

CAS MA226 B1 Differential Equations.

Classes: Room MCS 148 Mo, Tu, We, Th 11:00am-1:00pm.

Teacher: Baldur Hedinsson: baldur@bu.edu.

Office: MCS 168.

Office hours: Tu: 13-14 and Th 13-14.

Class description: First-order linear and separable equations. Second-order equations and first-order systems. Linear equations and linearization. Numerical and qualitative analysis. Laplace transforms. Applications and modeling of real phenomena throughout.

Text: Differential Equations, Third Edition, by Blanchard, Devaney, and Hall. Published by Thomson/Brooks-Cole, 2006. ISBN 0-495-01265-3.

Website: <http://math.bu.edu/people/baldur/MA226.html>

Resources: Devaney's home page: <http://math.bu.edu/people/bob/MA226/>

Sections covered

Chapter 1: 1.1-1.8

Chapter 2: 2.1-2.3

Chapter 3: 3.1-3.7

Chapter 4: 4.1-4.3

Chapter 5: 5.1-5.2

Chapter 6: 6.1-6.4

Exams: 7/9: Midterm Exam #1.

7/20: Midterm Exam #2.

7/30: Midterm Exam #3.

8/5: Final Exam.

Labs: 7/15: Lab #1 due.

7/26: Lab #2 due.

8/2: Lab #3 due.

Homework: Assigned daily, not picked up or graded.

Grade:

Three Midterms (two highest scores) 40%

Final Exam 40%

Three Labs 15%

Attendance 5%

Total 100%

Day by day schedule and homework assignments:

Date Section Assignments

6/28 1.1 Page 14 #3, 5, 15, 17.

6/29 1.2 Page 33 #1, 3, 5, 7, 9, 15, 23.

1.3 Page 48 #1, 7, 9, 11, 13, 15, 17.

6/30 1.4 Page 63 #1, 3, 15.

7/1 1.5 Page 73 #1, 3, 5, 7, 13.

7/6 1.6 Page 91 #1, 3, 5, 7, 13, 15, 17, 29-35 odd.

7/7 1.7 Page 107 #1, 3, 9, 11, 22, 23.

7/8 1.8 Page 123 #1, 3, 7, 9, 13.

Chapter 1: Rev Prob: Pg 138 #1, 3, 5, 9, 10, 11, 13, 17, 21, 23, 31, 33, 37, 43, 45.

7/9 2.1 Page 19 #19, 20. Page 164 #1-4, 9, 10, 15. **Midterm Exam #1**

7/12 2.2 Page 182 #1, 3, 9, 11-27 odd.

7/13 2.3 Page 167 #19. Page 196 #1, 3, 5, 11, 15, 17.

Chapter 2: Review Problems: Page 220 #1, 3, 5, 7, 13, 17, 19-24.

7/14 3.1 Page 252 #5, 9, 17, 25, 27, 29.

3.2 Page 271 #1-7 odd, 11, 13, 21, 23.

7/15 3.3 Page 287 #1-11 odd, 15, 19. **Lab #1 due**

7/19 3.4 Page 304 #1-15 odd, 23, 25.

7/20 3.5 Page 321 #1-7 odd, 11, 21, 23. **Midterm Exam #2**

7/21 3.6 Page 336 #1, 3, 7, 9, 13, 15, 17, 21, 23.

7/22 3.7 Page 352 #2, 3, 5, 9, 11, 14.

Chapter 3: Review Problems: Page 370 #1, 3, 5, 7, 11, 17, 19, 21, 27, 29, 31.

7/26 4.1 Page 393 #1-13 odd, 20, 21, 23. **Lab #2 due**

7/27 4.2 Page 406 #1, 5, 9, 11, 13, 17.

4.3 Page 418 #1, 3, 9, 21.

Chapter 4: Review Problems: Page 443 #1, 2, 4, 11, 15, 17, 23, 25.

7/28 5.1 Page 466 #1, 3, 7, 9, 11, 17, 23, 25.

7/29 5.2 Page 481 #1-11 odd #17-21 odd.

Chapter 5: Review Problems: Page 549 #1, 3, 5, 9, 11, 13, 15, 17, 19-24.

7/30 6.1 Page 571 #1, 3, 7, 9, 15, 17. **Midterm Exam #3**

8/2 6.2 Page 579 #1-7 odd. **Lab #3 due**

8/3 6.3 Page 579 # 9, 11. Page 593 #1, 3, 15, 17, 27, 29, 31.

8/4 6.4 Page 602 #1, 3, 5.

8/5 **Final Exam**