Lecture 1

Course Logistics & Introduction

Shibo Li

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Department of Computer Science
Florida State University

The slides are mainly from Sharanya Jayaraman

Teaching Staff

Instructor: Shibo Li

- Assistant Professor, Department of Computer Science
- Research Interests: AI for Science, Probabilistic Machine Learning and Optimization

Teaching Staff

Teaching Assistants

- TBA

Grading Assistants

- TBA

Learning Assistants

- Jasmine Masopeh: jdm21e@fsu.edu
- Peter Hwang: ph21a@fsu.edu

Meeting Time and Review Sessions

Delivery

- In person only

Class time and location

- Mon and Wed, 4:50pm-6:05pm
- MCH 201

Review and discussion sessions (50 mins weekly)

Section Number	Day and Time	Location	Lead TA
Sec. 0002	Wed 1:20pm - 2:10pm	MCH 202	TBA
Sec. 0006	Wed 3:05pm - 3:55pm	MCH 202	TBA
Sec. 0007	Wed 6:35pm - 7:25pm	MCH 202	TBA
Sec. 0008	Wed 12:00pm - 12:50pm	MCH 202	TBA

Course Materials

Course Pages:

- For **annoucements/schedules/lecture notes**: https://cop3363fall2024.github.io/
- For homeworks/grading: `Canvas`

Required Textbook:

- A Foundation to Programming with C++ - UNIX Edition (TH Bundle) by Sharanya Jayaraman ISBN9781778774355.
- Available through `TopHat`

Communications

TL;DR: Please **do not** send us `Canvas`messages regarding any issues you have. Please *contact us* via your **FSU email addresses**

- **Grading questions:** directly email your TA/GA who has graded your assignments
- **Request for exceptional cases:** email instructor via shiboli@cs.fsu.edu
- **Discussion:** Initiate an discussion in `Canvas`, but only post topics that related to this course.
- **Response Time:** Usually within 24hrs, but due to the heavy load of grading, please allow for 48 hrs during the weekdays

Please check yout FSU mail frequently!

About the Course

The course is meant to be an introductory course in programming using the C++ programming language. You will learn

- The Unix Operating System - basic commands and text editing
- Unix utilities and `Shell` scripting
- C++ syntax - Input/Output through Structures
- C++ design philosophies - what's under the hood of most applications

About the Course

- Software Engineering practices and conventions - Why thingsare done a certain way
- Problem Solving - Design, Techniques and Strategies
- Problem Statement to Maintainable Solution - How to analyze a problem, design a solution, build the software product and test it to ensure robustness.

Tenative Course Schedule

- **Week 1:** Introduction to Unix - basic commands and text editing. Introduction to C++ - basic components of a Computer program, output statements
- **Week 2:** Unix basics, C++ - Input statements, data types, variables, operators.
- **Week 3:** More Unix Commands. C++ - Operators, selection statements
- **Week 4:** Selection statements, repetitive statements
- **Week 5:** Repetitive statements, problem decomposition
- **Week 6:** Functions
- **Week 7:** Unix - Redirection and Pipes. C++ - Advanced functions

Tenative Course Schedule

- **Week 8:** Arrays, Arrays with functions
- **Week 9:** Simple Unix Utilities. Strings and C++ string objects
- **Week 10:** Strings with functions, introduction to pointers
- **Week 11:** Unix Processes. C++ - pointers and dynamic memory
- **Week 12:** Dynamic arrays
- **Week 13:** Unix Shell Scripting. C++ - Structures - composite data types
- **Week 14:** Structures continued
- **Week 15:** File operations

Grading Policy

You final score is based on the following components:

- 6 Homework assignments - 60% (10% each)
- Exam 1 (Midterm) - 15%
- Exam 2 (Final) - 20%
- Attendance - 5%

Grading Policy

Numerical score and letter score conversion:

- $93 \leq$ **A**
- $90 \leq$ **A**$^{-} < 93$
- $87 \leq$ **B**$^{+} < 90$
- $83 \leq$ **B** < 87
- $80 \leq$ **B**$^{-} < 83$
- $77 \leq$ **C**$^{+} < 80$
- $73 \leq$ **C** < 77
- $70 \leq$ **C**$^{-}73 <$
- $67 \leq$ **D**$^{+} < 70$
- $63 \leq$ **D** < 67
- $60 \leq$ **D**$^{-} < 63$
- **F** < 60

The final score will not be curved

Homework Assignments

- 6 assignments in total
- deadlines and late policy are strictly enforced
- only the `.cpp` files uploaded to `Canvas` will be graded
- **ALWAYS make muliple backup copies of your work**
- a **direct 50% off** if your code **does not compile!** (So please **make sure** your code does compile before submitting to `Canvas`)
- runtime errors (such as `segmentation error`) also occur a **direct 40% off**

Homework Assignments

- runtime warnings are also **unacceptable**, you have to resolve all the warnings before your submission. (5 pts will be deducted for EACH WARNING presents)
- **Late Policy:** In every subsequent 24 hours, the late submissions will loose another 10% credicts. For example, a 10 points assignment will have 2 points penalty, if it is submitted 30 hours late. **However, if the assignment is not turned in within 48 hours after the deadline, 0 grade will be given.**

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Other Vital Policies and Resources

Please see the syllabus
https://cop3363fall2024.github.io/assets/files/syllabus-cop3363-fall24.pdf

What is Cheating in Programming Assignments

In this course, all programming projects are to be done ON YOUR OWN

- having someone else write your program, in whole or in part
- copying a program someone else wrote, in whole or in part
- collaborating with someone else to the extent that the programs are identifiably very similar, in wholeor in part

What is NOT Cheating in Assignments

- talking to someone in general about topics and concepts involved
- getting help with the specifics of C++ language syntax and semantics
- utilizing information given to you by the teaching staff of the course,
- copying parts of code from the required textbook(s) used this semester in this course; you would citeas a reference the textbook and page(s) used in your program comments

Violation Penalty

- A first violation of the honor code will result, at minimum (but not limited to), apenaltyof a 0 grade on the assignment or test involved, along with a reduced letter grade in the course. This will be done by filing the Student-Instructor Resolution Form of the FSU Honor Policy.
- Any second violation of the honor code will result in an automatic F in the course, and possible proceedings before the Honor Court. This will be done with a Hearing before the Honor Code Committee.

Beyond the Watch-and-Learn

Programming is more than a Watch-and-Learn concept. We will focues on Software Developement Concepts, which rely on **lots of experiments.** We learn by ***doing!***

- Incremental thinking & problem decomposition
- Extrapolation and Code Reuse
- Evaluating “close” solutions and gap analysis
- The Build → Test → Refactor cycle
- Change Propagation
- Output matching vs stable solutions
- “Is this solution correct for this particular problem?”

Some Suggestions and Expectations

- It is a hard course!
- Start Early! Starting early also gives you time to ask for help if you get stuck.
- The class (and the major) is very incremental. Material introduced in one class will be applied through the rest of thecourse. Retaining material is important.
- Ask for help! The instructor and the TA's are available to help. Please donot hesitate to ask for help.
- We are willing to work with you to ensure you are learning thematerial. However, this requires that you start theassignments early.

TODO List After this Lecture

- Read the course syllabus very carefully
- You need a CS account, https://system.cs.fsu.edu/newuser/cs-account-setup/
- You will need a laptop.
- If you use Mac/Linux, you are all set, use the `terminal` to access the machines for development.
- If you use Windows, you need to install PuTTY or Tectia SSH Client.
- Once you have setup the CS account, connect to `linprog.cs.fsu.edu` using your CS username and password