

FINITE MATHEMATICS

GRADES 11-12

(1 Semester – Prerequisite: Successful Completion of Advanced Algebra)

COURSE OVERVIEW:

This class gives students a view of mathematics that they would not get in any other course. The emphasis in the first semester is on problem solving, especially in terms of business applications. The emphasis in the second semester is on elementary probability, statistics, and combinometrics. A student does not have to take the first semester in order to take the second semester. A graphing calculator approach is used to cover each of the topics.

UNITS OF INSTRUCTION:

First Semester

Linear Equations and Straight Lines, Matrices, Linear Programming: A Geometric Approach, Linear Programming: Simplex Method, Finance

Second Semester

Sets and Counting Techniques, Probability, Additional Probability Topics, Statistics, Logic, and Logic Circuits

STUDENT OUTCOMES:

	Students will be able to demonstrate knowledge of
	First Semester
1.	Linear programming and how it is applied in business and industry. (graphing and matrix method) (8A, 8B, 8C, 8D)
2.	Financial theory with banking applications. (6B, 6C, 6D, 7A, 7C)
3.	Computer spreadsheets used for varieties of financial situations. (6B, 6C, 6D)
	Second Semester
4.	Counting theory and combinometrics as it applies to probability and statistics. (10C)
5.	Basics of logic theory and it applications. (10A, 10B, 10C)
	This course addresses the following state standards: (6A, 6B, 6C, 6D, 7B, 7C, 8A, 8B, 8C, 8D, 10A, 10B, 10C)

MAJOR LEARNING EXPERIENCES TO ACHIEVE OUTCOMES:

<p>First Semester</p> <ol style="list-style-type: none">1. Solve problems involving loans, mortgages, annuities along with other investments all involving geometric growth patterns.2. Apply algebraic properties and procedures with matrices and functions using data found in business, industry, and consumer situations.3. Formulate and solve linear systems of equations and inequalities algebraically using graphs, calculators, and computers. <p>Second Semester</p> <ol style="list-style-type: none">4. Construct and test logical arguments through the use of truth tables.5. Analyze data using mean, median, mode, range, variance, standard deviation, etc. of a data set with and without the use of technology.6. Design and conduct simulations using the principles of probability including conditional settings with and without technology.7. Propose and interpret discrete probability to distributions with and without technology.8. Compute conditional probabilities and the probabilities of independent events utilizing knowledge of combinometrics.9. Make predictions using probability associated with normally distributed events.
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ADOPTED TEXT OR PRINCIPAL MATERIALS USED:

<p>Mizrahi, et al., <i>Finite Mathematics: An Applied Approach</i>. John Wiley & Sons, Inc. 2000. Graphing Calculator (TI: 82, 83, 83+, 85, 86, 89) Microsoft Excel Spreadsheet Program <i>Instructor's Resource CD</i>. John Wiley & Sons, Inc. 2000</p>

(06/03/03)
(05/18/00)