

Instructor: Dr. Mehrdad Razavi

Office Hours: Tuesday 3:00 PM to 5:00 PM

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Class Website: <http://infohost.nmt.edu/~Mehrdad/GroundImprovement/>

Class Schedule

Tuesday	9:30 AM to 10:45 AM	MSEC 195
Thursday	9:30 AM to 10:45 AM	MSEC 195

Supplementary Texts

1. Hausmann, M. R. (1989). *Engineering Principles of Ground Modification*, McGraw-Hill.
2. Das, B. M. and Sivakugan, N. (2016). *Principles of Foundation Engineering*, 9th Edition, Cengage Learning.

References

1. Lecture Handouts
2. Candogan, A. (2009). *Foundation and Geotechnical Engineering*, 2nd Edition, Ali Candogan.
3. Das, B. M. (2009). *Soil Mechanics Laboratory Manual*, 7th Edition, Oxford University Press.

Prerequisites

1. Soil Mechanics
2. Foundation Analysis and Design (Preferred but not mandatory)

Computer Programs You Need to Know

1. A word processing program, such as MS-Word or Pages

2. A spreadsheet program, such as MS-Excel or Numbers
3. MATLAB or Mathematica
4. A Computer Aided Design program, such as AutoCAD

Course Outline

- Principles of Ground Improvement
- Review of Soil Mechanics
- Mechanical Modification
- Hydraulic Modification
- Modification by Inclusions and Confinement
- Physical and Chemical Modification
- Sheet Pile Walls
- Braced Cuts
- Grouting

Homework Requirement

1. All homework assignments must be typed or handed in on engineering paper. The pages should be numbered and stapled together. Use computer to plot graphs.
2. Each problem should be clearly labeled and the solution should be presented in a logical manner. All solution steps should be included.
3. Each answer should be placed in a box.
4. All homework assignments will be due one week after the day it is assigned. Electronic submission is not allowed unless approved by the instructor.

Design Project Due Date

The completed project due date is Friday, May 4, 2018. A hard copy and a CD including all computer files must be submitted.

Grading

	Weight
Homework	50%
Participation in Class Discussions	10%
Design Project	40%
Total	100%