- (1) MBA students will demonstrate their ability to clearly summarize issues and support decisions in writing.
- (2) MBA students deliver professional presentations accompanied by the appropriate technology.
- (3) MBA students demonstrate effective interpersonal communications skills in a team setting.