

Course Outline: Design and Install Grid Connected Solar PV systems
Students can also complete a Design Only or Install Only course

- Units:**
- UEENEEK125A – Solve basic problems in photovoltaic energy apparatus and systems
 - UEENEEK135A – Design grid connected photovoltaic power supply systems
 - UEENEEK148A – Install, configure and commission LV grid connected photovoltaic power systems

Duration: Self-directed learning of minimum 10 hrs then 5 Days classroom attendance + homework min 5 hrs

Start Date: Course commences on the date we mail you your learning materials. Class dates are listed on website

Course Cost: 2018 course fee is \$2295* (no gst applies)

Includes learning materials, morning/ afternoon tea and beverages

Check our training dates online for the fee that applies to your chosen class dates and location.

Interested in a Design Only or Install Only course? \$1750* - 4 days duration. More info via info@greenrto.com.au

Course Content

- How to solve predictable problems in photovoltaic energy apparatus operating at extra low voltage
- How to design grid connected power supply systems in line with Australian Standards
- How to set up, install and adjust photovoltaic power systems and connect to a supply grid inverter.



This intensive course is designed so you will gain maximum skills and knowledge within a short time frame. You will commence self-directed study (min 10 hrs) when learning materials are issued (minimum two weeks before in classroom training). Students must submit written assessments prior to commencing classroom training. Classroom training is delivered over 5 days. Afterwards, additional tutorials may be offered as required. Written and practical skills assessments are undertaken in class and some assessments require additional time outside class hours to complete (minimum 5 hrs). All assessments are due within 5 weeks of commencement of class delivery.

Eligible candidates who successfully complete this course in full will be able to apply for provisional accreditation through the Clean Energy Council. For more information visit www.solaraccreditation.com.au

Award upon completion: Statement of Attainment for the completed units of competency

Prerequisites: In order to be eligible for entry to this course:

- **Design and Install Grid Connected Solar PV Systems Course**– must hold Unrestricted Electrician’s License
- **Install Only Course** - must hold Unrestricted Electrician’s License
- **Design Only Course** - must hold UEENEE101A, UEENEE104A, UEENEE107A
- Each Unit of Competency outlines the required language, literacy and numeracy entry requirements
- Prior knowledge of Australian Standard AS3000 and AS3008 is assumed

Ask us about options to complete a modified course for a Certificate of Attendance only if you do not meet the prerequisites

Mandatory Additional Costs:

- **\$200 + gst plus applicable postage for copy of AS5033:2014*** – Australian Standard supplied by us
- **\$140 + gst plus applicable postage for copy of AS4777.1:2016*** – Australian Standard supplied by us
*Required for completion of training and assessments. We provide these documents at a discount under license with SAI Global. Alternatively, students can purchase copies direct from SAI Global (higher costs apply).
- **\$176 + gst plus applicable postage*** – Textbook - *Grid Connected PV Systems: Design & Installation, 8th Edition* (ISBN: 978-0-9581303-6-3) – you must order prior to course commencement from publisher online at www.gses.com.au/product-category/publications/

Optional Additional Costs

- **\$140 + gst plus applicable postage for a copy of AS4777.2:2015 *** - Australian Standard supplied by us

Payment Options: See our Fees Terms and Conditions Policy at www.greenrto.com.au

Card: Contact us on 08 8443 6373 or 04300 300 23 to pay by phone. Merchant Fees of 1.5% apply.

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. We do not collect prepaid fees of more than \$1500 from self- funded students

Course Outline: Design and Install Grid Connected PV Systems with Batteries
Students can also complete a Design Only/ Install Only course

Units:

- UEERE4001 Install, Maintain and Fault Find Battery Storage Systems for Grid Connected Photovoltaic Systems
- UEERE5001 Design Battery Storage Systems for Grid Connected Photovoltaic Systems

Duration: Self-directed learning of min 10 hrs, then 5 Days + min 10 hrs post course to complete assessments

Start Date: Course commences on the date we mail you your learning materials. Class dates are listed on website

Course Cost: 2018 course fee is \$2495* (no gst applies) – includes learning materials am/pm tea and beverages
Check our training dates online for the fee that applies to your chosen class dates and location.

Interested in a Design Only or Install Only course? Course fee is \$1850*

Course Content

- Planning, carrying out and documentation for the installation, maintenance or fault finding of battery storage systems for grid-connected PV systems
- Designing new and retrofitted battery systems in line with Australian Standards and industry guidelines



This course provides you with thorough training in the skills and knowledge required to design and install PV systems with batteries to required industry and legislative standards. You will commence self-directed study (min 10 hrs) when learning materials are issued. You must submit a WHS written assessment prior to commencing classroom training, which is delivered over 5 days in order to provide you with maximum opportunities to develop practical battery installation and design skills.

Our course is **intensive** and **thorough** and covers the requirements of the draft Australian Standard **AS 5139:2017 Electrical installations - Safety of battery systems for use with power conversion equipment**. You will receive thorough training in **install and configuration of four examples of grid connected battery storage systems (BSS):**

- 1) Battery storage using a multi-mode inverter (MMI) is connected to main switchboard and batteries without using PV - for customers who need to make best use of lower supply tariffs.
- 2) Battery storage using a multi-mode inverter (MMI) with grid connected PV as an upgrade system.
- 3) Battery storage using a multi-mode inverter (MMI) with a new integrated grid connected PV and with critical load (UPS) support - for customers who may need power maintained through mains supply outages.
- 4) Grid connected PV with battery storage where additional PV is connected via a solar charge controller - for customers who need greater storage capacity or high availability of their stored energy.
- 5) Installation of a lithium ion battery system from our current range of state-of-the-art systems

A sound understanding of PV design methodology and mathematical calculations aligned to Aust Standards and CEC Guidelines are required for this course.

Written and practical skills assessments are undertaken before and during class and some assessments will require additional time outside class hours to complete (minimum 10 hrs). All assessments are due within 5 weeks of commencement of class delivery. Upon successful completion, unrestricted electrical license holders who already hold CEC accreditation in design / install of grid-connected (GC) photovoltaic systems may apply to the Clean Energy Council (CEC) for Battery Storage Endorsement. See the CEC website for further information. www.solaraccreditation.com.au

Award upon completion: Statement of Attainment for the completed units of competency

Prerequisites: You must hold these prior qualifications to enroll in this course –

- UEENEEK125A Solve basic problems in photovoltaic energy apparatus and systems
- UEENEEK135A Design grid connected photovoltaic power supply systems
- UEENEEK148A Install, configure and commission LV grid connected photovoltaic power systems
- Prior knowledge of Australian Standard **AS3000, AS3008, AS5033:2014 and AS4777.1:2016 and 4777.2:2015 is assumed**

Mandatory Additional Costs

- **\$121 + gst plus applicable postage – GSES Grid Connected PV Systems with Battery Storage**

You must order this yourself online from publisher at www.gses.au/product-category/publications prior to course start date

Payment Options: Please read our Fees Terms and Conditions Policy at www.greenrto.com.au

Card: Contact us on 08 8443 6373 or 04300 300 23 to pay by phone. Merchant Fees of 1.5% apply.

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. We do not collect prepaid fees of more than \$1500 for **self-funded** students