

PELLISSIPPI STATE COMMUNITY COLLEGE  
MASTER SYLLABUS

**INTRODUCTION TO COMPUTER SCIENCE  
CSIT 1020**

**Class Hours: 3.0**

**Credit Hours: 4.0**

**Laboratory Hours: 3.0**

**Date Revised: November 15, 2010**

**Catalog Course Description:**

Problem solving and algorithm development. Organization and characteristics of modern digital computers. Emphasis on developing good programming habits. Building abstractions with procedures and data. Programming in a modern computing language. Program development using UNIX operating system. This course is intended for University Parallel students majoring in Computer Science or Computer Engineering. It is not designed as an elective for non-majors.

**Entry Level Standards:**

The entry-level student is expected to have some familiarity with computers. The student must have math, writing, verbal and English language skills at the college entry-level.

**Prerequisites:**

None.

**Corequisites:**

Math 1730 or Math 1530.

**Textbook(s) and Other Course Materials:**

Textbook: Problem Solving with C++ by Walter Savitch. Seventh edition. Addison Wesley. ISBN: 978-0-321-53134-6

MyCodeMate Student Access Kit: it is bundled with the textbook at the college bookstore or you can buy it separately online at [www.mycodemate.com](http://www.mycodemate.com)

**I. Week/Unit/Topic Basis:**

<b>Week</b>	<b>Topic</b>
1	Unix and vi, Introduction to C++
2	Introduction to C++
3	C++ Basics
4	Flow Control
5	Flow Control
6	Procedural Abstractions and Functions
7	Functions
8	Functions, File I/O
9	File I/O
10	Arravs
11	Arravs, C-strings, C++ strings

- 12 Pointers
- 13 Structures and classes
- 14 Structures and classes. Overloading operators
- 15 Final Exam Period

## II. Course Goals\*:

The course will:

- A. Teach students to use basic commands of the Unix operating system and vi Editor. II, III, IV
- B. Enable the understanding and use the syntax and semantics of C++ programming language. II, III, IV, V
- C. Help students acquire problem-solving and programming skills with top-down design principles. II, III, V
- D. Teach students to use algorithms to solve problems. I, III, V
- E. Teach students how to debug C++ programs. II, III, IV, V
- F. Help students obtain a basic understanding of computer architecture and program execution. III
- G. Help students obtain a basic understanding of software development. III, IV, V
- H. Require students to practice elements of the work ethic such as punctuality, professionalism, dependability, cooperation, and contribution. I

\*Roman numerals after course objectives reference goals of the CSIT program (Career Program Goals and General Education Goals are listed [http://www.pstcc.edu/departments/curriculum\\_and\\_instruction/syllabi/](http://www.pstcc.edu/departments/curriculum_and_instruction/syllabi/))

## III. Expected Student Learning Outcomes\*:

Students will be able to:

- 1. Use basic Unix commands and the vi editor. (A)
- 2. Write, compile, link and execute C++ programs. (B, C, E, G)
- 3. Use C++ syntax and programming constructs including program header files, data types, variables, simple I/O, functions and parameters, conditional statements, for and while loops, structures, classes, file I/O, and pointers to write well-structured programs. (B, C, F, H)
- 4. Use some fundamental algorithms such as searching and sorting. (C, D, F)
- 5. Write algorithms to solve problems. (C, D, H)
- 6. Debug C++ programs. (B, C, E)

\* Capital letters after Expected Student Learning Outcomes reference the course goals listed above.

## IV. Evaluation:

- A. Testing Procedures: at least 40% of grade

At least two tests will be given. Failure to make a passing exam average will result in a grade of F for the course.

**B. Laboratory Expectations:** at least 40% of grade

At least 7 labs will be given. Failure to make a passing lab average will result in a grade of F for the course.

**C. Field Work:**

None.

**D. Other Evaluation Methods**

As indicated in the instructor's syllabus supplement. The remaining 20% of the student grade at the discretion of the instructor.

**E. Grading Scale:**

A: 93 – 100; B+: 88 – 92; B: 83 – 87; C+: 78 – 82; C: 73 – 77; D: 65 – 72; F: below 65

**V. Policies:**

**A. Attendance Policy:** from the PSCC catalog

Pellissippi State expects students to attend all scheduled instructional activities. As a minimum, students in all courses (excluding distance learning courses) must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of the Learning Division, may have requirements that are more stringent. In very specific circumstances, an appeal of the policy may be addressed to the head of the department in which the course was taken. If further action is warranted, the appeal may be addressed to the vice president of the Learning Division.

Maintaining continuous attendance in your classes is very important. If you are considering dropping or withdrawing from a course, please check with the Financial Aid Office before doing so. Dropping or withdrawing from a class can adversely affect your financial aid and/or lottery eligibility.

**B. Academic Dishonesty:** from the PSCC catalog

The College policy that prohibits plagiarism, cheating and other forms of academic misconduct. A student guilty of academic misconduct, either directly or indirectly, through participation or assistance, may be assigned an F or a zero for the exercise or examination or an F in the course, at the discretion of the instructor.

**C. Accommodations for disabilities:**

Students who need accommodations because of a disability, have emergency medical information to share, or need special arrangements in case the building must be evacuated should inform the instructor immediately, privately after class or in her or his office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127, 132, 134, 135, 131 or by phone: 539-7153 or TTY 694-6429. More information is available at [www.pstcc.edu/departments/swd/](http://www.pstcc.edu/departments/swd/).

D. Other Policies:

College-owned or –operated computing resources are provided for use by students of Pellissippi State. All students are responsible for the usage of Pellissippi State's computing resources in an effective, efficient, ethical and lawful manner.

Students are expected to promptly attend all lecture and lab classes as assigned. If a class is missed, student must make up all work and get notes and/or handouts