

# The Future Grid 101

## Short Course

Supported by UNSW Digital Grid Futures Institute

*Tuesday 12 December, 8:30am - 5:00pm at UNSW Sydney*

The Future Grid 101 will equip you with energy and grid literacy required for the energy transition.

Learn fundamental technical skills required for energy professionals to switch to a cleaner electric future.

**FREE course!**

Registration essential,  
space is limited.

**Register here**

# Course Outline

<b>Registration (8:15am – 8:25am)</b>	
<b>Session 1 (8:30am – 10:00am)</b>	
Introduction and overview	Meet your facilitators and get an overview of the learning objectives.
Power Basics	<ul style="list-style-type: none"><li>• Managing surge factors and demand</li><li>• Power quality Challenges</li><li>• Voltage and frequency control</li><li>• and more...</li></ul>
<b>Morning Tea (10:00am – 10:30am)</b>	
<b>Session 2 (10:30am – 12:30pm)</b>	
Power Conversion	<ul style="list-style-type: none"><li>• Overview of grid architecture</li><li>• Converters for grids</li><li>• Off-grid vs grid-connected inverters</li><li>• and more...</li></ul>
Traditional vs Modern Smart Grid	<ul style="list-style-type: none"><li>• Power flow: Uni vs bi-directional</li><li>• AC vs DC grids and loads</li><li>• Smart grid technologies</li><li>• and more...</li></ul>
<b>Lunch (12:30pm – 1:30pm)</b>	
<b>Session 3 (1:30pm – 2:30pm)</b>	
Renewable Energy Sources	<ul style="list-style-type: none"><li>• Wind energy and grid integration</li><li>• Solar PV and grid integration</li><li>• Challenges</li><li>• and more...</li></ul>
<b>Afternoon Tea (2:30pm – 3:00pm)</b>	
<b>Session 4 (3:00pm – 5:00pm)</b>	
Microgrids and Storage	<ul style="list-style-type: none"><li>• Community batteries</li><li>• Battery management systems and grid synchronisation</li><li>• Protection systems</li><li>• Microgrid control</li><li>• and more...</li></ul>
Summary and Q&A	A review of the key concepts of the day and discussion around future technologies and trends, followed by a Q&A session.

[\*\*Register here\*\*](#)