Two-Day Short Course on
Rock Slope Stability Analyses
will be taught by

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March 17-18, 2010
Course will be taught at
Four Points by Sheraton
Tucson University Plaza
1900 East Speedway
Tucson, Arizona 85719
Tel: 520-327-7341
Fax: 520-327-0276
Email: 97506FrontDesk@fourpoints.com
http://www.starwoodhotels.com/fourpoints/

OBJECTIVES

The objectives of the short course are to show the applications of kinematic and limit equilibrium analyses for rock mass surficial excavations. The course lecture notes that is equivalent to about 150 pages will be produced on a CD ROM and will be distributed at the start of the course. A few computer programs will be applied to joint data from Three Gorges dam site, China and a mine in Arizona to illustrate the applications.

COURSE CONTENT

Part 1: Introduction to Rock Fracture Sets & Rock Block Instability; Discontinuity Shear Strength (1/2 day)

A power point presentation on rock fracture sets and rock block instability; Fracture geometry mapping & basic characterization; Shear strength of rock discontinuities.

Part 2: Stereographic Projection and Rock Slope Kinematic Analysis (3/5 day)

Principles of stereographic projection; Applications of stereographic projection in the mechanics of discontinuous rock; Kinematic analysis for plane sliding, wedge sliding and toppling; Application of kinematic analysis using discontinuity data from the Three Gorges dam site and a mine in Arizona to find maximum safe slope angles; Computer demonstration on kinematic analysis.

Part 3: Limit Equilibrium Analysis for Plane Sliding (2/5 day)

Two-dimensional approach including a tension crack, water forces and rock bolt forces; Operations with vectors on the stereo net; Analysis of sliding of a block on a plane including water forces, rock bolt forces and seismic forces – the friction circle concept.; Computer demonstration on plane sliding.

Part 4: Limit Equilibrium Analysis for Wedge Sliding (1/2 day)

Application of the stereographic projection in defining a wedge formed by intersecting discontinuities; General analytical approach for wedge stability analysis; Illustration of effects of water and tension cracks that may exist in the rock mass, slope face inclination, overall wedge height and double benching in mines on factor of safety of wedge stability through limit equilibrium analyses; Computer demonstration on wedge sliding.

Medium of Instruction:
The medium of instruction will be English.

Who Should Attend:
Civil, Mining and Geo-engineers and geologists who are involved in surface and underground excavations analysis, design and construction activities associated with jointed rock masses will benefit from the short-course.

Time Schedule (each day):

8:30—10:15	Lectures/computer demonstrations
10:15—10:30	Tea/Coffee break
10:30—12:15	Lectures/computer demonstrations
12:15-- 13:15	Lunch
13:15-- 15:00	Lectures/computer demonstrations
15:00-- 15:15	Tea/Coffee break
15:15-- 17:00	Lectures/computer demonstrations

Narrative Biography of Prof. Kulatilake:

Pinnaduwa H.S.W. Kulatilake, Ph.D., P.E., F.ASCE, is a Professor of Geological/Geotechnical Engineering at the University of Arizona. He has over 30 years of experience in rock mechanics, geotechnical engineering, and applications of probabilistic and numerical methods to geotechnical engineering. He has written over 150 papers and is a member of several technical committees. He has delivered 16 keynote lectures and 40 other invited lectures throughout the world on topics related to fracture network modeling, probabilistic geotechnics, mechanical properties of joints, rock slope stability and mechanical and hydraulic behaviour of rock masses. He is a research paper reviewer for 16 technical Journals and an editorial board member for Int. Jour. of Rock Mechanics & Mining Sciences and Int. Jour. of Geotechnical and Geological Engineering. He has taught short courses on stochastic fracture network modeling, rock slope stability analysis and Block theory in Sweden, Mexico, Austria, USA, Canada, Hong Kong, Poland, Finland, Australia, South Korea, Sri Lanka, Egypt, Iran and Chile. He served over 20 years either as the primary or the sole examiner for the geological engineering professional exam conducted by the Arizona State Board of

Technical Registration. He was a Visiting Professor at the Royal Institute of Technology and Lulea University of Technology in Sweden as part of his sabbatical leave. Also, he was a Visiting Research Fellow at the Norwegian Geotechnical Institute, for another part of his sabbatical leave. Due to the contributions that he made on teaching, research, consulting and service activities, he was elected to the Fellow Rank of the American Society of Civil Engineers at the relatively young age of 45. In 2002, he received Distinguished Alumnus Award from the College of Engineering, Ohio State University and Outstanding Asian American Faculty Award from the University of Arizona in recognition of his achievements and contributions made to the advancement of his profession. In December 2005, Eurasian National University, Kazakhstan conferred him "Honorary Professorship". In August 2007, he organized and ran a very successful International Conference on Soil & Rock Engineering in Sri Lanka. In January 2009, he organized and ran a successful, high quality International Conference on Rock Joints and Jointed Rock Masses in Tucson, Arizona.

Registration Conditions:

The course fee of US$ 750 must be paid in full by the registration deadline of February 15, 2010. The course fee includes course notes, lunch and refreshments for morning and afternoon tea/coffee breaks. The number of applicants for each course is limited and acceptance will be on a first come, first served basis. If the course is cancelled, then the full short course fee will be refunded. No refund will be given after February 20, 2010. Non-arrivals at the course will be liable to pay the full course fee and no refund will be given. However, substitutions will be allowed.

Registration Form
Short Course on Rock Slope Stability Analyses, Tucson 2010

Name: _____

Title: _____

Organization: _____

Mailing Address: _____

_____

Telephone Number: _____

Fax Number: _____

E-mail address: _____

Registration Fee: **US $ 750**

I have read and agree to the conditions of entry as stipulated in this brochure.

Signature : _____ Date: _____

Method of Payment:

Option 1: Approval to charge to a credit card. Send name on card, card number, expiry date (MM/YY) and card verification number (3 digit code on back of card or 4 digit code on front of card located above the credit card number) to fax number: US Code-520-529-7116. Please follow up with an e-mail to: kulatila@u.arizona.edu stating that you sent a fax (please do not send credit card information through e-mail).

Option 2: Make Cashier's check or money order payable in US funds, through a US bank to: P.H.S.W. KULATILAKE and mail it to:
   Prof. P.H.S.W. Kulatilake
   Dept. of Materials Science & Engineering
   Mines Bldg. # 12, Rm 131
   1235 E. James E. Rogers Way
   University of Arizona
   Tucson, AZ 85721, USA

Option 3: Wire transfer: Name of the bank, Routing number & the account number will be provided later upon receiving the completed Registration form.