Fall 2013

Math 1030Q – Elementary Discrete Mathematics

Mathematics Beyond Numbers

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Office Hours: TBA

Class Meeting: MWF 10:10-11:00 Sec.5 **MSB211**

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Textbook:

Mathematics Beyond the Numbers (Gilbert and Hatcher)

ISBN 0-471-44962-8

You can purchase this in the UConn Coop bookstore, bundled with a solutions manual.
A scientific calculator is also required (which can handle logarithms and exponents, it doesn't need to have graphing capabilities).

Course Objectives:

This course will stress problem solving skills and the development of reasoning skills in an interactive setting. The mathematics involved are not difficult, but are probably different than the work to which you are accustomed. We will see how some of these mathematical ideas have very real and useful applications to the world around us.

Homework:

The material covered in this course takes practice! The course outline at the end of this syllabus contains reading assignments and practice problems for each section. Homework problems will not be collected, but you will do yourself a disservice by neglecting them. Working through examples is the best way to learn these concepts.

Exams:

There will be 3 in-class hour-long exams and one cumulative final exam. Exact time and dates:

1. Exam1: Wed, Sept 11, 2013
2. Exam2: Wed, Oct 2, 2013
3. Exam 3: Wed, Nov 6, 2013
4. FINAL TBA by Registrar office

Attendance at all exams including the final exam are mandatory, and no make-up examinations will be offered.

The pace of the course will be adjusted somewhat, depending on the pace of the classroom discussions, so the student must always be up to date on what the assignments are.

Quizzes & Projects:

Short quizzes will be given usually each week and will be based on the recommended homework assignments.

There will be no make-ups for missed quizzes.

Small projects may be assigned throughout the semester to reinforce understanding of the topics.

Class guidelines:

- It is expected that everyone in our class will act in a respectful manner
- Turn off all cell phones and beepers before the start of class. Laptops are not to be used in class
- As much of the class time will be devoted to active participation in discovering solutions to problems, regular attendance and class participation is expected
- Stay up-to-date with the readings.
- If you are late to class, please enter quietly and take your seat quickly
- Cheating of any kind is absolutely unacceptable and will be result in failure of the assignment. Please review the student code: http://www.dosa.uconn.edu/student_code.html

Course Outline

Week	Sections	Topics	Homework
1	1.1 1.2	Plurality, Runoff methods Borda's Method	pg 15 # 1, 3, 6, 7, 11, 15 pg 28 # 1, 3, 5, 9, 12
2	1.3 1.4	Head-to-head Comparisons Approval Voting	pg 39 # 1, 3, 7, 9, 11, 15 pg 51 # 2, 5, 7, 9, 11, 15
3	2.1 2.2	Quota methods Early Divisor Methods	pg 80 # 1, 3, 5, 8, 9 pg 99 # 1, 3, 5, 7, 11, 13
4	3.1	Review **Exam 1** Algebra Review	 pg 133 # 1-29 odd
5	3.2 3.3	Simple Interest Compound Interest	pg 138 # 1, 7, 11, 15, 17, 21, 23, 27, 30 pg 150 # 1, 5, 9, 13, 17,21, 31, 35, 39, 52
6	3.4 3.5	Systematic Savings Amortized Loans	pg 161 # 1, 5, 9, 13, 15, 19, 21 pg 174 #1,5.9,13,17,23
7	4.1	Elementary Probability	pg 192 # 1, 3, 5, 9, 11, 13, 17, 19, 23,29
8	4.3	The Addition Rule Review **Exam 2**	pg 205 # 1, 3, 5, 7, 11, 13, 15
9	4.4 4.5	Conditional Probability, BayesTheorem Counting Techniques	pg 215 # 1, 3, 7, 11, 13, 19, 23, 27, 34 pg 232 # 1, 5, 9, 13, 17, 21, 25, 29, 35
10	4.6 4.7	More Probability Expected Value	pg 242 # 1, 5, 9, 13, 17, 21, 25, 28,31,33 pg 248 # 1, 5, 9, 12, 13 17,23
11	4.8	Genetics **Review**	pg 260 # 1,3- 6, 7, 11-13, 17, 21, 25
12	 6.1	**Exam 3** Euler Paths and Circuits	 pg 375 # 1, 5, 7, 11, 13, 15, 17,23,28, 31
13	6.2 6.3	Traveling Salesman Spanning Trees	pg 396 # 1, 5, 7, 9, 15, 19, 21,23 pg 411 # 1, 3, 5, 7, 11, 15, 21
14		**Review**	