

---

# Differential Equations

Math 341 Fall 2009  
©2009 Ron Buckmire

Fowler 110 MWF 2:30pm - 3:25pm  
<http://faculty.oxy.edu/ron/math/341/09/>

---

## Week 11

**Monday November 9** : *Worksheet 23*

**Hamiltonian Systems.** We shall continue our analysis of non-linear systems by introducing the concept of a Hamiltonian.

Reading:

Blanchard, Section 5.3

Homework #24:

Blanchard, Section 5.3: 2, 12, 13, 14, 17, 18.

**Wednesday November 11** : *Worksheet 24*

**Dissipative Systems.** We shall continue our analysis of non-linear systems by introducing the concept of a Lyapunov function.

Reading:

Blanchard, Section 5.4

Homework #25:

Blanchard, Chapter 5 Review: 3, 4, 5, 6, 7, 8, 11, 12, 25, 27, 28.

**Friday November 13** : *Worksheet 25*

**Series Solutions of Differential Equations.** We shall be introduced to the idea of approximating solutions to differential equations by infinite series.

Reading:

Zill, Chapter 6

Quiz:

Reading Quiz #3.