601.220 Intermediate Programming, Summer 2021

Introduction to the course

Outline

- Overview of course
- Signing up for Piazza
- Pre-course survey

Instructors

- Sing Chun Lee, Ph.D. Candidate, singchun.lee@jhu.edu
- Joanne Selinski, Associate Teaching Professor, joanne@cs.jhu.edu
- Metting time: MWF 10:00am–12:15pm on Zoom

Course goal

- By end of course, you'll be able to create large*, complex, correct programs in C and C++
  - For some students, this comes easily; for others, not so much
    - Differences in background play a large part
    - If you're struggling, don't panic! We're here to help.
  - To become a strong programmer, you need to practice, practice, practice

Content Delivery and Course Format

- Online class
- No "synchronous" lectures
- Pre-recorded videos, slides, and exercises will be posted
- Must watch videos and review the slides before attending the class
- It is a flipped classroom, so you should **learn at home** and **take revision with us in class**
- Class sessions on MWF:
  - We answer your questions, review previous exercise solutions, do some revision quizes, discuss homework & projects, and work on the new exercise, etc.
- Course website: https://jhu-ip.github.io/cs220-summer21

Programming is more than coding

- In introductory courses, you learn to write code
- You also spend a good deal of time debugging it
- In fact, the larger your programs get, the larger the percentage of time you'll spend debugging it
- But debugging isn't really (always) fun - how can we avoid it?
- Short-term lazy vs. long-term lazy
  - How far in the future are you thinking when you consider the consequences of your actions?
  - In some cases, extra work up front can reduce total time spent
- Sometimes its difficult to see the benefits in a single short homework assignment, but real commercial software is developed over years by large teams of people
- We aim to help you build skills that will allow you to contribute on large-scale projects and to break down a complex program into smaller manageable pieces

Building skills

- This course is primarily intended to help you build skills (rather than just increase knowledge)
- Building skills takes practice, and meaningful practice takes time
- Please ask for help when you need it!

Grade calculation

- Exercises and homework - 40%
  - In-class exercises (individual/cooperative in class) - 12%
  - 4 Coding homework assignments (individual) - 28%
- Projects (in teams) - 30%
  - Midterm coding project (in teams) - 14%
  - Final coding project (in teams) - 16%
- Exams (in-class) - 30%
  - Midterm exam (Friday July 02 in class) - 15%
  - Final exam (Friday July 30 in class) - 15%
- Required code review(s) - 0% (satisfactory completion required to pass the course)

Advice about in-class exercises

- These count towards your grade directly (12%)
- To get full credit, you need to submit your codes to Gradescope and pass all the autograder tests
- You should also answer the checkpoint questions. You don't need to submit your answers, but you should check with us if you are not sure if you get it right
- They are *very* important for mastering course topics!
- Recommendations:
  - Complete all of these
  - Finish them on your own outside of class
  - Past students have repeatedly reported that finishing exercises have saved time when completing the homeworks and projects!
- We generally *won't* post solutions to the exercises
  - Completing these on your own is far more valuable than just looking at our solution
  - If you need help, ask for it in class, in office hours, or on Piazza

Advice about coding homework

- A significant chunk of your grade (28%) is individual coding assignments
- These form an essential part of the learning experience
- Take these seriously!
  - Start early, ask questions early
  - Make steady progress
  - Strive to create robust, understandable, and elegant code
  - Do *not* share code or copy code (we will report violations to the student conduct office)
- If you don't take these assignments seriously, you are unlikely to have a good experience in the course

Advice about projects

- Midterm and final projects together are worth 30% of your total grade
- They are team projects, so communication and time management are important
- We expect more from you in projects than in homework
- Recommendations:
  - Start planning **as earlier as possible**
  - Past students obtained a high score in projects usually started right after the project released
  - On the other hand, those who started a day or two before the deadline struggled to finish the project
  - Break down the complex logic into smaller manageable pieces is the key to master the project

Course resources

- Course website: https://jhu-ip.github.io/cs220-summer21
- Gradescope: where you'll submit homework and receive grades
  - You'll receive an invitation to Gradescope site via email later this week
- Piazza: https://piazza.com/jhu/summer2021/601220
  - We'll use Piazza as our primary form of course communication; you're expected to check it regularly!
  - Please ask questions using Piazza, rather than sending us emails
  - Can make posts which are anonymous to other students
  - Can make posts which are targeted to Instructors (includes instructors and CAs) only, or just to the instructor of your section
  - Please read the post on posting guidelines

Sign up for Piazza right now

- Sign up at https://piazza.com/jhu/summer2021/601220

Pre-course survey

- You will need a CS account and a github account for this class
- Please follow the instructions in the pre-course survey here https://forms.gle/cFkDU25h92krLeHH9