

# CSCI 2321 (Principles of Computer Design), Spring 2002

## Review for Exam 1

### 1 Format of the exam

The exam will be in class February 20. You will have 50 minutes. You may use your textbook and any notes or papers you care to bring, but you may not use other books, *a calculator or computer*, or each other's papers.

Most questions will be similar in form to those in the homework assignments and daily end-of-lecture quizzes.

### 2 Lecture topics to review

You are responsible for all material covered in class, but the following is a summary of topics I consider most important.

- Terminology from chapter 1; the five classic components of a computer.
- Defining and measuring performance; relationship among execution time, clock rate, cycle time, and cycles per instruction.
- Idea of "instruction set architecture" (as the interface between hardware and software).
- MIPS instructions described in chapter 3 — usage and binary (machine-language) representation.
- Compilers, assemblers, linkers, and loaders.
- MIPS conventions for procedure calls.
- Binary, decimal, and hexadecimal number systems; two's complement notation.

### 3 Reading to review

You should have read (or at least skimmed) all of chapters 1, 2, and 3 and sections 1 and 2 of chapter 4. The following is a list of sections to read more carefully and/or review.

- In chapter 1: 1.1, 1.2, and 1.7.
- In chapter 2: 2.1, 2.2, and 2.3.
- In chapter 3: 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.8, 3.9, 3.11, and 3.14.
- In chapter 4: 4.1 and 4.2.