

# Solar Training Centre RTO #40352

## COURSE OUTLINE

---

for

**Short Course**



**22601VIC Course in Design Stand-alone Power Systems**

and



**22600VIC Course in Install Stand-alone Power Systems**

V3.0 2024.04

## Course Outline



**22601VIC Course in Design Stand-alone Power Systems**  
**22600VIC Course in Install Stand-alone Power Systems**

**These courses are a valid pathway to provisional SAA accreditation**

The Design and Install courses are open to Electricians who have completed the prerequisite qualifications listed below. Electrical and Electronic Engineers and other Engineers who have completed the prerequisites are able to enrol in the Design Course.

Design and Install are delivered concurrently. All students will complete Design, and students wishing to complete Install will complete additional study requirements.

### AWARD:

Statement of Attainment for the qualification completed.

### STUDY OPTIONS

This course runs over 5 consecutive days (3 days if undertaking Design only) – face to face - plus up to 20 hours self directed study - totaling up to 60 hrs of learning and assessment. **Candidates with prior experience may be able to complete the course in shorter duration**

Course	Prerequisite units <sup>#^</sup> – you must have completed these	Course Cost
<p style="text-align: center;"><b>22601VIC Course in Design Stand-alone Power Systems</b></p> <p style="text-align: center;"><b>For QUALIFIED ELECTRICIANS and ENGINEERS who already hold On-grid Solar PV and Battery Storage qualifications</b></p>	<p style="text-align: center;"><b>22453VIC Course in New Energy Technology Systems (Design)</b>  <b>OR</b>  <b>UEENEK135A/UEERE0011</b>                      plus  <b>UEERE5001</b></p>	<p><b>\$2145 (no gst)</b>  <b>3 days +</b>  <b>self directed study</b></p>
<p style="text-align: center;"><b>22601VIC Course in Design Stand-alone Power Systems</b></p> <p style="text-align: center;"><b>AND</b></p> <p style="text-align: center;"><b>22600VIC Course in Install Stand-alone Power Systems</b></p> <p style="text-align: center;"><b>For QUALIFIED ELECTRICIANS who already hold On-grid Solar PV and Battery Storage qualifications</b></p>	<p style="text-align: center;"><b>ABOVE</b>                      plus  <b>UEERE4001</b>                      Plus  <b>Unrestricted Electrician's License</b></p>	<p><b>2795(no gst)</b>  <b>5 days +</b>  <b>self directed study</b></p>

<sup>#</sup>Download full unit content from [www.training.gov.au/Home/Tga](http://www.training.gov.au/Home/Tga). Contact us for details. Your place in a course is not confirmed until ALL enrolment requirements are met including proof of prerequisites and payment.

### OUR LOCATIONS:

**SA:** Head Office 79 Jervois St Torrensville SA 5031

**Vic:** Solar Training Centre @ 1/1667-1669 Centre Rd Springvale VIC 3171

**Qld:** Solar Training Centre @ CTC Building 1 4610-492 Beaudesert Rd Salisbury QLD 4107

**Contact Details for all sites:** [info@greenrto.com.au](mailto:info@greenrto.com.au) 08 8443 6373 / 0490 115 332

## COURSE OUTCOMES

**22601VIC Course in Design Stand-alone Power Systems** provides training for those wanting to develop skills in the design of stand-alone power systems, for households, communities and businesses across a range of industries. It involves client liaison, assessment of client energy needs, site analysis, research and problem solving to determine an appropriate energy solution, and system documentation.

This Course comprises one unit of study: **VU23206 Design a stand-alone power system**

**22600VIC Course in Install Stand-alone Power Systems** provides training for those wanting to develop skills in the installation of client approved stand-alone power systems with battery storage. It involves confirmation of job requirements, installation of energy system components and the finalisation of work processes.

All students who undertake **22600VIC Course in Install Stand-alone Power Systems** must first complete **22601VIC Course in Design Stand-alone Power Systems**

This Course comprises one unit of study: **VU23207 Install a stand-alone power system**

## Prerequisite Units of Competency

In order to enroll in this course, you must have completed **prerequisite units** as listed below – you must provide us evidence in the form of

- your USI transcript (download from [www.usi.gov.au](http://www.usi.gov.au)) or
- your TAFE/RTO parchment for your completed studies **(we cannot accept your SAA Accreditation as proof)**

### **Prerequisite Units of study for 22601VIC Design:**

1. **Completion of 22453VIC Course in New Energy Technology System (Design) which lists the following units**
  - **VU22123 Undertake site assessment for installation of a grid-connected renewable energy generation system**
  - **VU22124 Design a grid connected photovoltaic energy generation system to meet client requirements**
  - **VU22125 Design a grid-connected battery storage system to meet client requirements**

OR

2. **Completion of all of**
  - **UEENEEK135A/ UEERE0011 Design grid connected photovoltaic power supply systems AND**
  - **UEERE5001 Design battery storage systems for grid-connected photovoltaic systems**
  - Candidates holding these units will need to apply for **Recognition of Prior Learning** to upgrade their qualifications to **22453VIC Course in New Energy Technology System (Design)**. Electrical Engineers holding a Certificate of Completion rather than a Statement of Attainment for the UEE units may need to take additional steps towards RPL at additional cost.

### **Prerequisite Units of Study for 22600VIC Install Stream**

In addition to completion of **ALL** of the prerequisites listed above for **22601VIC Design**, candidates enrolling in **22600VIC Install** must also show evidence of holding both

- **UEERE4001 Install, maintain and fault find battery storage systems for grid-connected photovoltaic systems**
- **A valid unrestricted Electrical License**

Note that **22601VIC Course in Design Stand-alone Power Systems** is a **prerequisite** to completing **22600VIC Install**. **You can enrol in BOTH at the same time**. You cannot be awarded a qualification for 22600VIC Install until you have also completed 22601VIC Design.

## Accreditation with Solar Accreditation Australia

Upon successful completion, graduates may apply to SAA for provisional SPS accreditation. Additional requirements apply. See the SAA website for further information [www.saaaustralia.com.au](http://www.saaaustralia.com.au)

## **Mandatory Training Resources you must have access to (additional cost#):**

Resource	Cost and how to purchase#
1. Computer, reliable internet service 2. Calculator 3. See also "Practical Training Sessions" below	NA
4. AS/NZS 5033:2021 Installation and safety requirements for photovoltaic (PV) arrays	From \$245 (incl gst + postage) Purchase through Standards Australia website <b>CLASS COPIES AVAILABLE - YOU CANNOT TAKE THESE HOME</b>
5. AS/NZS 4777.1:2016 Grid connection of energy systems via inverters - Part 1 Installation requirements	From \$165 (inc gst + postage) Purchase through Standards Australia website <b>CLASS COPIES AVAILABLE - YOU CANNOT TAKE THESE HOME</b>
6. AS/NZS 5139:2019 Electrical Installations- Safety of battery systems for use with power conversion equipment	From \$242 (incl gst + postage) Purchase through Standards Australia website <b>CLASS COPIES AVAILABLE - YOU CANNOT TAKE THESE HOME</b>
7. <b>OPTIONAL</b> Textbook Stand Alone Power Systems Resource Book 8th Edition	\$176 (incl gst and postage) Order from publisher online at <a href="http://www.gses.com.au/product-category/publications/">www.gses.com.au/product-category/publications/</a>

## **ASSUMED KNOWLEDGE:**

The following are assumed knowledge on entry into this course:

- AS/NZS 3000 Wiring Rules
- AS/NZS 3008 Part 1.1 - Cables for alternating voltage up to and including 0.6/1k
- SAA Accreditation Guidelines and Code of Conduct
- AS/NZS 5033, AS/NZS 4777.1, AS/NZS 5139
- Each Unit of Competency has required language, literacy and numeracy entry requirements – review these by searching the unit code at [www.training.gov.au/Home/Tga](http://www.training.gov.au/Home/Tga)

Sound skills in designing grid connected solar and storage systems - including mathematical calculations – are required. In particular, the course will require you to select appropriate cables, calculate current carrying capacities and calculate voltage drop for both AC and DC cables and to size batteries for variable loads. You should review the relevant sections in the above documents to prepare yourself for the course.

## **RECOGNITION OF PRIOR LEARNING:**

Given the constantly changing nature of stand-alone system technologies we are currently not offering RPL towards these courses.

## **STUDENT HANDBOOK:**

Please download this from our website at [www.solararto.com.au](http://www.solararto.com.au) and read it prior to enrolment. It contains valuable information about your training program, your responsibilities and our commitment in delivering training services to you.

## COURSE FEE FUNDING

We do not currently have course fee funding options for this course.

## YOUR COMMITMENT TO TRAINING

Your enrolment comes with responsibilities which you are required to agree to prior to us considering your enrolment application. Your enrolment application is subject to this agreement.

### On Enrolment

- **ALL enrolment activities MUST be completed** before your enrolment application can be considered - this includes
  - Submission of a signed **Enrolment Form and Training Agreement** in full including documented evidence that you hold the prerequisites for your course
- Prior to payment, you must read our **Fees Terms & Conditions Policy** on Solar Training Centre's website
- Payment of the **Course Fee is required in full by the due date of the invoice and at least 14 days before commencement of the first day of the course**. Solar Training Centre cannot hold your place if the course fee is not paid by the due date
- If you wish to transfer to a new course date you must **request this in writing no less than two weeks prior to Day 1 of attendance in your course**. Solar Training Centre will then determine if funding is available for an alternate course date and may offer you a position in an alternate course date **IF ONE IS AVAILABLE**. This may not be the next advertised course date. The advertised fee for the new course date applies to any transfer.
- If you are granted a transfer, Solar Training Centre will invoice you a **transfer fee of \$195 + gst** which is payable within the invoice due date to secure the alternate course date. You may not be granted subsequent transfers thereafter but if you are, **EACH** transfer is subject to the transfer fee. Transfers must be used within 6 months

### Study Requirements- Course Duration, Academic Progress and Submission Dates

- The total time commitment for this course is up to 60 hours (Design + Install), up to 50 hrs (Design only) – students with prior experience may complete the course in a shorter timeframe
- You must attend **all trainer-led training sessions**. If you are to be absent due to illness you must advise Solar Training Centre via [info@greenrto.com.au](mailto:info@greenrto.com.au) immediately and commit to re-attending as directed by Solar Training Centre
- You must show progress in your studies by **undertaking and completing learning and assessment tasks**. The online learning system (LMS) used by Solar Training Centre for your course logs your engagement, tracks your progress, and is the mechanism for you submitting assessments along with paper based submissions where required. If you do not show progress in completing learning and assessments, your enrolment may be in jeopardy.
- The submission date for all assessments is **8 weeks after your last date of attendance** and **you must fully commit to meeting this submission requirement**.
- You should contact Solar Training Centre staff/ your trainer via [learningteam@greenrto.com.au](mailto:learningteam@greenrto.com.au) or [info@greenrto.com.au](mailto:info@greenrto.com.au) if you need assistance in understanding assessments
- One short extension may be offered if you request it in writing to [learningteam@greenrto.com.au](mailto:learningteam@greenrto.com.au) **BEFORE the 8-week assessment submission date**. You must submit assessments **in full by the extension date** you are provided.
- If marked assessments require resubmission, **you must adhere to all assessment resubmission dates. Late marking fees apply.**

### Consequences if you do not follow these study requirements

When you sign your Enrolment Form and Training Agreement, you are confirming you understand and accept the enrolment and course requirements. If you don't abide by the above requirements, your enrolment is subject to cancellation. If your enrolment is cancelled, and you wish to continue studies thereafter, you may be invited to re-enrol in the course and complete your studies. The full course fee (no gst) will apply to this re-enrolment.

## **IS THIS THE RIGHT COURSE FOR YOU?**

In considering whether this course of study is right for you, please make sure you read the course requirements, fees, content, and length of study required and the Student Handbook. See [www.asqa.gov.au/news-publications/publications/fact-sheets/choosing-training-or-education-provider](http://www.asqa.gov.au/news-publications/publications/fact-sheets/choosing-training-or-education-provider) for extra information. Note that completion of this course does not guarantee you employment.

## **STUDY REQUIREMENTS FOR YOUR COURSE**

**Please read these study requirements carefully**

### **FORMAT:**

These courses combine self-paced study and assessment with an intensive face-to-face theory and practical learning and assessment in class over 5 days (3 days if completing Design only).

- Module A involves self paced learning and assessment to prepare you for Module B
- Module B involves 3- 5 full days of face to face in-class delivery of learning and most assessments
- Module C involves self paced learning to allow you to consolidate your knowledge and complete assessments.

A total of up to 60 study hours are required to complete the full course. Students with prior experience may complete the course more quickly.

The units of study are delivered as a cluster rather than one by one. It is important that you make sure you allow yourself time to complete the required self-directed learning and assessment modules, and that you attend each scheduled day of class. Post-class group tutes may be offered.

### **ASSESSMENTS:**

1. On our online learning system (LMS) - Written/ multiple choice answers to questions – 4 assessments
2. Completion of two SPS Design projects
3. For Install course - Install two SPS systems - practical demonstration of install/commission / fault find skills  
- must be completed and submitted by end of last day of class

### **WHEN ATTENDING CLASS:**

- Classroom attendance times are nominally 8.30-4.30 pm unless otherwise advised – class starts sharply on time.
- Please be on time - each day's learning builds on the previous day – if you miss a session it cannot be made up until the next running of the course
- Hard copy materials are provided to you in class as an adjunct to your online LMS course materials and text book
- Morning and afternoon tea and beverages provided – please advise us of any dietary requirements

### **PRACTICAL TRAINING SESSIONS**

Practical training and assessment occurs over the last two days of attendance.

### **WHAT TO BRING/ WEAR:**

1. Safety glasses with side shielding (fitting over any prescription glasses)
2. Electrical Testing glove set
3. Worksite attire
4. Safety shoes or safety boots
5. AS/NZS 5139:2019- Mandatory (class copies available, can't be taken home)
6. Optional AS/NZS 5033, AS/NZS 4777.1:2016, AS/NZS 5139:2019 (class copies available, can't be taken home)

## TRAINING PLAN

MODULE A			MODULE B	MODULE C
<b>Before Class attendance</b>	<b>Course</b> DI = Design + install DO = Design only		<b>Intensive Face-to- Face In-Class Learning</b>	<b>After completion of In-Class Learning</b>
<b>Self-directed study Min 1 wk</b>	DI	DO	<b>In-class Learning and Assessment</b>	<b>Continue Learning and Assessment</b>
<p><b>Course materials will be provided 2 weeks before the course via our online learning platform (LMS)</b></p> <p><b>Read your online learner guides</b></p> <p><b>Optional - Read Text Book Chapters: 4, 5, 6, 12, 13</b></p>	o	o	<p><b>Day 1 and Day 2 - Theory and Assessment</b>  <b>Orientation, Course Requirements, , SPS system design and install basics.</b>            System hardware            Battery technology            Battery capacity            Hazards and safety            Review Design Project 1</p>	<ul style="list-style-type: none"> <li>Finalise any in-class assessments</li> <li>Complete Design Projects 1 and 2 –</li> <li>Group Tute may be offered as necessary</li> </ul> <p>Marking will occur within 3 weeks</p> <p>Two resubmissions are permitted, must be within set timeframe.</p> <p>Successful students will receive a Statement of Attainment within 21 days of passing the course.</p> <p>Failure to submit within timeframes may result in cancellation of enrolment</p>
	o	o	<p><b>Day 3 – Design Project 1 and 2</b>            Documentation            Overview of Design Process            Completing a Design            Complete Design Project 1            Commence Design Project 2</p>	
	o		<p><b>Day 4 – Install Practical Training + Assessment on SPS System 1</b>  <i>(No attendance required for Design Only students)</i>            Review product manuals and SDS            Risk Assessment and SWMS            Install, test, commission system            Documentation</p>	
	o		<p><b>Day 5 — Install Practical Training + Assessment on SPS System 2</b>  <i>(No attendance required for Design Only students)</i>            Review product manuals and SDS            Risk Assessment and SWMS            Install, test, commission system            Documentation</p>	

**MODULE A – PRE CLASS SELF DIRECTED STUDY AND ASSESSMENT – 10 hrs**

After we receive your course fee payment and your enrolment has been accepted, we will send you a Welcome email provide you a login to our online learning system (LMS) where you can access your electronic course materials

**Instructions for commencing your studies:**

1. Login to the online learning system (LMS) and review electronic course materials
2. Review your knowledge of AS/NZS 5139, AS/NZS 5033 and AS/NZS 4777.1 - Key Clauses relating to battery storage systems
4. Read the following chapters of your GSES text book – Chapters **4, 5, 6, 12, 13**

**MODULE B – IN- CLASS LEARNING AND ASSESSMENT – 40 hrs**

1. Attend class – 5 days x 8 hrs (start/ finish times will be provided to you- note 3 days if you are studying Design only). Attendance is mandatory on all days. See training plan above for content. There is a mix of theory and practical learning and assessment. WHS Procedures must be adhered to during your training.
2. For Design students, you will complete two Design Projects
3. Install Practical Assessments undertaken in class must be completed and submitted in class on the day. Note that if you attend a course via Live Interactive Webinars, your practical training and assessment day may occur at a later date (not within your theory study week)
4. Additional online quiz assessments may be commenced in class and completed as homework

**MODULE C – SELF DIRECTED LEARNING AND ASSESSMENT – up to 10 hrs**

1. Read the remaining chapters of your Text Book to consolidate your in-class learning.
2. Explore the SAA Accreditation requirements and the process to become SAA -accredited for SPS successful completion of your training at [www.saaaustralia.com.au](http://www.saaaustralia.com.au)
3. Look online for your own resources from the Solar and Storage industry – some helpful websites are
  - Smart Energy Council
  - Clean Energy Council
  - Renew Economy
  - [Solar Quotes](#)
  - Storage equipment manufacturers and suppliers



4. Apply your learning and practice your skills at your workplace – for example
  - practice undertaking a site assessment for an SPS
  - review SAA Guidelines and apply them to when designing and installing an SPS
5. Complete your in-class assessments using the Text Book and other resources provided

Contact your trainer via email (first option) if you have any questions or need guidance on learning and assessment – [learningteam@greenrto.com.au](mailto:learningteam@greenrto.com.au)

## CONTACT US

Please contact us at any time to discuss your Learning Program and these Course Requirements

Email us at [info@greenrto.com.au](mailto:info@greenrto.com.au) or call

Steve on 04300 300 23

Caz on 0417 823 497

or our friendly Admin team at 08 8443 6373/ 0490 115 322.

**We look forward to seeing you in the Solar Training Centre!**

### Payment Options:

See our Fees Terms and Conditions Policy at [www.solarrto.com.au](http://www.solarrto.com.au)

**Card:** Contact us on 08 8443 6373 or 0490 115 332 to pay by phone. Merchant Fees of 1% apply. Mastercard./ Visa only

**EFT:** CBA **Account Name :** Green Business Training **BSB:**065 124 **Account No:** 10294012 **Quote your name/ invoice no**

#Prices are subject to change without notice. No gst applies to course fees. We do not collect prepaid fees > \$1500 from self- funded students. Selected courses are supported by funding subsidies. Subsidies are subject to availability and eligibility and conditions apply