Fall 2010 – Course Announcement

Advanced Soil Mechanics–EGGN 548

3 Hours Credit, Room MH 363, Time: MW 4-5.15

Instructor: D.V. Griffiths
Brown Building: 3.14F, Tel: 273 3669, d.v.griffiths@Mines.EDU
Office Hours: MWF 1-2 pm and by appointment
Web: `www.mines.edu/~vgriffit`

Advanced soil mechanics concepts and theories as applied to analysis and design in geotechnical engineering. The course has an emphasis on numerical and analytical methods.

Course Outline:

a Seepage: Review; Principle of effective stress; Confined flow; Flow nets; Method of Fragments; Finite Differences methods; Flow through layered soils; Anisotropy.

b Settlement and Consolidation: Review; Amount of settlement; Rate of settlement; Boundary/initial conditions; Sequential construction; Finite difference and finite element solutions; Radial consolidation to sand drains.

c Slope stability analysis: Review; Infinite slopes; Charts; Methods of slices; Elasto-plastic finite elements.

d Shear Strength and Limit Analysis: Review of shear strength and failure criteria for soils; Upper and lower bound analyses.

Advanced Soil Mechanics–EGGN 548

3 Hours Credit, Room MH 363, Time: MW 4-5.15

Instructor: D.V. Griffiths
Brown Building: 3.14F, Tel: 273 3669, d.v.griffiths@Mines.EDU
Office Hours: MWF 1-2 pm and by appointment
Web: `www.mines.edu/~vgriffit`

Prerequisite: A first course in Soil Mechanics.

Additional reading:

"Advanced Soil Mechanics", B.M. Das.
"An Introduction to Geotechnical Engineering", R.D. Holtz and W.D. Kovacs.
"Soil Mechanics (SI Edition)", by T.W. Lambe and R.V. Whitman.
"Theoretical soil mechanics", K. Terzaghi.

Assessment:

Exam 1	One third
Exam 2	One third
Exam 3	One third

Exam dates TBA

Practice questions will be handed out throughout the course but will not be graded. Class time will be put aside to discuss the questions. Exam questions will be closely based on the practice questions.