# Syllabus

## Math 1030

## Fall 2007

## 1  Basic Information

**Class** - Math 1030 : Introduction to Quantitative Reasoning
University of Utah
Section 3

**Instructor** - Patrick Dylan Zwick
Email - zwick@math.utah.edu
Phone - 801-651-8768 (cell) 801-585-1963
Office Hours - Monday and Thursday 4:00 PM - 5:00 PM
Office - JWB Math Building Room 214

**Meeting Time** - *MWF* 2:00 PM - 2:50 PM
Meeting Location - AEB 350

**Textbook** - *Using and Understanding Mathematics : A Quantitative Reasoning Approach* by Jeffrey Bennett and William Briggs.

*Note* - The textbook used for this class that is available at the bookstore is a reduced version of the standard textbook. There is also a student's study guide and solutions manual available for the textbook that may be useful, but is not necessary for the class.

**Webpage** - The webpage for this section will be:

`http://www.math.utah.edu/~zwick/`

## 2 Course Description

This class is intended to be a terminal math class for students who are not pursuing a technical degree or area of study. It will probably be the last math class you ever take, which for some (perhaps most) of you is music to your ears. The course fulfills the mathematical quantitative reasoning requirement for graduation.

As this is intended to be the last math class of your life, the class is strongly geared towards "real world" applicaitons. We will focus on developing critical thinking skills and mathematics skills that will be useful to you in the real world and that will actually come up. So, for example, we will deal with problems and questions dealing with units and unit conversions, financial management and interest rates, scientific notation and concepts of scale, basic geometry, and the skills needed to construct basic models of real world phenomena. The goal is that the class will be helpful, and hopefully also enjoyable.

Note that math 1010, college algebra, is a prerequisite for this class and you will be expected to know and be able to use the material covered in that class. However, in many ways this class is less technical and formal than 1010, and most, but not all, of the math we do will be on a "lower" level of sophistication.

The class consists of lectures, homework assignments, quizzes, exams, a group project and a comprehensive final that is taken by all math 1030 students.

## 3 Homework, Exams, and Projects

Homework for the class will be assigned every week. It will consist of a number of problems, probably around 10, and I will grade two of them. The homework is designed primarily to help you understand and get practice with the material, and so it does not count for much as far as your grade is concerned, and you don't even have to do it. (Explained in detail in the grades section).

There will be four thirty minute quizzes during the semester, two midterms, and a final. The quizzes will be about every two weeks, and will just cover material that has been covered in class since the previous quiz or midterm. There will be two midterm examinations. The first midterm will be on all

material covered in class up to that week, and the second midterm will be on all material covered in class since the first midterm.

The final will be comprehensive, and it is written by the department. So, all students in 1030 this semester will take the same final at the same time. The final will be on Tuesday, December 11th from 3:30 PM to 5:30 PM.

# 4  Grading

The grading breakdown for the class will be:

Homework - 10%
Quizzes - 10%
Group Project - 20%
Midterms - 30% (15% each)
Final - 30%

Note that homework can only improve your grade. So, if you'd do better with homework counted as 0% and all other scores scaled accordingly, I'll give you the higher of the two grades.

Note also that I will let you drop your lowest quiz score.

# 5  Project

At the end of the 4th week you will be given some possibilities for a group project, and asked to form groups of about 3 people each. You will work in a group to complete a moderately large math project and write it up. There are a number of suggested projects for the class in the project handout you will get, but you and your group could also design your own project if you're so inclined. However, if you want to design your own project you must write up a proposal and discuss it with me before the end of the sixth week (September 28th) and it must be approved by me.

Projects will be due on November 30th, and we will have a few days in class in which you can work on them and talk about them with your group, but most of the work for the projects will be done at home.

# 6  Schedule

Here is the tentative schedule for the semester. Note that it isn't set in stone, and some dates may change depending on how the semester goes.

**August 20th** - Introduction
**August 22nd** - Algebra Review
**August 24th** - Algebra Review

**August 27th** - 1C Venn Diagrams
**August 29th** - 1D Analyzing Arguments
**August 31st** - Quiz 1 (Algebra Review)

**September 3rd** - Labor Day (No Class)
**September 5th** - 2A Units
**September 7th** 2A/2B Units

**September 10th** 2B Units
**September 12th** Problem Solving
**September 14th** Quiz 2 (Chapter 2) and Groups Formed

**September 17th** 3A Percentages
**September 19th** 3B Scientific Notation
**September 21st** 3C Uncertainty

**September 24th** 3D CPI and Project Meeting
**September 26th** 4A Finances
**September 28th** Midterm 1 (Chapters 2 and 3)

**October 1st** 4B Compounding
**October 3rd** 4B Compounding Continued
**October 5th** 4C Savings and Investments

**October 8th** Fall Break (No Class)
**October 10th** Fall Break (No Class)
**October 12th** Fall Break (No Class)

**October 15th** 8A Growth Rates
**October 17th** 8B Doubling Times
**October 19th** Quiz 3 (Chapter 4) and Project Meeting

**October 22nd** 8C Population Growth

**October 24th** 8D Logarithms
**October 26th** 9A Functions

**October 29th** 9A Functions Continued
**October 31st** 9B Linear Modeling
**November 2nd** 9B Linear Modeling Continued

**November 5th** 9C Exponential Modeling
**November 7th** Modeling Review
**November 9th** Midterm 2 (Chapters 4, 8, and 9)

**November 12th** 10A Geometry
**November 14th** 10A Geometry Continued
**November 16th** 10B Geometry Problem Solving

**November 19th** 10B Geometry Problem Solving Continued
**November 21st** Quiz 4 (Chapter 10) and Project Meeting
**November 23rd** Thanksgiving Break

**November 26th** Project Meeting
**November 28th** 10C Fractals
**November 30th** Review (Projects Due)

**December 3rd** Review
**December 5th** Review
**December 7th** Review

Final Exam is on Tuesday, December 11th from 3:30 PM to 5:30 PM.