

# CS290 - Introduction to Computational Science

## Library Research Project

November 11, 2008

**Due:** in class on Tuesday, November 25th, 2008.

For this project you will research a particular area of computational science and write a survey paper which describes the area in detail. At minimum you should consider each of the following aspects of your chosen area:

1. Overview of the area
2. Underlying science
3. Underlying technology
4. Who does this work, why is it important
5. Principle models employed in the area
6. Principle “real world” measurements and data employed
7. Limitations associated with each of the above
8. Limitations associated with problem size and scaling
9. Future work in this area

Each paper should contain a bibliography (in a standard form) which lists *all* of the sources you use. If you cite sources from the Internet or on-line databases make sure you use the proper form for those as well in your bibliography. The MLA style guidelines (available on-line) are a good source for how to format bibliographic entries. The bibliographies are not optional; omitting them, or doing a poor job on them, will reduce your grade significantly. At least one-third of your sources for this paper should be from refereed sources. If you are interested in learning about bibliographic management tools such as BibTeX let me know.

Consider how you might use diagrams, figures, images and the like to help describe the models, processes, and science of your topic. Tufte’s books are available in my office if you would like to use them.

Produce not only a complete and accurate document, but also, one that is presented well; organization and layout can go a long way to increasing reader comprehension of scientific and technical material.

Grammar, spelling, punctuation, attribution and copyediting generally matter *greatly*. It is possible to “know your material” and still not receive a passing grade on this assignment if you neglect matters of this sort.

I expect that between the prose, figures, diagrams, bibliography, *etc.* that these papers will be between 10 and 15 single-spaced pages long.