

CS1800 -- Fall 2019
London Campus
Dr. Laney Strange

Contact Information

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Course	khoury.neu.edu/home/laney/cs1800/fall19
Piazza	piazza.com/northeastern/fall2019/cs1800london

Lecture

- Tuesday 1:00-2:30pm. Marleybone.
- Thursday 8:00-9:00am. Marleybone.

Recitation (CS1802)

- Section I: 11:00am-12:00pm. Stratford
- Section II: 1:00-2:00pm. Stratford

Instructor Office Hours

- Monday 5-8:00pm, Knightsbridge
- Wednesday 5:00-8:00pm, Mayfair
- Thursday 3:00-4:30pm, Richmond

Final Exam

- December 10, 2019. 1-3:00pm. Marleybone.

Required Textbook:

- Discrete Structures by Harriet Fell and Javed A. Aslam. You can buy the textbook [online](#) or in the Northeastern University bookstore.

Course Description

The purpose of this course is to understand and use (abstract) discrete structures that are backbones of computer science. We begin with mathematical notation, logic, and sets. We will then study proof techniques, combinatorics (counting), probability, asymptotic notation, recurrences, and the beginnings of graph theory. By the end of this course, you will have become familiar with a number of discrete structures that are used throughout computer science.

The major topics within the course will be covered in roughly the following order, but we may spend more or less time on a topic than the below outline indicates.

Topics
Propositional Logic and Truth Tables
Binary Numbers; Two's Complement
Sets, Set Operations
Counting; Combinatorics
Modular arithmetic
Divisibility + Encryption
Mathematical Induction
The Pigeonhole Principle
Probability
Sums and Sequences
Functions
Asymptotic time complexity
Recurrence relations
Graph theory
Search and Sort

Evaluation

You will receive a separate grade for CS1800 (lecture) and CS1802 (recitation).

Factor	Number	Weight
CS1800		
Homework Sets (one dropped)	9	45%
Midterm Exam	1	20%
Final Exam	1	20%
Participation / Attendance		15%
CS1802		
Quizzes	4	40%
Participation / Recitation Assignments	10	60%

Homeworks

Homeworks will be assigned (roughly) every week. Solutions must be typed or neatly printed, and submitted on paper at the beginning of class on the due date.

You may submit your homework up to 5 days late. However, a late homework loses 7 points for each full calendar day (or part of a day) that it is late after the deadline. Moreover, if you submit your homework late it will be graded with next week's batch of assignments, so you'll receive your score much later than if you submit on time.

One of your homeworks will be dropped and will not count towards your overall grade.

Recitation

The recitation for this class, CS1802, has one meeting per week. We will give you problems to work on, and you will receive a grade for your participation and effort.

Quizzes will also be administered during the recitation (see below).

Quizzes

Four quizzes will be given during the semester, in the first 20 minutes of recitation. There are 5-7 questions per quiz. Your quiz grade will be scaled.

Quiz scaling will be applied as follows:

- Zero incorrect: Perfect
- One incorrect: Good
- Two or three incorrect: Satisfactory
- Four incorrect: Unsatisfactory
- More than four incorrect: Poor

Exams

The midterm exam will be administered about halfway through the class. The final exam will be administered during the last week of classes in London.

Both exams will be given entirely on paper. We design the exams for a shorter time period than we are scheduled for, so that you can complete all the problems without feeling rushed. Cheat sheets are not permitted in this class, nor are textbooks, phones, calculators, computers, or any other devices.

Piazza

Sign up for the course piazza page: piazza.com/northeastern/fall2019/cs1800london

Piazza is here for you to ask clarifying questions on homework assignments, which the course staff is happy to answer. It is also used for discussions among students about the approach you might take to solving problems in the class.

Because this is a theory course, and solutions sometimes rely on one particular, specific insight, we have a few rules governing our Piazza page:

- You may not post solutions to problems.
- You may not post a single, simple insight that enabled you to solve a problem (e.g., “Use Cantor’s diagonalization”), but you may post general approaches (e.g., “I thought this homework problem related to the class discussion on infinite binary sequences”).
- You must be respectful of and courteous towards your fellow students and the teaching staff.

Violations of these rules will result in our closing the Piazza page.

Late/Makeup Policy + Attendance

A homework solution may be submitted up to 5 days late, with a reduction of 7 points per day (or part of a day) that it is late. A homework submitted more than 5 days after the deadline will receive zero credit.

Attendance is required for lectures, and, along with your engagement during lecture, it counts towards your participation grade. Registers will be taken for all classes, and late arrival (later than 15 minutes) will be counted as an absence. Notify the Academic Operations Officer (osa@nchlondon.ac.uk and cc: laneys@northeastern.edu) as soon as you are aware that you must miss a class for any reason.

Each absence after two missed classes on a given course will result in the deduction of two percent of the total course grade (up to a deduction of 15% overall).

Attendance is most important, of course, for quizzes and exams. You will receive a score of zero for any quiz or exam that you miss without prior notification of extenuating circumstances.

When you attend lecture and recitation, I ask that you be fully present. Please be respectful of your fellow students and me by participating attentively and non-disruptively. You may use computers in class, but only for taking notes. You may not use phones during class.

Academic Integrity

We expect that you might study with friends and work out solutions to problems together, but you must write up your own solutions, in your own words.

Here are some concrete guidelines.

- Never look at someone else's homework solutions. Otherwise you might turn in overly similar work.
- If you produce a solution together on a whiteboard, don't simply copy it down afterwards. You must, on your own, write your own solution by hand.
- If someone explains an answer to you, do not write down their exact words; instead, on your own write up your solution afterwards.
- If you collaborate with (or get help from) any other student, then write their name on the the first page of your assignment at the top.

If you have a question about what is considered a violation of this policy, please ask!

Accessibility

Students who wish to receive academic services and/or accommodations, such as extra time on exams, should speak to me at the beginning of the semester.