

Syllabus for Math 1030-002

Introduction to Quantitative Reasoning

Summer 2018

General Course Information:

Course: Introduction to Quantitative Reasoning (Math 1030-002).

Instructor: Keyvan Yaghmayi.

Office: JWB 121.

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Email: yaghmayi@math.utah.edu.

Class Location: WEB 2250.

Class Time: Monday-Thursday 10:00am - 11:30am.

Office Hours: Monday-Thursday after the class 11:40am - 12:30pm or by appointment.

Course Website: I will use the Canvas: <https://gate.acs.utah.edu/>. To log in, use the same student ID and password that you use for Campus Information System.

Textbook: Using and Understanding Mathematics: A Quantitative Reasoning Approach, by Jeffrey O. Bennett and William L. Briggs, 6th edition. ISBN-10: 1-269-74850-5 and ISBN-13: 978-1-269-74850-6. Before buying the textbook, please read “Textbook Information” file on Canvas or visit <http://www.math.utah.edu/schedule/bookInfo/>.

Prerequisites: “C” or better in (MATH 980 OR MATH 1010) OR Accuplacer EA score of 60 or better OR ACT Math score of 19 or better OR SAT Math score of 500 or better.

Important Dates: Classes begin on Thursday, June 21. The last day to add, drop (delete), elect CR/NC, or audit the class is Tuesday, June 26. The last day to withdraw is Friday, July 13.

Final Exam: Friday, August 3, 10:00am - 12:00pm, in our classroom WEB 2250.

Essential Course Information:

Course Description: This course helps students learn how to use some simple mathematical techniques effectively in their own field of study and apply those concepts to practical, real-life situations. Topics covered: sets and Venn diagrams, different systems of units and unit conversions, using percents and estimations, financial mathematics involved in loans and investments, linear and exponential modeling and applications, geometric measurements and scaling. This course is primarily for undergraduate students who will not take any further mathematics, except for statistics/probability.

Course Objectives: This course addresses the following Essential Learning Outcomes: inquiry and analysis, critical thinking, written and oral communication, quantitative literacy, teamwork, and problem solving. Math 1030 is an application-based course centered around the use of mathematics to model changes in the real world, and the effective communication of these mathematical ideas. The course is based on Chapters 1-4, 8,9, and Chapter 10 of the textbook.

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

1. Use Venn diagrams to examine relationships between sets and the validity of simple deductive arguments.
2. Use an appropriate sentence to describe both the absolute and percent change in a given quantity and interpret such statements about the change.
3. Use simple and compound units, making conversions when necessary, and develop accurate comparisons between units.
4. Evaluate the impact of compound interest on simple financial decisions.
5. Use the savings plan and loan formulas to calculate the payment amount into the savings plan when a certain financial goal needs to be achieved, to calculate the mortgage payment or interest paid over the life of the loan and discuss whether those results are realistic (or not), compare several loans with different interest rates in order to financial decisions.
6. Compare and illustrate the features of linear and exponential growth using practical examples.
7. Determine simple areas, volumes, and explain the differential effect of scaling on perimeter, area, volume as well as some of the practical implications of scaling.

Group Project:

You will have 1 project to turn in. The project will be due Thursday - July 26th, 2018 (due at the beginning of lecture). Project topics are already posted on Canvas. You will work in groups of about 3 students on a topic that you select from the list. We will discuss the format and expectations for this project before you start working on it. Late projects are not accepted. Please read file "Project Topics and Guidelines" on Canvas for more information.

Homework:

I will post "suggested" homework problems from textbook on Canvas regularly. I do not collect homework, however, I encourage you to discuss these homework problems with one another, ask help from instructors in the tutoring center, or stop by at office hours.

Quizzes:

There will be short “group quizzes” at least once a week. The dates and the sections that they cover will be posted on Canvas. It should take approximately 10-15 minutes to complete the quiz. I will upload the solutions and grades on canvas. Quizzes will not be excused due to absences or lateness so please be prompt and present. At the end of the semester, your lowest quiz score will be dropped and will not count toward your overall grade.

You are encouraged to work together on quizzes by making groups of 2, 3 or 4 with friends/neighbors in class and discussing problems and your possible solutions within the group. You should write your answer based on your own understanding and in your own words. It is fine if someone likes to work individually.

Tests:

There will be two midterms along with a comprehensive final exam. All of them are in the scheduled classroom (WEB 2250) and at the class time.

Midterm One: Thursday July 5

Midterm Two: Thursday July 19

Final Exam: Friday August 3

It is essential that you show all your work. Credit will not be given without the proper work and partial credit will be awarded if you show correct steps even if you do not obtain the final correct number!

Grading:

The grades will be calculated as follows:

Group Project 20%

Quizzes 20%

Midterm One 15%

Midterm Two 15%

Final Exam 30%

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 your overall percentage up by a few points (whatever is necessary).

Some Policies/Comments:

- You will need a calculator for this course. A scientific calculator will be sufficient. You are required to bring the calculator to every lecture/exam since your instructor will not

provide the calculator for students. You are not allowed to use your cell phone as a calculator.

- Cheating will not be tolerated at any time during this course. Any student found cheating will receive a zero for the assignment or test on which the cheating occurred.
- If you have any questions, ideas, or suggestion, please feel free to contact me. I promise to do everything in my power to help.
- If there is something that I want to inform you, I will reach you by your email. That is usually your default UMail address (uNID@utah.edu) that you have in the CIS. If you are using other emails more frequently than your UMail, then you can set your UMail to forward to your preferred email address. Also the fastest way to reach me is my email: yaghamayi@math.utah.edu.
- 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) then “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 comments.

Tutoring and Extra Help:

- **Tutoring Lab:** The math tutoring center is available free of charge to all university students. It is located in room 155 of the T. Benny Rushing Mathematics Center (adjacent to the LCB and JWB). The tutoring center is open Monday-Thursday 8:00am-8:00pm, and Friday 8:00am-4:00pm. Please take advantage of the tutoring center as needed throughout the semester. They are also offering group tutoring sessions. If you’re interested, inquire at <http://www.math.utah.edu/ugrad/tutoring.html>
- **ASUU Tutoring Center:** University Tutoring Services, 330 SSB. They offer inexpensive tutoring, please see their website: <http://tutoringcenter.utah.edu>
- **The Math Department:** They have put together a complete set of lecture videos for several classes, including Math 1030: Introduction to Quantitative Reasoning. You can find them here: <http://www.math.utah.edu/lectures/>
- **Khan Academy:** It is a non-profit, free, educational organization for anyone, anywhere. They have some amazing videos in the Youtube. Check them out: <https://www.khanacademy.org/>

Summer Warning: This class is pretty intense, meaning over a shortened schedule of five and half weeks, rather than regular fifteen weeks (and we will miss two classes due to Holidays). We still have to cover all the same material. That being said, we have to perform accordingly. I recommend you to spend 2-3 hours per day (or 5-6 hours every other day) outside of class time to succeed in the class.

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>

Center for Disability & Access: is dedicated to students with disabilities by providing the opportunity for success and equal access at the University of Utah. They are committed to providing reasonable accommodations as outlined by Federal and State law. The Center for Disability & Access (CDA) also strive to create an inclusive, safe and respectful environment. By promoting awareness, knowledge and equity, they aspire to impact positive change within individuals and the campus community. Please visit <http://disability.utah.edu/> for the latest information.

A.D.A. 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, 162 Olpin Union Building, 801-581-5020. CDA will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability & Access.

Center for Student Wellness: The Center for Student Wellness is your portal for information, resources and solutions for wellness-related issues. Some of their services include: the provision of health information relevant to students most often this includes information on stress, sleep, nutrition and tobacco use; HIV and STD testing; alcohol education and prevention; and making policy recommendations to maintain a healthy learning environment. If they don't have what you are looking for, they will connect you with someone that does. Check out their website for more detailed information: <http://wellness.utah.edu/>

Veterans Support Center: The Center is staffed by student Veterans who are committed to providing their fellow Veterans with the most useful and current information available. The Mission of the Veteran Support Center is to improve and enhance the success of student Veterans; to help them receive the benefits they deserve; to serve as a liaison between the Veteran student community and the University; and to increase their academic success. Additionally to provide an opportunity to continue the relationships built through the service in civilian life. Please see <http://veteranscenter.utah.edu/>

LGBT Resource Center: The LGBT Resource Center provides a comprehensive range of education, information and advocacy services, and works to create and maintain an open, safe, and supportive environment for LGBT students, staff, faculty, alumni, and the entire campus community. Here is their website: <http://lgbt.utah.edu/>

Women's Resource Center: The Womens Resource Center (WRC) at the University of Utah serves as the central resource for educational and support services for women. Honoring the complexities of womens identities, the WRC facilitates choices and changes through programs, counseling, and training grounded in a commitment to advance social justice and

equality. <http://womenscenter.utah.edu/>

Disclaimer: All information on this syllabus is subject to change. If any changes on this syllabus, course policies or course outline arise throughout the semester, then I will announce it in class and send the change in email.

Good Luck!