Math 2210Q-004 Applied Linear Algebra
E-Mail Assignments
on the readings in the textbook

David Gross
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Submit by E-Mail by 7:00 am on the date due (before class)
to dgross@math.uconn.edu.

Due for Thursday, April 16

Section 5.2 The Characteristic Equation
Section 5.3 Diagonalization

To read: Reread section 5.2 and all of 5.3.

To Do: Homework from section 5.1.

Be sure sure to understand: The characteristic equation and characteristic polynomial in section 5.2; Example 3 in section 5.3.

Email Subject Line: 2210EA 04/16 YourLastName

Questions:

1. If A is a 4×4 matrix with eigenvalues 1, 2, 0 and 4, is A diagonalizable?
2. Supose A is a 3×3 matrix with eigenvectors $\vec{v}_1, \vec{v}_2$ and $\vec{v}_3$ with eigenvalues 1, 2 and 3 respectively. If $P = [\vec{v}_1\ \vec{v}_2\ \vec{v}_3]$, what matrix is $P^{-1}AP$? (actually write down the matrix)
3. Suppose A is a 5×5 matrix with 5 different eigenvalues. Is there a diagonal matrix D that is similar to A?
4. Does an $n \times n$ matrix have to have n distinct eigenvalues in order to diagonalizable?
