The practical exam will be held **Thursday, October 23, 6pm-8pm**, in KC-267. There will not be class the following Friday, October 24. However, Project 4 and Homework 6 are still due as posted by 4:30pm on Friday, October 24. The instructor will be available during the class period on Friday to answer questions about the homework and project.

For the Programming Practical Exam, you will be expected to write programs using `g++` under Linux to the specifications given in the exam. **The exam is open textbooks (Ford & Topp and Stroustrup), open class notes (both your own and those on the course website, but not anyone else’s notes). You also are allowed hardcopy printouts of your assignments, but you are not allowed to access electronic copies of your assignments or the notes on the course website. (I.e., you can look at your assignments and the course notes, but you may not cut and paste from these assignments or notes.)** These are the only aids you may use in completing the exam.

The exam will consist of three problems. For some problems, you may be given files with some code already written. For other problems, you may be asked to write an entire program.

The exam will be cumulative and comprehensive with respect to basic programming constructs in the sense that you are expected to be able to read and write code using concepts such as selection, repetition, and functions. Material covered in lecture and assignments through October 1 (including Homework 4 and Project 3, but not pointers) are emphasized. The exam will be similar to the programming projects and programming homework exercises.

The following is a list of topics that will be emphasized, but it is in no way to be construed as an exclusive list.

1. Makefiles
2. Command line argument processing
3. File stream processing
4. Exception handling
5. Classes - implementation and use, including overloaded operators
6. Template functions (but not template classes)
7. Vectors - declaration and use (e.g. with template sorting functions)