

## SYLLABUS FOR MA120 APPLIED MATHEMATICS

A. Kanamori, MCS 268, aki@math.bu.edu

**Text:** *Mathematics with Applications in the Management, Natural, and Social Sciences* by Lial, Hungerford, and Holcomb (eleventh edition, Addison-Wesley 2015). Available at the BU Barnes & Noble Bookstore.

**Exercises:** The course will cover as much of the following topics, with the indicated exercises, as time allows.

*Chapter 1.* Algebra and Equations

1.1: 26–28,6,68. 1.2: 18,19,24,25,56,57. 1.3: 15,16,49–52,67,68.

1.4: 9–12,23,24,37,38,49. 1.5: 31,32,40–43,73.

1.6: 13,14,36–38,65,66,71,76,77. 1.7: 14–17,35–37,49,50.

*Chapter 2.* Graphs and Lines

2.2: 31–34,47,51–54. 2.3: 5–7.

*Chapter 3.* Functions and Graphs

3.1: 4–7,13–15. 3.2: 8,9,28,31. 3.4: 30–32,51.

*Chapter 5.* Mathematics of Finance

5.1: 37–41,46–48,53,54. 5.2: 49–51,56,57,59. 5.3: 38,39,49,50,53. 5.4: 37,38,48,49,63.

*Chapter 8.* Sets and Probability

8.1: 41–44,67–69. 8.2: 20,21,24. 8.3: 23,39,43. 8.4: 15,30,61,64.

8.5: 8,9,20–23,38,39,43,44,58,60. 8.6: 17,18,20,23,24.

*Chapter 9.* Counting and Further Topics in Probability

9.2: 26,55,62,63,66. 9.3: 29–31. 9.4: 2–5,19–21.

*Chapter 11.* Differential Calculus

11.1: 32–37,44–47. 11.3: 5,6,11,12. 11.4: 4,8,11–13. 11.5: 6–8,20–22,43,44,75,76.

11.6: 5,9,24–26,31,32. 11.7: 35,36,40,46,47,74,75.

*Chapter 12.* Applications of the Derivative

12.1: 10,11,22,23. 12.3: 8,9,18,38–40,45–48,53.

*Chapter 13.* Integral Calculus

13.1: 18–25,43,46. 13.2: 6–10,42. 13.3: 3,16. 13.4: 1,8,9,33,35,38,39.

**Grading and Procedures:** The course is broken down into 9 units as follows: Final, 3; Three exams, 3; Exercises, 2; and Attendance, 1. The two percentage-wise worst units are dropped, and the rest are given equal weight in calculating the grade. The final is given at the mandated time for the course. Make-up exams will usually not be given; any missed in-class exam will become one of the units to be dropped from the grade.

Exercises will be regularly assigned and collected.

Attendance is attested to by signing a student list that is circulated at each session. If a student leaves at the halfway point or earlier, his or her attendance is noted as half of the session.

**Incompletes and Withdrawals:** The incomplete grade *I* is given only in exceptional cases to students who have maintained a good record through much of the course

and suddenly find themselves in difficult circumstances (illness, death in the family). Others who find early on that they are not keeping up are urged to drop or withdraw from the course. Please be aware of the last date to process a Withdrawal.

**Warning:** Cheating and plagiarism will not be tolerated in any Metropolitan College course. They will result in no credit for the assignment or examination and may lead to disciplinary actions. Please take the time to review the Student Academic Conduct Code: [http://www.bu.edu/met/metropolitan college people/student/resources/conduct/code.html](http://www.bu.edu/met/metropolitan%20college%20people/student/resources/conduct/code.html) This should not be understood as a discouragement for discussing the material or your particular approach to a problem with other students in the class. On the contrary—you could work together through problems, sharing thoughts and questions.