

# Green Hydrogen Project Engineering



CENTRE FOR RENEWABLE &  
SUSTAINABLE ENERGY STUDIES



Stellenbosch  
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<b>DATE</b>	6 - 10 March 2023
<b>VENUE</b>	Engineering Faculty, Stellenbosch University
<b>ACCREDITATION</b>	Certificate of attendance (5 CPD points) <a href="#">REGISTER HERE</a> Certificate of competence (5 CPD points) <a href="#">REGISTER HERE</a>
<b>DEADLINE</b>	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.



## COORDINATOR

**Prof Johann F. Görgens** is a distinguished professor in chemical engineering with over 20 years' experience in renewable energy projects in industry and academia. Prof Görgens has a PhD in Chemical Engineering and an MBA, both from Stellenbosch University. His research focus is on the development, assessment and application of process technologies for the production of sustainable energy, fuels, chemical and materials, with hydrogen as a critical reagent in several of these process technologies.



## PRESENTER

**Dr Steve Clark** works as a postdoctoral researcher at the Department of Mechanical Engineering and Mechatronic Engineering, doing research in Hybrid power systems and Green hydrogen. Steve earned his BS in Mechanical Engineering at UC Berkeley in 1976, followed by a MS in Petroleum Engineering at Stanford in 1977. Steve has worked in the international oil and gas development business, and retired in 2016 prior to completion of a PhD in Mechanical Engineering at Stellenbosch University (2017-2020).

## OTHER PRESENTERS

**Dr Abdul Petersen** (Stellenbosch University)  
**Dr Somayeh Farzad** (Stellenbosch University)  
**Dr Gerhard Human** (TrenTech (Pty) Ltd)  
**Prof Andre Burger** (Stellenbosch University)





## Synopsis

**Understanding the principles and techniques** applied in the definition of industrial and commercial projects for green hydrogen production, conversion, storage, handling and end-application, with consideration of the integration of technologies and supply chains in a manner that optimizes the economic and environmental benefits.

**Technical design and feasibility** deal with technology selection in various steps of the green hydrogen value chain, with consideration of technology performances, sizing and location for efficiency supply chains.

**Economic assessment** includes all aspects of costing along the green hydrogen value chain, considering natural resources, renewable energy, conversion, storage, handling and end-use dimensions. Consideration of market opportunities and supply chain requirements to capture these.

**Environmental assessment** considers the broader framework of sustainability and the various certification methods applied in product categories such as green hydrogen and the products derived from it. Methods of quantitative and qualitative assessment of green hydrogen value chains, including definition of boundaries, will be considered. The interplay between economic viability and environmental/sustainability credentials, is an important consideration for definition of project concepts.

**Project selection** on the basis of a multi-criteria platform, considering technical, economic and environmental/sustainability issues, is an important requirement to prioritise project concepts for further development.

## 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

**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 **R12 900 for a certificate of attendance**, and **R15 000 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.

## Contact

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