

Imperial Valley ROP

Course Competencies List

000002 - SOLAR INSTALLATION (180 HRS)

SY09-10 version

Rating Scale P		Default	Exclude on Certificates
0	Proficiency not addressed	✓	✓
1	Limited proficiency		
2	Proficient		

Print Ratings on Certificates: ✓

1	1. Basic Electricity
2	a. Understands electrical safety
3	b. Exhibits safe use of electrical tools
4	c. Demonstrates understanding of basic electrical principles
5	i. Understands electric meters and gauges (volt meter, amp meter)
6	d. Demonstrates comprehension of residential electrical loads
7	i. Understands All-in-one service panels, sub panels, and disconnects
8	components
9	ii. Demonstrates knowledge of appropriate wire size and location in
10	single-family home
11	iii. Understands proper size and type of electrical box by noting
12	conductors, fittings, and devices installed
13	e. Demonstrates competence in installing electrical loads (switches,
14	receptacles, fuses, and circuit breakers)
15	f. Ability to differentiate among motor-starting overcurrent, motor-run-in
16	overcurrent, and locked-rotor current
17	g. Demonstrates use in the installation procedures for nonmetallic-sheath
18	cable, in AC and DC installations
19	h. Understands the differences with connected loads, calculated loads, and
20	demand loads.
21	i. Calculate the area of a dwelling to determine the minimum
22	number of required general lighting and general-use receptacle branch
23	circuits.
24	2. Photovoltaic Design and Installation
25	a. Demonstrates knowledge of design and installation
26	b. Understands concepts and terminology
27	c. Understands energy conservation and house preparation, including doors,
28	windows, weather stripping, lighting, etc.
29	d. Demonstrates knowledge of photovoltaic components and their performance
30	e. Demonstrates hands-on installation of panels
31	i. Understands waterproofing roof penetrations
32	f. Demonstrates how to use special equipment for installation
33	g. Demonstrates knowledge of connection to the utility grid
34	h. Demonstrates how to maintain photovoltaic panels
35	i. Demonstrates troubleshooting
36	j. Understands safety and proper use of materials, tools, and equipment
37	3. Essential Employability Skills/Career Preparation Standards
38	a. Understand personal skill development (positive attitude, honesty,
39	self-confidence and time management)
40	b. Understands effective interpersonal skills (group dynamics, conflict
41	resolution and negotiation)
42	c. Understands academic skills, critical thinking and problem solving in

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43	the workplace
44	d. Understands effective communication
45	e. Demonstrates occupational safety and observes all safety issues
46	f. Understands career awareness, paths and strategies
47	g. Understands how to adapt to changing technology