

**53:139 Foundation Engineering**  
**SEMESTER PROJECT ASSIGNMENT**  
The University of Iowa  
College of Engineering  
Fall 2007

As part of this project, either alone or in a group of two, you should identify a topic related to Foundation Engineering. The topic should be focused and not overly broad. A few topics that have been used in the past are: (1) rammed aggregate piers, also known as geopiers; (2) usage of micro-piles; (3) soil nailing; (4) deep soil mixing; (5) soil liquefaction during earthquakes; (6) using FEM to analyze mat foundations; (7) foundation design and construction for historical and/or monumental structures; (8) challenges in designing foundations for offshore structures. Please feel free to consider topics other than these.

This project, worth 30% of your grade in this course, will have the following due dates:

- One page abstract of your tentative project due 25 October 2007. Identify the topic and how you intend to develop it. Also list specific and relevant sources of information you have identified to date. (5% of project grade)
- A 10-20 minute presentation to the class during the last week of the semester (30% of project grade).
- A term paper or report on your topic (65% of project grade) and due on the last day of class (13 December). Please consider the following points as you work on your report:
  1. A key objective of this assignment is that you learn something new on your subject and then express it in your report. To demonstrate that you've learned something, assimilate information from multiple sources and then write your report using information from these sources.
  2. Your report should contain a bibliography, and in the text of your report you should include cross-references to the sources in the bibliography.
  3. Passing off someone else's work as your own (i.e. by including it in your report but by not including it in your bibliography and incorporating cross-references to it in your text) can be considered plagiarism.
  4. While some web-based sources are fine, you are encouraged to use a variety of sources including a technical journal article or two, if appropriate.
  5. Length of the paper is not a critical issue, although brevity will be appreciated.
  6. Your paper should follow an outline, and the major sections of your paper should be listed in the outline.
  7. Poor spelling and bad grammar will be penalized.
  8. To make your writing readable:
    - write in proper paragraphs;
    - vary your sentence structures;
    - use compound sentences.
  9. Any figures or charts in your report should have a caption or title. The axes of any graphs should also be labeled.
  10. Tables, if used, should also have a title.