

Distribution Customer Concepts



CENTRE FOR RENEWABLE &
SUSTAINABLE ENERGY STUDIES



Stellenbosch
UNIVERSITY
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UNIVERSITEIT

DATE

5 - 9 May 2025

VENUE

Engineering Faculty, Stellenbosch University

ACCREDITATION

Certificate of attendance (4 CPD points)

[REGISTER HERE](#)

Certificate of competence (4 CPD points)

[REGISTER HERE](#)

15 academic credits at NQF 8 or 9 level

[READ MORE](#)

DEADLINE

Certificate course registration closes 14 calendar days before the course starts.

The number of attendees is limited. Bookings will be taken on a first come, first served basis. For academic module registration deadlines, please contact the relevant academic programme coordinator.



PRESENTER

Dr Justice Chihota is a Senior Researcher at the Centre for Renewable and Sustainable Energy Studies (CRSES) at Stellenbosch University. He holds a Ph.D. in Electrical Engineering from the University of Cape Town (2019). His research is centered on the integration of distributed energy resources (DERs) into distribution networks, addressing the transition from passive to active system operations and the challenges this shift presents. Dr. Chihota's work is instrumental in supporting municipalities and the broader electric power sector as they navigate the complexities of DER integration. His research directly informs and shapes national standards, such as the SANS 507 standard, in which he serves as a member of the working group.



PRESENTER

Nelius Bekker is a lecturer at the Department of Electrical and Electronic Engineering at Stellenbosch University. He holds an MScEng degree and is a Certified Energy Manager and Certified M&V Professional. Nelius is a director of Energy Management and Validation Services (Pty) Ltd, specialising in the M&V of energy savings projects and Energy Performance Certification. He is a member of two of SANAS's Specialist Technical Committees.

OTHER PRESENTERS

Prof Bernard Bekker (Stellenbosch University)

Dr Johann Strauss Course Coordinator (Stellenbosch University)





Synopsis

Understanding the concepts inherent in the end use of electricity, including load modelling, pricing, applicable technologies, and mini- and microgrid applications, design and operations.

Future customer concepts

- Load modelling and modelling strategies
- Load growth modelling / forecasting for network planning
- Tariff design (fundamentals, and how to encourage DER flexibility)
- Distribution aggregators concepts
- Demand side management
- Concepts within measurement and verification
- Advanced metering infrastructure and data management
- Concepts like smart homes, SSEG, island functionality, smart inverters, battery energy storage systems at household level including electric vehicles

Mini- and microgrids

- Applications of mini- and microgrids
- Designing and operating hybrid systems / mini- and microgrids (topologies, control, optimization)

Qualification and accreditation

The module is accredited for a variety of outcomes, depending on what the attendee registers for. Module contact time (40 hours) are shared by all attendees, but additional assessments, assignments, and projects will be specific to the outcome that the attendee registered for.

- The module is accredited for ECSA Continuous Professional Development (CPD) credits, and attendees can obtain a certificate of attendance (if all lectures have been attended) or competence (if all lectures have been attended and various assessments have been successfully passed).
- Unless otherwise stated, the module is also accredited for 15 academic credits at both NQF8 level (Post-graduate diploma) and NQF9 level (Masters), as part of various [academic programmes](#). This requires a total time investment of 150 hours.

Delivery Model

- The module will be delivered over five days. Pre- and post-module assignments and projects are applicable depending on the outcome the attendee registered for.
- **Certificate of competence and academic attendees are required to attend the full module in person.** Certificate of attendance attendees have the option of attending the module in person, online only, or a mixture of these.

Who should attend

Engineers, technologists and technicians active in the energy sector. Government and local authority officials. Managers, planners and developers. Investors. Academic students.

Travel and Accommodation

All travel and accommodation arrangements are the attendee's own responsibility.

Prerequisites

Certificate of attendance: none

Certificate of competence / Post-graduate diploma at NQF8: NQF7 engineering qualification or equivalent

Masters at NQF9: NQF8 engineering qualification

IT infrastructure: For online attendees, adequate internet connectivity to connect reliably via Teams for the duration of the module. For Certificate of competence, Diploma and Masters attendees, a computer capable of running Windows 10 with user rights to install new software.

Module Fees

- The standard fee for the five-day module is **R14 200 for a certificate of attendance**, and **R19 100 for a certificate of competence**. Please refer to the University's latest study cost information for academic fees.
- From time to time funding is sourced to subsidise module fees for specific modules for attendees from specific areas of industry. Please refer to CRSES's short courses website for the latest information.
- Cancellations made up to 21 days before the module starts will be subject to a 15% handling fee. No refunds will be made after this date; however, substitutions will be accepted.
- Payment is mandatory for attendance.
- In the case of unforeseen circumstances, Stellenbosch University reserves the right to cancel the module or change the presenter/s, in which case all fees will be reimbursed in full on request.

Short courses:

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keziah@sun.ac.za
www.crses.sun.ac.za

Academic:

Please contact the relevant academic department, quoting course code 14480 774/874