

COURSE SYLLABUS

MATH 1030-1 Spring 2017

Introduction to Quantitative Reasoning (3 credits)

Lectures: TH 9:10-10:30 AM, NS 203

Instructor: Elizabeth Winkelman, JWB 121, winkelma@math.utah.edu

Office Hours: M 10:00-11:00 AM, H 10:45-11:45 AM, or by 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)

Course Web Page: All course information and announcements will be posted on Canvas. It also contains material that may help you succeed in this course. I shall assume that you are keeping up to date with its contents.

Prerequisites: "C" or better in MATH 1010 (Intermediate Algebra) OR Accuplacer CLM score of 50 or better OR ACT Math score of 23 or better OR SAT Math score of 540 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 Overview: This 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 and 8-10 (sec. A). You are expected to read each section that we cover.

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 a 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 make 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 will be assigned for each section. Homework will be collected at the start of lecture on the day it is due. No late homework will be accepted.

Quizzes: Every 1 to 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 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 project to turn in. The project will be due the 14th week of classes. The exact date will be given during lecture. You will be given the list of topics approximately 8-9 weeks before the project is due, and 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 will not be given full credit.

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.

Final Exam: (comprehensive/departmental) May 2, 2017 (Tuesday) 3:30-5:30 PM

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

Calculators: You will need a calculator for this course. A scientific calculator will be sufficient.

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.

Extra Help: Do not hesitate to come to my office during office hours or by appointment to discuss a homework or past quiz/exam problem or any aspect of the course.

The T. Benny Rushing Mathematics Tutoring 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 (ground floor). The hours for the Fall/Spring semester are: 8 am to 8 pm Monday-Thursday and 8 am to 6 pm on Friday. The tutoring center will open the second week of classes.

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

This Syllabus Can Change: Depending on many factors during the semester, I reserve the right to change the class structure and this syllabus. If this occurs, you will be notified about these changes in lecture and an announcement on Canvas.