

Grid-connected PV Systems: Design only

Intakes
10/02/2027 (New Plymouth)
17/03/2027 (New Plymouth)
14/04/2027 (New Plymouth)

Duration
3 days

Domestic Fees
$1,310.00 (+$250.00 e-textbook or hardcopy)
All fees GST inclusive
Not eligible for Studylink

International Fees
$1,310.00 (+$250.00 e-textbook or hardcopy)
All fees GST inclusive
Not eligible for Studylink

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Grid-Connected Photovoltaic (GCPV) Systems are becoming a frequently requested option on many homes and in larger, commercial applications.

It is essential that those involved with the design, specification and sales of these systems fully understand their operating theory and safety requirements in order to effectively design safe, standards compliant and effective systems as well as interpret fault-finding results provided by electrical workers during installation and maintenance.

This is a pre-requisite course for other advanced courses for those wanting to design battery-backup (on grid) or complete standalone (off-grid) systems.

Entry Requirements

Applicants must meet the following entry criteria:

- **Professional or Educational Background:**

  Hold a qualification in the electrical/electrical engineering field, or have equivalent industry experience in electrical, renewable energy, or related technical environment (eg. an Electrical Engineer, Electrical Technician, or Technical Solar Salesperson with an electrical background).
- **Electrical Knowledge:**

  Possess a strong understanding of electrical theory.
- **Exclusions:**

  This course is not suitable for beginners or those with little to no electrical knowledge. Applicants are expected to have a foundational understanding of electrical systems – therefore this course is not suitable for those with little to no prior knowledge in this area.

N.B. This course is a pre-requisite for Grid-Connected Battery Storage Systems: Design Only.

(Note: live testing etc will only be carried out by a licenced electrician and participants will interpret those results)

A WITT certificate of completion is issued on successful completion of the Design only course. It is not a NZQA registered course.

Course structure

The delivery of this course is designed for busy people who do not have the time to attend lengthy face-to-face courses. The online component is fully flexible to allow students to complete the theory in their own time.

- Pre-course learning: Online self-directed learning at your own pace, with tutor support (96 hours)
- Three day course at the WITT Campus, New Plymouth (24 hrs)

The face-to-face component of the three day course includes hands-on familiarisation with the various system components on a simulated worksite, testing of ELV components and demonstration of commissioning/fault finding by a licenced electrician. No LV work or testing will be carried out by unlicenced persons.

At the end of this course, participants will have the knowledge to:

- Assess a site's suitability for a Grid-Connected PV system and calculate an estimated energy yield for the client.
- Assess a client's energy consumption, create a load vs PV profile and recommend options to improve self-consumption of PV energy.
- Select appropriate components and assess their suitability.
- Design a Grid-Connected PV system for installation by licenced electrical workers.
- Understand the commissioning and fault finding process of Grid-Connected PV systems and interpret results provided by licenced electrical workers.

NZIHT reserves the rights to withdraw or adjust programmes, alter start date or fee schedules, and make any other changes as it may deem desirable or necessary, without prior notice. All programmes are subject to a sufficient number of enrolments and completion of all approval and accreditation requirements.

NZIHT and this programme are part of Te Pūkenga – New Zealand Institute of Skills and Technology

Topics include:

- Solar Geometry
- Photovoltaic modules
- Grid-Connected Inverters
- Mounting Systems
- Balance of System components
- Site suitability and Load assessment
- System Design and Yield calculations
- Regulations, Standards – in particular AS/NZS5033 and AS/NZS4777.1 and examples of lines company connection requirements in New Zealand
- Installation, testing, commissioning and fault-finding of GCPV systems
- Hazards associated with photovoltaic modules and GCPV systems.
- Energy consumption assessment and optimisation strategies.
- Additional grid protection requirements for larger systems.

Cancellation policy:

Participant withdrawals must be notified in writing. Any withdrawals after 15 working days of receiving the online login details will be charged the full course fee, including text book fee. If a participant requests to be transferred to a practical course on a different date, or fails to complete the required online modules and WITT is required to transfer the participant to a different date, the participant will be charged an additional fee of $300. Non-attendance of participants on the course date will be charged the full course fee. These cancellation fees are non-transferrable.

Additional information

(Minimum numbers apply before a course is confirmed)
* Applicants must supply a verified copy of either their NZ Passport, NZ Birth Certificate or Residency Visa

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