

---

# Differential Equations

Math 341 Fall 2013  
©2013 Ron Buckmire

Fowler 307 MWF 12:50pm - 1:45pm  
<http://faculty.oxy.edu/ron/math/341/13/>

---

## Week 6

Monday September 30 : *Worksheet 9*

**Integrating Factors.** We will learn a technique for obtaining a formula for solutions of linear ODEs.

Reading:

Blanchard, Section 1.9

Homework #9:

Blanchard, Section 1.9: 4, 5, 9, 12, 19, 22\*.

Wednesday October 2 : *Worksheet 10*

**First Order Systems of ODEs.** We will be introduced to models that involve a system of first order differential equations.

Reading:

Blanchard, 2.1

Homework #10:

Blanchard, Chapter 1 Review: 3, 4, 10, 11, 12, 13, 14, 26, 49, 52\*.

Friday October 4 : *Worksheet 11*

**Geometry of Systems of ODEs.** We will be exposed to the beautiful pictures which can result when one does quantitative analysis on systems of ODEs (phase portraits).

Reading:

Blanchard, Section 2.1

Homework #11:

Blanchard, Section 2.1: 1, 2, 3, 5, 7, 10, 14\*.

Quiz #4:

Take-home Quiz on Linear Systems