

Differential Equations and Linear Algebra

Tentative Due Dates Spring 2015

2250 8:05am in WEB 1230

Questions: 801-581-6879, Office: 113 JWB. Email ggustaf@math.utah.edu

HW 1, due Wed 21 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 Wed 28 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 Wed 4 Feb

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/s2015/2250/numericalDEproject-S2015.pdf>

HW 4, due Wed 11 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 Wed 18 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 Wed 25 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 Wed 4 Mar

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 Wed 11 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 Wed 25 Mar, after Spring Break

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, There is no HW 10, Lab 10 or Quiz 10. Spring Break Mar 14-22.

HW 11, due Wed 1 Apr

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

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 12, due Wed 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

HW 13, due Wed 15 Apr

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

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

HW 14, due Wed 22 Apr

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

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

Extra Credit Ch 1-5 due **Fri 10 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 15, due by Tuesday May 5

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

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

28 Apr, Office hours and lectures finished.

If you missed anything, then submit Extra Credit.

1 May, Semester Extra Credit due by Fri May 1, under the door JWB 113, by 6pm.

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

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

No extension, the last moment.

6 May, Final Exam at 7:15am until 10:15am in WEB 1230

See the online final exam study guide.