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MGMT 551-W28 Operations Analysis

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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. As such, this MBA core course is truly about “how to do business” and “how to create better performance.” In particular, we will introduce various concepts and decision-making techniques related to issues such as operations strategy, performance measurement, process improvement, quality control, lean management, inventory, and supply chain management.

COURSE OBJECTIVE

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, 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
COURSE MATERIALS

Core Materials:

All required course materials will be made available through Canvas (No text book is used). The core teaching materials for the course are all electronic documents posted on our course website canvas.xavier.edu. These digital documents, mostly written by the instructor, include teaching notes, lecture PPT slides, teaching examples, practice problems, discussion cases, homework problems, and other selected journal articles. Students can use a binder (with 2 inch capacity) or a computer device (either a laptop or tablet) to hold all the (otherwise loose) teaching documents you download from our course website. In order to succeed in taking this online course, you will need to closely follow our teaching calendar especially assignment due dates and put in your best effort in completing these learning activities.

Other Materials:

Additional cases, examples, book chapters, and articles will also be posted on the course website as well (labelled as further readings). Unless stated clearly, these documents are supplemental and not required for the quizzes or exams. I will also add latest examples as the course progresses.

Please note there is NO text book used or required in this course. All the digital documents posted on Canvas are sufficient to allow you to achieve the course learning objectives. For those who would prefer to use/read a separate book.

COURSE REQUIREMENTS

Mandatory Attendance (Individual Based)

All students are normally expected to attend each face-to-face (f2f) class on time. If you have a legitimate need to miss one f2f class, you are still responsible for the materials covered and expected to complete the required work. Under normal circumstances, missing three f2f classes or more will result in an automatic “incomplete” grade.

Participation: 40 points (Individual Based)

The course utilizes readings, lectures, discussions, and a series of learning assignments to assist students in achieving the course learning outcomes. It is critical that everyone comes to every class on time and pays full attention to class materials and activities. To foster a productive learning environment, it is important that you come to class prepared and willing to contribute to discussion (Completing all pre-class reading assignments for each session before coming to class will help you get ideas about what to ask or what to say, you may skip any technical details at this time).

Assessment method: Your participation grade for f2f classes will have two parts: basic part and bonus part. The basic part is based on the following tentative grading rubric:

| 36-40 points | Attended classes on time, was attentively involved in class learning activities; Demonstrated efforts to catch up for missing classes. |
It is important for you to raise/answer questions and/or make organized and concise comments in class. In particular, your speech can be based on your experience, journal articles, own insights, and business applications related to the course materials. To reward the class speech you make, bonus points will be given based on factors such as the quantity and quality of speeches/questions. These bonus points will be added to your participation score on Canvas.

| 32-35 points | Occasionally arrived late or left classes early or worked on non-class tasks or was not attentive at times; Did poorly on missing class topics; Raised irrelevant questions or distracting issues in classes. |
| 28-31 points | Regularly arrived late or left early or worked on own stuff other than course materials; Was consistently not attentive at times; Missed some classes and did not attempt to catch up. |
| 0-27 points | Sitting in class but was always busy with something else. |

### Online Quizzes: 10×8=80 points (Individual based)

There is an online quiz for each face-to-face class (10 multiple choice questions in total for each module), which requires students to complete it one day before the class starts. The online quiz questions are mainly about the fundamental concepts covered in that particular class (no calculation or technical involvement). The quizzes are open-book and individual-based. You need to complete them within the given time (5 minutes for five questions, or 10 minutes for 10 questions) and within one sitting. Only two attempts are allowed. Each quiz contains ten multiple choice questions (10 points in total. Some modules have two 5-question quizzes).

**Assessment method:** The computer will grade your work automatically. Make sure you finish reading the required documents (book chapters and PPT slides in most classes) before starting the quiz.

### Homework Problem Assignments: 200 points (Group Based)

There will be homework assignments for most classes in this semester which mainly include workout problems and short essay questions. It is essentially important for everyone to do all these problems on an individual basis in order to fully understand the methodology and perform well in exams. Then you can discuss with your group members and develop your best group work to submit. For **workout problems**, you need to show the process of getting your results. Please be advised that normally you will have one week to complete the homework problems and you need to submit your group homework at the beginning of the following class (one hard copy per group, can be printed or hand written, make sure I can read). **By submitting the group homework, the assumption is everyone in the group understands what is written.** Groups handing in identical assignments (even partially, especially the same wrong answer!) will be violating the university policies and will not be accepted! Homework containing only final numbers (even correct answers) or information unreadable will get 0%. Late homework is not accepted unless you negotiate with the instructor at least one day (before due date) in advance.
Assessment method: Solution process and correct answers presented in a professional appearing and well-labeled format will be 85% of the grade. Partial credit will be given. Points will be taken off if your homework includes wrong answers, missing steps or processes, and other essential information. The professional appearance and ease of understanding of the associated explanatory summary will make up the remaining 15% of the grade. Resubmitted homework is only accepted in the next week after the homework is returned, and only partial credit will be given (normally 50%, e.g., you correct all wrong answers for a regular homework assignment which you got 14 out of 20, a perfect resubmission will allow you to get 14+(20-14)*50%=17).

Writing Exams: 200×2=400 points (Individual Based)

There will be two writing exams in this semester, including one midterm, and one final exam. The exams would cover concepts and analytical techniques presented in lectures. Students are responsible for all materials covered in classes (including any session they did not attend). For the writing exams, each student will be allowed to bring in one 8.5 by 11 inch (double-sided) note sheet containing whatever he or she chooses for reference during the exam. A calculator is required for taking the exam. Make-up exam will require documentation of illness or other unavoidable emergency, in which case please contact me as early as possible. Please note the makeup exam will only be given during daytime and will be administered by our department secretary.

Assessment method: The instructor will grade all exams to determine performance. Partial credit will be given in most (workout problem) cases.

FACULTY EXPECTATIONS

1. In order to do well (get at least B+), be prepared (and willing) to put in time and effort. Always push yourself. Working outside your comfort zone in an academic setting will help you to get the most from your MBA learning experience.
2. Students need to come to the class on time each and every time.
3. Every student needs to use a binder (with 2 inch capacity) or a computer device (a laptop or tablet) to hold all the (loose) teaching documents you download from our course website. When using your laptops, tablets, or other mobile devices in class, please make sure it is only for legitimate classroom purposes. E-mail, instant messaging, surfing the Internet, reading the news, or playing games are not considered legitimate classroom purposes. Such inappropriate use is distracting to those seated around you and is unprofessional.
4. Go to our course website and read the instructions for each class (Course Content tab. There is a folder developed for each class) posted there. Download relevant files, finish the relevant assignments on time.
5. Bring the binder or tablet to every class, and take in-class notes. Make effective use of your class time. Doing so will allow you to maximize your learning efficiency.
6. You are expected to spend about 4 hours of after-class time in each week.
7. Your grade is determined based on your performance (outcome), not effort.

GRADING SCALE

All student grades will be posted on Canvas (Grades Tab).

<table>
<thead>
<tr>
<th>Grade Percentages</th>
<th>Points</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Participation 40
2. Online Quizzes 80
3. Homework Problems 200
4. Exams 400
Total 720

**Grading Scale**
A: 94% and above
A –: 90-93.9%
B +: 85-89.9%
B: 80-84.9%
B –: 75-79.9%
C (including + /–): 65-74.9%
F = below 60%

**COURSE CALENDAR**

<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Topics</th>
<th>Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10/05</td>
<td>Syllabus Introduction to Operations Operations Strategy</td>
<td>*All HW will be due in the following f2f class *Online quizzes are due one day before each class starts</td>
</tr>
<tr>
<td>2</td>
<td>10/12</td>
<td>Process Capacity Analysis Theory of Constraints</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>10/19</td>
<td>Process Flow Time Analysis Process Strategy</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10/26</td>
<td>Project Management Performance Measurement Midterm Review</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>11/02</td>
<td>Midterm Exam</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>11/09</td>
<td>Process Quality Analysis Lean Management</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>11/16</td>
<td>Statistical Quality Control Six Sigma Strategy</td>
<td></td>
</tr>
</tbody>
</table>
CODE OF ACADEMIC HONESTY

The mission of the Graduate School of Business at Xavier University is to educate students of business, enabling them to improve organizations and society, consistent with the Jesuit tradition. The pursuit of truth demands high standards of personal honesty. Academic and professional life requires a trust based upon integrity of the written and spoken word.

Plagiarism is a serious offense. The faculty and administration of Xavier University wish to make it clear that the following acts are regarded as serious violations of personal honesty and the academic ideal that binds the university into a learning community:

Submitting as one's own:
- material copied from a published source: print, Internet, CD-ROM, audio, video, etc.
- another person's unpublished work or examination material.
- a rewritten or paraphrased version of another person's work.
- allowing another or paying another to write or research a paper for one's own benefit.
- purchasing, acquiring, and using for course credit a pre-written paper.

The critical issue is to give proper recognition to other sources. To do so, is both an act of personal, professional courtesy and of intellectual honesty. If, after giving proper recognition to sources other than one's own, the student has nothing left to call his or her own, insufficient work has been done.

All work submitted for academic evaluation must be the student's own. Certainly, the activities of other scholars will influence all students. However, the direct and unattributed use of another's efforts is prohibited as is the use of any work untruthfully submitted as one's own.

Penalties for violations of this policy may include one or more of the following:
- a zero for that assignment or test,
- an "F" in the course,
- and expulsion from the University.

FACULTY BIO

Dr. Lifang Wu is a Professor of Operations Management at Xavier University, Cincinnati, Ohio. He teaches operations management and global supply chain management courses at undergraduate, MBA and executive levels. He received his PhD degree in Operations Management from the University of Iowa, Iowa City, Iowa in 2004. Before starting his PhD study, Dr. Wu spent 8 years
working as an assistant engineer, operations manager, vice president of operations, and member of supervisory board for one of the top 500 private companies in China. He also holds dual Bachelor’s degrees (Electrical Engineering and Management Science) from Tianjin University and an MBA degree from Zhejiang University, both leading universities in China. His research interests include global supply chain management, operations management, process improvement, and operations strategy. His research work has appeared in journals such as International Journal of Logistics Management, IEEE Transactions on Engineering Management, Supply Chain Management Review, Total Quality Management, Business Process Management Journal, and International Journal of Electronic Business. He was the first place winner of APICS Operations Management Doctoral Dissertation Research Competition in 2004. His paper on dynamic outsourcing through process modularization was chosen as the Best Paper Award Winner for Business Process Management Journal in 2010. While teaching at Xavier, Dr. Wu also consults with several leading manufacturing and service organizations in greater Cincinnati area and mainland China. He is an enthusiast of using analytics to solve practical business problems and improve organizational performance.

(The End)