

Dillard College of Business Administration

Syllabus: Operations Management MGMT 3453

Online

Fall 2020 Semester

Contact Information

Instructor: Dr. Mike Patterson, Professor of Management

Office: Dillard Building 203

Office hours: Tuesday and Thursday 9:30 a.m. to 11:00 a.m., also, Wednesday 9:30 a.m. to 11:00 a.m. (Virtual)

Office phone: (940) 397-4710

E-mail: mike.patterson@msutexas.edu

Course Materials

Jacobs and Chase, Operations and Supply Management, 15th ed., McGraw-Hill,
ISBN: 9781259666100. Recommended.

Patterson, Management Science Programs for the IBM Personal Computer, 3rd ed., Kendall-Hunt Publishing, ISBN: 0-7872-6792-9. Required

Course Description

Study of concepts, issues and techniques for systems of production. Development of a basic understanding of the manufacturing function in industry.

Course Prerequisites

Junior or Senior standing or consent of Department Chair and
MATH 1203 or MATH 1233

Learning Goals

I. General Learning Goals:

- Students will practice problem solving and decision-making skills during in-class discussion. Assessment will occur on both homework assignments and course examinations.
- Demonstrate a broad understanding of the functional areas of a business entity.
- Develop analytical and critical thinking skills.

These general learning goals are among those established by the Dillard College of Business Administration. General learning goals represent the skills that graduates will carry with them into their careers. While assessing student performance in obtaining these general learning goals, the Dillard College is assessing its programs. The assessments assist us as we improve our curriculum and curriculum delivery.

- II. Course Specific Learning Goals: Upon completion of the course students will have a basic knowledge of and understanding of the following database components, concepts and applications.
- A general understanding of the basic concepts, issues and techniques of the production.
 - Understand the conceptual foundations of cost, volume, and profit analysis. Analysis from a capacity planning and supply-chain management perspective.
 - Analyze various goods and service sector issues as they relate to location analysis, facilities design, work measurement and logistics in various production environments including product, process and project layouts.
 - Explore the role of various operations research tools, such as linear programming, PERT, break-even analysis, transportation and inventory control models in the decision making process.
 - Analyze and compare the different prevailing operations theories, including lean manufacturing, just-in-time, total quality management and the theory of constraints.

Course Policies

If a student misses a regularly scheduled exam, the student must immediately notify the instructor of his/her intention to schedule a make-up exam. There is no other recourse available for a missed exam in the class. The exam dates are tentative and subject to change.

Grading and Evaluation:

Homework Problems - Each is a requirement of the class. You are required to complete 12 of the 17 assignments. Each homework assignment must be turned in on time. All homework is due in two weeks of the completion of lectures (one week for summer semester) related to the homework topics, with the exception of homework assigned at the end of the semester. Due dates for end-of-semester homework will be announced. A one-point deduction from the semester average will be calculated at the end of the semester for each missing or late homework assignment.

Grades will be determined on the basis of the total points earned on three 100-point exams, and the 100 point comprehensive final and any missing or late homework assignments. A calculator may be allowed for the exams and quizzes. The calculator must be a regular hand-held calculator or the desktop calculator for on-line exams.

Letter grades will be given according to the following scale:

A 450 - 500 points
B 400 - 449 points
C 350 - 399 points
D 300 - 349 points
F below 300 points

- The results of your exams and homework will be posted periodically on D2L.
- Semester grades will be reported through normal University channels with no exceptions.

Course Content and Outline	Class Sessions	Text Chapters
1. Nature of Operations Management	2	2
A. Functions of Business		
B. Current Issues in Operations		
2. Cost Volume Profit Analysis	3	pp. 153 thru 155
A. Fixed Cost		Appendix C
B. Variable Cost		
C. Revenue		
D. Break Even Analysis		
Exam # 1 (tentative date 09/15/2020)		
3. Capacity Planning	3	5
A. Concept of Capacity		
B. Manufacturing Environments		
C. Master Production Scheduling		
4. Location of Facilities	3	15
A. Location Decision Making		
B. Location Factors		
C. Market and Material Considerations		
D. Break-Even Analysis		pp. 153 thru 155
E. Transportation Problem		
F. Activity Based Costing		pp. 721 thru 723
5. Facilities Design	2	8, 9
A. Layout of Production Operations		
B. Product vs. Process Layout		
C. Advantages and Disadvantages of Layouts		
D. Continuous, Intermittent, Fixed Position		
Exam #2 (tentative date 10/05/2020)		
6. Work Measurement		
7. Project Management	2	4
A. Concepts of Projects		
B. PERT and CPM		
8. Linear Programming	3	pp. 691 thru 710
A. Graphic Approach		
B. Simplex Method		
C. Production Planning Problems		
D. Capacity Planning Problems		
9. Production and Inventory Control	2	
A. Basic Principles and Concepts		
B. Production Scheduling		
C. Labor Scheduling		
D. Overall Scheduling		
Exam #3 (tentative date 11/03/2020)		

Course Content and Outline	Class Sessions	Text Chapters
10. Master Production Scheduling		
11. Inventory Control/Order Point/Quantity	3	20
A. EOQ		
B. Quantity Discounts		
C. Investment Considerations		
D. Simulation of Inventory		
12. Material Requirements Planning	2	21
A. MRP I and MRP II		
B. Inventory Transactions		
C. Planning Systems		
Exam# 4 (tentative date 11/24/2020)		
13. Just-in-time	1	7, 14
A. Planning under a JIT Environment		
B. Push vs. Pull Systems		
C. Management Philosophy		
14. Quality Movement	1	12
Total Quality Management		
Final Examination 12/05/2020		

HOMEWORK ASSIGNMENTS

Number	Assignment
1	Beta Manufacturing (Handout)
2	Problem 2 (Handout)
3	Clutch Engineering (Handout)
4	Location Problem 1 (Break-even) (Handout)
5	Location Problem 2 (Break-even) (Handout)
6	Problem 1 (Handout)
7	Problem 2 (Handout)
8	Page 366, Problem 8 Textbook
9	Pert Problem (Handout)
10	Page 734, Problem 4 Textbook
11	Page 733, Problem 3 Textbook
12	Billy Frank Haywood Problem (Handout)
13	EOQ Problem 1 (Handout)
14	EOQ Problem 2 (Handout)
15	Simulation Run 1 (Handout)
16	Simulation Run 2 (Handout)
17	Simulation Run 3 (Handout)

Academic Integrity:

With regard to academic honesty, students are referred to the “Student Honor Creed” of Midwestern State University Undergraduate Catalog.

Americans with Disabilities Act:

This class follows the guidelines suggested by Disabilities Support Services for those students who qualify for disability services. See Midwestern State University Undergraduate Catalogue, Services for Students with Disabilities.

Syllabus Change Policy:

This syllabus is a guide for the course and is subject to change.

Additional Information:

Operations Homework Notes

Homework assignments for this class are located on the Dillard server drive Y. These files may be accessed in the Dillard computer labs on the first and third floors (146, 306 and 335).

Computer Icon
coursework(Y:)
Mike Patterson
homeworkdocuments
opshomeworkmaster.doc

Homework Documents

- You are provided with a set of blank documents for homework.
- If you lose your homework copies, these may be downloaded from the computer lab server on drive Y:\coursework\MikePatterson\homeworkdocuments\opshomeworkmaster.doc
And also on D2L.
- Homework assignments should be e-mailed to my graduate assistant at the following email address: Patterson.homework@msutexas.edu.

Homework Check Figures	
1 Part I A	BE\$ = 90,000
2	
3 Part I	BE Units > 21,000
3 Part II	BE Units > 24,000
4 Part I	IP > 10,500 & < 50,000
4 Part II	IP > 52,000 & < 150,000
5 Part	200 Best Outside

	300 Best Inside
5 Part II	IP between 200 & 300
6	Payoff 6350
7	Payoff 7851
8	Expected Completion = 26.83
9	Expected Completion = 39
10	Payoff .68
11	Payoff 2140
12	ROI = 416.875
13	ROI = 1.37 (137%)
14	Payoff .12 (12%)
15	Cumulative Cost between 75,000 & 85,000
16 & 17	Answers will vary

Software:

mgmtsci.exe recommended software for newer computers 32 and 64 bit operating system

Fall/ Spring	Operations Management	Films	Homework
	Video Lectures		
Week 1	Syllabus Ops		
1	MGMT Sci Video		
1, 2	Introduction		
2	Bep1		Problems 1 thru 3
3	Bep2		
3	Bep2 Homework		
Week 4	Exam 1 09/15/2020		
4, 5	Capacity		Problems 4 thru 7
5, 6	Location		
6	Global Solutions	Global Solutions	
7	Patterns of Layout		
Week 7	Exam 2 10/08/2020		
8	Ford (Film)	100 Years Henry Ford Assembly 100 seconds	
8	Work Measurement		
8	Pert		Problems 8 thru 9
9	Linear Programming's Ops		Problems 10 thru 12

10	Production Inventory Control		
10	Populations		
Week 11	Exam 3 11/03/2020		
11, 12	MPS		
12,13	Eoq Reorder		Problems 13 thru 14
13	MRP		Problems 14 thru 17
13	The Goal	The Goal	
Week 4	Examp 4 11/24/2020		
15	Just in Time	Push or Pull	
15	Dr. Deming 14 Points	Deming	
15	Jim Sinegal	Jim Sinegal Costco	
	Final Exam 12/06/2020 8:00 a.m.		

Management Science Programs for the IBM Personal Computer
Found in Dillard Computer Labs –Y drive, Mike Patterson
mgmtsci.exe

Can be purchased from Midwestern Book Store or on-line from



Figure 1

<https://he.kendallhunt.com/product/management-science-programs-ibm-personal-computer>

How to hide unhide files

<https://www.technipages.com/show-hidden-files-windows>