

# Dillard College of Business Administration

Syllabus: Operations Management.

MGMT 3453

Dillard Building

Summer 2023

## Contact Information

Instructor: Dr. Mike Patterson, Professor of Management

Office: DB 203

Office hours: none

Office Phone: (940) 397-4710

E-mail: [mike.patterson@msutexas.edu](mailto: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

MATH 1203 or MATH 1233

## Learning Goals

### I. General Learning Goals:

- Students will practice problem-solving and decision-making skills during in-class discussions. 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, 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 components, concepts, and applications.

A general understanding of the basic concepts, issues, and techniques of 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, and 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.

Students are required to attend every scheduled class session. Each unexcused absence that exceeds six (four in summer school) will result in a two-point deduction in the end-of-semester average grade. Unexcused absences are defined as follows:

1. A student fails to attend class and has no approved documentation for the absence.
2. A student arrives after the class roll is taken, which will generally be recorded no earlier than 10 minutes after the scheduled start time for the class.
3. A student leaves the classroom before the class session is dismissed.

Excused absences for university-related activities, medical reasons, and traffic-related incidents must be supported by appropriate documentation.

No electronic devices are allowed in the class. This includes computers, phones, headphones, etc. If such devices are observed during class, the student will be asked to leave the classroom which will be recorded as an unexcused absence.

#### Other Related 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 within two weeks of the completion of lectures ( one week for the 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 four 100-point exams, the 100-point comprehensive final, and any missing or late homework assignments. A calculator may be allowed for exams and quizzes. The calculator must be a regular hand-held calculator or the desktop calculator for online 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(Hrs.)	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. 153-155
A. Fixed Cost		Appendix C
B. Variable Cost		
C. Revenue		
D. Break Even Analysis		
<b>Exam # 1 (tentative date 06/12/2023)</b>		
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. 153-155
E. Transportation Problem		
F. Activity Based Costing		pp. 721-723
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		
<b>Exam #2 (tentative date 06/19/2023)</b>		
6. Work Measurement		
7. Project Management	2	4
A. Concepts of Projects		
B. PERT and CPM		
8. Linear Programming	3	pp. 691-710
A. Graphic Approach		

Course Content and Outline	Class Sessions(Hrs.)	Text Chapters
B. Simplex Method		
C. Production Planning Problems		
D. Capacity Planning Problems		
<b>9. Production and Inventory Control</b>	<b>2</b>	
A. Basic Principles and Concepts		
B. Production Scheduling		
C. Labor Scheduling		
D. Overall Scheduling		
<b>Exam #3 (tentative date 06/26/2023)</b>		
<b>10 Master Production Scheduling</b>		
<b>11. Inventory Control/Order Point/Order Quantity</b>	<b>3</b>	<b>20</b>
A. EOQ		
B. Quantity Discounts		
C. Investment Considerations		
D. Simulation of Inventory		
<b>12. Material Requirements Planning</b>	<b>2</b>	<b>21</b>
A. MRP I and MRPII		
B. Inventory Transactions		
C. Planning Systems		
<b>Exam # 4 (tentative date 07/03/2023)</b>		
<b>13. Just-In-time</b>	<b>1</b>	<b>7,14</b>
A. Planning under a JIT Environment		
B. Push vs. Pull Systems		
C. Management Philosophy		
<b>14. Quality Movement</b>	<b>1</b>	<b>12</b>
Total Quality Management		
<b>Final Examination (tentative date 07/07/2023)</b>		

## 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 on D2L and in the Dillard computer labs on the first and third floors (146, 306, 324 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 e-mail address: [patterson.homework@msutexas.edu](mailto:patterson.homework@msutexas.edu)

## Campus Carry Statement:

**Senate Bill 11 Handgun Policy** -Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from licensed concealed carry are appropriately marked, in accordance with state law (Penal Code 30.06 signage). Please note, open carry of handguns, whether licensed or not, and the carrying of all other firearms (rifles, shotguns, etc.), whether open or concealed, are prohibited on campus. For more information regarding campus carry, please refer to the University's webpage at: Campus Carry.

Homework Check Figures	
1 Part I A	BE\$ = 90,000
2	Contribution = .70 BE \$ = 60,000
3 Part I	BE Units >21,000 & <22,000
3 Part II	BE Units > 24,000 & <25,000
4 Part I	IP >30,000 & <35,000
4 Part II	IP > 130,000 & < 140,000
5 Part	200 Best Outside City
	300 Best Inside City
5 Part II	IP between 200 & 300
6	Payoff 6,350
7	Payoff 7,851
8	Expected Completion = 26.83
9	Expected Completion = 39
10	Payoff .68 B 1.846 A .538
11	Payoff 2140
12	Payoff = 416.875
13	ROI = 1.38 (138%)
14	Payoff .124 (12.4%)
15	Cumulative Cost between 75,000 & 85,000
16 & 17	Answers will vary and should go down & then up

Software:
mgmtsci.exe recommended software for newer computers with 32 and 64-bit operating system



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 online from

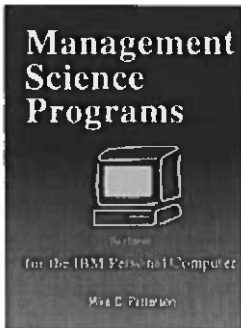


FIGURE 1

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

How to hide and unhide files

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

