Math 325
Spring, 2000

Reminder: The midterm is Wednesday, March 8. It will cover everything we have done so far, so Sections 4.1-4.3, 8.1-8.2, 8.4, 8.6, Chapter 7, and Sections 9.1-9.2 in Boyce and DiPrima and Chapters 5, 7, 8, and 12 of *Differential Equations with Maple*. You may bring a summary (one side of an $8\frac{1}{2}'' \times 11''$ sheet of paper, with notes in your writing) to the midterm.

On the course web page, under *Information* you will find a *Review for the Midterm*, which is an outline of the major ideas and topics we have covered. You will also find *Tips for Studying for the Midterm*, which will give you some idea of what to expect on the exam.

ASSIGNMENT 6, due Friday, March 24

Read Boyce and DiPrima, Section 9.3.

Do p. 478 #5,22, p. 488 #10.

Also, answer all the questions on the *Gallery of Pictures* worksheet. In #5, use the list of stability types in Table 9.1.1, p. 468, of Boyce and DiPrima. (There are ten types listed there, since for $r_1 = r_2$, proper node and improper node are different types.) The *spectrum* is the set of eigenvalues. An *orbit* is a trajectory. A *component graph* is a graph of one of the components of the solution as a function of t. In #6, the equations should be $x' = x,\ y' = 2x - y$. You may use either Maple or Matlab for your plots. If you use Matlab, use the Matlab program **multigraf** to put several plots on the same sheet of paper. Be sure to label your plots.