Computer Science with Applications 2
Winter 2020

Instructors: Tim Black (Crerar 203) and Matthew Wachs (Crerar 211)

TAs: Hazim Avdal, Ethan Mertz, Noah McLean, and Madison Stamos.

Lectures

Section 1	MWF 9:30-10:20am	Harper Memorial Library 140
Section 2	MWF 2:30-3:20pm	Rosenwald 015

Labs

Lab 1L01	R 3:30-4:50pm	CSIL 3
Lab 1L02	R 3:30-4:50pm	CSIL 4
Lab 1L03	R 5:00-6:20pm	CSIL 3
Lab 1L04	R 5:00-6:20pm	CSIL 4
Lab 2L01	R 2:00-3:20pm	CSIL 5
Lab 2L02	R 3:30-4:50pm	CSIL 5
Lab 2L03	R 5:00-6:20pm	CSIL 5

Website: `https://www.classes.cs.uchicago.edu/archive/2020/winter/12200-1/`

Course description

This course is the second in a three-quarter sequence that teaches computational thinking and skills to students in the sciences, mathematics, economics, etc. Lectures cover topics in (1) data representation, (2) relational databases, (3) data cleaning and presentation, (4) shell scripting, and (5) data structures, such as graphs, hash tables, and heaps. Applications and datasets from a wide variety of fields serve both as examples in lectures and as the basis for programming assignments. In recent offerings, students have written a course search engine and a system to do speaker identification.

CS 121 is a strict prerequisite for this course.

Course organization

This course will include programming assignments and a final project.

Programming assignments

There will be five programming assignments.

PA	Topic	Date due	Grade percentage
#1	Tries	1/17/2020	10%
#2	Course Search Engine: Crawling	1/24/2020	10%
#3	Course Search Engine: Matching	2/7/2020	10%
#4	Record linkage	2/21/2020	10%
#5	Speaker identification	3/6/2020	10%

You may use up to two 24-hour extensions for the programming assignments during the quarter. These extensions are all-or-nothing: you cannot use a portion of an extension and have the rest "carry over" to another extension. If extraordinary circumstances (illness, family emergency, etc.) prevent you from meeting a deadline, you must inform your instructor *before* the deadline.

To be clear, only programming assignments, not project deliverables, can be submitted late under this policy.

After the available extensions are exhausted, no further late work will be accepted.

Projects

You will build a software system that answers a question or achieves a goal of genuine interest to you and your partners for your final project. These projects must be done in groups of four. Groups of fewer than three or more than four will only be allowed under extreme circumstances, and groups of four are strongly preferred.

Projects are subject to the following rules. Each project must

1. have a clear goal,, and
2. use an interesting source of data.

Here is a table of project deliverables and tentative due dates:

Deliverable	Dates	Grade percentage
Register group	Jan 26 by 4pm	
Proposals due	Jan 28 at 4pm	
Proposal presentations	Jan 29–31	3%
Project check-in with instructor	Feb 10–13	2%
Project check-in with instructor	Feb 24–28	2%
Final presentations	Mar 11–13	3%
Completed software	Mar 16 at 4pm	40%

Please note that if your project group contains one or more students that are graduating this quarter, the due date for the completed software will be accelerated so that we can meet College grading deadlines for Convocation students. Your instructor will contact you about this. Expect in this case to submit your work by March 10th at 9am.

We will discuss projects in more detail in class.

Policy on academic honesty

The University of Chicago has a formal policy on academic honesty that you are expected to adhere to:

`https://college.uchicago.edu/advising/academic-integrity-student-conduct`

In brief, academic dishonesty (handing in someone else's work as your own, taking existing code and not citing its origin, etc.) will *not* be tolerated in this course. Depending on the severity of the offense, you risk getting a hefty point penalty or failing the course. All cases will be referred to the Dean of Students office, which may impose further penalties, including suspension and expulsion.

Under no circumstances should you show (or email) another student your code or post your solution in a publicly-accessible location, such as a web page or social media site. Sending your code to another student does not make you a good friend, it makes you complicit in academic dishonesty. Similarly, making your code available where another student can find and use it puts you in danger of being an unwitting accomplice in a case of academic dishonesty.

Discussing the concepts necessary to complete assignments is certainly allowed (and encouraged). That said, you need to be very careful: discussing an assignment with other students by sketching out code on a whiteboard may cross the line into academic dishonesty (even when using pseudocode). If you do sketch out code on a whiteboard, do not take pictures of the code or use the code verbatim in your own solution. You should instead focus on using the whiteboard discussion as a way to understand the high-level aspects of the problem, and then write your own code from scratch.

If you have discussed parts of an assignment with someone else, make sure to say so in your submission (e.g., in a README file or as a comment at the top of your source code file). If you consulted other sources, please make sure you cite these sources.

If you have any questions regarding what would or would not be considered academic dishonesty in this course, please dont hesitate to ask your instructor.

Asking questions

As in CS 121, the preferred form of support for this course is through *Piazza* (`http://www.piazza.com/`). All registered students have been enrolled in the CS122 Piazza site.

All course announcements will be made through Piazza. It is your responsibility to check Piazza often to see if there are any announcements. Please note that you can configure your Piazza account to send you e-mail notifications every time there is a new post on Piazza. Just go to your Account

Settings, then to Class Settings, click on "Edit Notifications" under CMSC 12200. We encourage you to select the "Smart Digest" option (get a summary of all the posts sent over the last 1-6 hours – you can select the frequency).

Office hours

Please visit Piazza for the current office hours schedule. You are welcome to attend any office hours, whether or not they are being held by the instructor who teaches your section or the TA who teaches your lab.