Spring 2016  Math 2853  Elementary Linear Algebra  Online
Instructor: Dr. Amin Boumenir
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Office Hours: SmathThinking online or see me in Boyd 321 Tuesdays and Thursdays at 4-5pm.
Prerequisites: MATH 1634 with a grade of C or higher
Textbook: Linear Algebra and its Applications, (4ed.),by D. Lay see MyMathLAB.
We will cover Chapters 1-4, and some sections 5&6 time permitting
Description: Matrices (properties of matrices, matrix algebra and operations, determinants, inverse of a matrix eigenvalues and eigenvectors), methods of solving systems of linear equations (Gaussian elimination, Gauss-Jordan elimination, Cramer’s Rule), vectors (linear independence, spar, basis and dimension), applications (coding, computer graphics).
Learning Outcomes: The student will have an understanding of:
1. How to perform basic matrix operations.
2. How to compute the inverse and the determinant of a square matrix.
3. How to express linear systems of equations in matrix form.
4. How to solve systems of linear equations using Gaussian and Gauss-Jordan elimination
5. How to solve systems of linear equations using Cramer’s Rule.
6. The basic properties of real vector spaces and subspaces including properties such as linear independence, spar, basis, rank.
7. How to analyze linear transformations.
8. How to compute eigenvalues and eigenvectors of a square matrix.
9. How to diagonalize a square matrix.
Student Evaluation:
Homework: at the end of each section there will be homework that counts 10 points
All the homework will be worth 20% towards the grade
Quizzes: At the end of each chapter there will be a quiz (similar to a test).
All the quizzes count 40% towards the grade
Final Exam: There will be a comprehensive final exam worth 40% of the grade
The material is similar to the quizzes but is in class
Grading: 100%> A >= 90%>B>=80%>C>=70%>D>=60%>F.
Test and Quiz Policy: No make-up tests or quizzes will be given. (Do it on time otherwise the computer will lock you down!
Important Dates:
Withdrawal March 3rd
Final exam in Class Saturday April 23rd 2016 at 10am-12pm Boyd 301
Cheating on line will not be tolerated.