



Structural Dynamics with Applications

CPD Programme

13 – 15 and 20 – 21 August 2018



UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Introduction

The Masters Programme is designed to offer training in most major disciplines of civil engineering, underpinned by principles of infrastructure management. The broad areas of interest cover deterioration science, assessment technologies, and renewal engineering.

The key objectives of the programme are to develop a clear understanding of the following aspects:

- the concept of civil infrastructure management
- practical application of infrastructure management principles in selected infrastructure systems
- causes and implications of material and structural deterioration
- infrastructure assessment technologies such as non-destructive testing
- infrastructure maintenance and rehabilitation strategies
- principles of life cycle – life assessment as applied to various types of infrastructure
- project management principles for infrastructure maintenance and renewal.

The programme is designed to attract students who are aiming to graduate with an MEng or MScEng degree. Both full-time students, aiming to complete all the requirements within one or two years, and part-time students can be accommodated.

Continuing Professional Development: Modules of this Masters Programme are offered to Continuing Professional Development students as separate certificated courses from which a participant can obtain CPD points as these courses are registered with the Engineering Council of South Africa (ECSA). These CPD courses are attendance based, and a certificate of attendance is issued.

Course Content

This course introduces the concepts of structural dynamics and its applications in structural engineering. Topics covered include dynamic equilibrium of structures. Response of a single degree of freedom system to dynamic excitation: free vibration, harmonic loads, impulse loading and general loading. Response of multi-degree-of-freedom systems. Free vibrations: mass, damping, and stiffness matrices. Rayleigh damping. Forced vibrations: modal superposition and step by step methods. Continuous systems. Applications to seismic design of structures, blast and impact effects on structures and wind engineering.

Course Convenor



Prof. Pilate Moyo (PrEng) is Professor of Structural Engineering and Director of the Concrete Materials and Structural Integrity Research Unit (CoMSIRU) in the Department of Civil Engineering at the University of Cape Town. His research and consultancy is on structural health monitoring, condition assessment, structural dynamics, vibration testing, and structural strengthening strategies for civil structures. His research is focused on developing structural assessment technologies integrating finite element modelling, full scale field testing, and advanced data analysis algorithms. He has published widely in these areas. [View profile](#)

Course Overview

Name	Structural Dynamics with Applications (CIV5113Z)	
Duration	13 – 15 <u>and</u> 20 – 21 August 2018 (5 day course)	
Venue	Postgraduate Seminar Room, Level 3, New Engineering Building, UCT	
CPD	5 CPD points, ECSA validation no: UCTCIMMSDA18	
Participants	Suitable for engineers, students and academics	
Fees	Standard delegate: R11600.00	Full-time student: R5800.00

Registration

Registration and Cancellation

- You can register for this course in one of the following ways:
 1. [register online](#) or
 2. [download](#) the registration form and email it to ebe-cpd@uct.ac.za
- Registration covers attendance of all sessions of the course and course material.
- 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/applications

Certificates and CPD Points

A certificate of attendance will be awarded to CPD participants for each course. Participants need to attend 80% of the lectures to qualify for an attendance certificate.

According to guidelines set out by the Engineering Council of South Africa, attendance of this course will earn participants 5 points towards Category 1 (Developmental Activities).

Please note: If you are interested in attending this course for credit purposes, you will need to register for the Masters Programme or as an occasional student. If you attend the course as a CPD participant, credit cannot be claimed in retrospect.

CPD participants can also request a formal university transcript, which will show this course as part of a Professional Development Career.

Contact details

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

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