

ADVANCED STRUCTURAL CONCRETE DESIGN

STELLENBOSCH
18 - 22 August 2025
Stellenbosch University

5 DAY OPTION | 5 CPD POINTS | R 12 000.00
2 DAY OPTION | 2 CPD POINTS | R 6 000.00

SEMINAR OBJECTIVE

This course covers theory and application in the design of reinforced concrete structures. Its purpose is to enable postgraduate students and industry participants to gain a deeper understanding of the topics covered.

SEMINAR OUTLINE

18 August: Analysis systems, tools and methodologies

19 August: Structural foundation and surface bed design

20 August: Slab analysis, punching shear complexities and transfer systems

21 August: Retaining structures, liquid retaining structures, earthquake considerations and post-tensioning systems

22 August: Risk, reliability, failures and remedial options for concrete

PRESENTER



MRS KIM TIMM

Kim is a Professional Engineer and has built up a wealth of experience over almost 20 years as a practicing structural engineer. She was appointed as Technical Director and Practice Area Lead at AECOM SA, serving as Lead Structural Engineer on, amongst others, Medupi and Kusile Boiler Island Civil Works, and the Growthpoint-EXXAro ConeXXion Building, a technically challenging and award-winning project. Kim is currently pursuing a full-time PhD at Stellenbosch University.

SEMINAR PROGRAMME

DAY 1: 18 August 2025

TIME	TOPIC
08:30-09:15	Introduction to design, detailing, construction, etc.
09:15-10:15	Analysis - Material models
10:15-10:30	Coffee Break
10:30-11:15	Analysis - Member stiffness and modelling
11:15-12:00	Analysis - Subframes and models
12:00-12:45	Analysis - Class examples and discussions
12:45-13:45	Lunch Break
13:45-14:30	Design of deep beams - Strut and tie method - Theory
14:30-15:15	Strut and tie method - Application
15:15-15:30	Coffee Break
15:30-16:30	Strut and tie method - Examples and Pile Caps

Day 1: Online Quiz Completion

SEMINAR PROGRAMME

DAY 2: 19 August 2025

TIME	TOPIC
08:30-09:15	Foundations - Geotechnical/structural interaction
09:15-10:15	Foundations - Structural design
10:15-10:30	Coffee Break
10:30-11:15	Foundations - Structural design
11:15-12:00	Foundations - Structural Design
12:00-12:45	Foundations - Examples
12:45-13:45	Lunch Break
13:45-14:30	Surface beds - Theory and design
14:30-15:15	Surface beds - Theory and design
15:15-15:30	Coffee Break
15:30-16:30	Surface beds - Practicalities and considerations

Day 2: Online Quiz Completion

DAY 3: 20 August 2025

08:30-09:15	Slabs - Introduction and types
09:15-10:15	Slabs - Design and theory
10:15-10:30	Coffee Break
10:30-11:15	Slabs - Design & theory
11:15-12:00	Punching shear
12:00-12:45	Punching shear calculations
12:45-13:45	Lunch Break
13:45-14:30	Punching shear examples
14:30-15:15	Transfer systems - Types and behaviour
15:15-15:30	Coffee Break
15:30-16:30	Transfer systems - Analysis

Day 3: Online Quiz Completion

SEMINAR PROGRAMME

DAY 4: 21 August 2025

TIME	TOPIC
08:30-09:15	Retaining structures - Introduction and requirements
09:15-10:15	Retaining structures - Design theory and examples
10:15-10:30	Coffee Break
10:30-11:15	Liquid retaining structures - Introduction and requirements
11:15-12:00	Liquid retaining structures - Design theory and examples
12:00-12:45	Earthquake design - Introduction and requirements
12:45-13:45	Lunch Break
13:45-14:30	Earthquake design - General considerations
14:30-15:15	Post-tensioning - Introduction and theory
15:15-15:30	Coffee Break
15:30-16:30	Post-tensioning - Design calculations

Day 4: Online Quiz Completion

DAY 5: 22 August 2025

08:30-09:15	Failures - Introduction
09:15-10:15	Reliability and risk overview
10:15-10:30	Coffee Break
10:30-11:15	Disproportionate collapse
11:15-12:00	Serviceability failures
12:00-12:45	Ultimate limit states failure types
12:45-13:45	Lunch Break
13:45-14:30	Ultimate limit states failure examples
14:30-15:15	Concrete remedial works
15:15-15:30	Coffee Break
15:30-16:30	Concrete remedial works

Day 5: Online Quiz Completion

SHORT COURSE: ADVANCED STRUCTURAL CONCRETE DESIGN

DEPARTMENT OF CIVIL ENGINEERING • 18 - 22 August 2025

COURSE PRESENTER

Mrs Kim Timm

FEES

5-day course
18 - 22 August 2025
R 12 000

2-day course
21 - 22 August 2025
R 6 000

ECSA CPD POINTS

5 points for 5-day course
2 points for 2-day course

LANGUAGE

English

PROGRAMME

Available soon

CONTACT

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OBJECTIVES

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OUTLINE

- 18 August** Analysis systems, tools and methodologies
- 19 August** Structural foundation and surface bed design
- 20 August** Slab analysis, punching shear complexities, and transfer systems
- 21 August** Retaining structures, liquid retaining structures, earthquake considerations and post-tensioning systems
- 22 August** Risk, reliability, failures and remedial options for concrete

Please read the T's & C's when registering

COURSE ARRANGEMENTS

This course will be presented in hybrid mode: in-person on Stellenbosch Campus and online via MS Teams. Details will be forwarded to registered delegates once payment has been received.

REGISTER HERE

[Click here for 5 day course](#)

[Click here for 2 day course](#)

REGISTRATIONS

Registrations close:

4 August 2025

All payments are due by:

8 August 2025

Payment confirms registration.

