

# CSCI 1312 (Introduction to Programming for Engineering), Fall 2017

## Review for Midterm Exam

### 1 Format of the exam

The exam will be in class October 11. You will have 50 minutes. Like the quizzes, it is “open book / open notes”, which means you can consult paper or electronic copies of the textbook and your notes, sample solutions *from this year only*, your own graded work, and anything on the course Web site. You may not use other books, materials from this course from previous years, a calculator or computer (except as needed to consult allowed sources), or (of course) each other’s papers. *Notice the restriction on computer use. In particular you’re not allowed to type in code and trying compiling and running it.*

Questions will mostly be similar in format to the ones in quizzes and the few non-opinion minute essays — some “what does this program do/print”, some “write a program to do this task” — but somewhat longer and/or more difficult. There will also likely be a few multiple-choice or true/false questions.

### 2 Lecture topics to review

You are responsible for all material presented during lecture (up through loops), including the sample programs; the following is a list of major topics to review:

- Number systems — converting decimal to binary/octal/hexadecimal and vice versa.
- Data representation — basic idea of how negative integers and floating point numbers are represented and how this affects what can be represented (e.g., there is a largest `int`).
- Variables in C (types, declarations).
- Expressions and statements in C.
- I/O in C (use of `scanf` and `printf`).
- Conditional execution in C.
- Functions in C.
- Recursive functions and loops in C.
- Use of other C library functions (e.g., `sqrt`).

### 3 Reading to review

You should have read, or at least skimmed, all of the assigned reading from chapters 1 through 6, but the focus will be on material presented or at least mentioned in class. (There is a lot of material in the textbook, the discussions of software engineering in particular, that I think is not crucial to the goals of this class.)