REGISTRATION

COURSE ORGANIZATION
Plaxis Americas LLC
2500 Wilcrest Drive, Suite 300
Houston TX 77042
USA

Mr. Jasper Van Der Bruggen
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PLAXIS SOFTWARE
Plaxis Americas LLC
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COURSE FEES
Introduction Day: US$ 500
Standard course: US$1,700

If both events are attended a discount of US$250 applies. When registering not later than March 6, 2018, an early bird discount of 10% applies. Members of PLAXIS VIP may apply for a 10% discount on the course fee. Please create or login with a VIP account during registration to receive this discount.

For registration visit:
www.plaxis.com/events

VENUE
The standard course will be held at:

MicroTek Seattle
Training & Meeting Rooms, located at 10604 NE 38th Place, Suite 118, Kirkland WA, 98033

More detailed information will be sent after registration.

REGISTRATION
The total number of participants is limited to thirty (30). Registration will be accepted in the order in which they are received. To register for the course, please visit the Plaxis website.

CANCELLATION
For cancellation the PLAXIS Academy terms and conditions apply, which can be found at
www.plaxis.com/page/terms

Return address
Plaxis Americas LLC
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INTRODUCTION
This course focuses on the practical aspects of the finite element method (FEM). Over 200 similar courses have been given throughout the USA and at many other locations around the world.

The course is meant for professionals from consulting and contracting companies, public work bodies and universities, who are interested in applying advanced tools to practical geotechnical engineering. Experts will give presentations on finite element modeling aspects as well as engineering applications, such as staged construction and stability, excavations, tunnels, foundations and embankments. The course consists of a balanced mixture of presentations and hands-on computer analyses using the user-friendly PLAXIS programs.

SUBJECT MATTER
The main subject of the course is the practical application of the finite element method (FEM) for stress, deformation and stability in geotechnical engineering and design. The course concentrates on the following issues: Modeling complex soil conditions, analyzing deformations due to phased construction and excavation, obtaining input data and model parameters from soil investigation, interpreting computational results. The course provides the necessary background information for a proper use of the finite element method in geotechnical engineering applications.

INTRODUCTION DAY
Our standard course will be preceded by an optional Introduction Day. The purpose of the Introduction day is to get acquainted with the PLAXIS 2D user interface so that during the course itself participants can fully focus on the engineering aspects. Hence, the Introduction day is especially meant for course participants that have little or no experience using PLAXIS, or only have experience with older versions of PLAXIS 2D.

DYNAMICS
The last course day is dedicated to dynamic analysis and site response analysis. This will include the most relevant dynamics features in PLAXIS such as dynamic boundary conditions. Exercises include a free vibration analysis to determine natural frequencies as well as earthquake analysis of a building. We’ll also work on a 1D site response case study to compare PLAXIS with SHAKE.

FORMAT
Each day consists of a morning and an afternoon session. Each session deals with a specific topic and starts with a general presentation, followed by an introduction to the practical application and a hands-on computer exercise. At the end of each day, extra time is reserved to complete exercises and to discuss the computational results.

The specific topics of the presentations are:
- Elasticity theory (Hooke’s law)
- Plasticity theory (the Mohr-Coulomb criterion)
- Parameter selection
- Non-linear computations
- Excavations
- Undrained behavior & consolidation
- Dynamic analysis
- Site response analysis

LECTURES
Experts with a thorough theoretical background and an extensive experience in practical finite element modeling have been invited to give lectures and to prepare exercises and case studies on the topics mentioned earlier:
- Professor Andrew Whittle, MIT
- Professor Steven Kramer, University of Washington
- Sean Johnson PE, Plaxis Americas
- Micha van der Sloot MSc, Plaxis bv

SOFTWARE
Exercises and case studies are based on the PLAXIS computer programs. PLAXIS 2D is a user-friendly computer program that is used by geotechnical engineers worldwide for deformation calculations, stability assessment, and consolidation analysis. It contains special options for soil-structure interaction. It has a fully automatic mesh generator based on geometrical input of soil-layer geometries, and several features to facilitate input and analysis of complex situations.

INTRODUCTION DAY
17 April 2018
TUESDAY, 17 April 2018
- Introduction to PLAXIS 2D
- Footing on elastic and elastoplastic soil (exercise)
- Structural elements in PLAXIS
- Warehouse foundation (exercise)
- Meshing and initial stresses
- Tied-back excavation with M-C model (exercise)
- Modeling groundwater in PLAXIS
- Construction of an embankment (exercise)

WEDNESDAY, 18 April 2018
- FE in geotechnical engineering
- Mohr-Coulomb and soil stiffness
- Hardening Soil model and parameters
- Introduction to SoilTest
- Parameter determination from triaxial and oedometer tests (exercise)
- Factors of safety in PLAXIS
- Stability of a road on reinforced soil (exercise)
- Non-linear analysis

THURSDAY, 19 April 2018
- Excavations
- Modeling excavations in PLAXIS
- Excavation and dewatering (exercise)
- Undrained soil behavior
- Geometry and mesh selection
- Undrained excavation (exercise)

FRIDAY, 20 April 2018
- Introduction to dynamics
- Free vibration analysis & natural frequencies
- Dynamics in PLAXIS 2D
- Earthquake analysis of a building (exercise)
- Dynamic boundary conditions
- Seismic site response analysis
- Case study: 1D site response analysis (PLAXIS vs SHAKE)

SCHEDULE