

MATH 1030 SYLLABUS – QUANTITATIVE REASONING – FALL 2018

COURSE: Math 1030-060 is a 3 credit hour math class. You can expect to spend **at least two-three hours** on homework per one hour of class time. That means you will need to spend an additional 6-9 hours of work weekly. Math 1030-070 meets Monday evenings from 6:15 pm – 9:15 pm at the Sandy Campus.

PREREQUISITE: Must have completed Math 980 or equivalent with a C or better, or have a current Math ACT score of 19 or higher, or an Accuplacer EA score of 60 or higher, or a Math SAT score of 500 or higher. This means 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. Math 1030 does not satisfy a Math 1050 or math 1090 prerequisite. A diagnostic test will be given during the first class.

FACULTY: Sarah Jean Hoggan, BS (mathematics), MEd (Phi Kappa Phi)

CONTACT ME: hoggan@math.utah.edu or email me in Canvas.

TUTORING: Free Math Lab in the basement of the Math Building (JWB) open M-H: 8 am – 8 pm and F: 8 am – 6 pm. or for paid tutoring visit the ASUU Tutoring Center in Rm. 330 SSB, 801-581-5153. Free e-tutoring can be accessed in Canvas on the left menu.

CONTENT OVERVIEW: This is a nontraditional math course. This course will look at your world from a new perspective. Its focus is to apply mathematics in your life.

COURSE DESCRIPTION: Quantitative information about change and growth through specific case studies are analyzed. Other topics covered include financial mathematics, linear and exponential growth, geometric measurements and scaling. This course is primarily for undergraduates who will not take any further mathematics except for statistics.

COURSE OBJECTIVES: 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, 8, 9 and 10 section A. You are expected to read each section.

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 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

Students will complete weekly quizzes, participate in a group project, and pass the two mid-terms and final exam.

TEACHING and LEARNING METHODS: Lecture, PowerPoint slides, homework, quizzes and a group project. Video lectures are available through the Department of Mathematics.

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

HOMEWORK: Weekly homework will be assigned. It is highly recommended that you work the problems assigned at the end of each section. The textbook homework is not graded.

QUIZZES: There will be nine quizzes given in class. Quizzes will be given approximately every week at the end of class. No makeup or late quizzes will be accepted; therefore, the lowest 4 quiz scores will be dropped. Quizzes are worth 25 points each.

EVALUATION: The five highest quizzes, a group project, two midterms and a final exam will be used to determine your grade.

PROJECTS: A group project will be assigned. It is worth 100 points. The project is due at the beginning of class. The projects can be found in Canvas. Print a copy of your project requirements! The document contains some websites that may be helpful.

EXAMS: Two midterms and a final will be given. No makeup exams will be given! Arrangements must be made in **ADVANCE**.

GRADING: Quizzes count 20% of your grade. The group project counts 20%. The midterms are worth 15% each and the final is worth 30%. Grades will be given according to the following schedule:

PERCENT	GRADE	PERCENT	GRADE
93-100	A	73-74	C
90-92	A-	70-72	C-
87-89	B+	65-69	D+
83-86	B	60-64	D
80-82	B-	55-59	D-
77-79	C+	0-54	E

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

A. The least expensive option for the book is to buy it through the **Inclusive Access Program**. An email will go out to math 1030 students prior to the first day of class with information on what Inclusive Access is and instructions on how to access their digital course materials. If the student decides they don't want the instant access to the course materials they 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 they OPT OUT during the first two weeks of class they will receive a full refund of the course material cost. They will then be responsible for obtaining their 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, they can talk to the 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.

CALCULATORS: A basic **scientific** (non-graphing) calculator is required. No phones allowed!

COURSE OUTLINE: The homework and test schedule are on a separate page.

Ch 1CD	Thinking Critically
Ch 2ABC	Approaches to Problem Solving
Ch 3ABC	Numbers in the Real World
Ch 4BCDE	Financial Management
Ch 8ABCD	Exponential Astonishment
Ch 9ABC	Modeling Our World
Ch 10A	Fundamentals of Geometry

ADA: "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 Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for

accommodations.”

FACULTY RESPONSIBILITIES: “All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. Students 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, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content.”

As a reminder: **Dress** - The educational process is facilitated by professional behavior on the part of all; therefore, students are encouraged to dress appropriately for class. **TURN CELL PHONES OFF/VIBRATE BEFORE COMING CLASS! DO NOT** go outside in the middle of class to make or answer a phone call. **DO NOT TEXT MESSAGE** during class! Do not talk while I am lecturing or while other students are asking questions. **DO NOT** come to class late or leave early. It is not only inconsiderate, but also quite disruptive to other students.