

## EXPERIMENTAL SOIL MECHANICS (E 6248)

### General Information

Time & Places	- Burmister Laboratory, 706 MUDD - Centrifuge Center, Carleton Lab Monday: 4:10-6:30 pm (meeting)
References	<i>Geotechnical Laboratory Measurements for Engineers</i> (J.T. Germaine & A.V. Germaine) <i>Engineering Properties of Soils and Their Measurement</i> (Bowles)
Instructors	<ul style="list-style-type: none"> <li>• Hoe Ling (632 MUDD) Office Hour: 11 am -1 pm, Thursday Tel: (212)854-1203 e-mail: <a href="mailto:hl9@columbia.edu">hl9@columbia.edu</a></li> <li>• Liming Li (centrifuge tests) Tel: (212)854-4823 e-mail: <a href="mailto:ll2552@columbia.edu">ll2552@columbia.edu</a></li> <li>• Henry Lin (team leader) Tel: (212)854-3153 e-mail: <a href="mailto:hl2356@columbia.edu">hl2356@columbia.edu</a></li> </ul>

The purpose of this course is to enable one to apply the techniques of laboratory testing and physical modeling in solving geotechnical problems.

### Approach

Laboratory testing: basic soil identifications, classification, compaction, shear testing (direct shear, triaxial, plane strain)

Physical modeling: to conduct centrifuge model test(s) in simulating simple geotechnical problems, such as loading test on footing and pile, retaining wall, slope.

Comparison of theories with test results.

### Schedule

This class operates on a flexible time schedule. The students make appointment with the laboratory instructors to conduct series of testings

In two weeks, prepare a proposal (1 to 2 pages) on a physical problem to be modeled. Describe the model and associated laboratory testings, and the test conditions.

Complete the laboratory tests and submit a mid-term report. The students may work in group for the laboratory tests, if the soil conditions for subsequent model tests will be the same.

In the final report, describe the model test and document all the test results. A brief analysis of data should be included.

### Grading

The final grade will be assigned based on participation and reports (including a technical presentation).