

## MAT 172 Finite Mathematics 14639 Online

Credit Hours: (3) Various analytic methods employed in business, social and life sciences with an emphasis on applications. Topics include algebra review, linear programming, matrix operations, linear systems of equations, set theory, counting, probability and statistics.

Prerequisite/Corequisite: MAT 152 or satisfactory score on mathematics skills assessment.

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**Office Hours:** Mon/Tues 11:00AM – 2:00PM, Weds/Thurs 12:30PM -2:00PM

### COURSE CONTENT:

1. Linear functions and their graphs
2. Matrices
3. Linear systems of equations
4. Linear programming
5. Set theory
6. Counting techniques
7. Probability theory
8. Statistics
9. Finance problems
2. Solve n-by-m linear systems of equations using elementary row operations. (3)
3. Solve linear programming problems by graphical and algebraic techniques. (4)
4. Perform the basic operations of union, intersection and complement on sets. (5)
5. Use Venn diagrams, combinations and permutations in applications involving counting. (5)
6. Evaluate probabilities of simple, compound, independent and dependent events. (7)
7. Compute measures of central tendency and dispersion for a collection of statistical data. (8)
8. Apply the theory of normal and binomial probability distributions to statistics problems. (8)
9. Compute the present value of an annuity, interest on mortgages, and cash flow. (9)

### LEARNING OUTCOMES:

**Upon successful completion of this course, the learner will be able to:**

1. Perform elementary matrix operations including addition, subtraction, multiplication and inversion. (2)

**Course Format:** *Section 14639* is an online section. The content for this section is delivered through the course website at <http://my.yc.edu>. You will complete homework problems to help you learn the material and then take a quiz to demonstrate that you have learned the course content. You have the opportunity to ask questions via phone, email or during online office hours.

You are also required to complete projects and technology assignments. More information on the course requirements can be found in the Common Course Policies. The materials for the course are available at <http://my.yc.edu> (look for the MyLabsPlus link) with supplemental materials like handouts and videos at <http://www.whyseemath.com>. The textbook for the course is “Finite Mathematics and Calculus with Applications” by Lial, Greenwell, Ritchey (8<sup>th</sup> edition 2008). This book is available in the Yavapai College bookstore and is bundled with a special student access code. The textbook is also available online via a student access code that you can purchase online from within the class website (or use the one bundled with your textbook). If you have used this textbook for another course, you will be able to reuse the license you have already student access code for the textbook. Contact me for more details.