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## RENEWABLE ENERGY

### Photovoltaic System Design and Installation

San Juan College's Renewable Energy program offers a One-Year Certificate in Photovoltaic System Design and Installation. Students can also take additional general education courses to earn an Associate of Applied Science degree. Students will gain the knowledge and skills necessary to design and safely install electrical energy systems based on the latest photovoltaic and power conditioning equipment. Utilities and remote power users recognize this fast-growing sector of the electrical power industry as a viable and established energy source. Employment opportunities exist in small renewable energy businesses, energy companies, equipment supply companies, oil and gas field service companies, utilities, and in international agencies assisting the development of Third World countries.

Renewable Energy is a selective program. Specific requirements must be met in order to enter the Renewable Energy Program. Contact the School of Energy or the program coordinator for further information.

For the latest program changes and selection process which supersede the printed catalog, see the program's web pages at <http://www.sanjuancollege.edu/reng>. If you do not have internet access contact the School of Energy or the program coordinator at 327-5705.

This program requires the student have their own tools. To obtain a list of the required tools, contact the School of Energy or the program coordinator.

A student must earn a grade of "C" or higher in all courses to obtain a certificate or degree.

#### PROGRAM SELECTION REQUIREMENTS

To be eligible for the Renewable Energy Program selection process, students must have:

1. Achieved a minimum high school or college cumulative GPA of 2.50 or comparable GED scores. The GPA requirement must be fulfilled before being admitted into the program. (College GPA is based on a minimum of 12 **non-remedial** credits, those numbered 110 or higher.)
2. Met the admission requirements as found at the program's web pages at <http://www.sanjuancollege.edu/reng>. If you do not have internet access contact the School of Energy or the program coordinator at 327-5705.

### One-Year Certificate

The Photovoltaic System Design and Installation certificate is appropriate for students who already have a college degree, or who currently work in a related industry.

Note: The courses below require prior mathematical and computer software experience. MATH 115 and COSC 116 are listed as prerequisites. Transfer credits are acceptable for substitution.

Summer Session			Credits
INST	140	Applied Basic DC Circuits	3
PHYS	111	Introduction to Physics	4
Total			7

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#### 1st Semester

INST	144	National Electrical Code	3
INST	145	Applied Basic AC Circuits	3
INST	175	Renewable Energy Instrumentation	3
RENG	242	Photovoltaic Installation and the NEC I	3
RENG	242L	Photovoltaic Installation and the NEC I Lab	2
RENG	250	Passive Solar Design and Analysis	3
Total			17

#### 2nd Semester

INST	215	Renewable Energy AC and DC Machines	3
RENG	220	Photovoltaic Theory and System Design	4
RENG	243	Photovoltaic Installation and NEC II	3
RENG	243L	Photovoltaic Installation and the NEC II Lab	2
RENG	260	Solar Thermal Design and Application	3
		Renewable Energy Elective*	3
Total			18

**Total Credits 42**

\* Choose from: RENG 270, RENG 299, BIOL 230

Prerequisites	Credits
MATH 115 Intermediate Algebra and Applications	4
COSC 116 Spreadsheets	3

### Associate of Applied Science Degree

The Photovoltaic System Design and Installation degree is appropriate for students who are looking for a degree and for those wanting to pursue further education.

Students must complete the course requirements for the One-Year Certificate. In addition the following courses listed below must be taken. Students may enroll in general education courses prior to admission to the program. **Taking the general education courses that apply to the Renewable Energy curriculum does not guarantee acceptance into the program.** Enrollment in RENG courses is limited to those who have been accepted into the Renewable Energy Program. A student must earn a grade of "C" or better in all courses to obtain the degree including those in the One-Year Certificate.

			Credits
COSC	116	Spreadsheets	3
MATH	115	Intermediate Algebra and Applications	4
ENGL	118	Technical Composition	3
ENGL	218	Advanced Technical Composition	3
CHEM	110	Introductory Chemistry	4
SPCH	110	Public Speaking OR	
SPCH	120	Business and Professional Communication	3
		Humanities/Social Science Elective	3
Total			23
One-Year Certificate			+ 42
<b>Degree Total</b>			<b>65</b>