

# ONE-DAY SHORT COURSE ON GEOTECHNICAL ENGINEERING in RESIDUAL SOILS

## Course Overview and Objectives

The principle objective of the course is to equip geotechnical engineers with the knowledge and understanding they ought to have in order to undertake projects in areas of residual soils. The course focuses on the following:

- Formation of residual soils and the influence of parent material, topography, and climate.
- Essential differences between residual and sedimentary soils - resulting from their methods of formation.
- Weathering profiles and their relationship to parent material
- Evaluation and classification of residual soils
- The seepage and pore pressure state above and below the water table
- Shear strength and consolidation behaviour – use of log or linear plots and associated parameters
- Aspects of earth pressure, retaining walls and slope stability.



## Presenter

The course is created and presented by Laurie Wesley.

Laurie is well known for his experience with residual soils and the many papers he has published on them. These began with his early experience of residual (volcanic) tropical clays in 1960 when he worked for the Indonesian government under New Zealand's Volunteer Graduate Scheme for Indonesia (later absorbed into VSA).

Over the years Laurie has been involved a range of projects in New Zealand, Indonesia, and Malaysia. In Indonesia these have been mainly associated with geothermal projects providing advice on stability of slopes and power station foundations. In Malaysia they have been concerned with stability of cut slopes on highway projects.

Laurie has written two text books, both published by John Wiley and Sons: *Fundamentals of Soil Mechanics for Sedimentary and Residual Soils* 2009, *Geotechnical Engineering in Residual Soils*, 2010.

Laurie is also the author of the first soil mechanics book written in Indonesian (in 1972) and recently wrote a new and enlarged edition of it which was released in 2017.

## WHERE and WHEN

### AUCKLAND:

**Thursday 1<sup>st</sup> of August 2019**

Tonkin and Taylor  
Level 2, 105 Carlton Gore Rd,  
Newmarket, Auckland.

A tentative second course has been allowed for in Auckland, if there is enough interest. The second course, if required, will be organized on Monday the 12th or Thursday the 15th of August 2019. Venue details may vary from the first course and will be advised to attendees upon registration.

Attendees registering after the first course is full, will be automatically transferred to the tentative second course.

NZGS reserves the right not to run the tentative second course if the numbers are not sufficient. In this case, registration fees if paid, will be refunded in full. We would appreciate your early registration, so that the second courses can be organized in a timely manner.

### WELLINGTON:

**Monday 5<sup>th</sup> of August 2019.**

Engineering New Zealand,  
Level 6, NEC House,  
40 Taranaki Street

### CHRISTCHURCH:

**Thursday 8<sup>th</sup> of August 2019,**

[venue TBC]

### TAURANGA:

**Monday 19<sup>th</sup> of August 2019,**

BECA, 32 Harington Street, Tauranga.



The course in Wellington will be combined with the **Young Geotechnical Professionals Mini-Symposium** that will be held on **Tuesday 6<sup>th</sup>, August 2019**.

For the Young Geotechnical Professionals who also will attend the YGP mini-Symposium, the **Residual Soils course is offered at a reduced price of \$180+GST**.

Registrations for the YGP mini - Symposium and the combined course will be announced by NZGS soon.

## Who should attend

This course is intended for those who are conversant with basic soil mechanics, at least as far as sedimentary soils are concerned. At the same time, the course is a useful review of some basic aspects of soil mechanics. Much of the material in the course comes from the author's book with the same name as this course, but also draws on the author's experience on various projects involving residual soils in New Zealand and Southeast Asia

## Course outline

### Indicative Outline of the Course

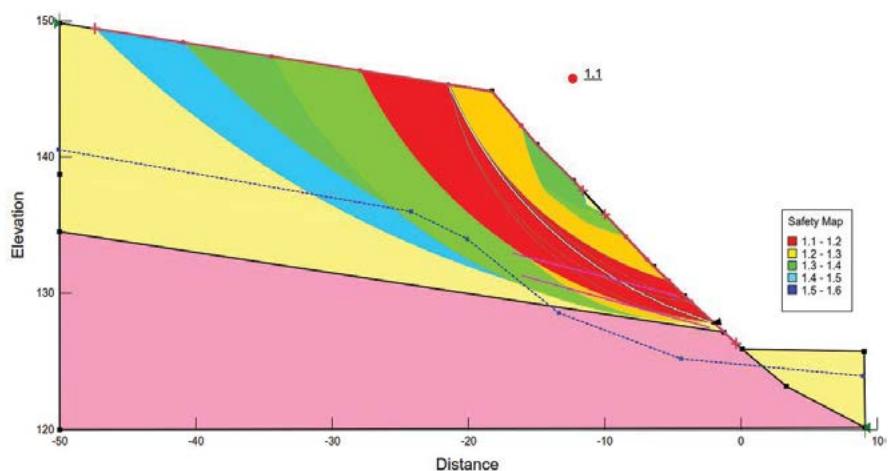
8:00 – 8:30 am	Registration	
8:30 – 10 am	Session 1	Overview of residual soils, seepage and pore pressure state above and below the water table
10 – 10:30 am	Morning tea break	
10:30 – 12:30 pm	Session 2	Shear strength and consolidation behavior. Class exercise – selecting surface foundations for a building on residual soil
12:30 – 1:30 pm	Lunch break	
1:30 – 3:30 pm	Session 3	Earth pressures and retaining walls. Assessment of slope stability of natural slopes.
3:30 – 4:00 pm	Afternoon tea break	
4:00 – 5:30 pm	Session 4	Seepage and slope stability assessment using Seep/W and Slope/W

Note: Duration and sequence of sessions and breaks may vary.

## Instructions for attendees

The participants should bring calculators and laptop computers. There will be a seepage and slope stability exercise using the programs SeepW and SlopeW, which are part of the GeoStudio package. The student version is available free, and the participants should download it prior to the course.

The attendees will be provided with the written version of the course and the exercises in digital form prior to the course. The attendees should print and bring hard copies of the notes and exercises with them on the day of the course



## Registration fees:

\$180 +GST for Young Geotechnical Professionals that will attend the YGP mini – Symposium in Wellington

\$350 +GST for NZGS, NZSEE, SESOC and NZSOLD members

\$650 + GST for non-NZGS, NZSEE, SESOC and NZSOLD members.

Registration fees include attendance of the course and course material (digital course notes) and full catering for the day (morning and afternoon teas, lunch, tea and coffee). Fees will not be refunded if a participant is unable to attend, although a nominated substitute person may attend. If the course is cancelled fees will be refunded in full.

## Course Numbers and registrations

Attendees will be limited to 25 per course. Registrations will be accepted on a first come – first served basis.

**REGISTER online** (click on the appropriate link to register)

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[Christchurch](#)

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