

CSC 112
Fundamentals of Computer Science
Spring 2009

Syllabus

Professor: J. Burg
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Course URL: <http://www.cs.wfu.edu/~burg/Courses/Spring09/CSC112>
Office hours: 10-11 Tues and Thursday or by appointment. (Just call ☺)

Textbook: *Absolute C++* by Walter Savitch, 3rd ed., Addison Wesley, 2008.

Grading:

Tests:	45% Tests will be weighted relative to each other according to how many items are on them. The points will be added, averaged, and converted to an overall percentage for this portion of the grade, which is in turn 45% of the final grade.
Programs:	45% Programs will be weighted relative to each other according to their difficulty. Some will be worth 100 points while others might be worth 150 or 200 points. The points will be added, averaged, and converted to an overall percentage for this portion of the grade, which is in turn 45% of the final grade.
Class attendance and participation:	10%

Prerequisites:

Students should have taken CSC 111, received AP credit equivalent to CSC 111, or be able to demonstrate that they have equivalent knowledge and skills. (CSC 111 is currently taught using Java as the programming language, and this is the basis for the AP courses as well.) It is assumed that students entering CSC 112 have learned the basics of computer programming, including logical problem-solving, algorithm development, control structures, variables, functions, and object-oriented programming.

Objectives:

Students will review logical problem-solving, algorithm development, and programming basics, using C++ and Linux as their programming environment. They will be able to implement

increasingly complex programs using both functional decomposition and object-oriented programming. They will extend their basic knowledge to an understanding of pointers, dynamic memory allocation, and data structures such as linked lists (the data structures only at an introductory level).

Outcomes:

At the end of this course, students will be able to:

- Program, send mail, print, and navigate through files in the Linux operating system.
- Use basic command-line commands in Linux.
- Use more than one text editor in Linux.
- Be able to write and use makefiles.
- Use a debugger in the Linux operating system.
- Install application programs into the Linux environment.
- Be able to write and implement (in C++) an efficient algorithm for a fairly complex problem expressed in words.
- Implement programs that use classes, 2D arrays, strings, dynamic memory allocation, file I/O, and pointers (in C++).
- Implement a recursive algorithm.
- Know the basics of how to use the standard template library.
- Understand the concepts of inheritance, virtual functions, and polymorphism.

NOTE: If you have a disability that may require an accommodation in this course, then please contact the Learning Assistance Center at (758-5929) within the first two weeks of the semester.

Plan in Event of Extended Campus Closing

Please note the following plan to be followed in the event that the Wake Forest campus is closed for an extended period of time and we are unable to have our regularly-scheduled class meetings.

In normal circumstances, please contact me through my campus email address or campus telephone number.

campus email: burg@wfu.edu

campus telephone: 758-4465

In emergency situations or situations where the campus is closed, you may also use the following contacts:

alternate email: burgnc@hotmail.com

cell phone number: (336) 407-3743

Your course information, including a schedule of assignments, will be posted at <http://www.cs.wfu.edu/~burg/Courses/Spring09/CSC112/syllabus/CSC112ScheduleSpr09.doc>

If we are able to meet before the campus is closed, I'll give you an updated schedule at that time.

After leaving campus, you should consult the schedule website regularly for updates to the schedule.

Be sure to take your book, computer, and course notes home with you in the event that the campus is closed. We'll continue with tests and programming assignments, communicating through the internet, email, and/or hard mail.

Assignments that are of a manageable file size should be emailed to me at burg@wfu.edu, or, if you cannot reach that address, at burgnc@hotmail.com. Larger assignments should be returned by hard mail on CD or flash memory drive to my home address, which I will send to you.

If the internet is down, I will mail your assignments to you in hard copy, and, by return address, you should mail back a CD containing the source code for the implemented program.