21-260: Differential Equations
Midterm 2 Review

Reading: Sections 7.1-7.6, 7.8.

Skills: 1) Use basic mathematical modeling with systems of first order differential equations.

2) Know matrix operations: addition, scalar multiplication, matrix multiplication, inversion.

3) Solve linear systems of algebraic equations.

4) Determine whether or not a set of vectors is linearly independent.

5) Find the eigenvalues and eigenvectors of a matrix.

6) Find the general solution for a first order, linear, constant coefficient, homogeneous system

of differential equations.

7) Sketch and interpret phase plane diagrams for systems of differential equations.

Practice: See http://www.math.cmu.edu/∼gheorghi/prac260.html.