

CSC 103 ♦ HOW COMPUTERS WORK
HOMEWORK 4: SUMMATIVE ESSAY
DUE 2:00 PM ON FRIDAY, 8 OCTOBER 2010 ON PAPER
OR 5:00 PM ON FRIDAY, 8 OCTOBER 2010 VIA MOODLE

Summative Essay

At this point in the course, we have examined the hardware of the computer from the silicon level up through the major components that comprise the entire machine. This makes it an excellent time to look critically at the pieces of knowledge we have learned, and make sure that they form a framework where everything fits and works together. Research on learning shows that undertaking such reflection helps cement concepts in place before they can be forgotten.

Imagine a scenario of your choice that would call on you to step into the role of an expert on computers.

- You have just been hired as a writer for *How Stuff Works* magazine. Your editor heard that you took a course in college on computers, and asks you to write an article for the magazine outlining how computers work.
- You join the Peace Corps after graduation, and are assigned to a village that has just received a shipment of computers purchased by the OLPC (One Laptop Per Child) foundation. The local schoolteacher would like to teach her students about these new machines, but has had no training with computers, so she turns to you for help.
- You are transported to an alternate universe where computers were never invented. The people you meet are fascinated by your accounts of what computers can do, and ask you to explain how they work so that they can try to build one.
- Your younger sister took a computer class but didn't attend any lectures. She needs you to explain how computers work so that she doesn't fail the final.

You may choose one of the scenarios above or make up your own, which may be serious or farfetched, as you choose. The important thing is that it provides a motivation to explain to a general audience what you know about how computers work. Aim for about three pages or so of text.

In grading your efforts, I will look first for evidence of "big picture" understanding, so try to make your account well-organized, lucid, and complete. Writing quality, correctness of technical details, and creativity will also influence my assessment to a lesser extent. The Jacobson Center is an excellent resource if you would like assistance in improving your written work.

Peer Review

When you have finished a draft of your essay, identify a student or other adult who has not taken a computer science course and is willing to read your work. Ask her to write down three significant questions that remain in her mind after she reads what you have written. Turn these questions in along with your essay and the name of your reviewer.

Then do your best to address the reviewer's questions, either in separate responses or by revising your essay. (If you take the latter course, you should turn in the draft read by the reviewer, along with her questions and your final draft, each clearly marked.)