

## Master Syllabus

### EGV 2101 - Solar Photovoltaic Design & Installation

**Division:** Science, Mathematics and Engineering

**Department:** Engineering Technology Design

**Credit Hour Total:** 3.0

**Lecture Hrs:** 2.0 **Lab Hrs:** 2.0

**Date Revised:** June 2014

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#### Course Description:

This course covers components of solar PV systems and components and the sizing of PV systems and components. Designed to prepare the student to take the NABCEP PV Entry Level Exam. Two classroom, two lab hours per week.

#### General Education Outcomes:

- Critical Thinking/Problem Solving

#### Course Outcomes:

##### Solar PV modules

Describe the operation of solar PV modules.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% or better on exams

##### PV system sizing

Size a photovoltaic system and all required components.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% or better on exams

##### PV system performance analysis

Analyze system performance and describe maintenance and troubleshooting requirements.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% or better on exams

##### Components

Identify and describe the components of both stand alone and grid connected photovoltaic systems.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% or better on exams

##### Solar energy fundamentals

Identify and describe fundamentals of solar energy functions.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 70% or better on exams

#### Outline:

PV System Sizing Principles Performance Analysis, Maintenance and Troubleshooting System Components Solar Energy Fundamentals Electricity Basics Safety Basics PV System Electrical Design PV System Mechanical Design Solar PV Modules