MATHEMATICS 1090-008

Fall 2017, 3 Credits

Instructor:	Hallie Elich, call me "Hallie" rhymes with "valley"
Contact:	elich@math.utah.edu
Course meets:	T,TH 6:00-7:30 p.m. in LCB 225
Office location:	LCB 311
Office hours:	To be announced; also by appointment

Text: See info at
http://www.math.utah.edu/schedule/bookInfo/Math1090BookInfo.pdf

Canvas: Go to http://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.
I will post announcements and raw scores on Canvas.
You are also responsible for announcements made in class.
You can feel free to utilize Canvas to engage with your classmates in discussions.
Please do not contact me with individual questions through Canvas.
Instead, please use elich@math.utah.edu (much appreciated).

Prerequisite: "C" or better in MATH 1010 (Intermediate Algebra) OR
MATH 1050 (College Algebra) OR MATH 1080 (Precalculus)
OR 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 540.

Course Description: Functions & graphs, polynomial & rational functions, matrices,
Gaussian elimination, exponential & logarithmic functions, growth,
periodic & continuously compounded interest, arithmetic & geometric sequences,
annuities & loans.

Welcome to Business Algebra! This class might be unlike any math class you have had so far–
and hopefully in a very good way. In particular, it will feature short, online lecture videos that you
are expected to watch before class so that our in-class time can be devoted to problem-solving and
discussion. You will receive guidance on what lecture video(s) to watch, and there's also an e-text
that is important. Videos are freely available at
https://www.math.utah.edu/lectures/math1090.html. This course structure will allow our in-class
time to be highly interactive and example-based. We will still have structure and organization, but
this "flipped" classroom setting will allow us to maximize our time together so that you are actively
learning rather than merely observing me lecture to you. Note, it is imperative that you put in
effort outside the classroom. This will make our time together efficient and help you strengthen your
problem-solving skills and concept retention. This structure also should be more lively and fun and
help prepare you for your future careers! If you plan to take calculus, see me–1090 is not the correct
course for you.

In addition to attending my office hours, I strongly recommend forming study groups and utilizing
Canvas for discussions. Also, PLEASE take advantage of the **additional resources** as outlined on
the next page.

Tutoring Lab:
T. Benny Rushing Mathematics Student Center (located underground btwn LCB and JWB; can access downstairs from LCB first floor), Room 155, M - Th 8 a.m. - 8 p.m., F 8 a.m. - 6 p.m. (closed Saturdays, Sundays and holidays). **Free general tutoring.** There are some convenient study areas right outside the lab; there's also a lounge area with a fridge and microwave. See Aryn DeJulis in MC 155-A (office inside tutoring center) or contact at dejulis@math.utah.edu with any questions and for information on arranging tutored group study if you are seriously interested.

Private Tutoring:
University Tutoring Services, 330 SSB (they offer inexpensive tutoring). There is also a **list of private tutors for hire 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.

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.

Grade Components:

Homework	15%
Quizzes	20%
Exams	35%
Final	30%

We will be utilizing **WebAssign** for weekly **online homework** assignments. For details on this software, please see: http://www.math.utah.edu/schedule/bookInfo/Math1090BookInfo.pdf

Every Thursday (even including exam weeks), you will have a short, closed-book/closed-notes, **10-minute quiz** at the end of class. **Part of each quiz will include an example directly found in the corresponding lecture videos**. Due to the Thanksgiving break, we will have 13 such quizzes. No make-up quizzes will be given. Due to this policy and because life happens, your 3 lowest scores (possibly including 0's for missed quizzes) will be dropped.

Exams will be closed-book and take place on **Tuesday, Sept. 19; Tuesday, Oct. 24; and Tuesday, Nov. 21.** No make-up exams will be given. Your low score is 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. No graphing or programmable calculators are allowed.

The final exam is comprehensive and departmental. It will take place (location TBA) on **Friday, December 15 from 3:30 p.m.-5:30 p.m.** 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 **Friday, December 1**. 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 or programmable calculators are allowed.

Four randomly chosen class days will be **bonus days**. Students will not be made aware of these days in advance, other than no bonus days will occur the first 2 weeks of school, and bonus days will not occur on exam days. Anything else is fair game, e.g. bonus days might occur 2 (or more) class days in a row! Students who attend such bonus days **in their entirety** and participate with reasonable sufficiency will earn a 0.5% increase to their overall course grade at the end of the semester. Such a 0.5% increase can be earned for each bonus day, for a total of 2% increase. This is above and beyond what you earn throughout the course of the semester; it is not a required part of your overall grade.

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).

Expectations:
Come to class prepared, having watched the corresponding online lecture video(s), 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. I expect you to come to me with questions during office hours, by appointment, or by e-mail (allow 24 hour response time during weekdays). All electronic devices must be silenced (during class, too) and stored out of sight during exams!

Calculators:
You may find it helpful to have a graphing calculator for your own personal use. No graphing or programmable calculators will be allowed on exams. You may only use scientific calculators on exams.

Academic dishonesty:
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. Let me know if you have questions on this or are unsure what constitutes "cheating."

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

Important Dates:

9/1	Last day to drop (delete) classes
9/4	Labor Day–no class
9/19	Exam I
10/7-10/15	Fall Break–no classes
10/20	Last day to withdraw
10/24	Exam II
11/21	Exam III
11/23-11/26	Thanksgiving Break–no class
12/7	Last day of class
12/15	Final Exam (3:30-5:30)

We will cover the following sections of the text:

1.1-1.8	Linear Equations & Inequalities
2.1-2.5	Matrices
3.1-3.7	Functions & Graphs
4.1-4.6	Exponential & Logarithmic Functions
5.1-5.5	Mathematics of Finance

Disclaimer: This syllabus has been created as a preview of the course, and I have tried to make it as accurate as possible. I reserve the right to make reasonable changes to the above policies as I deem appropriate. Any such changes will be announced.