

Course syllabus for Math 1090-002 - Business Algebra - Franco Rota

Class time and place: MWF, 9:00 - 11:15 in JTB 130

Office hours: Mondays and Wednesdays, after class in my office, JWB 219. You can always contact me by email.

E-mail address: rota@math.utah.edu

Canvas: You will find all the material and relevant information on the Canvas webpage for this course. I will also post announcements through Canvas, so please keep an eye on it for important communications.

Textbook: *Business Algebra*, by Kelly MacArthur, 2nd edition. ISBN: 9781465240989. We will use an e-book for this course: follow this link <https://he.kendallhunt.com/product/business-algebra-1> and purchase the e-book package for \$65 (e-book + WebAssign access).

Prerequisite: Prerequisites: "C" or better in (MATH 980 OR MATH 1010 OR MATH 1030) OR Accuplacer CLM score of 60 or better OR ACT Math score of 23 or better OR SAT Math score of 570 or better. If you are unsure about meeting the prerequisites for the class you can double check with our undergraduate advisor by emailing advisor@math.utah.edu.

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 series, 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.

Flipped classroom This section of Math 1090 will follow a Flipped Classroom model. In a few words, you will be required to watch lecture videos covering the material ahead of time, while the actual lecture time will be used to go over problems together and tackle issues in a more focused and interactive way. You will find a detailed schedule for the videos on Canvas, together with a link for where to find them: please keep up with the video lectures, for I will be assuming everyone has watched the videos due each day and shape my lecture accordingly.

Homework - Webassign Homework will be assigned through WebAssign: for a detailed guide on how to create your WebAssign account and how to enroll in the WebAssign course, see the dedicated pdf file on Canvas ("How to create a WebAssign account"). Please try to complete this process before the course starts and get familiar with the website (access to WebAssign is available since June 21). Once successfully enrolled, you will be able to purchase the textbook directly through WebAssign, and you will also find a practice assignment to get familiar with the platform. Homework due dates will be displayed on WebAssign as well (there will be a homework due roughly three times a week), and it is your responsibility to keep track of when homework is due. I will not answer questions about the homework during class time: please come to office hours or review sessions for those.

Quizzes There will be group quizzes every day of class, except for the first day of class and exam days. Due to time restraints there will be no make up quizzes for any reason, but I will drop the three lowest scores.

Midterm exams You will have two mid-term exams, which will take place in the usual classroom and be one hour long. You must bring a valid ID to the exam. Absence from an exam will be excused only if you can provide verifiable and convincing evidence that you have a significant illness or serious family crisis that will prevent you from attending. Except for unusual circumstances, you must inform me about missing a test before the day of the exam; in any case, it is your responsibility to promptly make arrangements with me to make up the test. See below for exam dates.

Final The final exam will be comprehensive. The final exam will take will be given during the last class period in the regularly scheduled classroom, that is on Wednesday, June 20, at 9:00 am.

Grading Policy Your grade will be based on:

| | |
|----------------|----------------|
| Homework | 15 % |
| Quizzes | 15 % |
| Mid-term exams | 40% (20% each) |
| Final Exam | 30% |

Grades (Evaluation and criteria) Final letter grades will be determined by overall percentage as follows:

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

Calculators & Technology You will need a calculator for this course, but a scientific calculator will be sufficient. Graphing or programmable calculators will not be allowed on exams. Cellphones and laptops are not allowed during exams, so please do not rely on them as calculators.

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 Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS 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 the Center for Disability Services.

Tutoring The Rushing Math Center offers free drop-in tutoring, a computer lab, and study areas for undergraduates. The Rushing Student Center is adjacent to the LCB and JWB. The hours for the Summer semester are: 8 am – 8 pm Monday to Thursday and 8 am – 4 pm on Friday.

Important Dates:

| | |
|----------------------------|--------------------|
| Wait list Deadline | Thursday, May 17 |
| Drop Deadline | Thursday, May 17 |
| Memorial Day Holiday | Monday, May 28 |
| First Midterm | Wednesday, May 30 |
| Withdraw Deadline | Friday, June 1 |
| Second Midterm | Wednesday, June 13 |
| Final exam | Wednesday, June 20 |

Additional information and comments

- This is class is not your regular semester-long math class; we will cover the same amount of material in half the time, and truth is: it's going to be hard. Please do not underestimate the amount of work you will be required to do inside and

outside of class: statistically, it's going to be 2-3 hours of personal study for each lecture hour (this adds up to roughly 18 hours per week). The key to success is keeping up with the homework and being participative in class.

- While attendance is not mandatory, I strongly advise you to come to class; in a flipped classroom environment, working together in class is a huge part of the deal and really helps to process the ideas you will learn from the lecture videos. Also, there will be quizzes every day!
- I reserve the right to modify the class structure and syllabus at any time but I will notify you if and when any changes are made;
- Please silence your technology at the start of class. If you are repeatedly disrupting the learning environment, you will be asked to leave;
- If an emergency arises that prevents you from making it to an exam or turning in a homework it is your responsibility to communicate that information to me as soon as possible. I will do my best to accommodate any situation that comes up;
- If you are struggling with a concept please come talk to me or visit the tutoring center as soon as possible. I am more than happy to meet with you outside of my office hours if my schedule allows me;
- I encourage you to work with others on the homework but anything that you turn in must be your own work;
- I am human too, and I can make mistakes. If you think that a mistake was made under any circumstance (during a lecture, on Canvas, in grading one of your exams), you are strongly encouraged to call me out on that mistake and let me know as soon as possible, so that I can fix it for everybody's benefit.