CS-116: Computer Programming I (Winter 2015)

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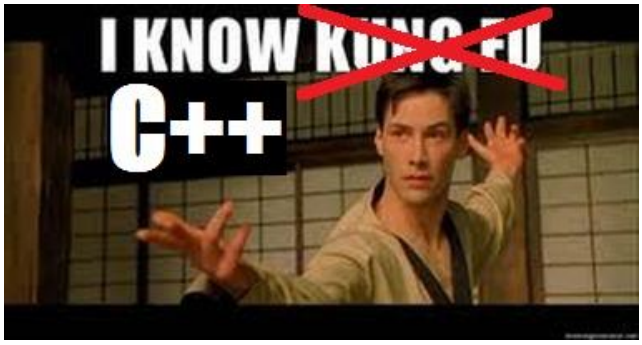
Office Hours	10:30 am – 12:20 pm, Mon and Tues, or by appointment, Room SE-179
Class Hours	Section 01: 8:30 am – 10:20 am, Tue and Thu, Room SE-145
	Section 02: 12:30 pm – 2:20 pm, Mon and Wed, Room SE-145

Course Description

This course presents an introduction to the concepts and techniques of computer programming. Emphasis is placed on developing the student's ability to apply problem-solving strategies to design algorithms and to implement these algorithms in the C++ language. *Prerequisite: MATH 103 or equivalent and CS 105. Credits: 4.* (From: Undergraduate Academic Catalog listing.)

Course Goals

By the time you finish this course you will be familiar with the basic components of C++ programs, and you will have some hands-on experience coding C++ programs in Linux. This is a first course in computer programming, designed to give you (1) a foundation for learning more advanced material, and (2) basic skills for some internship jobs. See also: Student Learning Goals.



Textbook (optional): Programming and Problem Solving with C++, 6th edition. The specific goals/objectives of this course are described by the titles of the chapters in the textbook, as below. We will generally cover one chapter per week, so we likely will not get to the later chapters.

Week	***Chapter Title***
1	*Overview of Programming and Problem Solving*
2	*C++ Syntax and Semantics and the Program Development Process*
3	*Numeric Types, Expressions, and Output*
4	*Program Input and the Software Design Process*
5	*Conditions, Logical Expressions, and Selection Control Structures*
6	*Looping*
7	*Additional Control Structures*
8	*Functions*
9	*Scope, Lifetime, and More on Functions*
10	*User-Defined Data Types*
11	*Arrays*
12	*Classes and Abstraction*
13	*Array-Based Lists*
14	*Dynamic Data and Linked Lists*

Technology Components

1. Canvas: svsu.instructure.com
2. Putty: csis.svsu.edu
3. WinSCP: csis.svsu.edu
4. www.codepad.org
5. C++ Tutorial: www.cplusplus.com/doc/tutorial/ (also: PDF)

List of Assignments and Exams

Assignment	*Points*	*Percent*	*Comments*
Programming assignments	60	60%	Prepare diagrams and code programs to solve programming problems.
Exam 1	10	10%	Covers early course material.
Exam 2	10	10%	Covers mid-course material.
Exam 3 (Final Exam)	20	20%	Covers all course material.
Total	**100**	**100%**	

This class consists of six programs and three exams, as above. Your programming work will be evaluated using the Programming Rubric, as below.

Programming Rubric

Criterion (max points)	*Excellent (15)*	*Above Avg. (10)*	*Average (8)*	*Below Avg. (6)*	*Poor (4)*
Design	Elegantly logical flow	Reasonably logical flow	Arguably logical flow	Awkward logical flow	Incoherent logical flow
Execution	Flawless	Bug-free, mostly	1,2 obvious bugs	3,4 obvious bugs	5+ obvious bugs
Satisfies Specs	Exceeds specs	Satisfies all specs	Satisfies most specs	Satisfies some specs	Does not satisfy specs
Comments	Clear and meaningful	Thorough, but wordy	Thorough, not always clear	Not thorough or not clear	Missing or meaningless
Extra Credit	*Added new functionality*	*Significant enhancement*	*Cosmetic enhancement*	*Insignificant enhancement*	*Attempted, no success*

Specs: specifications; requirements; the things the program is supposed to do.

Class Policies

No make-up assignments. The purpose of this policy is to prevent people from being chronically late, and then using solutions posted or discussed in class to complete late work.

Assessment Measures and Grading Scale

Letter grades will be based on the number of points awarded, as follows:

A	93 or above	A-	90 to < 93		
B+	87 to < 90	B	83 to < 87	B-	80 to < 83
C+	75 to < 80	C	70 to < 75		
D	60 to < 70	F	0 to < 60		

Some assignments will be short quizzes. Many others will involve C++ programming. For programming assignments, the following rubric applies. Note that the "maximum" number of points is supposed to be 10 per assignment. However it is possible to get 15 points (5 points extra credit) by going above and beyond what the assignment requires.

Academic Integrity

Cheating means submitting someone else's work and claiming it was your own. Cheating also includes giving work for someone else to use in such a way. Unless otherwise stated explicitly in an assignment, students must do their work independently. University and departmental policies on academic dishonesty apply. Publicly-available sources for code or other material may be freely used if appropriately attributed. Similarly, code that is obtained from others must be appropriately attributed. However, using substantial amounts of code obtained from someone else will probably not yield full credit for the assignment. Students are responsible for protecting their files from access by others. Work that is essentially the same and submitted without proper attribution may be a violation of academic dishonesty policies by all those submitting the work, regardless of who actually did the work.

Punishment for cheating: First offense will be reported to university administration and will result in zeros for that assignment for all parties involved. Second offense will also be reported to university administration, and will result in a failing grade for the entire course for all parties involved. The university may impose additional penalties.

Disability Statement

Students with disabilities who seek accommodations must make their request by Contacting the Office of Disability Services located at Curtiss 112, or call 964-7000. All accommodations must be approved by The Office of Disability Services. (Verbatim from: Syllabus Statement.)

Non-discrimination Statement

SVSU does not discriminate based on race, religion, color, gender, sexual orientation, national origin, age, physical impairment, disability or veteran status in the provision of education, employment and other services. (Verbatim from: Faculty Handbook.)

Syllabus Change Statement

This syllabus is subject to change if class needs warrant. (Verbatim from: Faculty Handbook.)