

Renewable Energy Engineering Technology RENG

Two Year Certificate

Program Description: This program combines hands-on applied coursework in mechanical and electrical engineering technology with theory-based coursework in wind power production, solar power production, and hydropower production. The two-year Renewable Energy Engineering Technology Certificate is intended to produce engineering design technicians that will support project engineers in the development of renewable energy sources. In addition, the program curriculum prepares students well for employment in the more traditional mechanical engineering technician field.

Students have the choice to emphasize in either Design (**DS**) or Management (**MG**) during their second year. The Design (**DS**) emphasis provides CAD coursework with Rhino and Inventor software while the Management (**MG**) emphasis provides estimation, scheduling, and contracts coursework. Classes are shown in the following table:

TWO YEAR CERTIFICATE REQUIREMENTS				
MATH	101	Pre-Algebra (Entrance Exam may require this class)		*
COMP	101	Basic Computer Hardware & OS (Entrance Exam Score)		*
First Quarter				
CAD	111	CAD I – 2D Drawings		5
RENG	101	Hydro Power Fundamentals		5
RENG	121	Electrical Power Fundamentals		5
				15
Second Quarter				
ENGR	123	Zoning, Permitting, and Government Agencies		5
MATH	111	Precalculus I - Algebra		5
RENG	102	Wind Power Fundamentals		5
				15
Third Quarter				
CAD	112	CAD II – 3D Drawings		5
MATH	112	Precalculus II – Trigonometry		5
RENG	103	Solar Power Fundamentals		5
				15
Fourth Quarter				
			DS MG	
HCON	201	Contracts and Construction Law	X	
RENG	201	Fluid Mechanics	X X	5
RENG	202	Electro Mechanical Conversions	X X	5
MECH	131	Rhino 3D Modeling Level 1	X	5
				15
Fifth Quarter				
HCON	221	Construction Scheduling	X	5
ENGL	205	Technical Writing	X X	5
RENG	203	Photovoltaic Systems	X X	5
MECH	211	Inventor Mechanical Design Level 1	X	5
				15
Sixth Quarter				
HCON	121	Construction Estimation	X	5
RENG	204	Power Systems Modeling and Analysis	X X	5
RENG	205	Engineering Economics	X X	5
MECH	212	Inventor Mechanical Design Level 2	X	5
				15
Certificate Total =				90