Introduction
January, 2021

Topics

• Methods for structuring and manipulating data in computing.
• Application program interface (API), data abstraction and encapsulation.
• Design and analysis of algorithms, including theoretical background.
• Algorithmic techniques – greedy algorithms, dynamic programming etc.
• Graph theory and applications.
• Throughout the entire course, we will study advanced techniques for program development and organization, including use of interfaces and Java packages.

Class accounts

• Apply for an account with the class ASAP, as described in the syllabus. This is needed even if you took cs210 or are repeating cs310.
• You will be able to login at users.cs.umb.edu (or users1.cs.umb.edu) to use your account.
• You will get a subdirectory ~/cs310 where assignments can be submitted. Don’t create this directory yourself; that will prevent the script from doing its job to set you up.
• You own area ~/cs310, including its subdirectories, is accessible only by the instructor and the graders, not other students.

Contact Information

• Instructor: Prof. Betty O’Neil, elizabeth.oneil@umb.edu
• Office hours – MWThF 2:00–3:00 or by appointment (might change, check on class web page). See link in UMB email after add/drop, or email me before that.
• Course schedule: TuTh 12:30-1:45 online by Zoom
  See link in your UMB email. Please don’t make this public!

Course website: www.cs.umb.edu/cs310
Syllabus: www.cs.umb.edu/cs310/syllabus.html
Let’s look at that now...
Call roll...

Communication

• Read your UMB email regularly! Forward it to another account if you wish.
  ✓ You can forward it to text message, for example, use email 6173544223@vtext.com for a Verizon phone, for others see article.
• There will be a Piazza group and you will be added with your UMB email accounts
• Post questions or comments to Piazza you think may be of interest to the class.
• If you want to include a code snippet, make it a private message on Piazza or send the email directly to me.
• Or visit the office hours where you can share your screen with your code.
• Announcements will be posted on Piazza, causing email to your umb.edu account.
### Class Attendance

- Attendance is not required (but highly encouraged). **You are responsible for keeping yourselves up to date if you miss a class.**
- Please join class audio-muted. For class, you can have video on or off. For exams, video must be on.
- All slides are posted on the class web site.
- If you miss classes regularly I will treat you fairly but won’t go out of my way to help you make up the missing material.
- Please ask questions in class whenever you want clarification, or for any good reason. It makes for a better experience to have discussion going in class.

### Gradescope

- We will use Gradescope for submitting homework and exams.
- I’ll set up accounts just after add/drop using your UMB email as username
- You can then try to login and set your password by pretending you’ve forgotten it.
- When you submit work, you must specify which page has problem 1, which has #2, etc. Don’t skip this step! The graders do not have to search for your work, so you will lose points if it’s not set up properly.
- For more info, see this web page

### Academic Honesty

- The homework and programming assignments are strictly individual. So are the exams
- For programming assignments I may use plagiarism detection software.
- For cheaters (including sources of copying), I have a second-strike policy.
  - First strike – you get a 0 on the submission and a warning. Used 3x last term.
  - Second strike – you fail the course + a report to the higher administration
- See the syllabus for more information.

### Programming Assignments

- Unlike cs210, the main prerequisite of this course, we will not use a VM (virtual machine) to do our programming work.
- Instead, we will use the portability of Java to execute our programs directly on Windows, Mac, or Linux. I can help you with any of these O5s during office hours.
- Programming assignments will be delivered to users.cs.umb.edu, a Linux system.
- So you need to know the basic Linux commands, which should have been covered in cs240, another prerequisite.
  - See link for “Unix/Linux guide” on the class web page

### Programming Tools and Data

- All the software you need to work from home is available for free.
- We have written a primer on setting up your home system (DevelopmentSetup).
- Alternatively, you can develop your code on our Linux server, but it’s not that convenient.
- Back up your code as you work by transferring it to our server—it can be done in one command.
- Our server itself is backed up daily, so it’s pretty safe.
- Cloud backup is probably even safer, but be sure you know how to access it if your own system breaks.