

Intermediate Programming

601.220

Section 03

Introduction

Department of Computer Science
Johns Hopkins University

Course Overview

Week 1

<http://www.dsn.jhu.edu/courses/cs220/>

Find us on Slack

But also on cs220-help@dsn.jhu.edu

Course Goals

- Start from basic programming knowledge, equivalent to [AP CS](#) or Hopkins' [Gateway to Computing](#), and end such that programming at any level is never a barrier – at least in the sequential (non-parallel, non-distributed) programming model
- Get to be proficient in C and C++; get comfortable with a Unix-like development environment
- Our section (Section 3) is focused on the CS Freshmen experience, and the plan until earlier this month was to run it in person. We **are still committed** to provide as close an experience as possible to in-person instruction
- We are **committed** to support **all students** in the section and to create an inclusive and flexible learning environment that enables each student to reach the course' goals

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Course Information

- Lecture & Tutorial:
 - Section 03 Monday, Wednesday, Friday 3pm – 4:15pm :
Zoom details on Slack Logistics channel
- Instructor and TA: Yair Amir and Brian Wheatman
 - Office hours Yair : Monday 5pm – 6pm – Zoom details on Slack
 - Office hours Brian: Thursday 9pm – 10pm – Zoom details on Slack
- Course Assistants (during projects):
 - Jerry Chen : Tuesday 6pm – 7pm – Zoom details on Slack
 - Sadie Garber : Friday 1pm – 2pm – Zoom details on Slack
 - Sara Weill : Wednesday – 9am – 10am – details on Slack
- Course Assistants (during projects):
 - Sahiti Bommareddy : Saturday 10am -11am – details on Slack
 - Dan Qian : Thursday 10am – 11am – details on Slack
- E-mail contact to all of us: cs220-help@dsn.jhu.edu or, better yet, find us immediately on **Slack**



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Course Books

- The C Programming Language, second edition, Kernighan & Ritchie, Prentice Hall. ISBN 0-13-110362-8

C++ How to Program, Deitel & Deitel, Prentice Hall.
Editions: 5th, 6th ... 10th – available online through the Hopkins library. <https://catalyst.library.jhu.edu/login>
ISBN: 9780134448930 (10th edition)

https://catalyst.library.jhu.edu/catalog/bib_8618042

(this book will only be needed just before the middle of October).

Grading Policy

- 4 credit course.
- 4 Projects – 12%, 12%, 14%, 12% = 50%
- Mid-term – 15%
- Final Project – 25%
- Attendance – 10%
- This semester – default is S/U unless you ask for a letter grade
- Ethics code: standard CS code www.cs.jhu.edu
- Zero tolerance for ethics problems.
 - **We invest a lot and expect a lot in return.**

Programming language: C and C++.

Testing environment: the undergrad lab ugrad1-24.

Need to get an account on the ugrad machines!

Zoom

Tentative Plan



- Introduction, C - getting started. Aug 31
- C - program structure, scope, pointers, structures, memory management. Sep 2 – Sep 11
 - Project 1 (Sep 11)
- C – basic development environment, example Sep 14 – Sep 18
 - Project 2 (Sep 21)
- C – I/O / standard library. Sep 21 – Sep 23
- C - probabilistic data structure. Sep 25 – Sep 28
 - Project 3 (Sep 28)
- C - Project design. Sep 30 – Oct 5
 - Dry Run – Oct 7, Mid Term – Oct 12

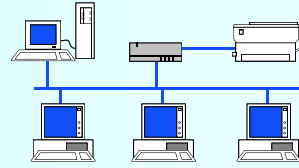
Zoom

Tentative Plan



- C++ - getting started. Oct 14 – Oct 16
- C++ - Classes – constructors / destructors Oct 19 – Oct 21
 - Project 4 (Oct 26)
- C++ - Overloading. Oct 28 – Oct 30
- C++ - Inheritance, polymorphism. Week of Nov 2
- C++ - Templates. Week of Nov 9
 - Final Project (Nov 13)
- C++ - Project design. Nov 16, Nov 20, Dec 7
- Intro to STL. Nov 18, Dec 2.
- Course summary. Dec 9.
- Final project presentations – all will be done by Dec 22

One on One One on Two One on Three



- Presenting and discussing design - scheduled.
- Solving problems - mostly unscheduled:
 - When stuck on implementation – try for 15 minutes
 - Contact us immediately after that – **Slack us** and one of us will answer or get in touch for a zoom session. You can also **e-mail us** using cs220-help@dsn.jhu.edu
 - **NEVER WASTE MORE THAN 15 minutes on a technical problem**
- Run ideas / designs by us – mostly unscheduled
 - **Make a habit** to consult with us at least once for every project, preferably **long before** submission deadline

Intermediate Programming Course in the Age of Covid-19

- Course developed as a very interactive course
 - Low ratio of students per instructor (30 students and 5 instructors)
 - Special computer class
 - Dynamically inverted class for high-touch instruction
- Normal challenges with the freshman CS class
 - New to Hopkins and to a university environment
 - **Reluctant to ask questions and to participate**
 - Varied backgrounds
- Added challenges in the age of Covid
 - Electronic interaction instead of in-person
 - Cannot just “come to the DSN lab in Malone Hall anytime you have a problem”
 - Varied time zones
 - Potential impact of Covid-related circumstances

Intermediate Programming Course in the Age of Covid-19

- Solutions and adaptations
 - **Extra help and flexibility as needed**
 - Several instructors and special help live during and outside of class
 - We will adapt as needed while still pursuing the class goals
 - Flexibility will need to go both ways
 - **Customized use of Zoom and Slack for real-time interaction**
 - Slack #classtime channel used for questions and comment during class
 - Slack other channels used outside of class to facilitate communication, interaction, and ask for near-immediate meetings with an instructor
 - Perhaps like “Come to the DSN lab in Malone Hall any time” ☺
 - **Customized studio to facilitate on-the-fly use of inverted class**
 - Use of many breakout rooms for 1-1, 1-2, and 1-3 interactions
 - **WE NEED YOUR HELP**
 - **Please** participate on Zoom with your camera on and be active
 - **Please** be attentive to messages on Slack
 - **Please make a point to actively participate during class and on Slack**
 - We can record the main class (not the breakout rooms) for temporary use only by people of this class **but we need your consent**

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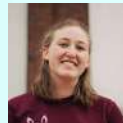
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Team Work



Jerry



Sadie



Brian



Sara



Yair & Electric Ethan



Sahiti



Daniel

Yair Amir

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