UCONN
UNIVERSITY OF CONNECTICUT

Math 1020Q-004/005
Problem Solving
(updated 04/18/21)

Syllabus – Spring 2021

Excluding materials for purchase, syllabus information may be subject to change. The most up-to-date syllabus is located within the course in HuskyCT and the class will be notified in the case of any changes.

Course and Instructor Information

Course Title: Problem Solving

Credits: 3

Format: Distance Learning

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, 1060 or 1070.

Instructor: Corrie Ingall (feel free to call me Corrie, but Professor Ingall is also fine.)

Pronouns: she/her/hers

Email: corrie.ingall@uconn.edu

Telephone: Not Applicable

Office Hours/Availability: Tuesday/Thursday 2:30-3:30 pm, Friday 10:30-11:30 am, and by appointment

To join my office hours, select the “Office Hours” tab on the left toolbar in HuskyCT, which will bring you to WebEx. I am also available by appointment. During office hours we can discuss what went on in class, I can offer hints to challenging homework assignments, or we can just discuss the course in general.

Course Materials

Required course materials should be obtained before the first day of class.

Textbook:
PProblem SSSolving, 3rd edition, by DeFranco, Vinsonhaler, and Naigles
ISBN-10: 1-285-90866-X, ISBN-13: 978-1-285-90866-3

Required textbooks are available for purchase through the UConn Bookstore (or use the Purchase Textbooks tool in HuskyCT). Textbooks can be shipped (fees apply).

HuskyCT:
All course materials, as well as the link to our online course room, can be found at http://www.huskyct.uconn.edu

Blackboard Collaborate:
All of the lectures and small group work will be run in Blackboard Collaborate Ultra. To log in, navigate to the class's HuskyCT page, click "BlackBoard Collaborate" in the left side menu. To the far right of the course, you will see a circle with three dots in it. Hovering over that icon, it will say "Session Options". Click on that icon and then "join course room". Please plan to join every class day at the beginning of class unless instructed otherwise.

Software/Technical Requirements (with Accessibility and Privacy Information):
The software/technical requirements for this course include:
● HuskyCT/Blackboard (HuskyCT/ Blackboard Accessibility Statement , HuskyCT/Blackboard Privacy Policy)
● Document editor such as Microsoft Word or Google Docs
● Webcam and microphone
● Ability to scan handwritten work in as a single PDF (apps like CamScanner, AdobeScan, or GeniusScan are fine)
● Webex (for office hours and exam proctoring)

For information on managing your privacy at the University of Connecticut, visit the University's Privacy page .

NOTE: This course has NOT been designed for use with mobile devices.

Assignments, course readings and media are available within HuskyCT, in the Course Content link.

Course 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 will be drawn from combinatorics, probability, optimization, cryptology, graph theory, and fractals. Students will be encouraged to work cooperatively and to think independently.

Course Expectations

First, you are expected to come to class. I will not be doing much lecturing - you will be working on problems individually and in small groups. About 50% of class time will be spent on small group work. You are required to have a microphone for these sessions, and highly encouraged to have a webcam.

You are responsible for everything that happens in class. If you miss a class, you are expected to find out what happened, either from me or one of your classmates. Second, you should expect to do much of your learning outside the classroom, generally spending around 4-6 hours a week working on this class. Problem solving, like a lot of skills, is best learned by doing. Most of all, it is expected that you will do your best to grow as a problem solver.

Course Objectives

This course will offer you strategies on how to solve challenging problems, in mathematics and any other endeavor. These strategies will be particularly useful when you can't decide where to begin in solving a problem. It is our hope that you will use what you learn in this class for the rest of your life.

Course Requirements and Grading

Summary of Course Grading:

Course Components	Weight
Homework	35%
Exams (2)	25% (12.5% each)
Final Project	12.5%
Final Exam	12.5%
Participation / Classwork	15%

For additional information on undergraduate grading policies see here: https://registrar.uconn.edu/grades/

For additional information on graduate grading policies see here (note that effective Fall, 2020, the grade of A+ no longer exists) https://gradcatalog.uconn.edu/grad-school-info/academic-regulations/#Grades

I will post all grades on HuskyCT.

Grading Scale:

Grade	Letter Grade	GPA
93-100	A	4.0
90-92	A-	3.7
87-89	B+	3.3
83-86	B	3.0
80-82	B-	2.7
77-79	C+	2.3
73-76	C	2.0
70-72	C-	1.7
67-69	D+	1.3
63-66	D	1.0
60-62	D-	0.7
<60	F	0.0

Class Outline

Week	Material	Homework Due before class (unless specified)
1	Chapters 1,2 - Problem Solving, PSSSP	
2	Chapter 3 - Be Proactive	Automathography **(due MON)** Heap Letter (pg. 4) **(due FRI)**
3	Chapter 4 - See it	TicTacToe and Marathon **(due FRI)**
4	Chapter 4 - See it, Chapter 5 - Simplify it	On the Bus **(due FRI)**
5	Chapter 5 - Simplify it, **Exam #1**	Mystic Rose **(due FRI)**
6	Chapter 6 - Stir it up	
7	Chapter 6 - Stir it up	Map Coloring **(due MON)**
8	Chapter 7 - Pause and Reflect	Four Cities and More Ages **(due MON)** Exam 1 Resubmission (Optional) **(due FRI)**
9	Chapters 8,9 - Interpersonal, Communication	Dating Service (pg. 71) **(due FRI)**
10	Estimation	Team Performance Agreement **(due WED)** Grappling with Groups (pg. 123) **(due FRI)**
11	Review and **Exam #2**	Plan of Attack **(due FRI)**
12	Revisit PSSSP and work on Final Project	Maple Tree (pg. 127) **(due MON)**
13	Spring Break - no class	
14	Revisit PSSSP, Final Project Presentations, and Review for Final Exam	Stretch #63 **(due MON)** Final Project Content **(due FRI)**
15	Revisit PSSSP, Final Project Presentations, Review for Final Exam, and Reading Period	Exam 2 Resubmission (Optional) **(due MON)** Assessment of Another Group **(due WED at midnight)** Peer Evaluation **(due WED at midnight)**

Assignment Descriptions:
As a general rule, assignments will not be accepted after the due date. However, in these complex and unpredictable times, I may be flexible if you need an extension for a valid reason. If you would like an extension, please contact me 24 hours before an assignment is due and we will determine if an extension is appropriate.

If you are discovered cheating or using any unapproved resource you will receive a 0% on the assessment, and will receive a letter of academic misconduct which will be filed to the Office of Community Standards. Multiple offenses may result in a grade of F for the course.

Homework:
Homework will be assigned, submitted to HuskyCT, and graded each week. Homework is to be done outside of class and we will not devote extensive class time to the discussion of homework problems. Your written work is expected to be neat, accurate and contain written explanations using full sentences and standard English. All homework will be submitted through HuskyCT. If you wish to attach images to your submission, please use the aforementioned apps (page 2, Software Requirements) to create 1 (one) pdf file of your written work.

All work must be shown; **an answer without a detailed explanation is not worth any credit.** It is your responsibility to get help if you can't complete an assignment. You can come to my office hours, work with other students (cite your collaborators), send me email, or use any reasonable method to figure out how to complete your assignments. If you use any outside resources (including other people) you need to cite your sources. Using outside resources and not citing them is academic dishonesty.

Participation (Journals):
Your participation will be measured weekly primarily in the form of journals within HuskyCT. These journals are an opportunity to reflect on what you are learning in an informal manner. Late journals will receive no credit. Class participation points may also be earned in the form of polls, surveys, forum posts, in class work, or exit tickets. Work graded for participation will be graded primarily on completeness rather than accuracy. If you miss class for a documented reason, please contact me directly to make sure your participation score for the day is excused.

Classwork:
Occasionally you may be asked to submit a write up on a problem we worked on in class. These write ups will be either individual or in groups, and will be graded for a combination of completeness and accuracy.

Midterms:
Midterms will occur twice during the semester. These exams will be proctored using the “Exam Proctoring” link in HuskyCT. These will be written and submitted via HuskyCT as well. You may be required to use Lockdown Browser to complete exams. More information in addition to a practice Lockdown Browser assessment will be available later in the semester.

Group Project:
Throughout the semester, you will be working on a group project with members of your class. More information on this project will be provided later. At the end of the course you will present your projects.

Final Exam:
Final exam week takes place from Monday, May 3rd through Saturday, May 8th, 2021. Students are required to be available for their exam during the stated time. If you have a conflict with this time, you must contact the Dean of Students Office to discuss the possibility of rescheduling this exam. Please note that vacations, previously purchased tickets or reservations, social events, misreading the exam schedule and over-sleeping are not acceptable excuses for missing a final exam. If you think that your situation warrants permission to reschedule, please contact the Dean of Students Office with any questions. I cannot

reschedule your final exam without approval from the Dean of Students office. Thank you in advance for your cooperation.

Exam Resubmission Policy

Students earning below a 75% on an exam will have an opportunity to correct and resubmit open-ended questions (not true/false or multiple choice) to earn up to a 75% on that exam. Resubmitted solutions must be numbered and neatly written or typed. Please note that since there are fewer time constraints for writing up corrections, my expectations for solutions may be higher. While you can discuss potential corrections with classmates, final write-ups should be done in your own words. Exam resubmission policy does not apply for the final exam or quizzes.

Class Preparation and Attendance

If you do not attend class, it is your responsibility to learn any missed material. Before I answer questions or review material from the date of absence, I will require that you demonstrate that you have made significant progress in trying to learn the material on your own by, for example, obtaining notes from a classmate or reading the textbook.

Student Authentication and Verification

The University of Connecticut is required to verify the identity of students who participate in online and distance learning courses and to establish that students who register in an online or distance learning course are the same students who participate in and complete the course activities and assessments and receive academic credit. Verification and authentication of student identity in this course will include:

1. Secure access to the learning management system using your unique UConn NetID and password.

Students with Disabilities

The University of Connecticut is committed to protecting the rights of individuals with disabilities and assuring that the learning environment is accessible. Students who require accommodations should contact the Center for Students with Disabilities, Wilbur Cross Building Room 204, (860) 486-2020 or http://csd.uconn.edu/.

Blackboard measures and evaluates accessibility using two sets of standards: the WCAG 2.0 standards issued by the World Wide Web Consortium (W3C) and Section 508 of the Rehabilitation Act issued in the United States federal government." (Retrieved March 24, 2013 from Blackboard's website)

COVID-19

I understand that we are currently facing a global crisis that is unprecedented in any of our lifetimes. Many of us are new to teaching and learning online, and additional flexibility may be required on all of our parts for numerous reasons. In the same way that I will be more understanding of you while you navigate these unfamiliar technological waters, I hope that you will be more understanding of me while I work on mastering this new technology. We're all in this together!

It may become necessary to shift some of the information in this syllabus. I will communicate with you about any changes as we go through the course. By the same token, if you find that you are struggling to keep up for any reason, please proactively communicate with me so that we can find a solution to help you succeed.

Academic Honesty

This course expects all students to act in accordance with the Guidelines for Academic Integrity at the University of Connecticut. Because questions of intellectual property are important to the field of this course, we will discuss academic honesty as a topic and not just a policy. If you have questions about academic integrity or intellectual property, you should consult with your instructor. Additionally, consult UConn's guidelines for academic integrity. Note that cheating or plagiarizing on an assignment may result in a zero for that assignment and/or failure in the course.

As a member of the University of Connecticut student community, you are held to certain standards and academic policies. In addition, there are numerous resources available to help you succeed in your academic work. Review these important standards, policies and resources, which include:

- The Student Code
    - Academic Integrity
    - Resources on Avoiding Cheating and Plagiarism
- Copyrighted Materials
- Credit Hours and Workload
- Netiquette and Communication
- Adding or Dropping a Course
- Academic Calendar
- Policy Against Discrimination, Harassment and Inappropriate Romantic Relationships
- Sexual Assault Reporting Policy

Resources for Students Experiencing Distress

The University of Connecticut is committed to supporting students in their mental health, their psychological and social well-being, and their connection to their academic experience and overall wellness. The university believes that academic, personal, and professional development can flourish only when each member of our community is assured equitable access to mental health services. The university aims to make access to mental health attainable while fostering a community reflecting equity and diversity and understands that good mental health may lead to personal and professional growth, greater self-awareness, increased social engagement, enhanced academic success, and campus and community involvement.

Students who feel they may benefit from speaking with a mental health professional can find support and resources through the **Student Health and Wellness-Mental Health** (SHaW-MH) office. Through SHaW-MH, students can make an appointment with a mental health professional and engage in confidential conversations or seek recommendations or referrals for any mental health or psychological concern.

Mental health services are included as part of the university's student health insurance plan and also partially funded through university fees. If you do not have UConn's student health insurance plan, most major insurance plans are also accepted. Students can visit the **Student Health and Wellness-Mental Health located in Storrs on the main campus in the Arjona Building, 4th Floor,** or contact the office at **(860) 486-4705, or https://studenthealth.uconn.edu/** for services or questions**.**

Accommodations for Illness or Extended Absences

Please stay home if you are feeling ill and please go home if you are in class and start to feel ill. If illness prevents you from attending class, it is your responsibility to notify your instructor as soon as possible. You do not need to disclose the nature of your illness, however, you will need to work with your instructor to determine how you will complete coursework during your absence.

If life circumstances are affecting your ability to focus on courses and your UConn experience, students can email the Dean of Students at dos@uconn.edu to request support. Regional campus students should email the Student Services staff at their home campus to request support and faculty notification.

COVID-19 Specific Information:

People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. These symptoms may appear 2-14 days after exposure to the virus and can include:

- Fever,
- Cough,
- Shortness of breath or difficulty breathing
- Chills
- Repeated shaking with chills
- Muscle pain
- Headache
- Sore throat
- New loss of taste or smell

Additional information including what to do if you test positive or you are informed through contract tracing that you were in contact with someone who tested positive, and answers to other important questions can be found here: https://studenthealth.uconn.edu/updates-events/coronavirus/

Help

Technical and Academic Help provides a guide to technical and academic assistance.

This course uses the learning management platform, HuskyCT. If you have difficulty accessing HuskyCT, you have access to the in person/live person support options available during regular business hours through the Help Center. You also have 24x7 Course Support including access to live chat, phone, and support documents.

Student Technology Training

Student technology training is now available in a new HuskyCT short course created by students for students. It will prepare you to use the IT systems and services that you will use throughout your time at UConn, whether learning online or on-campus. It is available at https://lms.uconn.edu/ultra/courses/_80016_1/cl/outline

Evaluation of Course Experience

Students will be given an opportunity to provide feedback on their course experience and instruction using the University's standard procedures, which are administered by the Office of Institutional Research and Effectiveness (OIRE).

The University of Connecticut is dedicated to supporting and enhancing teaching effectiveness and student learning using a variety of methods. The Student Evaluation of Teaching (SET) is just one tool used to help faculty enhance their teaching. The SET is used for both formative (self-improvement) and summative (evaluation) purposes.

Additional informal formative surveys and other feedback instruments may be administered within the course

*** This Syllabus is subject to change ***