Soil Mechanics for Property Development

by trueventus

18th-19th January 2017 | Hotel Istana, Kuala Lumpur Malaysia

INDUSTRY OVERVIEW LINK TO PROGRAM:

Ground related problems present some of the greatest economic risks to clients. Through sound engineering and commercial judgement a geotechnical engineer's decisions can make the difference between viable and unviable projects.

This course presents two days of intensive training that looks at soil mechanics and geotechnical engineering design in regards development. The training course will combine both instructive and interactive elements, with worked examples based on practical design problems. Delegate participation is actively encouraged throughout.

Upon completion of the course, delegates should be armed with the necessary knowledge to understand the needs for geotechnical testing for commonly occurring geotechnical structures and come away with the tools necessary to identify and manage geotechnical risk.

WHY YOU CANNOT MISS THIS EVENT:

The program will provide an introduction into soil mechanics and its importance to geotechnical design that all geotechnical engineers should be armed with. While no training course will ever replace real life experience, this course should arm delegates with the tool's required to tackle geotechnical engineering in an increasingly competitive market.

Through clear presentation delegates should develop an understanding of the processes and thinking involved with soil mechanics and how it interacts with the design process. The interactive elements and worked examples will give those same delegates a chance to develop their knowledge and understanding so that they can leave confident in their new found knowledge.

A key element of geotechnical engineering that is forgotten by many engineers is the impact that their decisions make on both the cost and delivery of a scheme. While the needs of every scheme and client are bespoke, the conclusion of this course should leave the delegates with the information needed to try and address those needs.

Register Now
T: +603 2775 0067
F: +603 2775 0055
E: johnk@trueventus.com

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WHO SHOULD ATTEND:

The target audience are those seeking to develop a commercial appreciation in regards ground related risk and geotechnical solutions.

Geologists, geotechnical engineers and structural engineers seeking to offer clients cost savings and risk management will gain greatly from this course.

Developers, real estate investors, real estate analysts, property fund managers, land valuers and property managers will also benefit from the course through developing their understanding of the processes and thinking behind the management of geotechnical risk.

KEY BENEFITS OF ATTENDING:

- **Having** commercial awareness in regards of geotechnical engineering decisions
- **Gaining** knowledge of how soil mechanics and geotechnical design interact
- **Understanding** of ground related risks
- **Learning** of geotechnical risk management
- **Perceiving** of methods available to gain understanding of those risks
- **Apprehending** of how geotechnical decisions impact development decisions

ABOUT YOUR COURSE LEADER

DAVID RADLEY

David is a Chartered Engineer, Chartered Water and Environment Manager, Fellow of the Geological Society of London and Member of the Chartered Institution of Water and Environmental Management. With over twelve year's consultancy experience, he has analysed and solved countless geoenvironmental, geological and geotechnical challenges.

David's experience has seen him working on a range of geotechnical schemes, ranging from small housing and windfarm developments to multi million pound commercial developments and highway improvement schemes.

In his position as a Key Account Manager and Associate Director at BWB Consulting Ltd, David employs his considerable experience to ensure that clients are rewarded with the most cost effective engineering solutions available.

PRE COURSE QUESTIONNAIRE

In order to clarify your learning objectives and ensure you get the most out of this training, you will need to complete a Pre - Course Questionnaire stating your knowledge of the subject, level of experience and other relevant issues. The course leader will analyse your form to ensure that the course covers your needs accordingly.

PROGRAMME SCHEDULE

0830	Registration and coffee
0900	Morning session begins
1030	Morning networking break
1300	Networking luncheon
1400	Afternoon session begins
1530	Afternoon networking break
1730	Course concludes

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Day 1: Setting the Foundations

Session 1: Introduction to Soil Mechanics – The Science
Phase Relationships are the very essence of the soil mechanics. They are adopted by both the science and engineering community. This session will expose you to the definitions and variables used as inputs into larger considerations.
- Weight-volume characteristics
- Plasticity
- Structure and geomorphology

Session 2: Introduction to Soil Mechanics – The Engineering
The engineering characteristics of a material are what engineers use to develop their designs, costings and draw their assumptions from. Often placed into equations which you'll never see, it's good to know what's happening behind the scenes and why your engineering or construction is required to take a certain direction.
- Compatibility/Compressibility
- Workability (Plasticity/MDD/OMC)
- Strength and Stresses
- Water & Soil (what does it do?)

Session 3: Soil Mechanics for Engineering Purposes
Soil Classification (Qualitative vs. Quantitative) is used right across the world. There are multiple systems both qualitative and quantitative. Getting a strong understanding of these classifications will allow you to quickly build assumptions on the materials in front on you and what you can and can't do with them. This session will also look that the various standards available for geotechnical engineering and which might apply to your situation.
- Soil Classification systems and engineering uses
- Relevant standards for classification and design

Session 4: Geotechnical Investigation – Gathering Data
When you look at a site you rarely see the entirety of a soil/rock profile. You rarely know the geology or the history of the area. But all these are vital to the development of a geotechnical design. When you know them, you reduce risk, and reduced risk means increased insurance on profit-loss lines. Investing in a good geotechnical investigation is rarely regretted – the more you know, the better your designs. In this session we will look at the elements of geotechnical investigation.
- Desktop Study
- Historical Data
- Geology
- Hydrology
- Geo-mechanics

Session 5: Geotechnical Investigation – Understanding Material
Geotechnical investigation doesn't stop in field. All the parameters you've learnt of today, are more than often found through the laboratory testing. But it's more than just doing a bunch of test. Let's take a look at what tests are available, when you want them and why.
- Laboratory Investigation Techniques (Engineering)
- Advanced Investigation Techniques (Science)

Day 2: To be well Grounded

Session 6: Geotechnical Design (Part 1)
Geotechnical design is governed by the appropriate standards given the location of the site. It's important that you identify which you are required to comply with. This session will discuss various standards that exist, but won't be specific to a given country.
- International Standards
- Regional Standards
- Local Standards

Session 7: Geotechnical Design (Part 2)
The principles of geotechnical structures is a huge topic. Below are a list of just a few of the larger groups of structures that you will come across. This session will aim to expose you to the considerations that are involved with each, as well as the physics/soil mechanics that are used. There are cost implications that accompany each, so it's always good to gain some intuition with regard to what your site might need.
- Earth and Hydraulic Pressures (passive and active forces, force distribution and reactivesoils)
- Retained Walls (gravity/cantilever/propped/anchored)
- Shallow Footings (bearing capacity/pad and strip footings/appropriate soil types)
- Piles Design (pile types/pile theory/loading conditions/ loading capacity/grouping)
- Deep Footings (Basement Design) (construction design/pile excavations)

Session 8: Geotechnical Design (Part 3)
Some of the finer parts of geotechnical engineering are more site specific. There are considerations which might change your conventional approach and hence require further investigation, design and cost. Gaining an understanding of when this may occur is critical to scoping the life of your property development.
Site Limitations and Considerations:
- Site accessibility
- Conditions
- Historical Data and Relevance

Session 9: Geotechnical Design (Part 4)
Geotechnical Investigation to Design Input is critical to the scope of the project. We have previously discussed the cost implications of poor investigation, so let's look at how we journey from investigation, design, and to construction. If poor investigation occurs, how do we solve it?
- Journey from lab data to design
- Planning a Geotechnical Investigation to get th most out of it
- Filling in the gaps (statistical analysis and intuition)

Session 10: To Buy or Not to Buy
You know the basics, so now that's walk over a 'potential site' per say. This session is designed to field questions and look at might occur during an initial site investigation. Let's test that intuition.
- Additional thoughts and applications (What will be critical to the process?)

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COMPANY DETAILS

Name	Industry
Address	
Postcode	Country
Tel	Fax

ATTENDEE DETAILS

1	Name	Job Title
	Tel	Email
2	Name	Job Title
	Tel	Email
3	Name	Job Title
	Tel	Email
4	Name	Job Title
	Tel	Email
5	Name	Job Title
	Tel	Email

APPROVAL

NB: Signatory must be authorised on behalf of contracting organisation.

Name	Job Title
Email	
Tel	Fax
Authorising Signature	

COURSE FEES

Early Bird Price
Book and pay by 30th September 2016 at USD 1795 per delegate
1st October 2016 onwards:
USD 2295 per delegate

☐ Documentation Package USD 495
☐ Kuala Lumpur, Malaysia

All options inclusive of delegate pack, luncheon and refreshments. EN-175

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John Karras
T: +603 2775 0067
E: johnk@trueventus.com

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TERMS & CONDITIONS

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2. Upon receipt of the complete registration form, invoice will be issue. Trueventus request that all payments be made within 5 working days of the invoice being issued. Full payment must be received prior to the event. Only delegates that have made full payment will be admitted to event. Clients are responsible for their own banking fees and banking fees will not be absorbed into the booking price.
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