

OPERATIONS AND SUPPLY CHAIN MANAGEMENT

OPER 3600

SPRING 2018

CLASS DAY: M W

Professor: Al Ansari, Ph.D., CPIM

Office: Pigott 411

Walk in Office

Hours: Before class

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Required Text:

- Heizer & Render, *Operations Management*. Sustainability and Supply Chain Management. 12th EDITION, Pearson/Prentice-Hall, 2016.

CANVAS:

- Course syllabus, slides, projects, etc. will be available on <https://seattleu.instructure.com/login>

Course Description:

Modern communications and global markets allow consumers to purchase products and services from virtually anywhere in the world. Invariably, they will select the providers that best meet their needs for quality, cost, and service. Following the example of Japanese manufacturers, companies have realized that well run operations are the key to a sustainable competitive advantage in many industries. This in turn, has led to tremendous advances in the theory and practice of operations management over the past two decades.

Well designed and managed operations influence product cost, quality, time to market, flexibility, customer service, profitability, employee satisfaction, and many other critical aspects of operating a business. This course will introduce you to the applications and tools used by today's best companies to manage their operations. Topics include ensuring that a *quality* product or service is produced, analyzing processes for *effectiveness*, managing supply chain for flow of materials and resources, determining *inventory* and *service* levels, projecting *capacity* requirements, and managing complex *projects*.

This course has two primary objectives. The first is to convey knowledge of the important applications and tools that are commonly used in managing operations. The second objective is to build your problem solving skills; both individual and as part of a team. To satisfy these objectives the course will include a mix of lecture, case, hands-on projects, homework problems, and exam.

The concepts covered in the course are important for all future business people, not just those that directly manage operations. The material covered in the course is equally relevant to all types of manufacturing and service organizations, including non-profit organizations and government agencies.

Operations Management (OM) generally refers to the management of the *processes* that efficiently and effectively transform resources into *goods* and *services* expected by customers. Given the broad nature of operations management and that all organizations offer a product or service (and therefore have "operations"), there are many opportunities to highlight the manner in which operations management interfaces with other company disciplines. During this course, we will see examples of integration between operations and the other courses in the core--finance, marketing/sales, and management. In addition, we will explore ways in which the functions of accounting and engineering affect the operations system.

Course Requirements:

1. Exam – 150 points

There will be three exams and each will worth 50 points. Each exam will include some multiple choice, essay questions, and problems. Exams are not cumulative but they are closed book and notes. These exams will require a demonstration of your capability to handle analytical techniques, as well as an understanding of the concepts.

2. Plant Tour Summary – 50 points

Students will work in a team of 3-4 (NO INDIVIDUAL PROJECT), visit a local manufacturing or service company (instructor approval is required) for a tour of their operations. Each team will present its findings to the class. Each member of the group must tour the plant. At the end of the quarter, each team will give a 20-minute presentation to the class summarizing their findings from their tour. Each team member must participate in touring the plant and deliver their findings **in-class presentation using PowerPoint**. Presentations should focus on observations of how the company applies the concepts discussed in class to support their business strategy. Determining recommendations based on the analysis is encouraged. Review the following criterion **BEFORE** selecting a company for plant tour. The group presentation will be graded base on:

PLANT TOUR EVALUATION CRITERION

Coverage of key concepts	<u>points</u>
<ul style="list-style-type: none"> • Company overview/ operations strategy • Process and layout design • Quality management • Inventory management • Supply chain management (Purchasing, suppliers, logistics) 	<p>5</p> <p>5</p> <p>5</p> <p>5</p> <p>10</p>
Quality of Presentation	10
<ul style="list-style-type: none"> • Did the presenters converse with the audience or read directly from the slides? • Did the presenters speak clearly and make eye contact with the audience? • Did the presenters respond effectively to questions posed by the audience? 	
Organization	5
<ul style="list-style-type: none"> • Logical flow of presentation • Balance presentation, i.e., topics covered equally 	
Professionalism	<u>5</u>
<ul style="list-style-type: none"> • Quality of slides • Were the slides readable? 	
Total points	50

The group members are required to evaluate each other. Plant tour grade for less productive member will be determined by team members.

NOTE: You will receive no points if you fail touring the company or participating in this process.

**To avoid duplication, write the name of the company you have chosen
for plant tour on the form posted on my office door**

Plant Tour **Sample** Questions

General:

What is the competitive advantage?
What is the Operations Strategy?
What are the product/services?
Who are the major competitors?

Process and Plant Layout Strategy:

What type of plant layout(s) is/are used?
What efficiencies does your particular plant layout provide?

Inventory Management:

What is your inventory turn rate for Class A, Class B, and Class C?
How does this compare to the industry average?
Is this a valuable metric for your managers?
How many different parts do you have in your inventory?

Quality Management:

How is quality measured?
At what point in the production process are samples taken to test quality?
What size samples do you use for your tests?
Do you use Statistical Process Control (SPC)?

Supply Chain Management:

Purchasing strategy
Outsource? If yes, what percentage/how many parts?
Criteria's used in selecting suppliers
Types of relationship with the suppliers

3. Class Participation & Attendance

Showing up late for class is distracting and disrespectful to your peers and the instructor. It often results in people having to repeat themselves unnecessarily. Therefore, full class attendance and participation is required of all students. This includes attending class, arriving on time, and staying for the entire class period. You are required to bring to every class the followings:

1. The textbook
2. A calculator
3. If applicable, class projects, worksheets, examples, exercises, and other materials.

If you skip a class, *you are responsible for any information and instructions orally communicated at any time during class.* Skipping classes is the last thing you may want to do.

TURN OFF all Cell Phones/Pagers before you come to class

COURSE POLICIES

Using Laptops/Smartphones in the Classroom Policy.

*The use of laptops, notebooks or PDAs in class is **not allowed**. Such use has been found to be distracting to students and instructors alike and ultimately detrimental to the learning environment. A violation of this policy will result in appropriate grade sanctions as determined by the course instructor.*

NO food is allowed in class room

NOTE

You are expected to take the exams on the days scheduled. If you provide an acceptable justification for being absent during an exam, you will be given a new exam. NO final exam will be given during final week.

Grading:

Exams	150 points
Plant Tour Presentation	50 “
Total possible points	200 “

Grade distribution

A 96-100%	C+ 77-79%
A- 90-95%	C 73-76%
B+ 87-89%	C- 70-72%
B 83-86%	D 61-69%
B- 80-82 %	F Below 61%

Academic Honesty

Seattle University is committed to the principle that academic honesty and integrity are important values in the educational process. Academic dishonesty in any form is a serious offense against the academic community. Acts of academic dishonesty will be addressed according to the Seattle University Academic Honesty Policy. The policy can be found at the address below:

http://www.seattleu.edu/regis/Policies/Policy_2004-01.htm

If you are not sure whether a particular action is acceptable according to the Academic Honesty Policy, you should check with your instructor before engaging in it.

Disability

If you have, or think you may have, a disability (including an ‘invisible disability’ such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this class, you are encouraged to arrange support services and/or accommodations through Disabilities Services staff in the Learning Center, Loyola 100, (206) 296-5740. Disability-based adjustments to course expectations can be arranged only through this process.

<u>DATE</u>	<u>TOPICS/ASSIGNMENTS</u>
4/4	Review of Course Syllabus Course Introduction Team formations Operations & Productivity Ch. 1 Operations Strategy in a Global Environment Ch. 2 A global view of Operations Achieving competitive advantage through Operations Ten Strategic OM decisions
4/9	Project Management Ch. 3
4/11	Importance of project management Project planning Project management techniques Project scheduling Variability in activity times Cost-time trade-offs Practice Problems: 3.5, 3.8, 3.10, 3.18, 3.20, 3.29, 3.30 In-class Project No. 1 -- Southwestern University (A) Case on page 98

- 4/16 **Managing Quality Ch. 6**
4/18 Strategic importance of quality
International quality standard--ISO
Total quality management
Cost of Quality
Statistical Process Control (SPC) Ch. 6 Supplement
Frito Lay Potato Chips –SPC Application
Control charts for variables
The central limit theorem
Control charts for attributes
Process capability
Practice Problems: s6.6, s6.7, s6.9, s6.15, s6.22, s6.23, s6.24, s6.25
In-class Project No. 2 – Frito-Lay’s Quality Control Potato Chips Case on page 275
Review Exam
- 4/23 **Exam One –**
(Exam one will cover: Ch. 1, 2, 3, 6, & supplement to Ch. 6)
- 4/25 **Process Strategy Ch. 7**
4/30 Mass customization
Four process strategy
Layout Strategy Ch. 9
Types of layout
Line balancing
Practice Problems: 9.12, 9.13
In-class Project No. 3 (Source: Canvas)
- 5/2 **Inventory Management Ch. 12**
5/7 Competitive advantage through inventory management: Boeing Approach
Functions of inventory
Dell’s Inventory Model
Inventory models
Practice Problems: 12.10, 12.11, 12.14, 12.18, 12.19, 12.20, 12.21, 12.22, 12.41, 12.42
In-class Project No. 4 – Parker HI-FI Systems Case on page 525
- 5/9 **Exam Two –**
(Exam two will cover: Ch. 7, 9, &12)
- 5/14 **Aggregate Planning Ch. 13**
5/16 Marketing/Finance/Operations Integration
Production strategies
Demand management
Practice Problems: 13.3, 13.4, 13.15 & additional problems on (Source: Canvas)
- 5/21 **Material Requirements Planning Ch. 14**
5/23 Marketing/Finance/Operations Integration
Master production schedule
Bill of materials
MRP structure
Lot-sizing techniques
Practice Problems: (Source: Canvas)
Practice Problems: 14.12, 14.13, 14.15, & additional problems (Source: Canvas)
In-class Project No. 5 (Source: Canvas)
- 5/28 **No Class – Memorial Day**

- 5/30 **Supply Chain Management (SCM) Ch. 11 & Supplement**
Strategic importance of SCM
Supply chain strategy
Supply chain at HTC –smartphone
Outsourcing Strategy
- 6/4 **Lean Manufacturing (Toyota Production System) Ch. 16**
Just-In-Time (JIT) Philosophy:
Product design
Process design
Supplier selection
Logistics
JIT Purchasing
- 6/6 **Plant Tour Presentation Presentations**
6/11 **E-mail a copy of your slides using PowerPoint**
Submit your slides **before** _____ on the day of your presentation to avoid penalty
- Refer to Registrar Final Exam schedule**
Exam Three
will cover Ch. 11 & (supplement), 13, 14, &16