

## CSCI 111 ICE C++ EXAM

The knowledge and skills required to pass the exam include the non-object-oriented aspects of C++, and the skill to use these concepts in a programming application.

The topics covered include:

1. Basic C++ terminology
2. Basic C++ syntax
3. Hardware versus software component distinctions
4. Data types (including the string class), declarations, assignments, expressions
5. Selection and iteration constructs
6. Stream input-output for keyboard, display, and files
7. Switch statement
8. Scope and lifetime
9. Preprocessor usage (specifically the #include statements)
10. Binary to hex, hex to binary, decimal to binary, binary to decimal number conversions
11. Using namespace
12. Functions, function prototypes, and parameter passing
  - a. Value versus reference parameters
13. Static arrays (one and two-dimensional)
14. structs
15. typedef
16. Enumerations

The exam consists of two parts: a written component focusing on the topics listed above, and a coding assignment requiring the writing of a program in C++ typical of the “end of semester” projects in CSCI 111. The written exam consists of fill-in-the-blank, True/False, Multiple Choice, and questions requiring the reading of code segments and explaining their output, or writing of code segments to perform a specific task (e.g., summing the odd integers from 1 to 100). The coding assignment must be completed in two days.

The written exam contains approximately 35 questions.

A study resource is the course text: *Programming and Problem Solving with C++ Brief Edition*, Nell Dale and Chip Weems, 5<sup>th</sup> edition, 2010, Jones and Bartlett Publishers. ISBN: 978-0-7637-7151-5. In addition, other helpful online tutorials are:

<http://www.youtube.com/watch?v=WYbeLBVG34I&playnext=1&list=PLA68C1F33757B4A38>

<http://www.cplusplus.com/doc/tutorial/>

<http://www.cprogramming.com/tutorial.html>