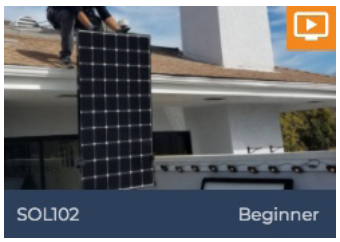
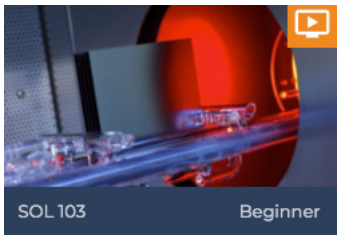
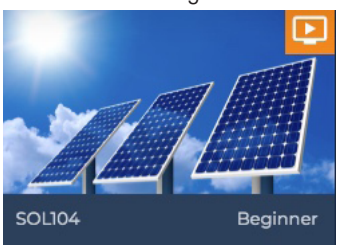
THE BLUE COLLAR
VIRTUAL TRADE SCHOOL

CURRENT CATALOG - Solar

COURSE	INDUSTRY	TYPE	CODE	DESCRIPTION
Solar Basics 	SOLAR	Video	SOL101	Discover why solar PV (photovoltaic) is rapidly accelerating in popularity today in both residential and commercial uses. Learn the components of a solar power system and how a solar PV system interfaces with the utility grid. Increase solar power sales through understanding the homeowner's needs as well as how they make purchasing decisions, enabling you to craft an irresistible and unique sales proposition that wins.
Foundations of PV 	SOLAR	Video	SOL102	Gain a better knowledge of the history and applications of the solar PV and how that relates to abundant job prospects. Discover the key electrical components of PV, grid connected systems, and "Net Energy Metering."
Solar Cell Technology 	SOLAR	Video	SOL103	This course builds upon the Foundations of PV course and adds detail about the key component that makes up all solar photovoltaic power systems - the solar cell itself. Gain a big picture of all the types of cell technologies being worked on today, and then explore in more detail the three main cell types installed today: single crystal silicon, polycrystalline silicon and thin film CdTe.
Solar Module Design 	SOLAR	Video	SOL104	The module is the smallest building block of a solar array, tough enough to endure every type of environmental stress. Explore the components of a standard module and how it is framed, mounted, and connected. Discover next-generation alternatives for residential and commercial use.
Solar Inverter Technology 	SOLAR	Video	SOL105	Inverters are the heart and the brains of a solar PV system. Look at some common characteristics of how all grid-interactive solar inverters operate. Examine some common safety behaviors, such as how they isolate themselves and shut down their dangerous output voltage in case of a utility power outage or a fire. Course also explores how inverters are becoming interoperable with the utility by defining the new California Rule 21 specifications. The most common types of technology installed today are also discussed - string inverters, microinverters and dc power optimizers.

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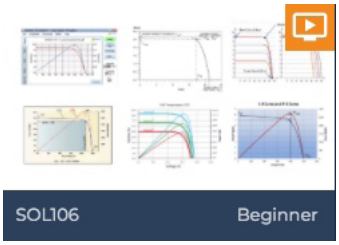
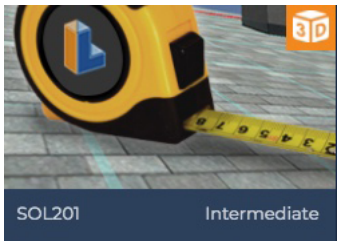
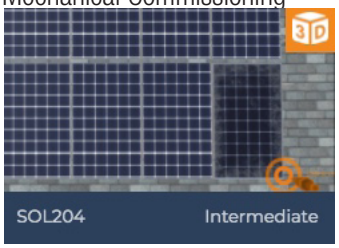
The IV Curve 	SOLAR	Video	SOL106	Fundamental course firmly grounds your understanding of solar PV technology and allows you to understand system performance, sizing and design. Lessons begin with a simple explanation of all the key values that you can get from the IV curve, and how you can quantitatively know the quality of your module by calculating the Fill Factor from the curve. Then you learn how the curve is affected by typical environmental factors like light intensity or irradiance, temperature and solar spectrum. Become familiar with various test conditions that take these environmental factors into account, like STC, PTC and NOCT (and the emerging conditions of NMOT).
Site Assessment 	SOLAR	SIM	SOL201	This course demonstrates the value of onsite inspection of a residential solar customer's home. Complete a checklist that provides critical additional information for your company system designers to include along with any remote aerial evaluation they may do. Perform a detailed examination of the roof surfaces and note the types of obstructions and poor roof conditions that may affect module placement. Assess any dangerous ground or roof situations. Gather critical electrical panel parameters that may constrain inverter sizing or dictate the need for circuit breaker adjustments by the install crew. Examine inside the attic, something no aerial based software can possibly do for you!
Array Assembly Installation 	SOLAR	SIM	SOL202	Learn to make measurements, manipulate tools and assemble parts just like you would on an actual residential roof (except there's no danger of falling and you don't get sunburned or thirsty). Install a solar array using a rail-based mounting system over composition shingle roofing. This comprehensive course includes snapping vertical rafter and horizontal attachment lines, mounting flashed rail attachments, attaching rails, installing optimizers, securing array wiring, and attaching the solar modules.
Electrical Installation 	SOLAR	SIM	SOL203	Learn how to install the rest of the electrical components that complete the residential solar PV system. Perform a virtual installation from scratch: from securing equipment; to pulling and connecting conduit; to installing labeling.
Mechanical Commissioning 	SOLAR	SIM	SOL204	Simulated training and challenge scenarios show you how to perform a mechanical solar inspection by checking all the essential components of a solar array system to make sure they were installed and labeled correctly. Conduct a final inspection of a solar installation, before performing electrical commissioning. This inspection will confirm that all mechanical components are installed safely, and labeled properly.

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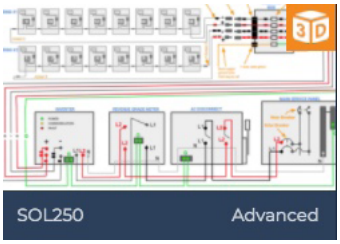
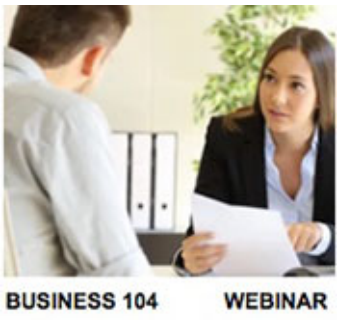
Electrical Commissioning 	SOLAR	SIM	SOL205	Learn how to use meters to perform critical final electrical checks before the system can be connected and energized. Engage in simulated checks for ground-faults, polarity, voltage, continuity, and resistance before connecting the array conductors and turning on your system.
Solar System Troubleshooting 	SOLAR	SIM	SOL250	Use simulations to learn and practice how to use the digital multimeter and megohmmeter to troubleshoot a variety of faulted electrical conditions with the help of your powers of observation and systematic root cause analysis. Work backwards from a faulted electrical condition to discover the root cause of electrical problems. Work through a wide variety of faulted conditions, including no DC power coming from the solar array, no AC power coming from the utility side, and a ground fault indication. Learn how to handle a system that is fully operational but not producing enough power.
The Art of Asking Questions 	Business Skills for the Trades	Webinar	Business104	Learn why asking questions and listening are the keys to being a successful home service technician.
Basic Personal Finance Planning 	Business Skills for the Trades	Webinar	Business105	Career choices build the future for you and your family. This course gives you a path to plan for success and your future retirement.
Home Service Q & A 	Business Skills for	Webinar	Business106	What questions do you have before you begin your new career in the home service industry?