Pellissippi State Community College
Master Syllabus

COMPUTER SCIENCE I
CISP 1010

Class Hours: 3.0   Credit Hours: 4.0

Laboratory Hours: 3.0   Revised: July 7, 2016

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.

Prerequisite(s):

None

Co-requisite(s):

Math 1730 or Math 1530.

Textbooks(s) and Other Course Materials:

1. Textbook: Problem Solving with C++ by Walter Savitch. Ninth edition. Addison Wesley. ISBN: 978-0-13-359174-3.

I.   Week/Unit/Topic Basis:

Week	Topic
1	Linux 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
9	File I/O
10	Arrays
11	Arrays. C-strings, C++ strings
12	Structures
13	Pointers
14	Classes
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 (CITC) program.

III.   Expected Student Learning Outcomes*:

Students will:

1. Use basic Unix/Linux 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: 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: 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: 0% of grade

D. Other Evaluation Methods: 20% of grade

   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   0-65

V.   Policies:

A. Attendance Policy:

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 Academic Affairs, 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 Academic Affairs.

B. Academic Dishonesty:

Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices:
- Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments.
- Plagiarism, including but not limited to paraphrasing, summarizing, or directly quoting published or unpublished work of another person, including online or computerized services, without proper documentation of the original source.
- Purchasing or otherwise obtaining prewritten essays, research papers, or materials prepared by another person or agency that sells term papers or other academic materials to be presented as one's own work.
- Taking an exam for another student.
- Providing others with information and/or answers regarding exams, quizzes, homework or other classroom assignments unless explicitly authorized by the instructor.
- Any of the above occurring within the Web or distance learning environment.

Please see the Pellissippi State Policies and Procedures Manual, Policy 04:02:00 Academic/Classroom Conduct and Disciplinary Sanctions for the complete policy.

C. Accommodations for Disabilities:

Students that 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 Disability Services (DS) in order to receive accommodations in this course. Disability Services (http://www.pstcc.edu/sswd/) may be contacted via email or by visiting Alexander 130.