

# Differential Equations 5410

## Fall Semester 2008

Name: \_\_\_\_\_

phone: \_\_\_\_\_

email \_\_\_\_\_

Grade by email (Y/N)? \_\_\_\_

Midterm 1 [Sept 16]  $Av = \square$ , Scores \_\_\_\_\_

Midterm 2 [Oct 21]  $Av = \square$ , Scores \_\_\_\_\_

Midterm 3 [Nov 18]  $Av = \square$ , Scores \_\_\_\_\_

Midterm 4 [Dec 5]  $Av = \square$ , Scores \_\_\_\_\_

Average of midterms:  $AV_1 = \square$

Average of daily work and maple labs:  $AV_2 = \square$

Final Grade:  $\frac{70}{100}AV_1 + \frac{30}{100}AV_2 = \square$

Questions: 581-6879, Email: ggustaf@math.utah.edu, Office: 113 JWB.

### Chapter 1

1.1: 2   
1.2: 2 , 3a , 4a , 4d   
1.3: 1 , 5d , 6 , 11   
1.4: 3 , 4 , 9 , 14   
1.5: 3 , 10 , 12   
1.6: 2 , 3 , 5 , 7   
1.7: 1 , 5   
1.8: 1 , 3 , 5   
1.9: 1c , 2c , 3a , 5   
9 .

### Chapter 2

2.1: 1 , 2 , 4   
2.2: 1a , 4 , 5   
2.3: 1 , 5   
2.4: 1a , 2a , 3a , 4a   
7   
2.5: 1 , 2b   
2.6: 2b , 3d , 3e , 4b

2.7: 2 , 3 .

### Chapter 3

3.1: 1 , 2 , 6   
3.2: 1b , 1e , 2b , 4   
10b , 11a   
3.3: 1 , 2 , 4   
3.4: 1 , 2a , 2b , 2c   
3b , 4b   
3.5: 1 , 3 , 4   
3.6: 1 , 3 , 4 , 5   
6 , 10   
3.7: 3 , 4 , 7 .

### Chapter 4

4.1: 1 , 4 , 5   
4.2: 1b , 2a   
4.3: 1 , 2   
4.4: 2 , 7 , 8

## Chapter 5

5.1: 1 , 2d , 3 , 4b ,  
5.2: 1 , 2a , 2b , 3d ,  
5.3: 1c , 2a , 3a , 4 ,  
5.4: 1c , 2c , 3c , 4 .

## Chapter 6

6.1: 1a , 1b , 1c , 2a ,  
2c , 3a ,  
6.2: 1d , 1g , 1i , 3e ,  
6.3: 1a , 1c , 1g , 1h ,  
2d , 2f , 3b , 3e ,  
4a , 4c , 5b , 5c ,  
6.4: 1a , 2a , 3a ,  
6.5: 1b , 2 .

## Chapter 7

7.1: 1 , 3 ,  
7.2: 1 , 7 ,  
7.3: 1b , 2a , 2b , 2c ,  
3 , 8a ,  
7.4: 1a , 1b , 1e , 1g ,  
2 , 5 , 7 , 7.5: 1a ,  
2b , 3a , 3c , 4a ,  
7.6: 1 , 2 , 3a , 4a ,  
7.7: 2a , 2c , 3a , 3c ,  
4 , 6 ,  
7.8: 1a , 1b , 2a , 2b ,  
4c , 6a ,  
7.9: 1a , 2a , 4 , 7a ,  
9a , 10c , 12a ,  
7.10: Skip,  
7.11: 2 , 3 , 4a .

**Lab 1** [Setup and direction fields]

**Lab 2** [DE plots and Teddy Bear]

**Lab 3** [Picard Iteration and Implicit plot]

**Lab 4** [Euler, Heun, RK4]

**Lab 5** [Chaos]

**Lab 6** [Antihistamine and escape times]

**Lab 7** [Phase diagrams]