UConn Math 1020Q – Problem Solving
Spring 2016 Syllabus

Welcome to the Wonderful World of Math 1020Q!

Description: An introduction to the techniques used by mathematicians to solve problems. Skills such as Externalization (pictures and charts), Visualization (associated mental images), Simplification, Trial and Error, and Lateral Thinking learned through the study of mathematical problems. Problems drawn from combinatorics, probability, optimization, cryptology, graph theory, and fractals. Students will be encouraged to work cooperatively and to think independently.

Prerequisites: Recommended preparation: MATH 1010 or the equivalent. Not eligible for course credit by examination. Not open for credit to students who have passed any mathematics course other than MATH 1010, 1011, 1030, 1070, 1040, 1050 or 1060.

Outline:

Week	Date	Material	Assignment due on Date
1	Jan 21, 2016	Chapters 1,2 – Problem Solving, PSSSP	
2	Jan 28, 2016	Chapter 3 – Be Proactive	Automathography, Heap Letter
3	Feb 4, 2016	Chapter 4 – See it	Symmetry
4	Feb 11, 2016	Chapter 4 – See it, Chapter 5 – Simplify it	Prom Problem
5	Feb 18, 2016	Chapter 5 – Simplify it, Exam #1	Parking Lot
6	Feb 25, 2016	Chapter 6 – Stir it up	Forty Thieves
7	Mar 3, 2016	Chapter 6 – Stir it up	Should you switch?
8	Mar 10, 2016	Chapter 7 – Pause and Reflect	Faculty Debts
9	Mar 17, 2016	Spring Break!	

10	Mar 24, 2016	Chaps 8,9 – Interpersonal, Communication	Grilled Cheese
11	Mar 31, 2016	Estimation	Grappling with Groups
12	Apr 7, 2016	Review and Exam #2	Maple Tree (10 ways to measure)
13	Apr 14, 2016	Revisit PSSSP and work on Final Project	House Hunt
14	Apr 21, 2016	Revisit PSSSP and review for Final Exam	True and False
15	Apr 28, 2016	Present Final Project	

Learning activities: You will be assigned projects during the semester to be worked on individually or in groups. One write-up will be submitted for each student. Projects will be graded on accuracy, creativity and presentation. The most important aspect of these projects is clear explanations of your approach and conclusions. Solutions without explanations will get very low scores. We will begin the projects in class, but frequently additional time outside of class will be required to complete them. Groups may be asked to present their project solutions to the class

Exam Info: There are two hourly exams during the semester, currently scheduled for weeks 5 and 11. There will also be a final exam, which is cumulative.

The best way to prepare for the exams is to be familiar with all the stretches and text problems done in class, as well as the homework assignments. Many exam questions are related to the work done in class and in the homework assignments.

Each individual instructor will provide you further details on Exams throughout the semester.