

Last Name: _____ First Name: _____
Student ID: _____

EME172: Automatic Control of Engineering Systems
Summer Session 1, 2007
Homework 2
Due Tuesday, July 10, 2007
(100 points)

1. Read Chapter 3 (3.1-3.6) and Chapter 4 (4.1-4.4) in the textbook *Control Systems Engineering*.
2. (30 points) Problem 3-4, choose state variables as
$$z_1 = x_1, z_2 = \frac{dx_1}{dt}, z_3 = x_2, z_4 = \frac{dx_2}{dt}, z_5 = x_3, z_6 = \frac{dx_3}{dt},$$
3. (15 points) Problem 3-13 (complete by hand).
4. (15 points) Problem 3-14(b) (complete by hand).
5. (10 points) Problem 4-2 (a).
6. (10 points) Problem 4-6.
7. (20 points) Problem 4-8 (b, d, e, f).