

Computer Science with Applications 2

Winter 2022

Instructor: Matthew Wachs

TAs: Hoang Pham, Lawrence Troan, and William Wang.

Lectures

Section 1	MWF 1:30–2:20pm	Zoom or STU 102
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Lectures will start off on Zoom (exclusively) at the beginning of the quarter, and will transition to in-person (exclusively) as per the University's schedule.

Information on how to join the Zoom meetings is posted on Ed Discussion, the course message board, and is available to all registered students. Lectures are conducted synchronously, but lecture slides and recordings of lectures will also be posted to Ed Discussion to allow for asynchronous viewing. Please see the post “Lectures on Zoom” on Ed Discussion for links and logistical information.

When instruction transitions to in-person, lectures will no longer be available through Zoom, and recordings of in-person lectures will not be available. If you must miss an in-person lecture, for instance due to illness, please contact the instructor for help catching up. Making recordings of in-person lectures is prohibited.

Labs

Lab 1L01	W 4:00–5:20pm	Zoom or CSIL 5
Lab 1L02	W 5:30–6:50pm	Zoom or CSIL 3
Lab 1L03	R 5:30–6:50pm	Zoom or CSIL 4

Like the lectures, labs will be held on Zoom and then transition to in-person as per the University's schedule.

Information on attending Zoom lab sessions is also posted on Ed Discussion.

Website: <https://www.classes.cs.uchicago.edu/archive/2022/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	1/21/2022	10%
#2	Course Search Engine: Crawling	1/28/2022	10%
#3	Course Search Engine: Matching	2/11/2022	10%
#4	Record linkage	2/25/2022	10%
#5	Speaker identification	3/4/2022	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.

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
Register group	Jan 30 by 4:30pm
Proposals due	Feb 1 at 4:30pm
Proposal presentations	Feb 2–4
Project check-in with instructor	Feb 14–18
Project check-in with instructor	Feb 28 – Mar 4
Completed software	Mar 11 at 4:30pm

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.

Projects count for the remaining 50% of the course grade.

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 don't hesitate to ask your instructor.

Asking questions

As in CS 121, the preferred form of support for this course is through our discussion board, Ed Discussion. All registered students have been enrolled in the CS122 Ed Discussion system and should have received a welcome email.

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

Please note that this course does not use Canvas.

Office hours

Please visit Ed Discussion 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.

Recording policy

The University has a stringent policy restricting what students can do with recordings from our classes held on Zoom and for how long they can retain them. This is to protect everyone's privacy and the open and collegial environment of our lectures. Your adherence to the policy, which is stipulated below, is mandatory.

By attending course sessions, students acknowledge that:

1. They will not: (i) record, share, or disseminate University of Chicago course sessions, videos, transcripts, audio, or chats; (ii) retain such materials after the end of the course; or (iii) use such materials for any purpose other than in connection with participation in the course.
2. They will not share links to University of Chicago course sessions with any persons not authorized to be in the course session. Sharing course materials with persons authorized to be in the relevant course is permitted. Syllabi, handouts, slides, and other documents may be shared at the discretion of the instructor.
3. Course recordings, content, and materials may be covered by copyrights held by the University, the instructor, or third parties. Any unauthorized use of such recordings or course materials may violate such copyrights.
4. Any violation of this policy will be referred to the Area Dean of Students.

You may not record in-person lectures. If you miss a class section, for instance due to illness, please contact the instructor for assistance getting caught up.