

## MATH 1090-8: BUSINESS ALGEBRA

**Instructor:** Professor Peter Trapa, LCB 118, 5-7671, ptrapa@math.utah.edu.

**Meeting time:** Tuesdays and Thursdays, 6:00-7:30pm, in LCB 121.

**Office hours:** Tuesdays and Thursdays, 5:00-6:00pm, in LCB 121.

**Course webpage:** [www.math.utah.edu/~ptrapa/1090/](http://www.math.utah.edu/~ptrapa/1090/)

**Text:** R. Harshbarger, J. Reynolds, *Mathematical Applications for the Management, Life, and Social Sciences*, Volume 1, custom University of Utah edition.

**Content:** Our aim is to cover Chapters 0–6 in the textbook. Please see the attached outline.

**Homework and Quizzes** Corresponding to each section of the book that we cover, I will provide you with a list of homework problems. It is expected that you attempt all problems and that you read the section of the text from which the problems are taken. Homework will not be collected, but each Thursday will begin with a ten minute quiz consisting of one or two problems taken directly from the homework corresponding to the previous two lectures<sup>1</sup>. (At the end of each Tuesday lecture, I will explicitly state the sections that the quiz will cover.) No make-up quizzes will be given. If you miss a quiz your score will be entered as a zero. In the figuring of your final grade, your lowest quiz score will be dropped; see below.

**Hour Exams:** There will be two hour-long exams during the term. The tentative content of each exam is explained in the attached outline. Because I have not taught 1090 recently, it is difficult for me to gauge the exact pace of the lectures, so it's not possible for me to specify the dates of the hour exams at the moment. However, I will give you at least a week's notice before any hour exam. No make-up exams will be given.

**Final Exam:** The final exam is a two-hour comprehensive exam. It will be held on Tuesday, December 11th, from 6:00-8:00pm in LCB 121. Roughly half of the final will be devoted to the material covered in the hour exams; the other half will be based on material covered after the second hour exam.

**Grading:** Quizzes (after dropping your lowest score) count toward 20% of your grade, each hour exam counts 20%, and the final exam counts 40%. After each exam, I'll announce what score constitutes a particular letter grade. This, together with the weekly quizzes, should provide you with enough feedback to gauge your performance in the class. If at any point during the term you feel unclear about how you're performing, please make an appointment with me so that I can clear up any confusion.

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<sup>1</sup>I do however reserve the right to change the numbers slightly. For instance, if the homework problem asked you to solve  $3x + 4 = 10$  for  $x$ , the quiz might instead ask you to solve  $2x + 5 = 9$  for  $x$ .

**Calculators:** In this course, calculators are intended to be used only to perform simple numerical computations. Because the course homework deals with a large number of applications which often involve numbers drawn from actual data sets, calculators may sometimes be needed. Calculators, however, should only be used at the final step in your solution. You should get used to working a problem to produce an answer like

$$\frac{\sqrt{2} + e^{0.98}}{\log_{10} 6},$$

and then (and only then) computing the actual numerical value using a calculator. On quizzes and exams, students must show all work. Answers giving only a numerical value (even a correct one) without a clear exposition of the intermediate steps will receive little or no credit. Quizzes and exam problems will be designed so that there is absolutely no advantage to having a particular kind of calculator (such as a graphing calculator). In fact, on most quizzes calculators will not be necessary, in which case their use will not be allowed.

**Tutoring Center.** The math department offers free drop-in tutoring for 1090 students. The tutoring center is located in room 155 of the T. Benny Rushing Mathematics Center (adjacent to the LCB and JWB). You should take advantage of this outstanding facility. You can find more information at <http://www.math.utah.edu/ugrad/tutoring.html>.

**ADA Statement:** The American with Disabilities Act requires that reasonable accommodations be provided for students with physical, sensory, cognitive, systemic, learning, and psychiatric disabilities. Please contact me at the beginning of the semester to discuss any such accommodations for the course.

## MATH 1090-8: OUTLINE AND HOMEWORK

## MATERIAL FOR EXAM 1:

**Review of 1010 material (Chapter 0; 1–2 Lectures).** Homework:

§0.3: 9–45(odd)  
 §0.4: 11–45(odd)  
 §0.5: 59–65(odd)  
 §0.6: 21–41(odd)  
 §0.7: 1–21(odd), 37–45(odd)  
 Review Exercises (pages 52): 91, 93

**Linear Equations and Functions (Chapter 1; 4 Lectures).** Homework:

§1.1: 1–37(odd), 41, 43, 45, 47, 51, 61  
 §1.2: 5–21 (odd), 25–41 (odd)  
 §1.3: 1–43 (odd), 47, 51, 55  
 §1.5: 9–21 (odd), 27–31(odd), 39, 45  
 §1.6: 1, 3, 5, 9, 13, 15, 17, 19, 21, 25, 31, 35, 39, 41, 47

**Quadratic Functions, Special Functions (Sections 2.1–2.4; 3 Lectures).** Homework:

§2.1: 5–35(odd), 43, 49, 51  
 §2.2: 1–15(odd), 33, 37  
 §2.3: 1, 3, 9, 11, 13, 17, 25, 31  
 §2.4: 1–14(all), 29, 33, 51, 53  
 §2.6: 1–7(odd), 13, 15, 17, 21, 33, 53

## MATERIAL FOR EXAM 2:

**Matrices (Sections 3.1–3.4; 4 Lectures).** Homework:

§3.1: 1–25(odd), 31, 37  
 §3.2: 1–35(odd), 39, 49  
 §3.3: 1–11(odd), 13, 17, 23, 31, 37, 51  
 §3.4: 1–12(all), 15, 17, 19, 25, 27, 29, 57

**Inequalities and Linear Programming (Sections 4.1–4.3; 3 Lectures).** Homework:

§4.1: 1, 3, 7, 9, 11, 17, 23, 27, 31  
 §4.2: 1–9(odd), 13, 16, 21, 33, 45  
 §4.3: 3, 5, 11, 13, 21, 29, 31, 47, 51

**Exponential and Logarithmic Functions (Chapter 5; 5 Lectures).** Homework:

§5.1: 1–17(odd), 29, 31, 33  
 §5.2: 1–39(odd), 43, 53, 55, 57, 58  
 §5.3: 1–9(odd), 13–19(odd), 29–27(odd), 41–49(odd)

## ADDITIONAL MATERIAL FOR THE FINAL EXAM

**Mathematics of Finance (Chapter 6; 5 Lectures).** Homework:

§6.1: 1, 3, 7, 9, 11, 17, 21, 23, 27, 31, 33–47(odd)

§6.2: 1, 3, 7–15(odd), 19, 21, 23, 25, 29, 41, 43, 49–57(odd), 61, 75

§6.3: 1–15(odd), 21, 23, 25, 27–33(odd)

§6.4: 1–11(odd), 13, 17–23(odd), 29, 41–45(odd),

§6.5: 5–25(odd), 31, 35

**Additional Applications (TBA).** Homework: TBA