CE 397
GEOTECHNICAL ENGINEERING SEMINAR

Class Seminars:
Day: Friday
Time: 2:00 p.m. – 5:00 p.m.
Building: Ernest Cockrell, Jr., Hall
Room: ECJ 9.236

Instructor:
Dr. Jorge G. Zornberg
Office: ECJ 9.227A
Phone: (512) 232 - 3595
E-mail: zornberg@mail.utexas.edu
Office Hours: Mon, Wed 2:00 p.m. - 3:00 p.m.

Required Course Texts

No textbook is required for this course. Several books are recommended. Most of the reading assignment material will be available in electronic format through Blackboard. Please check reading assignment material frequently.

There are a number of good, basic textbooks on geotechnical engineering that you may find helpful in your studies for this course. I suggest the following books, which should be available in the library:

Leedy, P.D., and Ormrod, J.E. (2001) *Practical Research: Planning and Design.* (7th Ed.) upper Saddle River, NJ: Merrill Prentice Hall.

Rew, Lois Johnson (1989). *Introduction to Technical Writing: Process and Practice.* St. Martin's Press, New York.

There are also numerous web sites aimed at providing support for technical writing and, more specifically, for dissertation writing. For example:

Thesis Handbook (http://www.tele.sunyit.edu/ThesisHandbook.html) maintained by the Telecommunications Program at SUNY Institute of Technology. Especially helpful are the accompanying Thesis Workbook and Frequently Asked Questions where you will find a wealth of clearly written and helpful information.

How To Write A Dissertation or Bedtime Reading For People Who Do Not Have Time To Sleep (http://www.cs.purdue.edu/homes/dec/essay.dissertation.html) lays out suggestion after suggestion in direct and non-confusing form.

How to Write a PhD Thesis (http://www.phys.unsw.edu.au/~jw/thesis.html) Site at the University of New South Wales (Australia), provides a variety of very useful suggestions on how to get from the beginning to the end of your thesis project.

How to Organize your Thesis (http://www.sce.carleton.ca/faculty/chinneck/thesis.html) starts with a description of what graduate research/the graduate thesis is all about and then moves point-by-point through a "generic thesis skeleton".

Course Objectives

The overall objective of this course is to provide tools for organization, documentation and presentation of research in Geotechnical Engineering. The specific objectives of this course are:

- To provide a friendly forum for discussion of early stages of research, brainstorming, and solving specific technical hurdles
- To improve the skills in written documentation of technical material
- To provide a forum for oral presentation of technical material.

The central concepts to be covered in this class are:

(1.) Effective preparation of summary reports and abstracts.
(2.) Emphasis on motivation and clarity of objectives in ongoing research: Why are you doing this research?
(3.) Organization of research; logic behind the scope of a research program.
(4.) Critical evaluation of the work by others: literature reviews, case histories.
(5.) Clarity in presentation of research results;
(6.) Analysis of results: Validation of analytical methods, parametric evaluations
(7.) Conclusions: What is the legacy of your research project?
(8.) Integration of the different concepts covered in class into a final report.

Schedule

A tentative schedule for the class lectures is attached. This class will meet once each week (3 hours per meeting) for the full semester. During most weeks, the seminar will include three components:
- Presentation of the work that was provided as assignment to the class
- Presentation of the research results of individual students (2 or 3 per seminar)
- Discussion of the assignments to be completed for the next seminar.

Notes:
- Final version of written assignments should be prepared by incorporating comments from instructor/colleagues.
- When oral presentations involve Powerpoint presentations, the files should be emailed to the instructor by 1:00 pm on Friday.
- Use of written assignments for preparation of the final report is encouraged. However, each written assignment is a stand-alone document that may (or may not) end up being useful for your final report.

Grading Policy:
- Written assignments: 35%;
- Oral presentations: 35%;
- Final report: 30%.
- There will not be a final examination for this course.

Topic Outline and Tentative Schedule   **CE 397, Fall Semester, 2004**

Week	Date	Topic of Seminar
1	27-Aug	Individual research meetings
2	3-Sep	Individual research meetings Course outline
3	10-Sep	Abstracts • Descriptive abstracts • Informative abstracts Individual Seminars A1, B1, C1
4	17-Sep	Motivation and Objectives • Motivation • Overall objective • Specific objectives Individual Seminars D1, E1, F1
5	24-Sep	Data Acquisition System (NI)
6	1-Oct	Scope of research • Outline • Experimental research • Field monitoring • Numerical/analytical studies Individual Seminars G1, H1
7	8-Oct	Literature Review • Sources of information • Seminal versus incremental research • Thoroughness in literature review Individual Seminars A2, B2, C2
8	15-Oct	Case Histories • Lessons learned from failures • Detailed information Individual Seminars D2, E2, F2
9	22-Oct	Materials and Methods • Description of soils, geosynthetics, etc. • Experimental and analytical methods Individual Seminars G2, H2
10	29-Oct	Results: Presentation • Description of experimental results • Identifying significance of results
11	5-Nov	Results: Comparisons • Lessons learned from different series • Comparisons with published results Individual Seminars A3, B3, C3

12	12-Nov	Analysis of results
		• Analytical predictions
		• Validation or refinement of standards of practice
		Individual Seminars D3, E3, F3
13	19-Nov	Parametric Evaluations
		• Identification of relevant variables
		• Going beyond available experimental results
		Individual Seminars G3, H3
14	26-Nov	Thanksgiving: no seminar
		(individual research meetings to be scheduled)
15	3-Dec	Conclusions
		• Summary
		• Findings
		• The path forward