FACULTY OF
ENGINEERING &
THE BUILT ENVIRONMENT

CPD
CONTINUING PROFESSIONAL DEVELOPMENT

Dept. of Civil Engineering | CPD Courses

Geotechnical Engineering

Masters Modules 2024

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Introduction

The Master's Programme

The master's programme with a specialisation in Geotechnical Engineering is intended to support high level training and enhance both the technical skills of recent graduates or experienced personnel who work in, or aspire to a career in civil engineering construction, consulting, environmental and related industries. The primary purpose of the programme is to provide advanced conceptual understanding, detailed factual geotechnical knowledge, and specialist technical skills appropriate for postgraduates who wish to widen their professional scope and work towards a career in the field of geotechnical engineering. For further information about this master's programme please visit the website: www.civil.uct.ac.za/msc-engineering-specialising-geotechnical-engineering

Continuing Professional Development

Modules of this master's programme are offered to Continuing Professional Development delegates as 4 separate certificate courses from which a participant can obtain CPD credits. All the courses consist of 5 days of formal lectures at the University of Cape Town.

Who should attend?

The courses are best suited for Civil Engineers, Consultants, Architects, Engineering Geologists, Geotechnical Engineers and Geologists, Bridge Engineers, Landscape Architects, Contractors, Soil Scientists, Project managers, City and Public Works Officials, City Planners, and other design professionals who address construction related issues.

Format

The courses will be presented in a hybrid format (online and face-to-face). Online course participants will need computer access and a reliable internet connection.

GEOTECHNICAL ENGINEERING
UNIVERSITY OF CAPE TOWN

Overview

Programme	Geotechnical Engineering
Modules and duration	Rock Mechanics: 26 February – 1 March Slope Stability and Lateral Earth Supports: 22 – 26 April Geosynthetics Engineering: 1 – 5 July Advanced Soil Mechanics: 26 – 30 August Tailings Storage Facility Design, Construction and Management: 30 Sep – 4 Oct
Venue	University of Cape Town or online.
CPD	CPD points and ECSA codes as indicated per module
Participants	Civil Engineers, Consultants, Architects, Engineering Geologists, Geotechnical Engineers and Geologists, Bridge Engineers, Landscape Architects, Contractors, Soil Scientists, Project managers, City and Public Works Officials, City Planners
Fees	Standard fee: R16 500 UCT staff and students: R8 250

CPD Courses

Rock Mechanics

CIV5143Z: 26 February – 01 March 2024

This course offers the deep knowledge of mathematical theories associated in rock mechanics and geomechanics. Analytic methods cover the major topics such as analysis of stresses, strains and stress rotation in three dimensions, Index and tensor notation for the analysis of three-dimensional stress problems, and the application of complex variable method of two-dimensional geomechanical problems. Poro elasticity, Creep behaviour of rock like materials, failure theories and rock testing methods are also presented.

5 CPD points, ECSA Validation No: UCTGTERMC24

Slope Stability and Lateral Earth Supports

CIV5149Z: 22 – 26 April 2024

The course focuses on stability of natural slopes and stability considerations related to man-made cuts and fills. Participants will be introduced to the different slide mechanisms, the conditions of their occurrence, the theories and principles governing stability of slopes. It will also cover the selection, design and performance of earth retention structures, consequently equipping participants with fundamentals and working tools needed for the design and analyses of earth retaining structures and systems.

5 CPD points, ECSA Validation No: UCTGTESSLES24

Geosynthetics Engineering

CIV5124Z: 01 – 05 July 2024

This course aims to highlight the key considerations in the use of geosynthetics to solve civil engineering problems. It will cover the methods of analysis, design, construction, and field monitoring of structures constructed with geosynthetics. Subjects include the behaviour and interaction of geosynthetic materials in the different engineering functions such as Filtration, Drainage, Separation, Reinforcement, Erosion Control and Landfill Barrier. Importantly, participants will be introduced to several case studies as well as substantial amount of information on geosynthetics now available for further study.

5 CPD points, ECSA Validation No: UCTGTEGSE24

Advanced Soil Mechanics

CIV5122Z: 26 – 30 August 2024

The course covers the advanced concepts and theories in soil mechanics fundamental to geotechnical engineering such as Shear Strength of Soils; Stress-Strain Behaviour; Drained and Undrained Shear Strength; Stress Paths; Critical State Soil Mechanics, Failure Criteria; Constitutive Models Soil Deformation Analysis; Stress Distribution in Soil; Settlement of Soil; Consolidation Theory. Participants will get an opportunity to brush-up with what they already know and to recognize what they don't know. They will then learn about the basic principles of the mechanics of granular media from a rather different perspective. In particular, they will learn a lot about the mechanical behaviour of soils. Upon completing the course, they will be ready to apply the principles of soil mechanics to different engineering applications.

5 CPD points, ECSA Validation No: UCTGTEASM24

Tailings Storage Facility Design, Construction and Management

CIV5122Z: 30 September – 4 October 2024

The course focuses on the characterisation and geotechniques of mine tailings, tailings storage facility siting, tailings disposal and storage options. Participants will be introduced to the design of TSFs and seepage, stress deformation and stability analysis methods. It will also cover development of TSF water balance, water management, dam break and risk analysis. Basics of TSF closure options, closure designs and reclamation will be addressed.

5 CPD points, ECSA Validation No: UCTGTETSFD24

Registration

Registration and Cancellation

- Register for this course
- Registration covers attendance of all course sessions and the electronic copies of the course notes.
- Registrations close one week before the start of the course. Confirmation of acceptance will be sent on receipt of a registration form.
- Cancellations must be received one week before the start of a course, or the full course fee will be charged.
- For more information on application and registration procedures, please visit our website: www.cpd.uct.ac.za/cpd/registration-policies

Certificates and CPD Points

A certificate of attendance will be awarded to CPD participants. Participants need to attend 80% of the lectures to qualify for an attendance certificate.
CPD participants can also request a formal university transcript, which will show this course as part of a Professional Development Career.
Please note: If you are interested in attending this course for credit purposes, you will need to register for the master's programme or as an occasional student.
If you attend the course as a CPD participant, credit cannot be claimed in retrospect.

Contact details

For more information or details on CPD courses, visit our website or contact us.

Web: http://www.cpd.uct.ac.za
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