

# Energy Storage Systems



CENTRE FOR RENEWABLE &  
SUSTAINABLE ENERGY STUDIES



Stellenbosch  
UNIVERSITY  
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UNIVERSITEIT

## DATE

24 - 28 March 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.



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Department:  
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## PRESENTER

**Prof Ben Bladergroen** completed his chemical engineering degree at the University of Twente (NL) before he joined the University of the Western Cape (UWC) in 1998 as a PhD student. Prof Bladergroen is the deputy director of the South African Institute for Advanced Materials Chemistry since 2007. Prof Bladergroen is currently heading the Energy Storage Innovation Laboratory (ESIL) which was created in 2015 as a platform to commercialize emerging technologies in partnership with local businesses.



## PRESENTER

**Prof Bernard Bekker** holds the positions of Eskom Chair in Power System Simulation & Associate Director of CRSES within the Engineering Faculty at Stellenbosch University. His research focuses on power system planning, specifically related to the increasing prevalence of grid-connected distributed storage and generation.

## COURSE COORDINATOR

**Dr Armand du Plessis** (Stellenbosch University)



## Synopsis

The objective of the module is to enable participants to understand the concepts and technologies used for electric Energy Storage (ES).

The course highlights Lithium Ion (Li-ion) batteries as the dominant technology in new projects and addresses the complex safety, performance and life issues of this technology.

The technical and financial parameters that drive the project designs of grid-connected and off-grid ES will be discussed. The participant will become familiar with the major factors that determine ES selection and sizing, and be provided with various case studies to use as benchmark.

The module therefore aims to provide professionals with sufficient understanding to establish the key requirements and financial benefits of ES in various grid-connected and off-grid applications.

## 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:

+27 (0) 21 808 4069  
[keziah@sun.ac.za](mailto:keziah@sun.ac.za)  
[www.crses.sun.ac.za](http://www.crses.sun.ac.za)

### Academic:

Please contact the relevant academic department, quoting course code 13810 774/874