

## Week 2

**Monday January 24** *Class 3:*

**Differential Equations as Mathematical Models.** The study of differential equations will be placed in context as originating from the desire to create mathematical models for natural phenomena.

Reading:

Zill, (Section 1.3)

Homework Set #2: (due in *Class 5*)

Section 1.3 # 1, 2, 3\*, 5\*, 8\*, *EXTRA CREDIT: 13, 14 (Hand in # 3, 5, 8)*

CHAPTER 1 REVIEW: *EXTRA CREDIT # 5, 7, 8, 9, 10, 15, 16, 17, 21, 22 on FRI JAN 28*

**Quiz 1 Due**

**Wednesday January 26** *Class 4:*

**Sketching Solution Curves Without A Solution.** We'll learn how to obtain enough information from the ODE itself without solving it which allows us to sketch solution curves.

Reading:

Zill, (Section 2.1)

Homework Set #2: (due in *Class 5*)

Zill, Section 2.1: 1, 2\*, 3, 4\*, 5, 6\*, 8\*, 12, 17\*, 21, 22 *EXTRA CREDIT 19, 29, 32, 37*

**Friday January 28** *Class 5:*

**Separation of Variables.** By limiting ourselves to a class of ODEs: first-order equations with "separable" variables we obtain a technique for finding solutions to all members of this class of ordinary differential equations.

Reading:

Zill, (Section 2.2)

Homework Set # 3: (due in *Class 8*)

Zill, Section 2.2: 2\*, 3, 4\*, 7, 9\*, 16, 17\*, 23\*, 25, 26 **Extra Credit 31, 39, 44**

Quiz #2