Program		Solar Energy								
Degree/Certificate:		33-hour and Associate of Applied Science								
Course	Course Title	Credits	Safety	Application	Electrical	Components	Permitting and Compliance	Design	ILO_ Em1: A student will be able to demonstrate knowledge of norms and expectations of professional environments.	ILO_Em2: A student will demonstrate skills in working with others in a professional and constructive manner.
Required Courses										
33-hour Certificate										
SE 100	Introduction to Solar Energy	3	SE_PLO21	SE_PLO22	SE_PLO23					
SE 101	Solar Energy Fundamentals	3				SE_PLO24				
SE 102	Solar Energy Design	3		SE_PLO22			SE_PLO25	SE_PLO26		
SE 103	Solar Energy Operations and Maintenance	3	SE_PLO21							
SE AAS										
SE 201	Advanced Solar Energy Design	3		SE_PLO42				SE_PLO46		
SE 202	Advanced Solar Energy Installation	3	SE_PLO41		SE_PLO43					
SE 203	Solar Energy System Commissioning	3					SE_PLO45			
SE 204	Solar Energy Advanced Operations and Maintenance	3	SE_PLO41			SE_PLO45				

Solar Energy 33-Hour Certificate

SE_PLO21. Safety: Students will identify the various safety hazards associated with PV systems and components.
SE_PLO22. Applications: Students will identify common types of PV system application with and without energy storage.
SE_PLO23. Electrical: Students will explain how PV modules are configured in series and parallel to build voltage, current, and power output.
SE_PLO24. Components: Students will describe the purpose and principles of operation for major PV system components.
SE_PLO25. Permitting and Compliance: Students will identify the requirements for plan review, permitting, inspections, construction contracts and other matters associated with approvals and code-compliance for PV systems.
SE_PLO26. Design: Students will describe project site considerations, including common roof structural design, types of electrical services, point of interconnection, effects of obstructions, shading analysis tools and techniques, and effects of wind exposure.

Solar Energy AAS

SE_PLO41. Safety: Students will comply with all safety regulations associated with PV systems and components.
SE_PLO42. Applications: Students will analyze and compare different types of PV system application with and without energy storage.
SE_PLO43. Electrical: Students will configure and optimize PV modules in series and parallel to build voltage, current, and power output.
SE_PLO44. Components: Students will troubleshoot PV system components.
SE_PLO45. Permitting and Compliance: Students will demonstrate the required steps for plan review, permitting, inspections, construction contracts and other matters associated with approvals and code-compliance for PV systems.
SE_PLO46. Design: Students will formulate and assess PV solutions to project site considerations, including common roof structural design, types of electrical services, point of interconnection, effects of obstructions, shading analysis tools and techniques, and effects of wind exposure.