

MATHEMATICS 1030

Introduction to Quantitative Reasoning (3 credits)

Instructor: Xuesong Bai**Office number: JWB 121****Email: bai@math.utah.edu or topgunbai683@gmail.com****Office hours:** 1:00 pm~3:00 pm on Monday and Wednesday at office, or email me to schedule an appointment.**Textbook:** Using and Understanding Mathematics: A Quantitative Reasoning Approach, by Jeffrey O. Bennett and William L. Briggs (custom edition for University of Utah, taken from the sixth edition)

ISBN-10: 1-269-74850-5

ISBN-13: 978-1-269-74850-6

Either the 6th edition of the full text or the custom 3rd edition is fine.

The hardcopy of the textbook can be purchased at the Campus Bookstore or UCampus Store (online).

<http://www.campusstore.utah.edu/utah/SelectTermDept.aspx>

Once you select the course number, you will be presented with a choice to buy the book from the bookstore or other non-bookstore vendors (on the bottom of the page).

You can choose to rent the book (180-day rental) or buy eTextbook at the following website:

<https://www.vitalsource.com/products/using-and-understanding-mathematics-a-jeffrey-o-bennett-v9780321912343>

Before you purchase the textbook please make sure that Math 1030 is a good fit for you and you are not planning to withdraw from the class. Some vendors will not allow you to return the book for a refund if you decide to withdraw. Please read all policies associated with the return/refund before you purchase and pay for the book.

Video lectures are available through the Department of Mathematics.

<http://www.math.utah.edu/lectures/math1030.html>

Prerequisites: "C" or better in MATH 980 (Algebra for College Success) or Math 1010 (Intermediate Algebra) OR Accuplacer EA score of 60 or better OR ACT Math score of 19 or better OR SAT Math score of 500 or better.

This means that you should be able to manipulate variable expressions, work with simple linear

equations and graphs, work with fractions and exponents, and know the basic properties of simple geometric shapes.

(Note: Math 1030 does not satisfy a Math 1050 or Math 1090 prerequisite.)

Course objectives: Math 1030 course will fulfill the Quantitative Reasoning – Math QA, general education requirement for graduation.

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 (sec. A). You are expected to read each section that we cover.

For every hour of lecture, the university requires/suggests that you invest 2-3 hours of additional work (every week). For this 3 credit hour class, it means that you need to put in 6-9 hours of additional work on a weekly basis.

At the end of the course a student should be able to:

- use Venn diagrams to examine relationships between sets and the validity of simple deductive arguments
- use an appropriate sentence to describe both the absolute and percent change in a given quantity and interpret such statements about the change
- use simple and compound units, making conversions when necessary, and develop accurate comparisons between units
- evaluate the impact of compound interest on simple financial decisions
- 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
- compare and illustrate the features of linear and exponential growth using practical examples
- 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

Homework: Homework problems are assigned for each section.

Quizzes: Approximately every 2 weeks there will be a quiz covering the material that we have done. The problems will be very similar to the text or examples that we have done in class; or the assigned suggested homework problems. No make-up quizzes will be given, but the lowest 2 quiz grades will be dropped at the end of the semester.

Project: You will have 1 group project to turn in. The format, expectations and topics of the project will be discussed in class in the 4th week of classes. You will have 8~9 weeks to work on the project and it will be due in the 13th week of classes. Except under extremely unusual circumstances, late projects will not be accepted.

Exams: You will have 2 exams (50 minutes each) which will be given in the 5th and 11th week of the semester. 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 under extremely unusual circumstances, you must inform me in advance of the missed test. You are expected to promptly make arrangements with me to make up the test.

Final Exam (comprehensive/departmental): **December 12th (Tuesday)**
3:30-5:30 pm

This date and time is assigned by the University of Utah scheduling office. You can view the Fall 2017 final exam schedule at (math 1030 is listed under the departmental finals):
<http://registrar.utah.edu/academic-calendars/final-exams-fall.php>

The final exam will be in our classroom. If there is a location change, the scheduling office will let me know in advance and I will make an announcement in class during the last few weeks of the semester.

Students are not allowed to take early/late departmental final exam. Please do not schedule your trip before this date, or do not ask me to give you extra time to study.

Grading policy: Your grade will be based on:

Quizzes (4 best)	20%
Group Project	20%
Exams (2)	30% (15% each)
Final exam	30%

Course Grades (Evaluation methods and criteria):

Your final letter grade will be determined by your overall percentage as follows:

A	93% - 100%	C+	77% - 79.9%	D-	55% - 59.9%
A-	90% - 92.9%	C	73% - 76.9%	E	below 55%
B+	87% - 89.9%	C-	70% - 72.9%		
B	83% - 86.9%	D+	65% - 69.9%		
B-	80% - 82.9%	D	60% - 64.9%		

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

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.

Important Dates:

- last day to add without a permission code – Friday, August 25th,
- last day to add, drop (delete), elect CR/NC, or audit classes – Friday, September 1st
- last day to withdraw from classes – Friday, October 20th

All important dates can be seen at: <http://registrar.utah.edu/academic-calendars/fall2017.php>

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 Fall/Spring semester are: 8 am – 8 pm Monday-Thursday and 8 am – 6 pm on Friday. The tutoring center will open the second week of classes.

Classroom Etiquette: Please be considerate of others and turn off your cells phones while you are in class. If your cell phone rings or you are texting, you will be asked to leave.