

Mathematics 1090: Business Algebra

Xuesong Bai (a.k.a. Maverick)

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Office Hours: TBA;
also by appointment

Class Hours: Tuesday and Thursday
6:00-7:30pm

Office: JWB 211

Class Room: AEB 310

Text

Business Algebra, 3rd edition, published by Kendall Hunt. Details at
<http://www.math.utah.edu/schedule/bookInfo/>

Course Information

Math1090, College Algebra for Business and Social Sciences. This is a 3-credit semester course.

Prerequisite

At least a C grade in Math980 (Beginning Algebra), Math1010 (Intermediate Algebra) OR Math 1030 (Quantitative Reasoning)

OR an Accuplacer score of 60 on the College Level Math (CLM) test

OR at least an ACT Math score of 23

OR at least SAT Math score of 570.

Course Description

1. Functions and graphs, polynomial and rational functions.
2. Matrices and Gaussian elimination.
3. Exponential and logarithmic functions and growth.
4. Arithmetic and geometric sequences.
5. Periodic and continuously compounded interest, annuities and loans.

Expected Learning Outcomes

Upon successful completion of this course, a student should be able to:

1. Graph and analyze quadratic, exponential and logarithmic functions; solve quadratic, exponential and logarithmic equations.
2. Understand what a mathematical function is and know how to use linear, quadratic, logarithmic and exponential functions to model real world examples.
3. Know how to solve a system of linear or quadratic equations that arise in business applications.
4. Find solutions to linear programming problems, to maximize a function over a geometric region.
5. Perform simple matrix algebra computations.
6. Use matrices to solve systems of linear equations.
7. Understand what an inverse function is and be able to find the inverse function, when it exists.
8. Distinguish between simple and compound interest situations.
9. Calculate future and present value of annuities, and know when to use which formula for the life application.
10. Compute an amortization schedule and loan payments, such as automobile or mortgage payments.

Tutoring Lab and Computer Lab

T. Benny Rushing Mathematics Student Center (adjacent to JWB and LCB), Room 155

Monday - Thursday 8 a.m. - 8 p.m.

Friday 8 a.m. - 6 p.m.

Closed Saturdays, Sundays and holidays

<http://www.math.utah.edu/undergrad/mathcenter.php>

Private Tutoring

University Tutoring Services, 330 SSB. There is also a list of tutors at the Math Department office in JWB233.

Lecture Videos

There is a complete set of lecture videos for this course, at

<http://www.math.utah.edu/lectures/math1090.html>

Grading Policy

The grade will count the assessments using the following proportions:

- Homework: 10%
- Quizzes: 20%
- Midterms: 40%
- Final: 30%

Homework

There will be weekly homework, **due every Thursday**.

- Each section of homework will be worth ten points.
- You will get half credit if you DO every problem. This half of the grade is NOT graded for correctness, so it is your responsibility to make sure you understand the problems and their solutions. This is basically motivation for you to do the homework because that is the only way to survive a math class.
- The other half of the points for each homework set will be given for correct and neat solutions, with all work shown. The grader will grade a few problems on each homework set to check for correctness. You will not be notified ahead of time which problems will be graded for correctness.
- The homework set MUST be stapled together with the corresponding cover sheet as the first page.
- No more than 10 late homework sections will be accepted, up to two weeks late, throughout the semester for full credit. **Homework more than two weeks late will not be accepted.**

Weekly Quizzes

There will be weekly in-class, group quizzes, **every Tuesday**, except for test weeks. The instructor reserve the right to start the quiz at any time during the Tuesday class period. The quiz will cover the material covered in the previous week. Quiz questions will be taken from textbook examples, class examples, assigned problems or problems very much like those problems. **There will be no make-up quizzes.** If you're late to class or miss class and thus miss the quiz for any reason whatsoever, you will have to use that as one of your dropped quiz scores. There will be roughly 13 or 14 quizzes throughout the semester. **Your lowest three quiz scores will be dropped.**

Midterms

There will be three one-hour midterm exams throughout the semester, and **the dates will be fixed**, according to the course schedule. They will be during normal class time, in our usual classroom. **There will be No make-up exams. However, your lowest score will be dropped from your overall grade.** For each exam, you can use (only) one double-sided (8.5"x11") cheat sheet. You can also use a scientific calculator.

Final Exam

The final exam is comprehensive and departmental. It will occur during the regularly scheduled final exam time, given by the University. For Fall 2018, the final exam is scheduled on **Monday, December 10th, from 3:30 to 5:30 pm.** If this time conflicts with another final exam, we will schedule an alternate exam time on an individual basis, provided the instructor is notified of the conflict by **Tuesday, November 20th.** Students who miss this deadline must pursue an alternate final exam time for their other conflicting exam and will be required to attend the departmental 1090 final. **No early or alternate exam times are offered for any other reason, including travel.** You can use (only) one double-sided (8.5"x11") cheat sheet. You can also use a scientific calculator. No graphing, financial, or programmable calculators are allowed.

Grading Scale

A (93-100), A- (90-92.9), B+ (87-89.9), B (83-86.9), B- (80-82.9), C+ (77-79.9), C (73-76.9), C- (70-72.9), D+ (67-69.9), D (63-66.9), D- (60-62.9), E (0-59.9).

Calculators

Approved calculators are listed at

<http://www.math.utah.edu/~strube/MATH1090ApprovedCalculators>

No cell phone, graphing, financial, programmable or equation-solving capable calculators will be allowed on exams. Please contact the instructor if you want to use calculator models not listed on the website or if you have questions on how to use your calculator.

Expectations

Attend every class. Read the text and work the examples. Complete homework assignments. Participate and ask questions. Respect. Devote sufficient time to this class; a guide is 2 hours outside of class for every hour spent in class. Practice to improve your problem-solving skills. Group work and discussion are encouraged, but you must still do your own work for your assignments. **You are responsible for reading all course e-mail correspondence and for all announcements made in class and on Canvas.** All electronic devices must be silenced (during class, too) and stored out of sight during exams.

Academic dishonesty

Academic dishonesty is strictly not tolerated and subject to an automatic E in this course; your enrollment in this course indicates that you understand and will follow my and University policies regarding academic dishonesty. As defined in the University Code of Student Rights and Responsibilities, academic misconduct includes, but is not limited to, cheating, misrepresenting one's work, inappropriately collaborating, plagiarism, and fabrication or falsification of information. It also includes facilitating academic misconduct by intentionally helping or attempting to help another student to commit an act of academic misconduct.

ADA Statement

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability & Access (CDA) (162 Olpin Union Building, 581-5020 (V/TDD)). CDA will work with you and the instructor to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to CDA.

Schedule and weekly learning goals

The schedule is tentative and subject to change. However, dates of midterms and the final will not change.

Week 01, 08/20 - 08/24: Review & Chapter 1

- Course overview & review session
- 1.1, 1.2 & 1.3

Week 02, 08/27 - 08/31: Chapter 1

- 1.4, 1.5, 1.6 & 1.7

Week 03, 09/03 - 09/07: Chapter 1 & Chapter 2

- 1.8, 2.1 & 2.2

Week 04, 09/10 - 09/14: Chapter 2 & Midterm 1

- **Midterm 1 on Tuesday, September 11th**
- 2.3 & 2.4

Week 05, 09/17 - 09/21: Chapter 2 & Chapter 3

- 2.5, 3.1 & 3.2

Week 06, 09/24 - 09/28: Chapter 3

- 3.3, 3.4 & 3.5

Week 07, 10/01 - 10/05: Chapter 3 & Chapter 4

- 3.7 & 4.1

Week 08, 10/08 - 10/12: Fall break

Week 09, 10/15 - 10/19: Chapter 4 & Midterm 2

- **Midterm 2 on Tuesday, October 16th**
- 4.2

Week 10, 10/22 - 10/26: Chapter 4

- 4.3 & 4.4

Week 11, 10/29 - 11/02: Chapter 4

- 4.5 & 4.6

Week 12, 11/05 - 11/09: Chapter 5

- 5.1 & 5.2

Week 13, 11/12 - 11/16: Chapter 5 & Midterm 3

- **Midterm 3 on Tuesday, November 13th**
- 5.3

Week 14, 11/19 - 11/23: Chapter 5

- 5.4

Week 15, 11/26 - 11/30: Chapter 5

- 5.5

Week 16, 12/03 - 12/07: Final review

Week 17, 12/10 - 12/14: Final Exam

- **Departmental final on Monday, December 10th**

Student Responsibilities

All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. You have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, collusion, fraud, theft, etc. Students should read the Code carefully and know you are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee. <http://regulations.utah.edu/academics/6-400.php>

Addressing Sexual Misconduct

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veterans status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

Student Names and Personal Pronouns

Class rosters are provided to the instructor with the students legal name as well as Preferred first name (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, the instructor will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise the instructor of any name or pronoun changes (and update CIS) so the instructor can help create a learning environment in which you, your name, and your pronoun will be respected. If you need assistance getting your preferred name on your U-ID card, please visit the LGBT Resource Center Room 409 in the Olpin Union Building, or email bpeacock@sa.utah.edu to schedule a time to drop by. The LGBT Resource Center hours are M-F 8am-5pm, and 8am-6pm on Tuesdays.

Wellness Statement

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.