

Problem Solving For Management Syllabus

General Information

MAT171 Problem Solving For Management: *4 hours, 4 credits.* The use of functions, graphs, and matrices to solve various applied problems. Geometry of linear, quadratic, logarithmic, and exponential functions.

Prerequisite: A grade of C (or better) in MAT 104 or placement by the Department.

Notes: MAT 171 is a prerequisite for MAT 174. Students planning to take MAT 175 must take MAT 172 instead of Mat 171. Students may not receive credit for both MAT 171 and MAT 172.

Instructor: *Your instructor will provide contact information, office hours and meeting times for your section*

Grading Policy

Expectations: Students are expected to learn both the mathematics covered in class and the mathematics in the textbook and other assigned reading. Completing homework is part of the learning experience. Students should review topics from prior courses as needed and, if needed, go to their instructor's office hours, to the Math Lab or to problem sessions regularly.

Homework: Approximately two hours of homework will be assigned in each lesson as well as additional review assignments.

Grades: *The precise grading policy for your section will be distributed by your instructor.*

Materials, Resources, and Accommodating Disabilities

Textbook: Harshbarger/Reynolds, *Mathematical Applications for the Management, Life, and Social Sciences*, Cengage Learning, 8th, 9th, or 10th Edition.

Technology: Students can use a Scientific Calculator in class and on homework.

Graphing Calculators are not permitted at all.

Tutoring: Departmental tutoring is available in the Math Lab on the 2nd floor of Gillet Hall.

Accommodating Disabilities: Lehman College is committed to providing access to all programs and curricula to all students. Students with disabilities who may need classroom accommodations are encouraged to register with the Office of Student Disability Services. For more info, contact the Office of Student Disability Services, Shuster Hall, Room 238, 718-960-8441.

Course Objectives

At the end of the course, students will be able to:

1. Graph linear, quadratic, exponential, and logarithmic equations. (a,b)
2. Apply linear and quadratic equations to business applications. (a,b,c)
3. Multiply and invert matrices. (a,b)
4. Solve systems of linear equations. (a,b)
5. Represent and solve business problems involving exponents and logs. (b,c)

These objectives will be assessed on the final exam along with other important techniques.

Course Topics

There is flexibility in the order and time allotted to each of the topics below, but all topics must be covered by the instructor and understood by the student. *Section numbers refer to the most RECENT edition of the text; consult with your instructor if you are using an older edition.*

Lesson	Topic	Chapter	Exams
1	Introduction to Mat 171	Ch 0 Sec 0.1 - 1.7	
1	Linear Equations & Inequalities	Ch 1 Sec 1.1	
2	Functions	Ch 1 Sec 1.2	
3	Linear Functions	Ch 1 Sec 1.3	
4	Graphs	Ch 1 Sec 1.4	
5-6	Applications of Functions In Business and Economics	Ch 1 Sec 1.6	Exam I in Lesson 6
7	Quadratic Equations & Functions, Parabolas	Ch 2 Sec 2.1, 2.2	
8-9	Business Applications	Ch 2 Sec 2.3	
10-11	Special Functions & Their Graphs	Ch 2 Sec 2.4	
12	Matrices	Ch 3 Sec 3.1	
13-14	Multiplication of Matrices	Ch 3 Sec 3.2	Exam II in Lesson 14
15	Solving Systems of Equations	Ch 1 Sec 1.5 Ch 3 Sec 3.3	
16-17	Inverse of a Square Matrix	Ch 3 Sec 3.4 - 3.5	
18	Linear Equations in 2 Variables	Ch 4 Sec 4.1	
19	Linear Programming: Graphically	Ch 4 Sec 4.2	
20	Exponential Functions	Ch 5 Sec 5.1	
21	Logarithmic Functions	Ch 5 Sec 5.2	
22-23	Solution of Exponential Equations	Ch 5 Sec 5.3	Exam III in Lesson 23
24	Simple Interest	Ch 6 Sec 6.1	
25	Compound Interest	Ch 6 Sec 6.2	
26	Future and Present Value of Annuities	Ch 6 Sec 6.3- 6.4	
27-28	Loans and Amortization	Ch 6 Sec 6.5	

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