

MATHEMATICS 1030

Introduction to Quantitative Reasoning (3 credits)

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

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A. The least expensive option for the book is to buy it through the Inclusive Access Program. An email will go out to all math 1030 students prior to the first day of class with information on what Inclusive Access is and instructions on how to access the digital course materials. If you (the student) decide you don't want the instant access to the course materials you will have the option to OPT OUT and will be refunded accordingly. Students still need to pay for the course materials cost along with their tuition, but once you OPT OUT during the first two weeks of class you will receive a full refund of the course material cost. You will then be responsible for obtaining your own course material/textbook for that course. Through the Inclusive Access Program, students will receive a digital copy of the book. The students' cost for math 1030 access is \$39.00.

B. If a student wishes to order a hard copy of the book, he/she can talk to Shane Girton (U of U Bookstore) and a copy of the book can be special ordered. The new copy of the custom version for the U of U is \$110.

C. A student 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>

The current cost for math 1030 book is \$41.99 through this website.

D. The book can be rented/purchased through a variety of vendors, such as eBay, Amazon or similar websites. The cost is usually more than the Inclusive Access cost and it changes daily.

NOTE: 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.

Instructor: Matthew Goroff
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Video lectures are available through the Department of Mathematics.
<http://www.math.utah.edu/lectures/math1030.html>

Office hours: TBD

Prerequisites: 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 will be assigned each week and collected on Wednesdays at the beginning of class. You are allowed to work on homework problems with other students in the class, but you must write up and turn in your own solution. No late homework will be accepted, but I will be dropping your three lowest homework grades at the end of the semester. If you cannot make it to class on the day the homework is due, you can turn in the homework early or have someone else turn it in for you. If neither of those options work, you can scan your homework and email it to me. I will only accept properly scanned homework (i.e. not a cellphone picture) and it must be emailed to me by the time homework is due.

Quizzes: Every Wednesday there will be a quiz covering the material that we have done in class. The problems will be very similar to the homework problems. No make-up quizzes will be given, but the lowest three quiz grades will be dropped at the end of the semester.

Project: There will be a group project you will work on during the semester. You will work in groups of about three creating an in depth report about a real world application of something we have covered in class. I will give you the list of topics in mid September, and then projects will be due November 15 (Wednesday). Late projects will not be given full credit, but you should have ample time to complete it. You must work in a group, and cannot do the project independently.

Exams: You will have 2 exams (50 minutes each). 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. The tests will take place on:

October 5th (Friday)
November 16th (Friday)

Please note these dates are subject to change.

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

This date and time is assigned by the University of Utah scheduling office. You can view the Spring 2018 final exam schedule at (math 1030 is listed under the departmental finals):
<http://registrar.utah.edu/academic-calendars/final-exams-fall.php>

If there is a location change from your regular classroom your instructor will inform you.

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

Grading policy: Your grade will be based on:

Homework	10%
Quizzes	10%
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 your instructor will 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 24th,
- last day to add, drop (delete), elect CR/NC, or audit classes – Friday, August 31st
- last day to withdraw from classes – Friday, October 19th

All important dates can be seen at: <http://registrar.utah.edu/academic-calendars/fall2018.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.