INFORMATION

This class meets MWF at 9:30 in Science Center 128. The text for the class is ” Linear Algebra”, 3rd edition, by Fraleigh and Beauregard. There will be weekly homework sets that will be handed out every Wednesday and will be collected a week later (the following Wednesday) in class. The homework is graded. LATE HOMEWORK WILL NOT BE ACCEPTED. There will be 3 in class exams and a cumulative final exam. Roughly, the grades for all of this work is weighted as follows : homework 15%, exams 20% each, final 25%.

My office is in room 151 of the Science Center. My office hours are Tuesday 3:30-5 and Thursday 3-4:30. My office phone is 610-328-8613. My e-mail is jtalvac1.

SYLLABUS

Below you’ll find a list of the topics that I’ll cover in the class. They correspond roughly to material in the first seven chapters of the text.

$\mathbb{R}^n$ as a vector space; basis, dimension, norm and dot product.
Matrices and their Algebra
Solving Linear systems of equations; applications
Linear Transformation on $\mathbb{R}^n$
Abstract vector spaces; basis, dimension
Linear transformations on vector spaces
Determinants: definition and computation; applications to area and volume; Cramer’s rule; Linear transformations and determinants.
Eigenvalues and eigenvectors
Diagonalization of matrices; applications
Projections
The Gram Schmidt process
Orthogonal matrices; projection matrices
Method of Least Squares
Change of basis