(—–; 3-0-1) **Linear Algebra** MATH-312*

This course is intended for students majoring in MATH or STAT and in Mathematics and Engineering. The topics mainly deal with linear transformations, their properties and their canonical forms. There is roughly equal emphasis on theory and applications.

Textbook: *Linear Algebra*, 4th Edition
by S. Friedberg, A. Insel and L. Spence (Prentice-Hall)

Prerequisite: MATH-110 *or* 111 *or* APSC 174*.

Instructor: I. Dimitrov

Evaluation: The maximum of formula A and B:
A: Final examination 50%, Midterm 25%, Homework 25%
B: Final examination 75%, Midterm 12.5%, Homework 12.5%

Outline:

1. Vector spaces, linear transformations and matrices
2. Dual spaces
3. Operations on matrices, linear equations
4. Determinants
5. Diagonalization
6. Invariant subspaces, Cayley-Hamilton theorem
7. The minimal polynomial. Primary decomposition of a linear operator
8. Jordan canonical forms