

# Mathematics 1090-005

Fall, 2018

- Instructor:** Dihan Dai
- Class Time and Place:** 9:10-10:30 a.m.  
Mondays, Wednesdays  
in SFEBB3106
- Office Hours:** Mondays 2:00-3:00 p.m., Tuesdays 2:30-3:30 p.m.  
or by appointment. Also available after class (briefly).
- Office Location:** JWB 332
- E-mail address:** [dai@math.utah.edu](mailto:dai@math.utah.edu)
- Canvas:** Go to <http://www.utah.instructure.com> and login.  
From there, under the Courses tab, you should see your 1090 course.  
We will use Canvas in place of a class web page.  
Weekly announcement will be posted on canvas **every Friday**.  
Class notes will be posted on Canvas.  
You are encouraged to utilize Canvas to engage with your classmates in discussions.  
The fastest way to contact me, though, is via [dai@math.utah.edu](mailto:dai@math.utah.edu) rather than through the Canvas.
- Text:** *Business Algebra*, 3rd edition, published by Kendall Hunt  
(ISBN 9781524970420)  
Please check the link  
<http://www.math.utah.edu/schedule/bookInfo/index.html>  
for more information.
- Course Information:** Math1090, College Algebra for Business and Social Sciences is a 3-credit semester course.
- Prerequisite:** At least a C grade in Math980 (Beginning Algebra), Math1010 (Intermediate Algebra) OR Math1030 (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:** 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  
 M - Th 8 a.m. - 8 p.m.  
 F 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 JWB233.

**Computer Lab:**

also in the T. Benny Rushing Mathematics Student Center, Room 155C.  
 M - Th 8 a.m. - 8 p.m.  
 F 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 15%  
 Midterm 20%  
 Midterm 20%  
 Midterm 10%  
 Final Exam 25%  
*(Note: There will be 3 midterms. Your lowest midterm score will count for 10% of your grade and your top two midterm scores will each count for 20% of your final grade.)*

**Homework:**

I will collect homework on **Wednesday** 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 three sections of homework assigned, then that homework set is worth a total of 30 (raw) points.
- You will get half credit if you DO every problem. Grader 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.
- 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:
- **The homework set MUST be stapled together.** A homework set turned in without being stapled together will not be counted!! Please do not come to class hoping that I or someone else will have a stapler. Be prepared when you arrive.
- **I will accept 10 late homework sections, up to two weeks late, throughout the semester for full credit.**  
I will not accept homework more than two weeks late. I accept these late homework sections to allow for illness, oversleeping, hectic schedules, etc. Do not ask for special favors with regard to the homework policy, unless the circumstances are extraordinarily severe, because my response will not be in your favor. Also, it is not necessary nor recommended that you tell me why your homework is late. This policy is meant to be flexible enough to cover all reasons.
- **I only collect homework on Wednesdays!!** If you need to turn in homework late, you will have to do so on a Wednesday in class (within two weeks from its due date). This is the only time and location that I will accept homework.

**You are responsible for knowing these policies.**

**Weekly Quizzes:**

There will be weekly in-class quizzes, every Monday, except for test weeks. I reserve the right to start the quiz at any time during the Monday 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. All quizzes will be group quizzes and I'll 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 three one-hour midterm exams throughout the semester, and the dates will be fixed, according to the course outline/schedule that is on our class web page. They will be during normal class time, in our usual classroom.

The midterm-exam dates are:

First midterm: September 10<sup>th</sup>, 2018  
Second midterm: October 15<sup>th</sup>, 2018  
Third midterm: November, 12<sup>th</sup>, 2018

- 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 2018, the final exam is scheduled on **Monday, December 10<sup>th</sup>, from 3:30 to 5:30 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 exam from another class scheduled at the same time by the university. You have until **Tuesday, November 20<sup>th</sup>** to inform me of a conflict with another final exam. No exceptions to the final exam schedule will be 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](http://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/~strube/MATH1090ApprovedCalculators>
- 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:** Although I'm not philosophically opposed to curving grades, I find it's rarely necessary. The grade scale will be the usual:  
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).  
If I do need to curve the grades, I will simply shift everything down by a few points (whatever is necessary).
- 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.
- 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](mailto: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](http://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.

### **Additional Policies:**

1. I do NOT allow the use of laptop computers in my classroom, in order to minimize student distractions. At this point, it's almost impossible to take notes for a math class on a laptop in real time. Thus, it is unnecessary in class. If you are using a tablet or ipad or some similar device to take notes and the screen lies parallel to your desk, that is totally fine.
2. There will be no retakes of exams, for any reason.
3. If you have emergent, extenuating circumstance that makes it necessary to take an alternate exam, it is your responsibility to discuss that with me, before the exam occurs, or as soon as possible. In general, I allow exams to be taken early, but not late.
4. If you have crisis-level extenuating circumstances which affect your class performance and you need guidance/advice/flexibility, please communicate with me as soon as possible so I can help you in some manner, which I am truly happy to do. The longer you wait to communicate with me, the less I can and am willing to do to help.
5. I will kindly demand respectful behavior in my classroom. Examples of disrespect include, but are not limited to, reading a newspaper or magazine in class, social chatting with your friend in class, text-messaging during class, excessive use of your cell phone, or cuddling someone else in class. If you choose to be disrespectful with distracting behavior during our class, please keep in mind that you put me in a position of choosing between protecting/taking a stand for you OR for the other students or myself whom you are disrupting. I can guarantee I will choose to stand for the students who are there to learn without disruptions and I will thus take action to terminate your distracting behavior, and that action may not be desirable for you.
6. There shall be no cursing nor negative ranting (for example, "math sucks") on any written work turned in. The penalty for such things on your written work will be a zero score on that assignment or test.
7. If you have questions about any exam/assignment grade, or you want to appeal the grading of the exam/assignment, you must bring it to me within one week of the exam/assignment being turned back in class. I'm happy to look over your appeal and/or questions and give my feedback in order to benefit your learning. But, it must be done in this timeframe of two weeks from when I hand back the exam/assignment.
8. If you cheat on any homework, project, quiz or exam, I will automatically give you a zero for that grade. Depending on the severity of the cheating, I may decide to fail you from the class. Please note that the use (or even just pulling it out of your pocket) of a cell phone or any other electronic device during any in-class quiz or exam is considered cheating and cause for receiving an automatic zero. Also, if you exhibit any other behaviors that are unethical, like offering me a bribe to give you a better grade (even if you later claim you were joking), I will report your behavior to the Dean of Students.

9. Please make sure you do your best throughout the semester, knowing the grading scheme and what's expected of you, and come talk to me if you need further study strategies. I will be happy to brainstorm ideas to help you maximize your study strategies and improve your mathematical understanding. I will offer an extra credit opportunity on some quizzes, every midterm and final exam, to help make up for arithmetic or math grammar mistakes for which you lost points. But, I will not offer any additional extra credit at the end of the semester or any other way for you to improve your grade at that time. No exceptions. Please respect this and do not ask for special favors or extra credit or some way to get a higher grade (however you want to word it) when you realize you don't like your grade. Your need to get into a certain program, or needing a specific grade for your work or scholarship or not wanting to upset whomever is paying for your college are all your own personal dilemmas that are truly separate from how I assign grades. If you email me at the end of the semester to suggest that you deserve a chance to get a higher grade, I will forward your email to the Dean of Students office so you can get properly counseled in how to behave professionally in an academic setting. The only way to "better your grade" by the end of the semester is to retrieve your final exam and look to see if you have any grading appeals. I'm happy to look over those and possibly give points back, if it's warranted.
10. 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 or post an Announcement on Canvas.

### **Course Schedule:**

#### **Week 01, 08/20-08/24**

- Syllabus & Review
- 1.1, 1.2

#### **Week 02, 08/27-08/31**

- 1.2, 1.3, 1.4

#### **Week 03, 09/03-09/07**

- 1.5, 1.6, 1.7

#### **Week 04, 09/10-09/14**

- **Midterm 1 on Monday, September 10<sup>th</sup>**
- 1.8, 2.1

#### **Week 05, 09/17-09/21**

- 2.2, 2.3, 2.4

#### **Week 06, 09/24-09/28**

- 2.4, 2.5, 3.1

#### **Week 07, 10/01-10/05**

- 3.2, 3.3, 3.4

#### **Fall break, 10/08-10/12**

**Week 08, 10/15-10/19**

- **Midterm 2 on Monday, October 15<sup>th</sup>**
- 3.6, 3.7

**Week 09, 10/22-10/26**

- 4.1, 4.2, 4.3

**Week 10, 10/29-11/02**

- 4.4, 4.5

**Week 11, 11/05-11/09**

- 5.1, 5.2

**Week 12, 11/12-11/16**

- **Midterm 3 on Monday, November 15<sup>th</sup>**
- 5.3

**Week 13, 11/19-11/23**

- 5.4

**Week 14, 11/26-11/30**

- 5.5

**Week 15, 12/03-12/07**

- Final Review

**Week 16, 12/10-12/14**

- **Final Exam on Monday, December 10<sup>th</sup>, from 3:30 to 5:30 pm**