

Renewable Energy



HEARTLAND
COMMUNITY COLLEGE

Associate in Applied Science 66–67 Semester Hours

General Education Requirements

COMM 101	Intro to Oral Communication	3 hrs.
ENGL 101	Composition I	3
MATH 109	College Algebra	4
Or		
TMAT 103	Technical Mathematics I	4
MATH 128	Trigonometry	3
Or		
TMAT 105	Technical Mathematics II	4
Physical Science		4
Social Science/Humanities Elective		3
TOTAL 20-21		

Technical Core Requirements

CSCI 101	Intro to Computer Info Science	4
MAIN 101	Industrial Electricity & Systems	3
TECH 114	Intro to Technical Graphics	3
NETW 160	Introduction to Networking	3
TOTAL 13		

Core Requirements

ELTC 102	DC Electronics	3
ELTC 103	AC Electronics	3
ELTC 206	Digital Electronics and Microprocessors	3
ELTC 207	Solid State Electronics Troubleshooting & Measurements	3
ELTC 212	Automation & Control Electronics	3
MAIN 102	Mechanical Systems	3
MAIN 202	Fluid Power Systems	3
MAIN 222	Industrial Controllers	3
REEC 110	Green Building Technology	3
REEC 140	Renewable Energy Concepts I	3
REEC 240	Renewable Energy Concepts II	3
TOTAL 33 hrs.		

TOTAL CREDIT HOURS.....66-67 hrs.

Note: Math hours (8) include college level MATH or TMAT courses. See an advisor for more information.

Program Description

The Renewable Energy program guides students through broad realms of renewable energy concepts; wind turbines, solar heating, photovoltaic systems, power distribution, and green building technologies. The curriculum prepares the student to specialize at the applied technician job level, including but not limited to, wind turbine technician, photovoltaic installer, and green building technician. The student receives extensive hands on experience with generation of energy, measuring of energy, and troubleshooting energy systems. Graduates will be well prepared with a solid base of technical knowledge to meet the needs of this new and dynamic field.

Career Opportunities & Earning Power

American Solar Energy Society (ASES) Green Collar Jobs report forecasts 37 million jobs from renewable energy and energy efficiency in US by 2030, which will account for more than 17% of all anticipated US employment.⁽¹⁾ The best opportunities will exist for those trained in troubleshooting and installing systems with a firm understanding of fundamental power distribution, energy calculations and installation techniques. Continuing education is likely to enhance advanced opportunities.

The U.S. wind energy industry shattered all previous records in 2008 by installing over 8,500 megawatts (MW) of new generating capacity (enough to serve over two million homes), increasing the nation's total wind power generating capacity by 50% to over 25,300 MW and channeling an investment of some \$17 billion into the economy.⁽²⁾

(1) www.ases.org

(2) www.awea.org



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