COURSE SYLLABUS
CIV E 642 – GROUND WATER SEEPAGE AND EARTH DAMS
Spring 2014

Instructor: Jorge F. Meneses, Ph.D., PE, GE, D.GE, F.ASCE
Meeting time: Th 7:00-9:40 pm
Room: E 423B
E-mail: jmeneses@mail.sdsu.edu

Grading

Homework 20 %
Project 35 %
Exams 1 and 2 20 %
Final Exam 25 %
A >= 90%; B >= 80%; C >= 70%; D >= 60%; F < 60%

Catalog Description
Prerequisites: Civil Engineering 462 and 463 with minimum grades of C
Groundwater seepage and contaminant transport in saturated and unsaturated soils.
Flow nets for homogeneous and layered soils. Design and stability analysis of
embankments and earth dams.

Expected Topics
1. Introduction/Organization
2. Seepage and Drainage
   2.1. Hydraulic conductivity and Flow Nets
   2.2. Advanced Flow Nets
   2.3. Use of Flow Nets for Design
   2.4. Filters
3. Slope Stability
   3.1. Shear Strength Fundamentals
   3.2. Stability conditions for analysis
   3.3. Methods of analyzing slope stability
   3.4. Factors of safety and reliability
   3.5. Slope stabilization with drainage
4. Introduction to design of earth dams and levees
   4.1. Design Principles and Failure Modes
   4.2. General design and construction considerations
   4.3. Foundation design
   4.4. Embankment design
   4.5. Seepage

Texts