**Please read the directions carefully. This exam question is due by 11:59:59 PM on Thursday Dec. 15, to be emailed to** *mikeb@buffalo.edu*

**No late submissions will be accepted, even by minutes, so plan accordingly. After your hard work, please don’t miss an essay grade because of a late email. There is a page limit of two pages. Your answers must be single-spaced, with margins no larger than .7", in MS Word or pdf file format. Please name your file: *yourname.doc or yourname.pdf*, where yourname is your name.**

A note about grading, in order to better help you write your essays:

**Accreditation Board (ABET) outcomes for this course:**

*c) an ability to design and construct a hardware and software system, component, or process to meet desired needs, within realistic constraints such as economic, environmental, social, political, ethical, health & safety, manufacturability, and sustainability.*

*f) an understanding of professional, legal, and ethical issues and responsibilities as it pertains to computer engineering.*

*h) the broad education necessary to understand the impact of computing in a global, economic, environmental, and societal context.*

*g) an ability to effectively communicate technical information in speech, presentation, and in writing.*

*j) a knowledge of contemporary issues.*

**How to answer essays:**

Essays are graded on content, explanation, convincing argument, and demonstration of a level of understanding. Free and abstract thought is encouraged, but only in defense of a solid point-of-view. Lists, or bullets, that are essentially correct but with no explanation, are given the minimum allowable credit (typically ONLY one-third). The question must be approached from many angles: societal, legal, technical, managerial. Additional credit will be given for a demonstration of a substantial level of understanding (discussion of opposing points of view, for example, or the use of an example from real life, your reading, your team project, or an imagined impact of the subject, on your future job as a software engineer). Do not flood your answer with every possible point of view. Underlining your main points will help you focus your answer. Include references for background research.

**Essay Question #2:**

What current event (i.e. story that has lately been in the news) could benefit from a computer software solution? In this case, software running on current technology is more important than a hardware solution, or invention of new hardware. Explain why and how the system will solve the stated problem, and describe the software solution. What special concerns would your system need to overcome? Who will benefit? Note: CSE442 projects are not eligible (that’s too easy...).

This question is intended to get you thinking about your place in society, and to do some research and background.