

2014

education programme

MISSION *"The C&CI, a marketing organisation, will grow the market for concrete by providing Information, Technical, Education, Research and Regulatory services to potential and existing users, decision makers and influencers within the built environment in southern Africa".*

contents

Accreditation – see below

- 2** The School of Concrete Technology
- 3** General Information
- 4** SCT 10: Introduction to Concrete
- 4** SCT 11: Concrete for Site Staff
- 4** SCT 12: Mortars, Plasters, Screeds and Masonry
- 4** SCT 13: Making Concrete Bricks and Blocks
- 5** SCT 14: Concrete for RMC Truck Drivers
- 5** SCT 20: Concrete Practice
- 6** SCT 21: Practical Concrete Surface Beds
- 6** SCT 22: Concrete Road Design and Construction
- 7** SCT 23: Concrete for the Construction Supervisor
- 7** SCT 24: Concrete for Laboratory Testers
- 7** SCT 25: Precasting Small Items (special course)
- 8** SCT 30: Concrete Technology
- 8** SCT 34: Prestressed Concrete Design and Practice
- 9** SCT 35: Concrete Structures - Analysis and Design
- 9** SCT 36: Properties of Concrete for the Structural Designer and Constructor
- 9** SCT 37: Durability of Concrete
- 10** SCT 38: Structural Masonry Design and Masonry Materials
- 10** SCT 39a: The Application of the Finite Element Method in Practice
SCT 39b: Design of Reinforcement using Finite Element Analysis
- 11** SCT 41, SCT 42 and SCT 43: Concrete Technology and Construction (by correspondence only)
- 12** SCT 50: Advanced Concrete Technology 2012
- 13** Registration form: Full-time Courses
(SCT 10, 11, 12, 13, 14, 20, 21, 22, 23, 24, 30, 34, 35, 36, 37, 38, 39a & 39b)
- 15** Registration form: Correspondence Courses (SCT 41 – 43)
- 17** Application form: Advanced Concrete Technology 2012 (SCT 50)
- 19** Course Fees 2011
- 20** Commercial Course Dates 2011
- 22** Maps to venues
- 25** Contact Information

accreditation

The School of Concrete Technology is accredited by the Construction Education Training Authority (CETA), to provide institutional training for courses listed in this 2011 Training Programme. (No.Sp5420)

Continuing Professional Development (CPD) points are awarded to selected courses.

the school of concrete technology

According to the Stern Review (2006), sustainability has three globally recognized pillars: people (health and safety), the planet (environmental aspects) and the economy (profits).

Concrete's unique qualities engage all three of these pillars. As the most widely used construction material, the cost-effectiveness and ease of construction yield economic benefits. The durability, fire resistance

and sound insulation of concrete are a few of the characteristics that address health and safety requirements. Ongoing research into and use of waste materials as cement extenders coupled with the implementation of recycling policies, make concrete the material of choice for the environmentally conscious.

For the entire concrete industry to remain sustainable, specifiers, designers, producers and contractors need to be competent and responsible. The School of Concrete Technology (SCT) provides professional education and training required to achieve competence that in turn cultivates a mindset of responsibility. Courses are available to address the needs from the labourer to the engineer. To emphasize the quality of the education provided, the Concrete Society of Southern Africa (CSSA) endorses all the courses presented by the SCT. The School is also registered with the South African Federation of Civil Engineering Contractors (SAFCEC) as a preferred training provider. Continuing Professional Development (CPD) points are still available for selected courses.

The SCT will continue to provide expert education and training to ensure that all those involved in the concrete industry have the opportunity to achieve a better understanding of the properties and applications of concrete to best address the social, economic, and environmental challenges for us and our children.



general information

Courses are held most frequently at the C&CI training centre in Midrand, Johannesburg. Courses are also offered in Durban, Port Elizabeth and Cape Town. In fact courses may be conducted at a suitable venue to accommodate the client anywhere in South Africa.

All C&CI courses are presented by experts in their field and, where possible and appropriate, backed up by practical demonstration in the C&CI training laboratory.

The C&CI is also able to offer instruction on concrete to Universities in the form of lecturing in concrete technology, seminars on the use of concrete in construction, subventions to staff, scholarships to students and literature on the use of concrete.

Enrolment for commercial courses Fill in and email or fax the appropriate application form on pages 13 to 18 or contact the Course Organiser. (See contact information on back cover.) You may also register online from our website on www.cnci.org.za.

Course fees Please note that all course fees must be paid before the start of the course and bookings are only confirmed upon receipt of either the full course fee or an order from producer members of the C&CI. Deposits should be made into the Cement and Concrete Institute account. Deposits and cheques must be identified by course name and date and be made out to the Cement and Concrete Institute.

A copy of deposit slips must be faxed, together with your reference number, to the Course Organiser at +27 (0)11 315-0310.

NB: Always clearly identify the course, course dates and the person(s) for whom payment is being made.

Banking details Standard Bank, Midrand, branch code 001155 and account number 201140349.

Cancellations If you cancel a confirmed booking five or more business days prior to the course we will levy cancellation charges of 50% of the course price. Cancellations less than five days prior to the course and non-attendance will result in a charge of 100% of the course price.

Vat invoices Will only be issued on request or receipt of an order number from producer members. All invoices must be paid within 30 days of receipt. To assist with payments, quotations will be issued on receipt of a registration form.



Accommodation Students and their employers are responsible for all travel and accommodation arrangements and costs.

The following accommodation is available in Halfway House.

Mercuré Inn (011) 312-2020

Constantia Lodge (011) 315-0530

Midrand Town Lodge..... (011) 315-6047

Safety requirements Students who will be working in the training laboratory **must wear** safety shoes, long trousers and avoid loose fitting clothing for safety.

Meals Tea, coffee and lunch are included in the course fees. Special dietary requirements must be discussed with the Course Organiser in advance.

Travelling Maps to venues are included on pages 22 - 24. Students should arrive in good time, as registration starts at 7:30 and lectures at 08:00 sharp.

C&CI certificates C&CI certificates of competence or attendance will be awarded to students. Reprint of certificates will be done at a fee of R350 excl VAT.

Rewrites Students may be permitted to rewrite a test, by mutual agreement with the SCT at a fee of R650 excl VAT.

sct 10 introduction to concrete (2 days) – lab session included

This course is recommended for small, medium and micro enterprises, junior technical and sales staff in the building, construction and allied industries, and anyone wanting a short introduction to concrete. Learners are given hands-on practical exercises to illustrate the theory given in the classroom. Learners must be able to read and write English.

Syllabus

- Properties of concrete
- Materials for concrete
- Receiving and storing materials
- Batching, mixing and testing concrete
- Transporting, placing and compacting
- Finishing and surface preparation
- Protection and curing
- Formwork and reinforcement
- Sand-cement mixes
- Durability of concrete

sct 11 concrete for site staff (1 day) – lab session included

This course is recommended for site staff who need to know the basic function of concrete. Learners must be able to read and understand English at a level that will allow them to understand simplified technical lectures. There are no calculations. Theoretical concepts given in lectures are liberally demonstrated in laboratory sessions.

Syllabus

- Requirements of concrete
- Choosing aggregates and cement

- Factors that make concrete more workable
- Compaction of concrete
- Mix proportions for concrete
- The importance of making good cubes
- Acceptance and storage of materials
- Formwork and reinforcement
- Sand-cement mixes
- Transporting
- Curing

NB: *Students who have recently attended the SCT 10 course, should not attend this course.*

sct 12 mortars, plasters, screeds and masonry (1 day) – lab session included

This course was originally developed to assist NHBRC inspectors to interpret the requirements of the NHBRC 'Home Builder's Manual' and is written around that manual to the extent that the clauses are cross-referenced from the notes.

Syllabus

- Factors that affect the strength of concrete
- The role and selection of cement, sand, stone and water
- Receiving and storage of materials

- Mix proportions for concrete for foundations and floors
- Floor screeds and testing
- The slump and cube tests for concrete
- Concrete and clay masonry, expansion and shrinkage
- Waterproofing, cavity and block walls
- The need for movement joints
- Properties of mortar and plaster
- Sand-cement mixes
- Common causes of cracking
- Screeds

sct 13 making concrete bricks and blocks (1 day) – lab session included

This course will assist with empowering learners and enabling them to make a living and gives learners a rudimentary understanding of how to manufacture masonry units. Learners must be able to read and write English.

Syllabus

- Requirements of masonry
- How cement works and how to make masonry strong

- The quantity of water necessary for workability
- Blockmaking machines
- Selection of materials and mix proportions
- Curing of finished blocks
- Storage of materials
- Sand-cement mixes
- Testing of masonry
- Building with masonry to minimise cracking

sct 14 concrete for rmc truck drivers (1 day) – lab session included

This course is intended to give RMC truck drivers an introduction to concrete and the tests that may be carried out in their presence and has the approval of SARMA. The course will provide basic concrete technology and will enable the driver to understand the importance of his position as a front line staff member interfacing with the client.

Syllabus

- Factors that affect the strength of concrete
- Bleeding, workability, cohesion and segregation of concrete
- The slump test – how to do it and what it means
- The cube test – how to make cubes and what they mean
- The effect of hot/cold weather on the transport of concrete
- Delays, contamination or spillage during transport
- Access to the worksite
- The effect of the addition of water
- Transport of concrete around the site after discharge
- Things to observe on site
- Washing out of the truck
- Customer relations



sct 20 concrete practice (4 days) – lab session included

This course is recommended for foremen, clerks-of-work, technicians and supervisory sales, technical and engineering staff in the building, construction, mining and related industries.

Minimum entrance requirements

Grade 10, able to read and write English and do basic arithmetic calculations including percentages and ratios.

Syllabus

- Properties of fresh concrete
- Properties of concrete at early ages
- Properties of hardened concrete
- Materials for concrete
- Mix proportions and quantities
- Concrete production
- Transporting
- Placing and compacting
- Protection and curing
- Formwork
- Reinforcement
- Joints
- Sand-cement mixes
- Concreting in hot and cold weather
- Defects and repairs
- Low-density concrete
- Prestressed concrete
- Precast concrete
- Off-shutter and architectural finishes
- Sampling and testing
- Concrete pavements

sct 21 practical concrete surface beds (1 day)

CPD Points – 1

This practical concrete surface beds course aims to help consulting civil engineers and contractors to overcome problems associated with design detailing and construction practice.

Minimum entrance requirements

Grade 12 minimum or experience in Floor Design & Construction

Syllabus

- Design philosophy
- Subgrades and subbases
- Concrete
- Joints
- Reinforcement



- Construction
 - Subgrades and subbases
 - Damp-proofing
 - Construction joints
 - Concrete production and placing
 - Construction methods
 - Vacuum dewatering
 - Side forms
 - Dowels
 - Edging
 - Finishing
 - Curing
 - Joint sawing
 - Joint sealing
- Surface finishes
 - Construction methods
 - Finishing techniques
 - Adverse weather
 - Concrete toppings
 - Surface treatments
- Special applications

sct 22 concrete road design and construction (1 day)

CPD Points – 1

This course focuses on the technology applied in the design and construction of concrete pavements. It covers the supporting layers, thickness design using computer program, cncPave, and joint design, detailing and layout. Concrete materials and mix design, construction, modes of distress and failure and rehabilitation are also included.

Minimum entrance requirements

A degree or diploma in civil engineering is recommended. A number of years' experience in road design and/or construction is highly recommended.

Syllabus

- Pavement types and behaviour
 - Rigid pavement types and behaviour
 - Distress and modes of failure
 - Design objectives
- Concrete pavement support
 - Subgrades
 - Subbases
 - Drainage
- Pavement design
 - Introduction to mechanistic design
 - Mechanistic design – cncPave and other methods
 - Use of cncPave
- Concrete mix design
 - Materials and specifications
 - Mix design
 - Durability
- Joints
 - Load transfer
 - Joint design
 - Joint layout
 - Sealants
- Reinforcement
 - Use and detailing of reinforcement
- Construction
 - Mechanised
 - Labour intensive
 - Inlays
 - Overlays
 - Low volume roads
 - Low-volume roads

sct 23 concrete for the construction supervisor (8 days) – lab session included

This course is based on a set of unit standards registered with SAQA which make up the elective standards dealing with concrete for the Learnership 49053. The full learnership carries the National Certificate in Construction Supervision and is a NQF Level 4 qualification. The course requires 8 days of tuition, practical work, tutorials and assessments.

Minimum entrance requirements

Grade 10. Must be able to read and write English and do arithmetic calculations, including percentages and ratios. At least two years of appropriate work experience.

Syllabus

- Materials of concrete and the properties they bring
- Determining mix proportions, batching and mixing
- Testing of concrete in the laboratory and on site
- Assessment of laboratory results and acceptance of materials
- Properties of concrete for different applications
- The importance of formwork
- Transport, placing, compacting and curing of concrete
- Durability of concrete
- Interpretation and implementation of specifications



sct 24 concrete for laboratory testers (3 days) – lab session included

The course is designed to give laboratory testers an understanding of the SANS test methods used in the most frequently performed tests on concrete. Test methods will be discussed in detail with laboratory demonstrations and an opportunity for hands-on practicals.

Syllabus

- Materials of concrete and their properties
- Basics of how concrete works

- Different types of cement
- Testing of fresh concrete
- Testing of hardened concrete
- Determination of concrete mix proportions by the eye-ball method
- Calculations related to the test methods

sct 25 precasting small items (2 days) (special course)

This course is designed to give both supervisory and factory floor staff the tools to make concrete units of greater strength at lower cost by using the correct technology for wet and dry processes.

Syllabus

- Materials of concrete and the properties they bring
- How cement and concrete works
- Dry concrete mixes
- Wet concrete mixes

- The need for high density i.e. compaction
- Mix proportions for the various types of concrete
- The use of admixtures in these concretes
- Selection of materials-particularly sand grading
- Abrasion resistance of pavers
- Introduction to blocklaying
- Shrinkage and waterproofing of blocks
- Introduction to building with concrete masonry
- Testing of finished product
- Kerbs and lintels

sct 30 concrete technology (5 days) – lab session included

CPD Points – 5

This is an intensive course intended for civil and structural engineers, and experienced technicians and technologists and is an excellent medium for gaining an in-depth knowledge of how cement and concrete work.



Minimum entrance requirements

Grade 12 with mathematics and science and at least two years of appropriate experience.

Syllabus

- Properties of fresh concrete
- Properties of concrete at early ages
- Properties of hardened concrete
- Cement and cementitious extenders
- Aggregates
- Mixing water and chemical admixtures
- Concrete mix design
- Concrete production
- Transporting
- Placing and compaction
- Protection and curing
- Formwork
- Reinforcement
- Joints
- Defects, blemishes and repairs
- Mix design and mixes for specialised applications
- Sand-cement mixes
- Off-shutter and architectural finishes
- Temperature and concrete
- Concrete pavements
- Testing hardened concrete: non-destructive testing
- Testing hardened concrete

sct 34 prestressed concrete design and practice

CPD Points – 2,5

The duration of the course will be 24 hours, typically 16h00 – 20h00, on Monday, Tuesday and Thursday evenings. The course is aimed at practising engineering graduates with either little or no experience in the design of prestressed concrete structures, or those who would like to refresh their skills in this field. The course is divided into two parts; Part I addressing the fundamental aspects and Part II focussing on more advanced topics. A complete set of lecture notes with examples is provided as part of the course.

Minimum entrance requirement

BSc Engineering degree or equivalent qualification.

Syllabus

- General principles
- Material properties
- Prestressing systems and procedures
- Design for flexure
- Prestressing losses
- Shear
- Effects of continuity
- Deflections
- Anchorage zone design
- Prestressed concrete slabs
- Detailing

sct 35 concrete structures - analysis and design

CPD Points – 6

The duration of the course is 48 hours typically 4 hours from 16h00 - 20h00. The course is aimed at practising civil and structural engineers who wish to refresh their reinforced concrete design skills. The course is divided into two parts: the first covering the basic principles of reinforced concrete design and the second applying these principles in designing elements. A complete set of lecture notes with examples is provided as part of the course.

Minimum entrance requirement

BSc Engineering degree or equivalent qualification.

Syllabus

PART I

- Introduction
- Properties of reinforced concrete
- Principles of limit state design
- Analysis of the structure
- Analysis and design for flexure
- Flexure combined with thrust
- Design of beams for shear
- Bond and anchorage
- Design for serviceability
- Design of beams

PART II

- Design of suspended floors:
 - One-way spanning slabs
 - Two-way edge supported slabs
 - Flat slabs and punching shear
 - Ribbed slabs
- Design of columns
- Design of footings
- Design of stairs
- Calculating crack widths and deflections
- Design for torsion
- Introduction to prestressed concrete



sct 36 properties of concrete for the structural designer and constructor (1 day)

CPD Points – 1

The subject matter covered in this course is based on the most common defects observed over a period spanning many years. The course is aimed at senior staff in the design and construction industry who have had some years of experience in their field.

Syllabus

- Constituent materials of concrete and their roles
- Mix proportions, batching and mixing
- Formwork, placement and compaction
- Concrete temperature, curing and joints
- Compressive strength and acceptance of cube crushing results
- Tensile, bond and shear strength
- Resistance to abrasion
- Cracking in the plastic and hardened states
- Moisture, thermal and chemical expansion and contraction
- Deformation under load: the importance of the E-value
- Durability of reinforced concrete in aggressive environments
- Specification of concrete

sct 37 durability of concrete (1 day)

CPD Points – 1

Is it sufficient to ensure that structures do not collapse during or immediately after construction, or is it necessary to ensure that the investment of time and money in a structure is safeguarded for a substantial period of time? This course is aimed at senior design and construction personnel.

Syllabus

- How cement works to ensure impermeability
- Mechanisms of mechanical deterioration
- Mechanisms of chemical deterioration
- Methods of making concrete impermeable
- Testing of permeability, sorptivity and conductivity

sct 38 structural masonry design and masonry materials

The duration of the course is 24 hours, typically 4 hours from 16h00 to 20h00. The course is aimed at the practicing civil and structural engineer, technologist and technician who wish to design structural masonry and have an overall appreciation of the structural behaviour of masonry materials.

Minimum entrance requirement

Degree or Diploma at a tertiary institution in the field of civil engineering. A sound knowledge of the 'SANS 10160: South African Standard Code of Practice for the general use and loadings to be adopted in the design of buildings' is recommended.



Syllabus

Unreinforced Masonry

- Introduction and historical background
- Definitions and terminology
- Masonry materials
- Good detailing practice
- SANS standards and applications
- Specifications
- Defects, diagnose and repair
- Design considerations
- Design of masonry subjected to axial compression
- Design of masonry subjected to bending
- Design of masonry subjected to combined axial compression and bending
- Accidental damage

Reinforced Masonry

- Design of reinforced masonry subject to axial compression, bending and combined stresses
- Design of prestressed masonry subject to axial compression, bending and combined stresses.

sct 39a: the application of the finite element method in practice *sct 39b: design of reinforcement using finite element analysis*

CPD Points 6

It is a course that was first presented more than twenty years ago which has undergone a continuing process of development and improvement by the author and presenter, Roland Prukl. Mr Prukl first became involved in Finite Element Analysis (FEA) shortly after the method was developed, and has become an authority on the subject. FEA is full of pitfalls that await the overconfident and unwary, and you can either learn these by trial and error, or you can spend a few days learning how to correctly use this remarkable tool.

This course is aimed at the practicing civil and structural engineer, technologist and technician who wish to design structures using Finite Element Analysis.

A complete set of lecture notes with examples is provided as part of the course.

The CPD points are split as follows:

The Application of the Finite Element Method in Practice
5½ days – 5 points

Design of Reinforced Concrete Structures using FEM
1 day – 1 point.

Minimum entrance requirement

Degree or Diploma at a tertiary institution in the field of civil engineering.

Duration

SCT 39a: 5½ days, starting on a Saturday, 7 am – 6 pm
SCT 39b: 1 day, 7 am – 6 pm

Syllabus

- Introduction to finite element analysis
- Skeletal structures
- Plane stress and plane strain
- Plate bending
- Three-dimensional shells, axisymmetric shells and solid elements
- Complex structures
- Dynamics
- Buckling
- Geometric and material non-linear analysis
- Design of reinforcement using Finite Element Analysis

sct 41, 42 & 43 concrete technology & Construction (by correspondence only)

These courses are offered as correspondence courses only. They are designed for persons employed in a technical capacity, e.g. concrete technologists, civil engineering technicians or engineers who wish to improve their knowledge of all aspects of concrete. City & Guilds International (C&G) certificates are awarded to successful learners. All three parts start in September of each year. Registrations and examination registrations will be accepted until 30 January.

The course is available in three parts as:

SCT 41: General Principles (Part 1),

SCT 42: Practical Applications (Part 2), and

SCT 43: Aggregates in Construction (Part 3).

The examinations consist of one three-hour paper for each course. SCT 41, 42 and 43 may be studied at the same time by experienced learners.

Learners wishing to write at British Councils need to make their own arrangements with their local British Council prior to the exams. A separate examination and management fee will be payable in advance by the delegate. Contact the British Council for information on registration and costs. The onus is on the delegate to liaise with their local British Council.

Minimum entrance requirements

Grade 12 with mathematics and science. For SCT 42 at least one year of concrete construction site experience is strongly recommended.

Optional revision workshops are held in Midrand only in April 2011 prior to the examinations in May.

SCT 41: General Principles (Part 1)

Syllabus

- Materials, including aggregates, cements, water, admixtures, reinforcing and prestressing
- Properties of concrete
- Testing concrete
- Specification of concrete, design of mixes and quality control
- Formwork
- Concrete production and supply
- Ready-mixed concrete
- Compacting and finishing
- Curing
- Reinforced concrete



SCT 42: Practical Applications (Part 2)

Syllabus

- Testing concrete
- Specification of concrete
- Quality control and mix design
- Joints
- Roads, materials and construction
- Reinforcement and prestressing
- Formwork including falsework
- Surface finishing, screeds and toppings
- Defects and repairs
- Concrete production and handling
- Floors
- Precast concrete and production
- Curing
- Site organisation and layout
- Ready-mixed concrete

SCT 43: Aggregates in Construction (Part 3)

Syllabus

- Geology and geological processes
- Field implementation of aggregate deposits
- Aggregate extractions
- Aggregate processing
- Testing of aggregates
- Aggregates for concrete
- Aggregates for mortars
- Unbound aggregates
- Bituminous bonding materials
- Specialist products

sct 50 advanced concrete technology 2012 – lab session included

The ACT course is presented in South Africa every two years, under the auspices of the Institute of Concrete Technology (ICT) in the United Kingdom. The next Advanced Concrete Technology (ACT) course will commence in January 2012 and is presented in three parts.

The target audience includes qualified and experienced civil engineers, cement chemists, concrete technologists and technicians involved in the building, construction, precast concrete, mining and in the cement, aggregate, admixture and ready-mixed concrete industries.

Experts from the South African construction industry, universities and the C&CI, present the lectures.

Learners who pass both three-hour examinations and have their research project accepted, receive the Advanced Concrete Technology Diploma. This qualifies them for Corporate Membership of the ICT and, as corporate members, they may write the letters MICT behind their names and qualify for one years free membership to the concrete society of SA.

Applications Please submit your application to the Course Manager for the 2012 course by 30 Nov 2011.

Recommended entrance requirements

An appropriate qualification in civil engineering or any other appropriate branch of science or technology is required. Without such a qualification a learners prior knowledge and experience will be assessed by the course manager before acceptance of registrations.

Note that SCT 41 and 42: Concrete Technology and Construction is regarded as 'assumed knowledge' for any candidate admitted to the ACT.

The course covers some 75 topics falling into the following broad categories:

- Cements
- Additions to concrete
- Admixtures
- Aggregates
- Fresh concrete
- Setting and hardening of concrete
- Properties of hardened concrete
- Durability of concrete
- Concrete construction
- Mix design
- Special concretes
- Ready-mixed concrete
- Special processes and technology for particular types of structures
- Concrete finishes
- Repairing concrete
- Formwork
- Concrete plant
- Precast concrete
- Concrete roads
- Industrial floors
- Principles of reinforced and prestressed concrete
- Test methods and equipment
- Quality concepts
- Quality control
- Statistics
- Standards, specifications and codes of practice
- Assessment of concrete construction
- Sources of information

ACT Diplomas are awarded by the Institute of Concrete Technology, UK, to successful learners.



registration form sct 10, 11, 12, 13, 14, 20, 21, 22, 23, 24, 30, 34, 35, 36, 37, 38, 39a & 39b

C&CI School of Concrete Technology

Tel: 011 315 0300 • Fax: 011 315 0310 • E-mail: sct@cnci.org.za • Website: www.cnci.org.za

PO Box 168, Halfway House, 1685, Midrand, South Africa

To register for a course, please complete this form, fax or e-mail to the Course Organiser. You may also register online on our website at <http://www.cnci.org.za>

I wish to attend the following course: Please tick the appropriate box

				SCT10	SCT11	SCT12
SCT13	SCT14	SCT20	SCT21	SCT22	SCT23	SCT24
SCT30	SCT34	SCT35	SCT36	SCT37	SCT38	SCT39a
						SCT39b

Start date of course..... Venue

It is imperative that all fields are completed. Without completion, we cannot process registrations.

Delegate's Details

Title & initials..... Surname

First Name..... ID number
(Copy of ID to be attached)

Sex: M F Tel no H ()

Date of Birth

Tel no W ()..... Fax no ()

E-mail..... Cell no ()

Dietry Requirements

It is imperative that all fields are completed. Without completion, we cannot process registrations.

Invoicing Details

Name of Person responsible for payment

Position in Company.....E-mail

Tel no W ()..... Fax no ()

Company Name

Company Postal Address

Company Vat No.

Method of Payment

Please attach proof of payment. In absence of proof of payment, students will not be admitted to the course.

Cheque	<input type="checkbox"/>	Bank Deposit	<input type="checkbox"/>	Cheque No.	
--------	--------------------------	--------------	--------------------------	------------	--

Educational Qualifications: Grade 8 Grade 9 Grade 10 Grade 11 Grade 12 Other

Tertiary Qualifications.....

Trade/occupation

Contact details of person responsible for sending you on course

NamePosition in Company

Tel no W ().....Fax no ().....

Cell ().....E-mail.....

Signature of person responsible for sending you on course:

IMPORTANT INFORMATION

All fees are payable in advance

- Registration is only confirmed on receipt of full payment.
- Customers will be invoiced on request.
- All invoices must be paid within 30 days of receipt.
- Course hours are from 07h30 to 16h00 daily.
- The School reserves the right to postpone, cancel or change the venue of courses should the need arise. Full fees will be refunded on request.

Cancellations

- Cancellations of a confirmed booking five or more business days prior to the course, we will levy cancellation charges of 50% of the course price.
- Cancellations less than five business days prior to the course and non-attendance will result in a change of 100% of the course price.

Payment

- Cheques should be payable to the Cement & Concrete Institute
- Electronic transfer or direct deposit into our bank account, must be validated by faxed copy of transaction slip clearly identifying the learner(s), course and your company name to ensure that your payment is correctly allocated.
Please include our reference number reflected on your quotation.

Banking details: Standard Bank Midrand Branch code: 00 11 55 Account No: 201140349

I have read and understood the above: SIGNATURE

NAME IN BLOCK LETTERS

Safety requirements Safety shoes and long trousers are compulsory for all laboratory sessions.



registration form sct 41, 42 & 43 (correspondence courses)

C&CI School of Concrete Technology

Tel: 011 315 0300 • Fax: 011 315 0310 • E-mail: sct@cnci.org.za • Website: www.cnci.org.za

PO Box 168, Halfway House, 1685, Midrand, South Africa

To register for a course, please complete this form, fax or e-mail to the Course Organiser. You may also register online on our website at <http://www.cnci.org.za>

I wish to attend the following course: Please tick the appropriate box

SCT 41 General Principles	<input type="checkbox"/>	SCT 41 Workshop	<input type="checkbox"/>
SCT 42 Practical Applications	<input type="checkbox"/>	SCT 42 Workshop	<input type="checkbox"/>
SCT 43 Aggregates in Construction	<input type="checkbox"/>	SCT 43 Workshop	<input type="checkbox"/>
Re-examination in SCT 41	<input type="checkbox"/>	Re-examination in SCT 42	<input type="checkbox"/>

It is imperative that all fields are completed. Without completion, we cannot process registrations.

Delegate's Details

Title & initials..... Surname.....

First Name..... ID number.....
(Copy of ID to be attached)

Sex: M F Tel no H ().....

Date of Birth.....

Tel no W ()..... Fax no ().....

E-mail..... Cell no ().....

Physical address of student (notes will be couriered to this address).....

It is imperative that all fields are completed. Without completion, we cannot process registrations.

Invoicing Details

Name of Person responsible for payment

Position in CompanyE-mail.....

Tel no W ()..... Fax no ().....

Company Name

Company Postal Address

Company Vat No.

Method of Payment

Please attach proof of payment. In absence of proof of payment, students will not receive their notes.

Cheque	<input type="checkbox"/>	Bank Deposit	<input type="checkbox"/>	Cheque No.	<input type="text"/>
--------	--------------------------	--------------	--------------------------	------------	----------------------



Educational Qualifications:

Grade 8	Grade 9	Grade 10	Grade 11	Grade 12	Other
---------	---------	----------	----------	----------	-------

Tertiary Qualifications.....

Trade/occupation

Contact details of person responsible for sending you on course

NamePosition in Company

Tel no W ().....Fax no ().....

Cell ().....E-mail.....

Signature of person responsible for sending you on course:

IMPORTANT INFORMATION

All fees are payable in advance

- Registration is only confirmed on receipt of full payment or an order number from customers with an account.
- Customers will be invoiced on receipt of full payment.
- Course fees exclude British Council examination management fees for candidates writing examinations outside S.A. These charges are payable directly to the local British Council.
- Once course material has been despatched no fees can be refunded.
- Should a delegate wish to postpone writing or rewriting the examination, the delegate will be liable to pay the examination fee.
- Course notes will be dispatched on receipt of full payment.
- The School reserves the right to postpone, cancel or change the venue of courses should the need arise. In such a case, full fees will be refunded on request.

Payment

- Cheques should be payable to the Cement & Concrete Institute
- Electronic transfer or direct deposit into our bank account, must be validated by faxed copy of transaction slip clearly identifying the learner(s), course and your company name to ensure that your payment is correctly allocated.
Please include our reference number reflected on your quotation.

Banking details: Standard Bank Midrand Branch code: 00 11 55 Account No: 201140349

I have read and understood the above: SIGNATURE

NAME IN BLOCK LETTERS

application form sct 50 advanced concrete technology (2012 course)

C&CI School of Concrete Technology

Tel: 011 315 0300 • Fax: 011 315 0310 • E-mail: sct@cnci.org.za • Website: www.cnci.org.za

PO Box 168, Halfway House, 1685, Midrand, South Africa

To register for a course, please complete this form, fax or e-mail to the Course Organiser. You may also register online on our website at <http://www.cnci.org.za>

I wish to attend the following course:
Please tick the appropriate box

Advanced concrete technology (2012)

Re-examination (2012)

It is imperative that all fields are completed. Without completion, we cannot process registrations.

Delegate's Details

Title & initials..... Surname.....

First Name..... ID number.....
(Copy of ID to be attached)

Sex: M F Tel no H ().....

Date of Birth.....

Tel no W ()..... Fax no ().....

E-mail..... Cell no ().....

Dietry Requirements

It is imperative that all fields are completed. Without completion, we cannot process registrations.

Invoicing Details

Name of Person responsible for payment

Position in CompanyE-mail.....

Tel no W ()..... Fax no ().....

Company Name

Company Postal Address

Company Vat No.

Method of Payment

Cheque	<input type="checkbox"/>	Bank Deposit	<input type="checkbox"/>	Cheque No.	
--------	--------------------------	--------------	--------------------------	------------	--

Please attach proof of payment. In absence of proof of payment, learners will not be admitted to the course.

PROJECT PROPOSAL (Compulsory).....

.....

.....

Highest Qualification achieved

Educational Qualifications:.....

Tertiary Qualifications.....

Trade/occupation

Degrees, diplomas, Certificates (State level or grade)	awarding body	subjects passed	date

Experience

Please provide and attach the following information for each position held: Dates, Position, Level of responsibility, Type and nature of work. (Note: A normal CV is unlikely to provide sufficient detail)

Contact details of person responsible for sending you on course

NamePosition in Company

Tel no W ().....Fax no ().....

Cell ().....E-mail

Signature of person responsible for sending you on course:

IMPORTANT INFORMATION

All fees are payable in advance

- Registration is only confirmed on receipt of full payment.
- Customers will be invoiced on receipt of payment.
- Course hours are from 07h30 to 16h00 daily.

Payment

- Cheques should be payable to the Cement & Concrete Institute
- Electronic transfer or direct deposit into our bank account, must be validated by faxed copy of transaction slip clearly identifying the learner(s), course and your company name to ensure that your payment is correctly allocated. Please include our reference number reflected on your quotation.

Banking details: Standard Bank Midrand Branch code: 00 11 55 Account No: 201140349

I have read and understood the above: SIGNATURE

NAME IN BLOCK LETTERS

course fees 2011

	Excl VAT (R)	Incl VAT (R)
SCT 10 Introduction to Concrete.....	2 600	2 964
SCT 11 Concrete for Site Staff	1 300	1 482
SCT 12 Mortars, plasters, screeds and masonry	1 300	1 482
SCT 13 Making concrete bricks and blocks	1 300	1 482
SCT 14 Concrete for RMC truck drivers	1 300	1 482
SCT 20 Concrete practice.....	7 300	8 322
SCT 21 Practical concrete surface beds.....	1 900	2 166
SCT 22 Concrete road design and construction.....	1 900	2 166
SCT 23 Concrete for the construction supervisor	10 300	11 742
SCT 24 Concrete for laboratory testers	2 900	3 306
SCT 30 Concrete technology	9 700	11 058
SCT 34 Prestressed concrete	5 800	6 612
SCT 35 Concrete Structures: Analysis and design.....	11 350	12 939
SCT 36 Properties of concrete for the structural designer and constructor.....	1 900	2 166
SCT 37 Durability of concrete.....	1 900	2 166
SCT 38 Structural masonry design and masonry materials.....	5 800	6 612
SCT 39a The Application of the Finite Element Method in Practice.....	8 600	9 804
SCT 39b Design of Reinforcement using Finite Element Analysis.....	2 200	2 508
Re-examination	650	741
Re-print of certificate	350	399
SCT 41 Concrete Technology and Construction – General principles		
South Africa	9 550	10 870
African countries.....	11 235	
Other countries	12 000	
SCT 42 Concrete Technology and Construction – Practical applications		
South Africa	9 550	10 870
African countries.....	11 235	
Other countries	12 000	
SCT 43 Concrete Technology and Construction – Aggregates in Construction		
South Africa	9 550	10 870
African countries.....	11 235	
Other countries	12 000	
Re-examination	1 150	1 311
SCT 41 Workshop	2 100	2 394
SCT 42 Workshop	2 100	2 394
SCT 43 Workshop	1 000	1 140
Advanced Concrete Technology		
Part 1	12 700	14 478
Part 2	12 700	14 478
Part 3.....	12 700	14 478
Re-examination	2 000	2 280

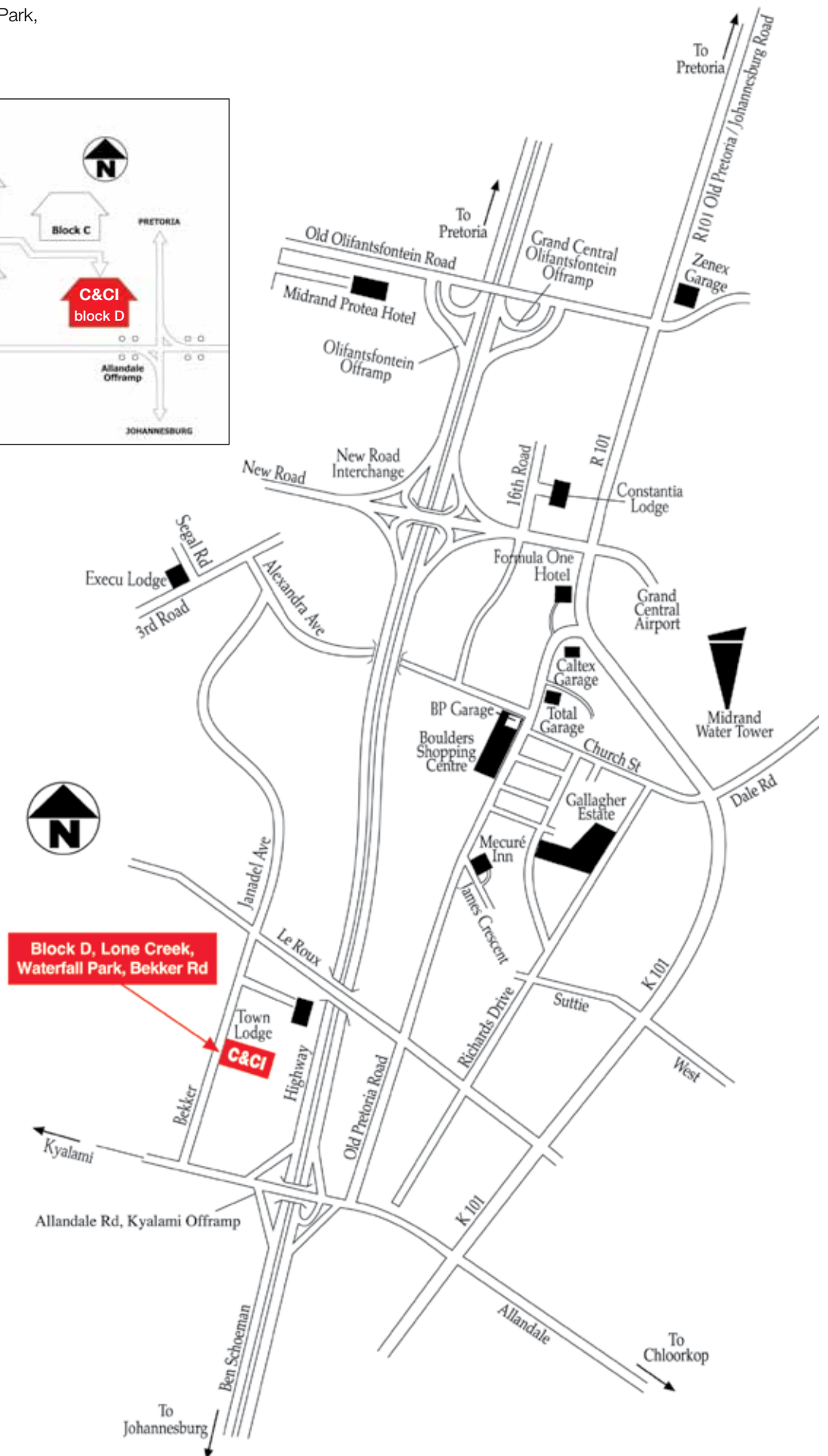
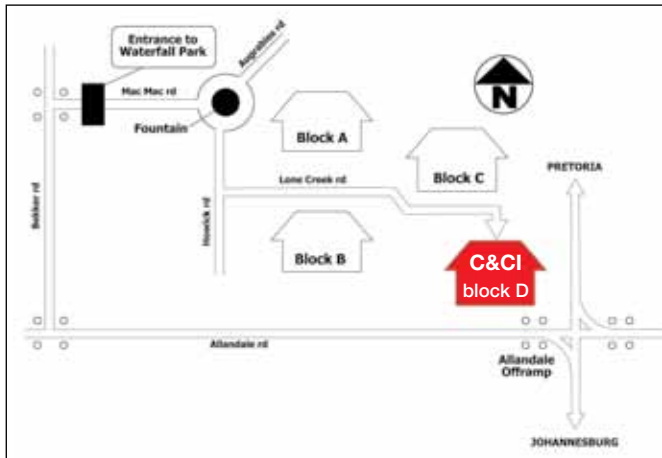
commercial course dates 2011

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SCT 10 – Introduction to Concrete												
Midrand	24 - 25		14 - 15		16 - 17			15 - 16		3 - 4	28 - 29	
Durban				11-12						31 - 1		
Cape Town			28 - 29					29 - 30				
Port Elizabeth								1 - 2				
SCT 11 – Concrete Technology for Site Staff												
Midrand	26		16		18			17		5	30	
Durban				13							2	
Cape Town			30					31				
Port Elizabeth								3				
SCT 12 – Mortars, Plasters, Screeds and Masonry												
Midrand	27		17		19			18		6		1
Durban				14							3	
Cape Town			31						1			
Port Elizabeth								4				
SCT 13 – Making Concrete Bricks and Blocks												
Midrand	28		18		20			19		7		2
Durban				15							4	
Cape Town				1					2			
Port Elizabeth								5				
SCT 14 – Concrete for RMC Truck Drivers												
Midrand	29									8		
Durban				16							5	
Cape Town				2					3			
Port Elizabeth								6				
SCT 20 – Concrete Practice												
Midrand		21 - 24		4 - 7	9 - 12	20 - 23	25 - 28		5 - 8	24 - 27		
Durban									19 - 22			
Cape Town						27 - 30			26 - 29			
Port Elizabeth									13 - 16			
SCT 21 – Practical Concrete Surface Beds												
Midrand			22			29			12			
Durban					25							
Cape Town								17				
SCT 22 – Concrete Road Design and Construction												
Midrand							14			19		
Durban					26							
Cape Town								18				
SCT 23 – Concrete for the Construction Supervisor												
Midrand							4 - 13					
SCT 24 – Concrete for Laboratory Testers												
Midrand						13 - 15						
Durban							18 - 20					
Cape Town					3-5							
Port Elizabeth											15 - 17	

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SCT 30 – Concrete Technology												
Midrand			7-11			6-10		22-26			7-11	
Durban										10-14		
Cape Town											21 - 25	
SCT 34 – Prestressed Concrete												
Midrand										10,11,13, 17,18,20		
Durban												
SCT 35 – Concrete Structures – Analysis and Design												
Midrand												
Part 1			28,29,31	4,5,7								
Part 2					20,21,23 27,28,30							
Cape Town												
Part 1							18,19,20 25,26,27					
Part 2								22,23,24 29,30,31				
SCT 36 – Properties of Concrete for the Structural Designer & Constructor												
Midrand				18					19			
Durban					23							
Cape Town								15				
SCT 37 – Durability of Concrete												
Midrand					13						14	
Durban					24							
Cape Town								16				
SCT 38 – Structural Masonry Design and Masonry Materials												
Midrand					9,10,12 16,17,19							
SCT 39 – The application of the finite element method in practice & design of reinforcement using finite element analysis												
Midrand					21,23 - 30					24,26 - 30		
SCT 41 – Concrete Technology and Construction: General Principles												
Revision Workshop				11-12								
Exam					24							
SCT 42 – Concrete Technology and Construction: Practical Applications												
Revision Workshop				13-14								
Exam					25							
SCT 43 – Concrete Technology and Construction: Aggregates in Construction												
Revision Workshop				15								
Exam					26							

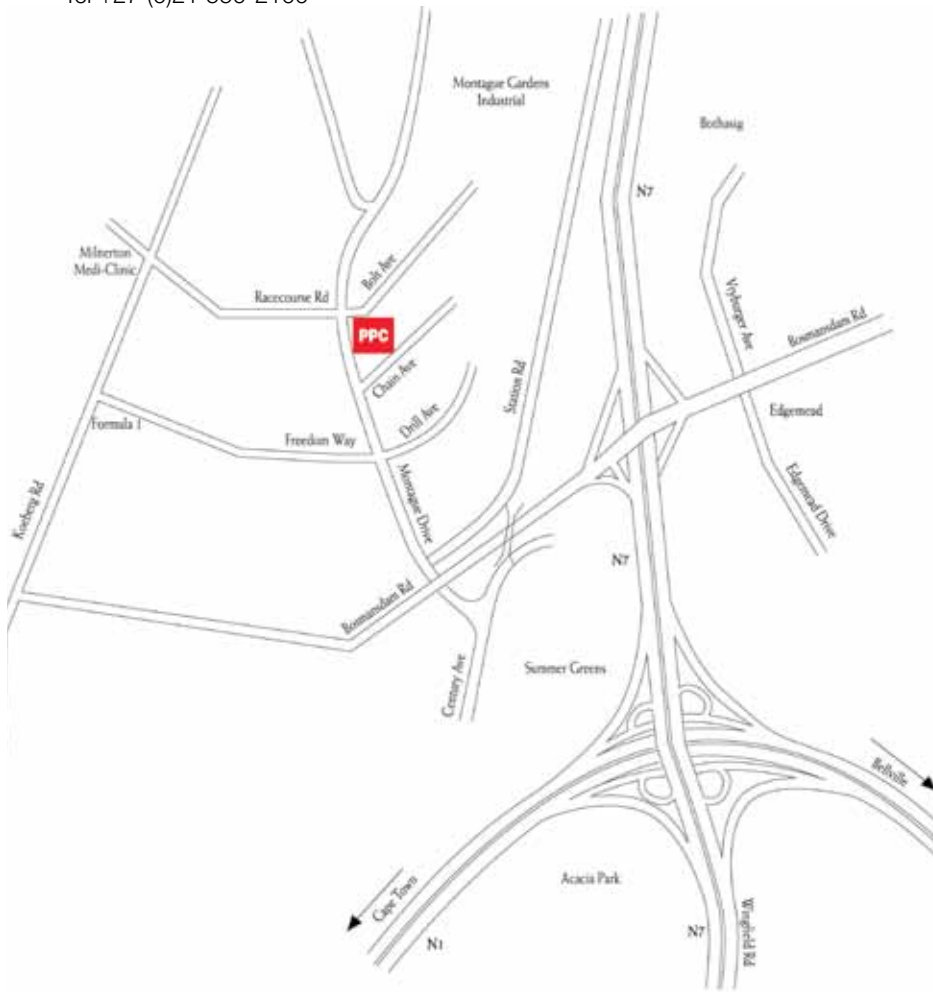
map waterfall park (not to scale)

Block D, Lone Creek, Waterfall Park,
Bekker Road, Midrand
Tel +27 (0)11 315-0300



map ppc cape town (not to scale)

Corner Chain Avenue and Montague Drive
 Montague gardens, Industrial
 Tel +27 (0)21 550-2100



Directions

- From Cape Town/Paarl N1: take the N7 north from the N1, stay in left lane and take next off-ramp to the left into Bosmansdam Road. Get into one of the right turn lanes and turn right into Montague Drive at the next traffic lights. Travel north through two sets of traffic lights and turn right into Chain Avenue at the intersection after the second set of lights. PPC is then on your left. There is a large concrete silo on the premises. NB To access the N7 north from Cape Town you must take the Century City/Sable Road off-ramp which is approximately 1,5 km past the Koeberg Road Interchange. This service road takes you to the N7. There is no direct access to the N7 North from the N1 North.
- From the N2/Airport take the N7/Vanguard Drive exit and turn north on Vanguard Drive. Stay on Vanguard Drive past the casino and through Goodwood. It then changes to the N7 and passes over the N1. Then left into Bosmansdam Road and follow the directions in 1 above.
- From the N7 north, take the Bosmansdam Road off-ramp, turn right over the N7 and follow the directions in 1 above.
- from the Tableview/Parklands area take the R27 (West Coast Road) south. Turn left at Racecourse Road at the Paddocks Centre. Go over Koeberg Road and turn right into Montague Drive. Take the next turn left into Chain Avenue.

map port elizabeth (not to scale)

20 Ferguson Road, Sidwell, Port Elizabeth
 Tel +27 (0)41 486-2272

Directions

- From the N2 and the Beachfront take the Deal Party exit from the N2. (Becomes Burman Road.) At the first traffic light turn left into Baxter Road and go over a bridge. At the next traffic light turn left into the R102 (Grahamstown Road/Old Cape Road) and then take the next right into Ferguson Road. (This is a dangerous intersection). Immediately over the railway line turn left into the PPC factory premises.



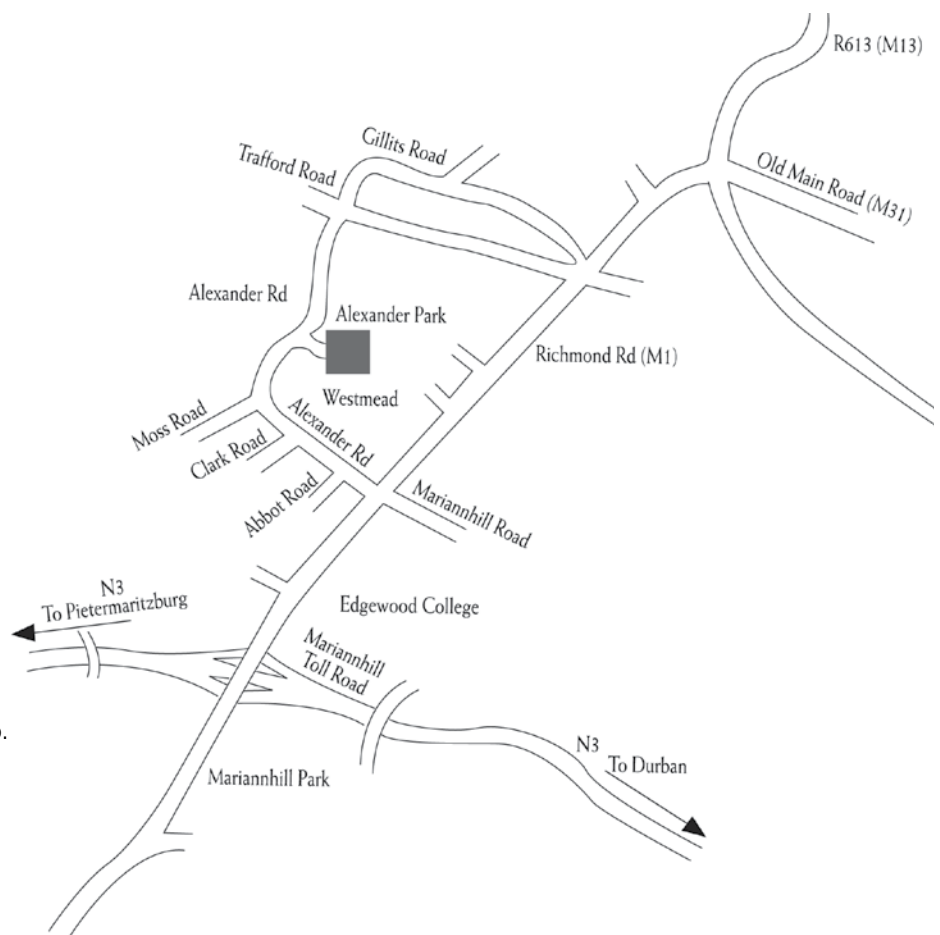
map durban (not to scale)

CONTEST

Unit 15, Alexander Park, Alexander Road,
Westmead
Tel +27 (0)31 700-9394

Directions

- From Durban:
Take N3 freeway to Pietermaritzburg.
Take Richmond Road/Marianhill off-ramp.
Turn right into Richmond Road. Cross over bridge and pass first two sets of traffic lights.
At third set of traffic lights, keep left and follow yeild slipway into Alexander Road.
Follow Alexander Road to Alexander Park on the right.
- From Pietermaritzburg:
Take N3 freeway to Durban. Pass toll plaza and take Mariannah/Richmond Road offramp.
At traffic left, turn left into Richmond Road.
Pass through first traffic lights, keep left and take left slipway into Alexander Road before next traffic lights. Follow Alexander Road to Alexander Park on the right.



map durban (not to scale)

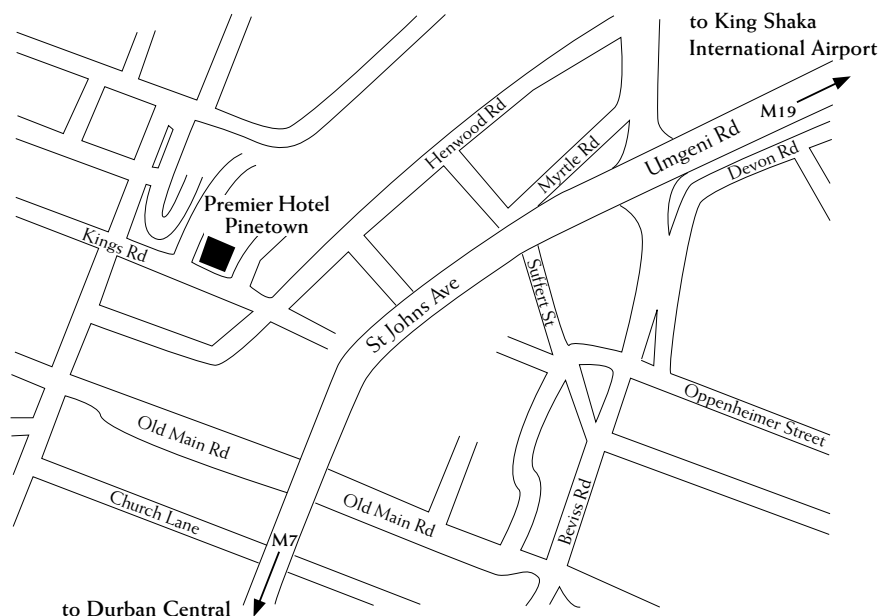
Premier Hotel (Pinetown)
65 Kings Rd

Directions from the Airport

- Take N2 towards Durban.
Take Umgeni Road off ramp, proceed straight to second set of traffic lights.
Turn right and go up M19.
This becomes St Johns Avenue.
At third set of traffic lights, turn right into Nisbett Road.
At stop turn left into Henwood Road.
Turn right into Kings Road.
Premier Hotel on right.

Directions from Durban

- Take the N3 From Durban.
Take alternative Route to Pmburg, which is the left turning.
Take the off ramp to the left sign posted M19 St Johns Avenue.
Turn right at the traffic lights into St Johns Avenue.
At the fifth set of traffic lights turn left into Nisbett Road.
At the Stop sign turn left into Henwood Road.
Turn first right into Kings Road.
Travel two blocks, Premier Hotel on right.



c&ci school of concrete technology contact information

Petrus Jooste MSc(Eng) Wits

Education & Training Manager

Petrus Jooste started his career in a structural drawing office in 1982, after completing his compulsory military training. Whilst working at Eskom as a technician, he obtained the ND Civil Eng in 1985. After working as draughtsman and model maker at various firms, he lectured at the Technical College of Johannesburg for five years. In 1997 he joined the University of Johannesburg where he lectured for the next 10 years. It was during this time that he obtained an MSc Eng from Wits for his thesis titled "Approaches to mix design and measurement of workability for self-compacting concrete". He also undertook research on rheology of concrete.

Matthews Magwaza

Trainer

Matthews Magwaza was introduced to the world of cement and concrete when he joined Cement Distributors of South Africa where he remained for seven years. He joined the C&CI where his contribution to running the training laboratory, and to training in the field of pre-tertiary education was invaluable. He had developed his knowledge of cement and concrete to the extent that he is now a valuable lecturer in the department. His ability to speak five African languages has made him a popular asset to the School, as he is able to offer explanations and answer questions from learners in a language they understand.

the cement & concrete institute

The Cement and Concrete Institute is a marketing organisation committed to growing the market for concrete through its value chain of activities and services. This includes, information, technical, education, research and regulatory services for potential and existing users and decision makers in the built environment in southern Africa.

Managing Director:

Bryan Perrie
Pr.Eng, MSc. Eng.

Physical address:

Block D, Lone Creek, Waterfall Park,
Bekker Road, Midrand

John Roxburgh BSc (Building Science) Wits Lecturer

After completing his Building Science degree, John worked for LTA building where he gained extensive experience on various contracts. Before joining C&CI in 2009, John spent six years as a technical manager in the brick and block manufacturing industry, a job in which he travelled widely through Africa doing technical training. John's passion for concrete was first fostered at Wits while studying under Dr Rod Rankine (former head of the School of Concrete Technology). He has a keen interest in all facets of the concrete industry and his expertise lie in alternative concrete building systems and cement stabilised soil blocks.



Postal address:

PO Box 168, Halfway House, 1685, South Africa

Tel+27 (0)11 315-0300

Fax+27 (0)11 315-0310

Websitewww.cnci.org.za

E-mailsct@cnci.org.za

Education and Training Manager: Petrus Jooste e-mail: petrus.jooste@cnci.org.za
Lecturer: John Roxburgh e-mail: john.roxburgh@cnci.org.za
Trainer: Matthews Magwaza e-mail: matthews@cnci.org.za
Course Manager: Rennisha Sewnarain e-mail: rennisha@cnci.org.za
Course Marketer: Cheryl Naidoo e-mail: cheryl@cnci.org.za
Course Organiser: Eldene Magill e-mail: eldene.magill@cnci.org.za

Tel +27 (0) 11 315 0300 Fax +27 (0) 11 315 0310 E-mail: sct@cnci.org.za



Photographs courtesy of
Daniel van der Merwe
DesignWright
Gill Owens
Kevin Wright

Published by
Cement & Concrete Institute, Midrand, 2010

Designed & Produced by DesignWright 011 702 1903