

# Differential Equations and Linear Algebra

Tentative Due Dates Spring 2014

2250-1 7:30am in JTB 140

Questions: 801-581-6879, Office: 113 JWB. Email [ggustaf@math.utah.edu](mailto:ggustaf@math.utah.edu)

## HW 1, due Tue 14 Jan

1.1: 1, 4, 5, 6, 9, 15, 19, 27, 29, 30, 32, 33, 34 Reading. Required background.

1.2: 1, **2**, **4**, 5, **6**, 7, 9, **10**, 13, 15, 16, 18, 21,  
22, 24, 26, **29**, 31, 32, 33, **35**, 40, 41

1.3: 2, 3, 5, 6, **8**, 10, 11, 13, **14**, 23, 25, 26, 33

1.4: 2, 3, 4, **6**, 9, **12**, 13, **18**, 19, 20, 21, **22**, **26**,  
36, 41, 42, 45, 46, 49, 51, 56, 59

## HW 2, due Tue 21 Jan

1.5: 1, 7, **8**, **10**, 13, **18**, **20**, 21, 23, 24, 33,  
**34**, 36, 39

EPbvp 3.7: 1, 2, **4**, 7 [LC and RC circuits, more after 5.6]

2.1: 1, 3, 4, 6, **8**, 10, 12, **16**, 22, 23, 33, 37

2.2: 5, 7, 8, 9, **10**, 11, 15, 17, **18**

2.3: 2, 3, 9, **10**, 13, 14, 17, 18, 19, **20**, **22**, 24, 25

## HW 3, due Tue 28 Jan

2.4: 2, 3, 4, **6**, 10, 12, 17 Euler's method

2.5: 3, 4, 5, **6**, 10, 12 improved Euler or Heun

2.6: 3, 4, 5, **6**, 10, 12 Runge-Kutta

Collected as a computer project using a suitable programming language.

Instructions are at the course web site:

<http://www.math.utah.edu/~gustafso/s2014/2250/numericalDEproject-S2014.pdf>

## HW 4, due Tue 4 Feb

3.1: 1, 4, 6, 7, **8**, 9, 11, **12**, **16**, 17, 19, 23, 24,  
**26**, 27, 28, 29, 32, 33, 34

3.2: 7, 8, 9, **10**, 13, **14**, 15, 17, 20, 21, **24**, 25, 29, 30

3.3: **10**, 11, 13, 17, 19, **20**, 33, **34**, 35

## HW 5, due Tue 11 Feb

3.4: 3, 5, 7, 10, 11, 13, 16, 19, 21, **22**, 27, **30**, 31, 32, 33,  
34, 35, **36**, 39, **40**, 44

3.5: 5, 7, **14**, 17, 23, 25, **26**, 33, 43, **44** or **Xc3.5-44a**

3.6: 3, 5, **6**, 11, 17, **20**, 21, 25, 29, **30**, 33,  
30, 31, 37, **40**, 51, 53, **60**

## HW 6, due Tue 18 Feb

4.1: 1, 7, 9, 11, 15, 16, **18**, **20**, 22, 23, 25, 26, 27, **32**,  
33, 34, 35, 36

4.2: 3, **4**, 5, **6**, 7, 9, 11, 15, 17, **18**, 21, 24, 27,  
**28**, 29

4.3: 1, 3, 6, 8, 9, 10, 11, 16, 17, **18**, 23, **24**, 25, **34**

## HW 7, due Tue 25 Feb

4.5: 6, 9, 15, 19, 23, 24, 28 None due.

4.6: 2, 3, 5 None due.

4.7: 7, **10**, 11, **12**, 19, **22**, 25, 26

5.1: 1, 6, 10, 11, 12, 14, 17, 18, 27, 33, **34**, **36**, 37,  
**38**, 39, **40**, 41, **42**, 43, **46**, **48**, 53

5.2: 1, 2, 5, 8, 11, 13, 16, **18**, 19, 20, 21, **22**, 23, 25, 26

## HW 8, due Tue 4 Mar

5.3: 3, 7, **8**, 9, **10**, 11, **16**, 17, 23, 27, 31, **32**, 37, 40

5.4: 3, 4, 5, 6, 10, 11, 15, 17, 19, **20**, 21, 33, **34**

EPbvp 3.7: 1, 2, 4, 7, **12**, 15, **18**, 19 [electrical circuits]

## HW 9, due Tue 18 Mar

5.5: 2, 3, 5, **6**, 10, 11, **12**, 19, 21, **22**, 25, 27, 29, 31,  
34, 39, 43, 45, 47, 51, 52, **54**, 57, **58**, 59

5.6: 3, **4**, 5, 7, **8**, 9, 11, 13, 15, 17, **18**, 20, 21, 22  
10.1: 1, 3, 7, 9, 11, 13, 17, **18**, 19, **22**, 23, 27, **28**, 29,  
31, 40

**HW 10**, does not exist. Spring Break.

**HW 11**, due Tue 25 Mar

10.2: 3, 7, 9, **10**, 15, **16**, 17, 19, **20**, 21, 23, **24**,  
35, 37

10.3: 3, **6**, 7, 9, **12**, 13, 17, **18**, 20, 23, 27, 28, 29, 30,  
32, 34, 37

**HW 12**, due Tue 1 Apr

10.4: **2**, 3, 9, 13, 15, 17, **22**, 23, 26, 27, 29, 30, **36**, 37

10.5: 3, **4**, 7, 9, 11, 13, **14**, 21, **22**, 25, 27, **28**, 31, 33, 34, 37

EPbvp 7.6: 2, 5, 6, **7**, **8**, 11, **12**, 18, 21, **22** [impulses and Laplace]

**HW 13**, due Tue 8 Apr

6.1: 3, 7, 9, **12**, 13, 15, 17, 19, **20**, 21, 25, 27, 29, 31,  
**32**, 33, **36**, 37

6.2: 3, **6**, 9, **20**, 21, 23, 24, **26**, 27, **28**, 29, 31,  
33, 37

7.1: 1, 3, 2, 5, 7, **8**, 11, 12, 15, 17, **20**, 21, 24, 26

7.2: 1, 3, 7, 9, **12**, 13, **14**, 16, 23, 25

Extra Credit Ch 1-5 due **Wed 9 Apr**

Submit under the door JWB 113 by 6pm. Work not submitted by this  
deadline has no grader, and it won't be graded.

**HW 14**, due Tue 15 Apr

7.3: 3, 7, **8**, 11, 13, **20**, 21, 29, **30**, 31, 34, 36, 39, 43,  
45, 49

7.4: 2, 3, **6**, 8, 9, 12, 13, 14, 16, 17, 18, 21, **24**

**HW 15**, due by 6pm Wed 30 Apr, under the door 113 JWB

9.1: 3, **4**, 5, 7, **8**, 11, 15, 17, **18**

9.2: **2**, 5, 7, 9, **12**, 13, 17, 19, 21, **22**, 23, 29

9.3: 5, 7, **8**, **9**, **10**, 11, 18, 19

9.4: 1, 3, **4**, **8**, 9, 10, 11, 13, 14

23 Apr, Office hours and lectures finished.

If you missed anything, then submit Extra Credit.

26 Apr, Saturday Special Final Exam review, 2pm. Location TBA.

29 Apr, Final Exam at 7:30am until 10am in JTB 140

See the online final exam study guide.

30 Apr, Semester Extra Credit due by 6pm.

Xcredit Ch6, Ch7, Ch8, Ch9, Ch10, Ch10X

Xcredit maple 5,6,7,8,9,10.

Please, deliver under the door 113jwb by 6pm. No extension, the last moment.