

LINEAR ALGEBRA
GRADES 11-12
(1 Semester – Prerequisite: AP Calculus BC and Calculus 3)

COURSE OVERVIEW:

<p>One of the first courses after calculus at colleges and universities is a one-semester introduction to linear algebra course. Linear algebra further expands on the concepts introduced in calculus and provides a theoretical framework for much that is studied in calculus.</p>

UNITS OF INSTRUCTION:

- UNIT I - Systems of Linear Equations and Matrices
- UNIT II - Determinants
- UNIT III - Vectors in 2-Space and 3-Space
- UNIT IV - Euclidean Vector Spaces
- UNIT V - General Vector Spaces
- UNIT VI - Inner Product Spaces
- UNIT VII - Eigenvalues, Eigenvectors
- UNIT VIII - Linear Transformations
- UNIT IX - Complex Vector Spaces

STUDENT OUTCOMES:

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| <ol style="list-style-type: none">1. Students will develop an understanding of topics traditionally found in elementary linear algebra. (9.C)2. Students will extend their knowledge of mathematics and their appreciation of the usefulness of higher-level mathematics.3. Student will use algebraic and analytical methods to identify and describe patterns and relationships in data, to solve problems, and to predict results. (8.B, 9.C & D)4. Students will use technology (graphing calculators, computer software, the Internet) appropriately to solve problems pertinent to this course that would be difficult or impossible to do otherwise. (6.A & D, 8.C & D) |
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MAJOR LEARNING EXPERIENCES TO ACHIEVE OUTCOMES:

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| <ol style="list-style-type: none">1.2.3. | <p>Work cooperatively with other students to solve challenging problems.
Use calculators and computers as an aid to solving problems.
Participate actively on the school's Math Team.</p> |
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ADOPTED TEXT OR PRINCIPAL MATERIALS USED:

To Be Determined	(Adopted 2000)
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(05/17/00)