

DSCI 304 – Sec 1: Summer, 2017
PRODUCTION & OPERATIONS MANAGEMENT (OM)
MTWTHF (10-11:45AM), June 1-30

PROFESSOR: Dr. Jeff Shockley
Beatty 304
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OFFICE HOURS: T/TH (11:45–1:25PM) and Friday 11:45AM-1PM; other times by appointment or walk-in anytime I'm in my office with the door open.

TEXTS: 1) *Operations Management*, William Stevenson, **12th edition**, McGraw-Hill, 2015: ISBN: 9780078024108

Prerequisites: Before taking this course: all School of Business majors must earn a D- or better in MATH 104 or 250, MATH 105 or 120, MGMT 301, and DSCI 232 to continue with this course– I will verify this information.

COURSE DESCRIPTION (FROM UNDERGRADUATE CATALOG)

“The planning and control of production and service operations with emphasis on Total Quality Management, demand forecasting, design of production systems, aggregate planning, and inventory management. Additional topics will include just-in-time production, cellular manufacturing, flexible manufacturing systems, robotics, computer-aided design and manufacturing and quality circles. Students will use appropriate computer software to gain experience with several decision techniques.”

COURSE OBJECTIVES

- Students will be able to categorize areas of operations management and describe his or her role in the operations situation using current information in the field.
- Students will be able to demonstrate the use of quantitative tools and decision making processes in the scheduling, inventory, capacity, work force, and quality functions of operations management.
- Students will be able to examine the role of an operating system in a firm, and then use OM principles to examine those value-added activities that create the goods and services it supplies to customers.

Academic Integrity Statement

By accepting admission to the College of Charleston, each student makes a commitment to understand, support, and abide by the University Honor Code without compromise or exception. Violations of academic integrity Will Not be tolerated. This class will be conducted in strict observance of the Honor code. Students can find the complete Honor Code and all related processes in the *Student Handbook* at <http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php>

Students with Disabilities

If there is a student in the class who has a documented disability and has been approved to receive accommodations through the Center for Disability Services / SNAP, please come and discuss this with me during my scheduled office hours.

Center for Student Learning:

I encourage you to utilize the Center for Student Learning's (CSL) academic support services for assistance in study strategies and course content. They offer tutoring, Supplemental Instruction, study skills appointments, and workshops. Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the CSL website at <http://csl.cofc.edu> or call (843)953-5635.

E-Mail Communication:

When you send me an e-mail, make sure that the subject line is clear. For example, if you want help with a homework problem enter "Help, HMWK Ch 5., problem #6" onto the subject line. When I have 20 or 30 e-mails to answer, I look at the subject line to determine which I will answer first.

Class Attendance Policy (Please Note)

Regular attendance is expected – this is especially true for an accelerated summer course. Students missing class will be responsible for any work missed during their absence and will have their class participation grade reduced. A great deal of the work in this course will be completed during the class period. If you miss a class, you have until the next class to make up any missed in-class work or it is a zero. In-class quizzes will not be made up, unless I am aware of it in advance. Late work will always be penalized.

Other Classroom Policies

In the event of bad weather, we will cancel class if the university does so. If classes are canceled, all assignments (including quizzes, tests, etc.) will shift to the next class period. In the rare event that I am late for class, please wait 15 minutes. Classes will not be cancelled.

GRADE COMPONENTS	Percent
Class Participation (Quizzes and In-class Exercises)	20%
Two mid-term exams (25% each)	50%
One final exam (30%)	30%
	<hr/>
	100%

EXPLANATION OF GRADE COMPONENTS

CLASS PARTICIPATION: IN-CLASS EXERCISES AND QUIZZES (20%)

There will often be some type of in-class exercise or a quiz. There may be more than one of these assignments per class. In-class exercises may include watching and discussing videos; analyzing mini-cases; playing course related games – I will occasionally take these up and award a quiz grade (usually an easy 100 pts). You are responsible any in-class exercises even if you are not here (see attendance policy). The bulk of quizzes will be given as shown on the syllabus. They will often be just 1 to 2 questions/problems and will take 10 minutes or are take-home assignments. Quizzes or any in-class assignments will not be "made-up" - ever. So if you are required to attend a university event, I MUST KNOW IN ADVANCE in my office hours (not email), so I can give you the quiz or in-class assignment before you leave. Occasionally, these scheduled quizzes will be assigned as homework assignments (as marked on the activities and homework sheet).

HOMEWORK (see below – not graded but on the exam)

The homework assignments are listed on the class activity sheet. I suggest for which class as they are listed. As often as possible, the homework assignments require you to apply the concepts covered in different settings. You have my permission to work together on any homework assignments that are

NOT take-home quizzes (indicated by bold type and a * on the homework sheet). I will select AT LEAST one homework question for each of my exams, so if you get them done (correctly), these are easy points. ***TIP: Never start homework the night before the exam for that section – I have provided guidelines for you about when to do the homework for each section!!! You can also ask me about homework in my office hours – please work in groups on these when possible - it helps!!!!***

2 EXAMS (50% or 25% each):

Examinations will include problems and some short discussion questions. The primary focus of an exam will be on the material covered since the last exam, however, there will be at least one question that integrates all material covered in the class to that point, and *Exam 3* may include content tested in these earlier exams. Exam problems and questions will be very like those assigned for homework, or given in quizzes or in-class exercises. A formula sheet will be handed out with the exam.

Grading Rubric (you will get what grade the final rounded score indicates)

A = 93 – 100 (percent of total points)
A- = 90 – 92
B+ = 87 – 89
B = 83 – 86
B- = 80 – 82
C+ = 77 – 79
C = 73 – 76
C- = 70 – 72
D+ = 67 – 69
D = 63 – 66
D- = 60 – 62
F=<60

Final Exam:

Final Exams (Exam 3 – 30%) will be given during the assigned exam period for the class, are used for my class learning assessments, and will be quasi-cumulative [60% new material (since the last exam) & 40% older material].

Higher thought

Ponder this quote“Count what is countable, measure what is measurable, and what is not measurable, make measurable” -Galileo Galilei (1564-1642)

Class	Topic & Reading	File	QZ	HW
6/1 & 6/2	No Class – Dr. S away; Operations Terms & Strategy; Read Ch1 & HBR 1 article - “When is virtual virtuous”	C1ppt; HBR1; Shouldice_Quiz	√*	1*
6/5	Operations Terms & Strategy; Dice Game	C2.ppt	√	
	Read: Ch2			
6/6-6/7	Process Layout, Selection, & Flow-Time Analysis	LittLaw.ppt		2
	Read: Ch6	C4&6.ppt		
6/8	Product & Service process design/ Network Mgt.	C17.ppt	√	3
	Read: Ch4 and Ch17			
6/9-6/13	Capacity1: Ops Planning and Analysis	C5.ppt		4
	Read: Ch5			
EXAM 1 (6/14)				
6/15	Capacity2: Managing Capacity Constraints	TOC.ppt	√*	5*
	Theory of Constraints			
6/16-6/19	Inventory Mgt.: Part 1 &2	C13.ppt; Ch15ppt		6, 7
	Read: Ch13			
	Read: Ch15			

Student Learning Objectives for section

Exam1 Objectives:

1. Identify the underlying business processes for a firm in terms of inputs, outputs and resources employed
2. Understand how strategic positioning influences operations
3. Able to explain and use flow diagrams to analyze and map processes (Little’s Law)
4. Able to create a service blueprint to develop service processes
5. Able to identify capacity constraints and suggest suitable management techniques
6. Able to use critical path techniques to manage time-dependent networks and processes

Exam 2 Objectives:

1. Understand how to manage constraints to improve overall system performance
2. Understand and explain the different roles of inventory
3. Able to define, explain, and manage the bullwhip effect
4. Able to determine optimal reorder points, order quantities and informed forecasts for different demand assumptions
5. Able to explain the role of safety inventory
6. Able to recalculate ROP with safety stock under different service level assumptions
7. Able to explain how basic supply chain management principles (aggregation, information-sharing, etc.) can be used to better manage inventory and improve profits

6/20	SC Bullwhip Effect	HBR2.pdf			<u>Exam 3 Objectives:</u> 1. Understand how to manage quality using statistical process control tools (e.g., control charts and process capability measures) 2. Understand the basic mechanics of Resource Planning and Control Systems 3. Understand concept and application of lean manufacturing/pull production systems 4. Understand the principles of JIT systems 5. Understand the application of basic supply chain information tools and principles to lean production systems Understand and explain the fundamental principles of designing process-based systems
	Read: HBR2 Article				
EXAM 2: (6/21)					
6/22	Feedback Control Principles/Intro QM	C9.ppt			
	Read: Ch 9				
6/23	Quality Mgt.(QM)	C10.ppt	√*	8*	
	Read: Ch10				
6/24-6/25	MPS/MRP /ERP	MRP.ppt C11&12.ppt			
	Read: Ch11 & Ch12				
6/26	Lean/JIT	C14.ppt	√	9	
	Read: Ch14				
6/27-6/30	Toyota/Human Factors	PY.ppt		10	
	Ops Design Principles				
	Read: HBR2 Article				
Final Exam is June 30th at 10AM (no exceptions)					

HW = Homework (recommended); HBR = Harvard Business Review Article (I will provide); * collected take-home assignment;
All scheduled quizzes WILL BE DUE ON THE DAY REFERENCED unless you are told otherwise.

DSCI 304 **Class Homework** Revised 12/29/2016

HW	Assignment
1*	Chapter 2 Discussion questions 1-15, (p.64); Problems 1,2 & 5,6 (p.65-66) Shouldice Hospital Take-Home Quiz (Due 6/5)*
2*	Class Process Flow Handout Problems (I will provide these)*; Chapter 6 Problem 4 (p.281)
3	Chapter 17 Problem 1,2 & 4 (p.774); Chapter 4 Problems 3, 4, & 6 (p.169)
4	Chapter 5 Problems 1, 2, 5, 7, 9, 10, 11, 13 & 14 (p.213-214); DBR Problems
5*	Product Mix & Capacity Take-Home Quiz (Due 6/16)*
6	Chapter 13 Problems 2 - 6, 10, 19, 22, 28, 36 - 38 (pp. 589-592)
7	Chapter 15 Discussion questions 4, 5, 7, 11, 17 & 21 (p. 684)
8*	Chapter 10 Problems 1, 4, 21, 22, 26, 28, 29 (pp. 452-453) Control Chart Take-Home Quiz (Due TBD)*
9*	Take home (or In-class) MRP exercises (Due TBD)*
10	Chapter 14 Discussion questions 1 - 10 (p. 636)

- You may (and I encourage) you to work with others on these (except where noted*)
- I may supplement this homework with assigned reading of selected articles
- Note that #1*, #4*,#5**, #8* and #9* will be graded and must be done independently (no groups on these)