

Portland Public Schools

Course Number: 03970K1, 03970K2	School: Wilson High School	
Subject: Math	Course Title: Computer Science 5 - 6	Grade Level: 9 - 12
Prerequisites: Concurrent Enrollment in Advanced Algebra (20420) or higher math course or teacher recommendation. Computer Science 3-4 (0395J) recommended but not required.		
Course description (forecast guide): The first semester course will introduce programming structures (including the use of pointers) in the C++ language. The second semester will focus on sorts, data structures (linked lists, binary trees, etc.)		
Learning objectives: The student should be able to: <ul style="list-style-type: none"> • Design and write programs to solve problems. • Document programs appropriately. • Display appropriate programming design and style in the programs written. • Design and implement larger programs for projects. 		
References, text book(s), resources: Learning C++ Step by Step, Fisher, 1998, (unpublished, but a translation to C++ from “Learning Pascal Step by Step” co-authored by Fisher and published by Computer Science Press 1984) (additional lessons added: classes, header files, linked lists, recursion) C++ for You++, Litvin-Litvin, 1998, Skylight Publishing Code Warrior LE 2.0 IDE (C++ language and development environment)		
Assessment/evaluation/grading policy: Evaluation of Course Work: Students work on an independent study basis completing lessons assigned. All programs are kept in a notebook that is graded each quarter. A test is given after each lesson to determine if students are understanding the material. Projects may be done for extra credit. Graphics lessons are also assigned and kept in the notebook, but tests are not given over the graphics lessons. Computation of Course Grade: The average of 3-4 tests given each quarter. The notebook grade is incorporated into the final grade as well. The notebook grade does not count as a full exam grade. Notebook grade is in span of -5 percentage points to +5 percentage points and is added to the total of the test points before the average of the tests is taken. 90-100=A, 80-89=B, 60-79=C, 50-59=D, 0-49=F		
Behavioral expectations: Students must be able to work well, independently. Students will not be required to do assignments outside of class. They will be given class time to do all work. If a student is absent he/she will need to catch up on missed work by coming to the lab outside of class time. Students may work on the design of programs at home as the programs become more complicated (provided the student has his/her own C++ compiler).		
Safety issues and requirements: None		

Additional opportunities: Check if appropriate/support requested <input type="checkbox"/> field trips <input type="checkbox"/> work shadows related to curriculum <input type="checkbox"/> paid or non-paid internships <input type="checkbox"/> project-based learning <input type="checkbox"/> service-learning
Schedule of topics/units covered (optional) Chapters: 1 - 17. Learning C++ Step by Step Four additional lessons on graphics, scheduled after lessons 3, 6, 9, and 12.
Student Accommodation(s) and support available: (e.g., tutoring, differentiated instruction): Assistance before and after school, as needed. Other accommodations, as needed.
Signature of instructor completing this form: <i>Diana M. Fisher</i>
Effective date of syllabus: 9/05/2007 School year: 2007-2008
Department Head Approval (if applicable)
Administrator Approval: