

# CS162 Computer Science II Syllabus

**Instructor:** Gayathri (GD) Iyer

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**Instructor's Note:** This term, this class is available in both web delivered and classroom delivered formats. On those occasions when I am the instructor for more than 1 section and if you are registered for either format you may participate in any portion or portions of the other format that you wish. The material covered, assignments, grading policy, and so forth will be the same in both cases. The campus class this term is on Tuesday and Thursday from 9:00 AM to 10:50 AM in Bldg 7, Rm 227, in the Rock Creek campus. I will also have lab hours there from 11:00 am to 12:00 pm, on the same days. If you have questions or would like to work on labs, please stop by.

**Course Description:** Introduction to programming using a high level programming language. Conditionals, I/O, Files, Functions, Classes, Pointers, Dynamic Memory, Linear Linked lists, Recursion and Multi-Dimensional Arrays. Program correctness, verification, and testing.

Students will complete several lab/programming exercises using object oriented programming techniques. These lab/programming exercises will use DOS-Windows and/or UNIX systems.

This course is transferable to a four year institution and is applicable toward an Associate of Science or Associate of Applied Science Degree.

**Required Prerequisites:** None.

**Recommended Prerequisites:** MTH 111, placement in WR 121, and completion of CS161 or one term of high level programming class

**Required Course Text:** C++ Programming, From Problem Analysis to Program Design (2nd or above Edition)

D. S. Malik

Thompson/Course Technology

## Detailed Topics and Schedule:

Module 1	Course Introduction and Overview
	Basic Elements of C++
	Basic Input and Output
	Conditionals

Module 2	Repetitions Arrays
Module 3	Functions Value Parameters vs Reference Parameters Scope of identifiers File I/O
Module 4	Introductions to Classes Constructors, Data Members and Function Members Seperate files
Module 5	More about Classes Midterm Exam
Module 6	Introduction to Pointers Dynamic Memory and Memory Leaks Destructor
Module 7	Introduction to Linear Linked List
Module 8	Linear Linked List Continued Recursion
Module 9	Variations of Linked Lists Arrays with Structured Elements
Module 10	Review Final Exam

**Homework:** 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. You have 5 projects and 7 to 8 labs.

Homework is due on the date specified. Late project submissions (except the last homework) will be accepted automatically and without explanation, up to one week late, but will incur a penalty (usually 20%) in respect of the points awarded. **Late lab submissions will not be accepted.** I realize the unexpected happens and you appreciate flexibility, but you also need to stay current with the pace of the class. You are strongly encouraged to submit your assignments on time.

**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.

**Grading:** Your grade will be based 50% on project assignments, 10% on labs, 10% on quizzes, 10% on the midterm, and 20% on the final exam. Grades will be awarded as follows:

A	90% and up
B	80% to 90%
C	70% to 80%
D	60% to 70%
F	less than 60%

**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 or [equity.inclusion@pcc.edu](mailto:equity.inclusion@pcc.edu).

**Cheating and Plagiarism Policy:** You represent, and I assume, that all homework and exams you do for this class, and which you submit for credit towards your grade, are done solely by yourself (and your designated team members, in the case of a designated team project). Therefore submission of any work for which you (and your team) are not solely responsible represents a violation of the PCC Academic Integrity Policy, which may be found at [http://www.pcc.edu/pcc/abt/rights/student\\_rights/](http://www.pcc.edu/pcc/abt/rights/student_rights/). The penalties for this kind of academic dishonesty are set forth in this same Academic Integrity Policy. If you are in any doubt, you should review this policy carefully.

