CS260 Data Structures Syllabus

**COLLEGE: Portland Community College**

**INSTRUCTOR: Li Liang**   
Office--Sylvania TCB312

Office Hours—

Tue/Thur 7:00pm-9:00pm @zoom meeting room

Phone--(971)722-4297   
Email--[lliang@pcc.edu](mailto:lliang@pcc.edu)

**COURSE INFO:**   
CS260 Data Structures

CRN: 40469, 43100 and 46036

Fall 2020

Credit Hours: 4

Meeting Time & Location: Online

**COURSE DESCRIPTION**

Explores stacks, queues, lists, vectors, hash tables, graphs, trees and algorithms including sorting, searching, iterating over data structures and recursion. Prerequisites: CS162. Audit available.

[**CCOG**](https://www.pcc.edu/ccog/?fa=ccog&subject=CS&course=260)  
  
**TEXT BOOK:**

The textbook for this course is Data Abstraction & Problem Solving Using C++ by Frank Carrano. It is available at the [PCC bookstore](http://www.pcc.edu/resources/bookstore/). If you can find an older edition with lower price, it will do for this class too.

**DEVELOPMENT ENVIRONMENT:**

We will be using Linux for development environment. You are expected to be proficient with Linux development tools, namely vi, g++, makefile, gdb and valgrind.

**APPROACH:**   
This course is arranged chronologically and employs a modular design. Each week, students should complete all assignments listed in that week's lesson module. These modules are available by clicking "Content" on the course navigation bar.

Due dates for each week's assignments will be listed within the module itself. Assignments within the modules may direct students to use many of the tools contained in Desire2Learn, including the Assignment Dropbox, Discussions, and Quizzes. These tools will be accessible both from within the weekly content modules, as well as from the course navigation bar.

**COMMUNICATION GUIDELINES:**

Please conduct all course-related communication by using Desire2Learn discussion boards and email. I will be checking the discussion boards and email in Desire2Learn daily on weekdays. Email sent on weekdays will be answered within 24 hours. Email sent over the weekend will be answered the following Monday. My email address is **lliang** on Desire2Learn.

I am not available on weekends during the term. As noted, I will try to be both available and prompt in my responses during the week (Monday - Friday). However, on weekends I can not promise I will be checking on Desire2Learn or answering questions. If you miss me on Friday you might not have any contact with me until Monday morning, so don't wait until the last minute to ask questions or report problems.

If your question or comment would be of interest to other students, please post it to the Discussions area. This way other participants can help answer questions, and all participants will benefit from the answers. Please refer to the information on "netiquette" in the introductory module for guidelines governing the content of written communications. Your first communication assignment is to introduce yourself in the discussion topic "Introductions."

**PARTICIPATION EXPECTATION**

Students in this course are expected to enter the course at least 3 times a week to work on the modules, check email, and participate in discussions. Each time you log into the course be sure to check for any new announcements, email and discussion messages, and calendar postings.

**SCHEDULE: see course calendar page**

**PROGRAMMING ASSIGNMENTS:**

You can expect several homework projects and labs to do during the course of this class, and you should probably allocate several hours to work on these each week. It is the most critical component of this class. I am a firm believer that learning in Computer Science is only achieved through hands on exploration. This is not an armchair subject. You have to do it to get it.

Homework is due on the date specified.  Projects (aka Programming Assignments) are more time consuming. You have one-week grace period for Project 1-4. Project 5 is an extra credit opportunity and you do NOT have grace period for it. You are strongly encouraged to submit your assignments on time and use the grace period for correction/resubmission. No project submissions/resubmissions after grace period are accepted.

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| **Assignments** | **Due Date** |
| **Project 1** | **10/12/2020** |
| **Project 2** | **10/26/2020** |
| **Project 3** | **11/09/2020** |
| **Project 4** | **11/23/2020** |
| **Project 5** | **12/07/2020** |

**LABS:**   
You can expect several labs to complete during the term. They are designed to help you review the basic data structures. No late labs are accepted.

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| **Labs** | **Due Date** |
| Lab 1 | 09/28/2020 |
| Lab 2 | 10/05/2020 |
| Lab 3 | 10/19/2020 |
| Lab 4 | 11/02/2020 |
| Lab 5 | 11/16/2020 |
| Lab 6 | 11/30/2020 |

**QUIZZES AND EXAMS:**  
There will be several online quizzes, plus a midterm and final exam, during the course of this class.  These are not optional, and must also be completed on schedule.  They will also count towards your grade.

Failure to take any exam or online quiz will automatically result in the award of 0 points for that exam or quiz. The only exception is if extraordinarily unusual circumstances exist, have been discussed with the instructor, and as a result of which a waiver has been granted.

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| **Quizzes and Exams** | **Due Date** |
| Quiz 1 | 10/05/2020 |
| Quiz 2 | 10/12/2020 |
| Quiz 3 | 10/19/2020 |
| Quiz 4 | 11/02/2020 |
| Quiz 5 | 11/09/2020 |
| Quiz 6 | 11/16/2020 |
| Quiz 7 | 11/23/2020 |
| Quiz 8 | 11/30/2020 |
| Midterm Quiz | 10/26/2020 |
| Final Quiz | 12/07/2020 |

**PROFICIENCY TESTS:**

There will be two programming proficiency exams this term. Each is an one-hour timed programming test in linux environment. It's crucial you are familiar with Linux development tools such as vi, makefile, gdb and valgrind.

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| **Proficiency Test** | **Due Date** |
| CS260 Mideterm Proficiency Test | 10/27/2020 |
| CS260 Final Proficiency Test | 12/01/2020 |

**CHEATING AND PLAGIARISM:**

Learning to write code is the mental equivalent of learning gymnastics. Cheating in a computer science course is like going to the gym and hiring someone else to lift the weights for you.

If you don’t do the work yourself, you will not learn to write code. This will become painfully obvious the first time you have to write code that you can’t find on the Internet.

It’s fine if you want to discuss design and algorithms with other students on a project, but make sure that you do the work yourself and understand what you did.

Cheating and plagiarism will be dealt with as mercilessly as the college’s [Academic Integrity Policy](http://www.pcc.edu/about/policy/student%2Drights/student-rights.pdf#academic) allows.

**CLASSROOM BEHAVIOR**

I work hard to teach a deep and subtle understanding of how code works and how to write and debug it. This requires a classroom atmosphere of concentrated attention. The more of us who pay attention, the stronger and more focused that becomes.

Your behavior in the classroom has an effect on other students and on me. Your participation, in the form of questions and comments is welcome. Your attention is appreciated. But behavior that disrupts the atmosphere of the classroom will not be tolerated. This includes side conversations, texting, playing online games, etc.

I welcome your presence in the classroom. But if you choose to be in my classroom, you’re required to be there mentally as well as physically.

**ATTENDANCE:**  
Students are responsible for all material covered in lectures, assigned projects and text readings.

[**ADD/DROP/WITHDRAW DEADLINES**](http://www.pcc.edu/enroll/registration/dropping.html)  
**GRADING:**  
Your grade in this course will be determined as follows:

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| --- | --- |
| **Component** | **Points** |
| Programming Assignments | 35% |
| Labs | 10% |
| Quizzes | 5% |
| Midterm Quiz | 5% |
| Final Quiz | 5% |
| Midterm Proficiency Test | 20% |
| Final Proficiency Test | 20% |

Final grade assignment is based on percentage of actual points earned:

|  |  |  |
| --- | --- | --- |
| **From** | **To** | **Grade** |
| 90 | 100.0% | A |
| 80 | 89 % | B |
| 70 | 79 % | C |
| 60 | 69 % | D |
| 0.0 | 59 % | F |

[**PCC GRADING GUIDELINES**](http://www.pcc.edu/resources/student-records/grading)

**ACESSIBILITY AND ACCOMODATIONS:**

PCC is committed to ensuring that classes are accessible. [Disability Services](http://www.pcc.edu/disability) works with students and faculty to minimize barriers. If students elect to use approved academic accommodations, they must provide in advance formal notification from Disability Services to the instructor.

**STUDENT RIGHTS AND RESPONSIBILITIES:**

[**The Student Rights and Responsibilities Handbook**](http://www.pcc.edu/about/policy/student-rights)establishes students’ freedoms and protections as well as expectations of appropriate behavior and ethical academic work. The Handbook includes items such as the Policy on Student Rights, the Policy on Student Conduct, and the Academic Integrity Policy.

**TITLE IX/NONDISCRIMINATION STATEMENT**  
  
Portland Community College is committed to creating and fostering a learning and working environment based on open communication and mutual respect. If you believe you have encountered sexual harassment, sexual misconduct, sexual assault, or discrimination based on race, color, religion, age national origin, veteran status, sex, sexual orientation, gender identity, or disability please contact the Office of Equity and Inclusion at [(971) 722-5840](tel:%28971%29%20722-5840) or[equity.inclusion@pcc.edu](mailto:equity.inclusion@pcc.edu).

**SANCTUARY COLLEGE**

PCC is a sanctuary college. For more information and resources, see [www.pcc.edu/resources/undocumented-students/](file:///C:\Users\Li%20Liang\Desktop\syllabus\www.pcc.edu\resources\undocumented-students\)

**ADDITIONALS**

The instructor reserves the right to modify course content and/or substitute assignments and learning activities in response to institutional, weather or class situations.