Math 1030Q: Elementary Discrete Mathematics

Section 002: M/W/F 12:00-12:50 PM, MSB 415
Section 005: M/W/F 10:00-10:50 AM, MSB 311

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Office Hours: M/W/F 11:00-11:50am, T/Th 1:00-1:50pm

Course Information

Textbook: Mathematics Beyond the Numbers, by Gilbert and Hatcher
You will also need a calculator for this class, but a simple scientific one is fine.

Goals: 1) Fulfill one of your Q course requirements.
2) See some of the applications math has to the real world.

Homework: The table on the back has a list of recommended homework problems for each section, although they might be better described as practice problems since these questions (or any kind of homework) will never be collected. That being said, I strongly encourage you to try the questions for each section as we go along as a way to check if you are confident with the material. More often than not, the best way to learn the concepts is by doing these problems, and if you happen to run into any trouble, please feel free to come into office hours or send me emails at any time.

Quizzes: There will be (roughly) weekly short quizzes which will generally be the first ten minutes of class. They will be usually two questions, one for each of the last two sections we covered, but I will always let you know ahead of time when they will be and what sections will be covered.

Exams: There are three in-class exams during the semester, each of which will cover a chapter or two, as well as a cumulative final during finals week. There will not be make-ups given for the exams so don't miss them(!).

Grading:

Best in-class exam	20%
2nd best in-class exam	20%
Worst in-class exam	10%
Final Exam	30%
Quizzes	20%

Tentative Exam Dates:
#1: February 13 (Wed.)
#2: March 13 (Wed.)
#3: April 17 (Wed.)

Class Schedule/List of suggested problems:

Week (Dates)	Section	Topic	Suggested Problems
1 (1/23 – 1/25)	1.1	Plurality/Runoff Methods	pg.15/ 1,3,6,7,11,15
2 (1/28 – 2/1)	1.2	Borda's Method	pg.28/ 1,3,5,9,12
	1.3	Head-to-head Comparisons	pg.41/ 1,3,7,9,11,15
	1.4	Approval Voting	pg.53/ 2,5,7,9,11,15
3 (2/4 – 2/8)	2.1	Quota Methods	pg.95/ 1,3,5,8,9
	2.2	Early Divisor Methods	pg.117/ 1,3,5,7,11,13
4 (2/11 – 2/15)	Review/**Exam #1** (Wed. 2/13)		
	3.1	Algebra Review	pg.166/ 1-29 (odd)
5 (2/18 – 2/22)	3.2	Simple Interest	pg.171/ 1,7,11,15,17,21,23,27,30
	3.3	Compound Interest	pg.186/ 1,5,9,13,17,21,31,35,39,52
6 (2/25 – 3/1)	3.4	Systematic Savings	pg.197/ 1,5,9,13,15,19,21
	3.5	Amortized Loans	pg.212/ 1,5,9,13,17,23
7 (3/4 – 3/8)	4.1	Elementary Probability	pg.239/ 1,3,5,9,11,13,17,19,23,29
	4.3	Addition Rule	pg.254/ 1,3,5,7,11,13,15
8 (3/11 – 3/15)	Review/**Exam #2** (Wed. 3/13)		
SPRING BREAK			
9 (3/25 – 3/29)	4.4	Conditional Probability	pg.264/ 1,3,7,11,13,19,23,27,34
	4.5	Counting Techniques	pg.282/ 1,5,9,13,17,21,25,29,35
10 (4/1 – 4/5)	4.6	More Probability	pg.293/ 1,5,9,13,17,21,25,28,31,33
	4.7	Expected Value	pg.301/ 1,5,9,12,13,17,23
11 (4/8 – 4/12)	4.8	Genetics/Review	pg.314/ 1,3-7,11-13,17,21,25
12 (4/15 – 4/19)	Review/**Exam #3** (Wed. 4/17)		
	6.1	Euler Paths and Circuits	pg.455/ 1,5,7,11,13,15,17,23,28,31
13 (4/22 – 4/26)	6.2	Traveling Salesman	pg.481/ 1,5,7,9,15,19,21,23
	6.3	Spanning Trees	pg.511/ 1,3,5,7,11,15,21
14 (4/29 – 5/3)	Review for Final Exam		