

# CMSC389O: The Coding Interview

## 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. Most of the classes will be in-class interviews to give real interview practice.

## Course Details

- **Course:** CMSC389O
- **Prerequisites:** CMSC250, CMSC216
- **Credits:** 1
- **Seats:** 30
- **Lecture Time:** TBD
- **Location:** TBD
- **Semester:** Fall 2019
- **Textbook:** (recommended) [Cracking the Coding Interview](#) by Gayle Laakmann McDowell
- **Course Facilitator(s):** Andrew Witten, Dhruv Mehta, Kusal De Alwis, Lauren Kosub, Omkar Konaraddi, Shubhankar Sachdev, TBD
- **Faculty Advisor:** Tom Goldstein

## Schedule - Fall 2019

Week	Date	Topic	Assignments (unless specified otherwise, due the following week)
1	01/31	Introduction/ Ideal Resume/ Mock Interview	Resume Review Part I (Due 01/31) Resume Review Part II Array & Strings Pre-Lecture Activity
2	02/07	Array & Strings	Array & Strings Homework Sorting & Searching Pre-Lecture Activity
3	02/14	Sorting & Searching	Sorting & Searching Homework Linked Lists Pre-Lecture Activity
4	02/21	Linked Lists	Linked Lists Homework Inheritance Pre-Lecture Activity
5	02/28	Inheritance	Inheritance Homework Stacks, Queues, & Heaps Pre-Lecture Activity
6	03/06	Stacks, Queues, & Heaps	Stacks, Queues, & Heaps Homework Graphs Pre-Lecture Activity (due 03/27)
7	03/13	<b>Midterm Week</b>	
8	03/20	<b>No Class - Spring Break</b>	
9	03/27	Graphs	Graphs Homework Trees & Tries Pre-Lecture Activity
10	04/03	Trees & Tries	Trees & Tries Homework Dynamic Programming Pre-Lecture Activity
11	04/10	Dynamic Programming	Dynamic Programming Homework ADT & DS Pre-Lecture Activity
12	04/17	ADT & DS	ADT & DS Homework
13	04/24	TBD (based on survey)	(scalable system design, quant trading style, etc)
14	05/01	<b>Finals Weeks</b>	
15	05/08		

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 week are the best people to answer your question.

## 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 (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 following percentages. **Ten extra credit opportunities will be provided throughout the semester. In aggregate, these assignments can boost your grade a maximum of 5%.**

Percentage	Title	Description
30%	Class Participation	Most classes will consist of in-class partner interviews. <b>Showing up more than 5 minutes late will result in a grade of 0 for participation for that class period.</b> Students with excused absences will not be penalized for missing class. Please see below for absences policy. <b>Students with special circumstances, such as a far-away previous class, should speak with instructors on the first day.</b>
10%	Pre-Lecture Videos/Quizzes	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.
20%	Homework	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. See below for a full homework grading rubric.

		<b>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.</b>
20%	Midterm - Interview	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.
20%	Final - Interview	The final will be a 45-minute Google Hangout or in-person (students choice) 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.

#### Homework Rubric

<b>Test Cases (40)</b>	Determined by grade given through submit server.			
<b>Time and Space Complexity (10)</b>	Analysis (5)	Student clearly states the correct time and space complexity of their solution. (5)	Student states time and space complexities that do not match their solution or does not state complexity at all. (0)	
	Code (5)	Student's solution has optimal time and space complexity (sliding scale for sub-optimal solution)		
<b>Write Up (50)</b>	4-5 Sentence Summary (40)	The student provides a full summary that adequately explains how the function works. (40)	The student provides a lacking summary that fails to adequately explain how the function works. (20)	The student did not provide a summary. (0)

	Comments (10)	The student provides many comments that adequately describe the program. (10)	The student provides some comments. (5)	The student did not comment. (0)
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See Homework\_Example on ELMS for more detailed explanations.

## Communication

We will interact with students outside of class in primarily two ways: ELMS announcements and through piazza. Office hours are by appointment.

Instructor(s) Name(s) and Email(s):

- Thomas Goldstein: [tomg@umd.edu](mailto:tomg@umd.edu)

Facilitator(s) Name(s) and Email(s):

- TBD

## Excused Absence and Academic Accommodations

See the section titled "Attendance, Absences, or Missed Assignments" available at [Course Related Policies](#). Please also note that absences due to internship/job interviews will be excused as long as you notify one of the TAs BEFORE the missed class through email. Please also note that for University Excused absences you will be excused from the participation assignment for that day NOT given credit i.e. that day's participation grade will not count towards your final grade. This will appear as a --- (Dash) on ELMS. If it is an excused absence for an interview you will receive full credit.

## 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 <http://www.shc.umd.edu>.

## **Course Evaluations**

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