INTRODUCTION TO SOLAR PHOTVOLTAICS
Course Syllabus

Course Number: CNST-1708  
OHLAP Credit: No
OCAS Code: None
Course Length: 50 Hours
Career Cluster: Architecture and Construction
Career Pathway: Construction
Career Major(s): Commercial Electrician’s Assistant

Pre-requisite(s):

Course Description: This course covers the basic concepts of photovoltaic (PV) systems, their components and the electrical/mechanical design requirements. Additionally, this course provides an overview of solar performance analysis and troubleshooting.

Textbooks: TBA

Course Objectives:
1. Identify photovoltaic (PV) applications and advantages.
2. Identify system components and their functions.
3. Identify safety hazards associated with PV installations.
4. Trace a basic electrical circuit and perform calculations using Ohm’s law.
5. List PV system sizing considerations.
6. Identify PV electrical and mechanical system design considerations.
7. Describe the tasks required to complete a site analysis.
8. Identify the effects of the environment on panel output.
9. Describe how to install a simple grid-connected PV system.
10. Explain how to assess system operation and efficiency.
11. Recognize the tasks required when performing PV maintenance and troubleshooting.
12. Identify appropriate codes and standards concerning installation, operation, and maintenance of PV systems and equipment.

Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures: 1. Students are graded on theory and shop practice and performance.
2. Each course must be passed with seventy (70%) percent or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.
| Description of Classroom, Laboratories, and Equipment: | Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities. |
| Available Certifications/College Credit | The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Oklahoma State University-Okmulgee or Tulsa Community College. See program counselor for additional information. |
| College Credit Eligibility: | The student must maintain a grade point average of 2.0 or better. |