FACULTY OF
ENGINEERING &
THE BUILT ENVIRONMENT

CPD
CONTINUING PROFESSIONAL DEVELOPMENT

Dept. of Civil Engineering | Master's Module | CPD Course

Strengthening and Retrofitting of Concrete Structures

28 October - 1 November 2024

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Introduction

The master's Programme on Civil Infrastructure Management and Maintenance is designed to offer training in structural and materials 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 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 master's 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 deals with the strengthening and retrofitting of concrete structures and covers the following topics: introduction to structural condition surveys and assessment of concrete structures; materials and strategies for structural strengthening; compatibility aspects; structural requirements and procedures for rehabilitation; practical and contractual aspects; strengthening systems; FRP design and application; strengthening for shear, bending and torsion; bonded steel plates; external prestressing systems; design procedures; analysis of strengthened concrete structures.

Course Format

Each module is structured in the following way: a week of intensive contact time at UCT, comprising formal lectures, class assignments and seminars/tutorials.

Please note: this course is only available in person, it cannot be attended online.

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 are 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.

Course Overview

Name	Strengthening and Retrofitting of Concrete Structures, CIV5140Z	
Duration	28 October – 1 November 2024	
Venue	Postgraduate Seminar Room, New Engineering Building, UCT	
CPD	5 CPD points, ECSA validation no: *UCTCIMMSRCS24*	
Participants	The courses are best suited for Civil Engineers, Consultants, Architects, Structural Engineers, Contractors, Project managers, City and Public Works Officials, City Planners, students and other engineering professionals.	
Fees	Standard fee: R16 500	Student fee: R8250

Registration

Registration and Cancellation

- Register online
- 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). The ECSA validation number for this course is UCTCIMMSRCS24
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.

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