

COURSE NUMBER & TITLE:

EL102 Introduction to Photovoltaic Systems

CURRICULUM:

Electrical Engineering Technology

CATALOG DESCRIPTION: EL102 (2-2-3)

This course will provide an overview of the fundamental concepts of electrical theory and their applications to the Photovoltaic System. It will concentrate on the following topics: DC voltage, current, and power concepts; Ohm's law; DC PV series, parallel and series/parallel circuits and DC electrical measurements; AC current, voltage, power; photovoltaic effect, solar cell design and manufacturing, history of solar power; solar radiation, site analysis; electric load analysis; PV system components (PV modules, batteries, inverters, charge controllers), PV systems safety; grid-tied and stand-alone systems; systems installation and safety issues.

Prerequisites: None. S(N).

DURATION OF INSTRUCTIONAL PERIOD:

Two 50 minute lectures and one 100 minute lab per week for 15 weeks

ACADEMIC CREDIT HOURS: 3.0 Credit Hours

CONTACT HOURS: 4.0 Contact Hours

LECTURE, LAB, CREDIT HOURS: (2-2-3)

SUGGESTED TEXT/ COURSE MATERIAL:

**Photovoltaics Design and Installation Manual, by Solar Energy International (required)
Electricity from Sunlight, by Paul A. Lynn (recommended)**