FACULTY OF
ENGINEERING &
THE BUILT ENVIRONMENT

CPD
CONTINUING PROFESSIONAL DEVELOPMENT

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

Solid/Liquid Separation in Water and Wastewater Treatment

Presented in person at UCT and online, 21 – 25 August 2023

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

Introduction

The Master's course

This course develops the knowledge and skills needed for understanding the purpose and sludge treatment unit operations of a wastewater treatment plant. The student shall develop the following abilities:

(1) Understanding of the physical phenomena affecting solid/liquid separation in settling tanks for water and wastewater treatment applications.

(2) Application of column settling test data to size settling tanks for non-flocculent (class 1) and flocculent (class 2) settling.

(3) Measurement of activated sludge settle ability.

(4) Understanding and application of the flux theory and other design procedures to size and analyse wastewater treatment plant settling tanks.

(5) Application of diagnostic tests to determine causes for high effluent suspended solids concentration.

(6) Appreciation of the complexity, capabilities and limitations of computational fluid dynamics modelling of settling tanks.

(7) Understand the application of membrane technology for solid/ liquid separation.

Continuing Professional Development

The course is offered to Continuing Professional Development delegates from which a participant can obtain CPD credits. Please note: If you are interested in attending this course for credit purposes towards MSc degree, you will need to formally register for the MSc Programme or as an occasional student. If you attend the course as a CPD participant, credit cannot be claimed in retrospect. A certificate of attendance will be awarded to CPD participants. Participants need to attend 80% of the lectures to qualify for an attendance certificate.

Who should attend?

The course is best suited for Water and Wastewater Treatment Professionals, including Engineers and Scientists, Consultants, Contractors, Operators, Project managers, City and Public Works Officials, Urban Planners, and other design professionals who deal with issues related to wastewater treatment.

Format

This course will be presented in a hybrid format i.e., face-to-face, and online over 5 days.

The face-to-face presentations/ lectures will take place at the Postgraduate Seminar Room, level 3, New Engineering Building, upper campus, UCT.

The online presentation will be via MS TEAMS. Participants are expected to have computer access with good wifi or data reception, and will be responsible for ensuring they have backup systems during loadshedding.

Further information will be available in the week before the course starts.

Course Content

This advanced course in solid/liquid separation in water and wastewater treatment includes: classes of solids settling; factors affecting settling tanks; column test for water-treatment solids settling characterization; application to sizing settling tanks (classes 1 and 2 settling); effect of flocculation; flux theory and application to sizing wastewater treatment plant settling tanks (classes 3 and 4); measures of activated sludge settleability and relationships between them; comparison of flux theory with other design procedures; computational fluid dynamics modelling of settling tanks; introduction to membrane technology for solid/liquid separation.

Course Presenter

Dr. Theo Harding is a lecturer in the Department of Civil Engineering teaching water treatment at the undergraduate level and Aquatic Chemistry, Conventional water treatment, and Sedimentation in Water & Wastewater Treatment at the post-graduate level. His background is in Chemical Engineering but completed his MSc and Ph.D. studies under the supervision of Professor George Ekama in the Water Research Group at UCT. Theo has 18 years of experience as a process engineer and in other roles within multi-national companies like Sasol, SABreweries and SAPPI. Theo's current research focus areas are industrial wastewater treatment, mine water treatment, and resource recovery employing biological treatment technologies.

Course Overview

Name	Solid/Liquid Separation in Water & Wastewater Treatment: CIV5046Z
Duration	21 – 25 August 2023
Venue	Post-graduate Seminar Room, Level 3, New Engineering Building and online
CPD	5 CPD points, ECSA Validation No: UCTWQESLST23
Participants	Water and Wastewater Treatment Professionals, including Engineers and Scientists, Consultants, Contractors, Operators, Project managers, City and Public Works Officials, Urban Planners, and other design professionals who deal with issues related to wastewater treatment.
Entrance requirements	Level 8 qualification in Engineering (or science fields related to water), which includes Recognition of Prior Learning (RPL) - in the case of RPL the submission of a portfolio (with evidence of professional responsibilities and skills) and referee reports may be required.
Fees	Standard delegate: R15 700 UCT student or staff fee: R7 850

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 UCTWQESLST23
- 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.
- 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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