CMSC 389O
The Coding Interview
Fall 2020

Course Description

This course provides a comprehensive, practical introduction to technical interviews. The course will start with basic topics such as Big O and String Manipulation. We will then move into more complex topics such as Graphs and Dynamic Programming. Since Fall 2020 will be taught online, synchronous classes will be kept to a minimum.

Course Details

Prerequisites: Minimum grade of C- in CMSC216 and CMSC250

Recommended co-requisite: CMSC351

Credits: 1

Seats per Section: 30

Language(s): Python
No prior knowledge of Python is expected. Students have the option of using other languages in in-class interviews or exams, but Python is strongly recommended for technical interviews. All submit server homeworks will use Python.

Textbook (recommended):
Cracking the Coding Interview by Gayle Laakmann McDowell

Supplementary Material:

All topics	Elements of Programming Interviews by Adnan Aziz, Tsung-Hsien Lee, Amit Prakash
Big O	Competitive Programmer's Handbook sec. 2.2, 2.3 (online book) by Antti Laaksonen

Time and Location:

Section	Time	Location
0101	10:00am	ONLINE
0201	11:00am	ONLINE
0301	12:00pm	ONLINE
0401	1:00pm	ONLINE

Contact:
We will interact with students outside of class in primarily via Piazza. For example, if you are missing class because of an interview or wish to set up a mock interview with any of the TAs, make a Piazza post visible to instructors only. If you have a general question that other students might be able to answer, make a Piazza post visible to everyone. The exception to this is exam scheduling, which will most likely be done using Google Sheets.

Course Facilitator(s):

Head TA	Dhruv Mehta	dhruvnm@umd.edu
0101	Franklin Yang	franklincyang@gmail.com
0101	Arjun Rajkumar	arjun.rajkumar3k@gmail.com
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0401	Rohan Jain	rohanj2000@gmail.com

Faculty Advisor: Tom Goldstein tomg@umd.edu

Schedule (tentative)

Wk	Date	Topic	Point People
1	09/04	Intro / Resumes / Mock Interview	Dhruv
2	09/11	Arrays & Strings	Iris & Allison
3	09/18	Sorting & Searching	Allison & Ethan
4	09/25	Linked Lists	Ethan & Rohan
5	10/02	Inheritance	Franklin & Arjun
6	10/04 - 10/10	**CMSC389O Midterms Week**	
7	10/16	Stacks, Queues, & Heaps	Glenn & Naveen
8	10/23	Graphs	Glenn & Naveen
9	10/30	Trees & Tries	Iris & Rohan
10	11/06	Dynamic Programming	Franklin & Arjun
11	11/13	Technical Concepts I	Dhruv
12	11/20	Technical Concepts II	Dhruv
13	11/27	**No class, Thanksgiving Recess**	
14	11/30 - 12/05	**CMSC389O Finals Week I**	
15	12/06 - 12/13	**CMSC389O Finals Week II**	
16	12/16 - 12/22	**UMD Final Exams Week**	

Table 1: Schedule for the semester, broken down by week

Please note if you have any questions about a particular week's pre-lecture activity, lecture activity, homework, or extra credit, the point people for that topic are the best people to answer your question. In general, just post your question on Piazza and one of the instructors will get back to you as soon as possible.

Office Hours

Instructors assigned to a section will be available online at the time their section starts until the 50 minute mark. This is subject to change. Office hours may also be requested by appointment.

Grading

Grades will be maintained on ELMS. You will be responsible for all material discussed in lecture as well as other standard means of communication (Piazza, ELMS announcements, email, etc). This includes deadlines, policies, and assignment changes.

Any request for reconsideration of any grading on coursework must be submitted within one week of when it is returned. No requests will be considered afterward.

Your final course grade will be determined according to the components detailed below. **In addition, approximately ten (10) extra credit opportunities will be provided throughout the semester. In aggregate, the extra credit assignments can boost your grade up to 5%.**

Breakdown

Class Participation (30%)

Most Classes will consist of in-class partner interviews. **Showing up more than 5 minutes late will result in a grade of 0 for participation for that class period.**

In a normal semester, class participation points are earned by coming to class and participating in in-class interviews. Since CMSC389O will be completely online this semester, participation can be earned asynchronously. Every week, students will be assigned a partner from their section at random and will be provided practice problems for that week's topic. Students should spend 50 minutes that week interviewing each other with the selected problems to practice their interview skills. We encourage students to make use of their scheduled section time, but they can complete this assignment any time that is convenient.

Pre-Lecture Videos/Quizzes (10%)

Students will be responsible for watching pre-lecture videos and completing pre-lecture quizzes or activities to demonstrate their understanding of the content in the videos.

Homework (20%)

Weekly homework assignments will consist of solving coding interview questions and submitting solutions to the UMD CS submit server. Students will be graded on passing test cases, on the time and space complexities of their solution, and on completion of a short write-up regarding their solution. *Note that these are not mutually exclusive: solutions with higher time/space complexities may fail to pass some tests on the submit server — this is intentional.*

Homeworks will be accepted up to 24 hours after the deadline, with a 20% deduction in credit. No homework will be accepted more than 24 hours late.

Midterm — Interview (20%)

The midterm will be a 30-minute Google Hangout technical interview with one of the student facilitators. Students will be expected to solve 1–2 coding questions and have a brief conversation about their experiences and skills.

Final — Interview (20%)

The final will be a 45-minute Google Hangout technical interview with one of the student facilitators. Students will be expected to solve 1–2 coding questions, have a brief conversation about their experiences and skills, and discuss some technical concepts.

Excused Absence and Academic Accommodations

See the section titled "Attendance, Absences, or Missed Assignments" available at Course Related Policies. **Note that absences due to internship/job interviews will be excused.**

Disability Support Accommodations

See the section titled "Accessibility" available at Course Related Policies.

Academic Integrity

Note that academic dishonesty includes not only cheating, fabrication, and plagiarism but also includes helping other students commit acts of academic dishonesty by allowing them to obtain copies of your work. In short, all submitted work must be your own. Cases of academic dishonesty will be pursued to the fullest extent possible as stipulated by the Office of Student Conduct. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism. For more information on the Code of Academic Integrity or the Student Honor Council, please visit https://www.shc.umd.edu/.

Also note that any "hard coding" in a homework assignment may result in a score of zero for that assignment. Hard coding refers to attempting to make a program appear as if

it works correctly, when in fact it does not. One example of hard coding would be printing the desired output instead of computing it. This is only one example, and if you have any questions as to what constitutes hard coding, be sure to ask ahead of time.

Course Evaluations

If you have a suggestion for improving this class, do not hesitate to tell the instructor or TAs during the semester. At the end of the semester, please do not forget to provide your feedback using the campus-wide CouseEvalUM system. Your comments will help make this class better.

Notes

Syllabus subject to change.