

Mathematics 1090-003

Fall, 2019

- Instructor:** Jihao Liu
- Class Time and Place:** 7:30-8:50 a.m. Mondays and Wednesdays in SFEBB3170
- Office Hours:** Mondays 9:10-11:10 a.m. or by appointment.
- Office Location:** JWB 314
- E-mail address:** jliu@math.utah.edu
- Text:** *Business Algebra*, 3rd edition, published by Kendall Hunt, (ISBN: 9781524993405) Book Purchasing Instructions: <http://www.math.utah.edu/schedule/bookInfo/Math1090BookInfo.pdf>
- Course Information:** Math1090-003, Business Algebra is a 3-credit semester course.

Class Web Page: <http://faculty.utah.edu/~jliu>

Prerequisite: "C" or better in (MATH 980 OR MATH 1010 OR MATH 1030) OR Accuplacer AAF score of 240 or better OR Accuplacer CLM score of 60 or better OR ACT Math score of 23

Course Description: Functions and graphs, polynomial and rational functions, matrices, Gaussian elimination, exponential and logarithmic functions, growth, periodic and continuously compounded interest, arithmetic and geometric sequences, 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: 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) They are also offering group tutoring sessions. If you're interested, inquire at the Tutoring Lab. <http://www.math.utah.edu/ugrad/tutoring.html>

Private Tutoring: University Tutoring Services, 330 SSB (they offer inexpensive tutoring). There is also a list of tutors at the Math Department office in JWB 233.

Computer Lab: Also in the T. Benny Rushing Mathematics Student Center, Room 155C. Monday- Thursday 8 a.m. - 8 p.m. Friday 8 a.m.- 6 p.m. Link to computer lab is <http://www.math.utah.edu/ugrad/lab.html>

Grading: The grades will be calculated as follows:
Homework 10% Quizzes 10% Midterm 25% Midterm
25% Final Exam 30%

Homework: I will collect homework on Mondays of each week. All of the homework assigned from sections covered in the previous week is due at that time.

- Each section of homework will be worth ten points. For example, if you have two sections of homework assigned, then that homework set is worth a total of 20 (raw) points.
- You will get half credit if you DO every problem. I will NOT be grading for correctness for this half of the grade, 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. (Please notice that there is no way to get an A in this course if you choose not to do any of the homework. On the other hand, turning in all of the homework can help your grade substantially.)
- 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. We will not tell you ahead of time which problems will be graded for correctness.
- The homework is to be turned in according to the following instructions, and **you are responsible for knowing these policies.**

- **The homework set are highly recommended to be stapled together, and/or with the corresponding cover sheet as the first page.** Unstapled homework may cause missing pages during the grading process (although we intend to prevent that from happening), and both the grader and I will not be responsible for that.
- **Late homework policy.** Late homework within two weeks is always accepted, **and you don't need any reason.** However, for late homework, you must either 1. Turn in on **Monday**, either in class or during my office hour. **I will not collect any homework on Wednesday.** 2. Put it in my mailbox in JWB228. Late homework after two weeks is **not accepted.**
- **As I only collect homework on Monday,** I will collect the homework of September 2nd (Labor Day) on September 9th.

Weekly Quizzes: There will be weekly in-class quizzes once every week, except the first week and test weeks. **You will not know whether the quiz is on Monday or Wednesday before that week.** As this is an early morning class, I intend to start the quiz at the end of the class, but **I reserve the right to start the quiz at any time during the class.** 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. All quizzes will be group quizzes and I will assign the groups in Canvas. There will be no make-up quizzes. No exceptions. 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 two one-hour midterm exams throughout the semester. They are scheduled on **Monday, September 23rd and Monday, November 11th.** They will be during normal class time, in our usual classroom.

Final Exam: The final exam for this class is comprehensive and will occur during the regularly scheduled final exam time, given by the University. For **Fall 2019**, the final exam is scheduled on **Tuesday, December 10th, from 3:30 to 5:45 pm.** Please put this date in your calendar now, as there will be no opportunity for a later or make-up final exam. The location is TBA. This is a departmental final which means there is a small chance that you will have a final from another class scheduled at the same time by the university. You have until **November 20th** to inform me of a conflict with another final. No exceptions made for any other conflicts.

Online Grades: I will put your grades online on Canvas. You can get there easily from the main University of Utah website www.utah.edu. To log in, you use the same student id and password that you use for Campus Information System. I do my best to update the grades on a regular basis and keep everything accurate. However, I would advise you to check your grades often to make sure there were no data entry mistakes.

I'm always happy to correct any mistakes I've made. You just need to let me know about them.

Calculators: For exams, you will be allowed to use a scientific calculator, but only a calculator from this approved list of calculators. This will also be true on the final exam. <http://www.math.utah.edu/schedule/bookInfo/m1090ApprovedCalculators.pdf>

Lecture Videos: There is a complete set of lecture videos for this course, at <http://www.math.utah.edu/lectures/> (go to 1090 lecture videos page from there). These videos may be helpful additional resources for your success in this course.

Grading Scale: A (93-100), A- (90-92), B+ (87-89), B (83-86), B- (80-82), C+ (77-79), C (73-76), C- (70-72), D+ (67-69), D (63-66), D- (60-62), E (0-59). Grade may be curved up but will not be curved down.

ADA Statement: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will 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 me to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to CDA.

Veterans Center: If you are a student veteran, the U of Utah has a Veterans Support Center located in Room 161 in the Olpin Union Building. Hours: M-F 8-5pm. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: <http://veteranscenter.utah.edu/>. Please also let me know if you need any additional support in this class for any reason.

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, I 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 me of any name or pronoun changes (and update CIS) so I 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.

Safety Statement: The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.

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.

Classroom Social Equity: I strive to be ethical, kind, fair, inclusive and respectful in my classroom and expect students to behave likewise. In this regard, I have these requests of you, my student:

1. Please do tell me, discreetly, if you have any sort of anxiety disorder, TBI, PTSD, C-PTSD, or any other challenge that would cause psychological harm to you by me calling on you in class. I want students to feel a little uncomfortable and stretched during class, while working on problems as a large group, but I definitely don't want to cause any human being harm. So, please just tell me if that is the case for you and I will confidentially accommodate your request.
2. If your preferred name is different than your legal first name (*the preferred name you chose does indeed show up in CIS on my roll sheet, but not yet in Canvas*), please log into Canvas and go to Account (on far left)-->Settings and change your Display Name to be the name you prefer to be addressed by. This will help me

greatly to know students' names, and to address you correctly when responding to Canvas quiz comments.

3. If there is ever a time that you feel this course or the curriculum is not equitable, please email me or meet with me to discuss your concerns so we have a chance to address that.
4. Laptops are allowed in class, but you must minimize distractions to other students.

Additional Policies: I reserve the right to change my policies stated in this syllabus at some point in the semester. If I do make a change to a policy, I will announce it in class and send the change in email.