GHS Curriculum Map Math Grade 12	
Subject/Course Title: Linear Algebra	**Unit Title:** Matrix Operations (Unit 1)

Unit Overview

Students will write matrices and identify properties identified with a matrix. Students will use the matrix operations associated with matrix addition, scalar multiplication, and matrix multiplication; identify when these operations are not defined; and show the results of these operations as a matrix. Students will find the inverse of a matrix using row operations, and will understand and use the zero and identity matrices.

Time Frame	Priority Standards	Essential Questions	Instructional Strategies	Assessments (Note Writing Tasks and Performance Tasks)	Key Resources/Texts
10 Days	***CT Core Standards*** **HSN.VM.C.6** **HSN.VM.C.7** **HSN.VM.C.8** **HSN.VM.C.10**	1. What type of real world situations can be modelled with a matrix? 2. How can a matrix be used to represent a system of mathematical models? 3. How do mathematical properties: commutative, associative, and distributive properties apply to matrices?	• Notes (Cornell format) • Homework • In class practice • Technology • Cooperative Learning	• Mid-Unit Assessment • Unit Assessment	CK12 Online Text (Built from a cumulation of online resources)

Subject/Course Title: Linear Algebra	**Unit Title:** Determinants (Unit 2)

Unit Overview					
Students will evaluate the determinant of a square matrix. Students will demonstrate the effects of row operations on the determinatant. Students will use the determinant to establish if the inverse exists They will apply Cramer's Rule to solve simple linear systems.					
Time Frame	**Priority Standards**	**Essential Questions**	**Instructional Strategies**	**Assessments** (Note Writing Tasks and Performance Tasks)	**Key Resources/Texts**
10 Days	***CT Core Standards*** **HSN.VM.C.12** **HSN.VM.C.10**	1. When can determinants be used? 2. What information about a system of equations can be established using the determinant?	• Notes (Cornell format) • Homework • In class practice • Cooperative Learning	• Mid-Unit Assessment • Unit Assessment	CK12 Online Text (Built from a cumulation of online resources)

Subject/Course Title: Linear Algebra	**Unit Title:** Gaussian Elimination and Other Techniques to solve Linear Systems (Unit 3)

Unit Overview					
Students will write matrices to represent linear systems. They will use row operations to solve the linear system. Techniques such as gaussian elimination will be used to solve a linear system.					
Time Frame	**Priority Standards**	**Essential Questions**	**Instructional Strategies**	**Assessments** (Note Writing Tasks and Performance Tasks)	**Key Resources/Texts**
5 Days	***CT Core Standards*** **HSN.VM.C.10 (+)** **HSN.VM.C.6(+)**	1. What is the purpose of row reduction? 2. How does Gaussian Elimination relate to different mathematical methods to solve a system of equations?	● Notes (Cornell format) ● Homework ● In class practice ● Technology ● Cooperative Learning	● Mid-Unit Assessment ● Unit Assessment	CK12 Online Text (Built from a cumulation of online resources) /

Subject/Course Title: Linear Algebra	**Unit Title:** Graph Theory (Unit 4)

Unit Overview					
Students will represent various networks and their connections using a matrix. They will perform operations to make conclusions about the connected status of their network. Concepts to be covered will include adjacency matrices, networks, and search techniques.					
Time Frame	**Priority Standards**	**Essential Questions**	**Instructional Strategies**	**Assessments** (Note Writing Tasks and Performance Tasks)	**Key Resources/Texts**
15 Days	***CT Core Standards*** **HSN.VM.C.6(+)**	1. What professions could use graph theory? 2. Does a "theoretical" graph need to match the parameters of the situation being modeled?	• Notes (Cornell format) • Homework • In class practice • Technology • Cooperative Learning	• Mid-Unit Assessment • Unit Assessment	CK12 Online Text (Built from a cumulation of online resources)

Subject/Course Title: Linear Algebra	**Unit Title:** Vectors (Unit 5)

Unit Overview

Students will learn what a vector is and how to combine vectors together. They will be able to represent a vector by its Cartesian components. They will be able to multiply vectors together using either the scalar product or the vector product.
A review of basic trigonometry functions will be part of the introduction to this unit. Student knowledge will drive the depth needed for the review.
Students will model real world situations with vectors and solve via vector operations.

Time Frame	Priority Standards	Essential Questions	Instructional Strategies	Assessments (Note Writing Tasks and Performance Tasks)	Key Resources/Texts
10 Days	***CT Core Standards*** HSN.VM.A.1 HSN.VM.A.2 HSN.VM.A.3 HSN.VM.B.4 (A, B, C) HSN.VM.B.5 (A-B)	1. What is the difference between scalars and vectors? Do scalars and vectors have any similarities? 2. What real world situations would be modeled with scalars? Vectors?	• Notes (Cornell format) • Homework • In class practice • Identifying Similarities and Differences • Cooperative Learning	• Mid-Unit Assessment • Unit Assessment	CK12 Online Text (Built from a cumulation of online resources)