Alternative Energy Technology

HAGERSTOWN COMMUNITY COLLEGE

What is the Alternative Energy Technology Program?

The Alternative Energy Technology (AET) Program is designed to prepare students to enter the industrial, commercial, or residential setting in the growing areas of renewable energy, while at the same time providing students with technical, critical thinking, and customer service skills desired by a variety of other industries as well.

In the AET Program, students can earn progressive levels of certificates that can be applied toward employment or advanced degrees. The AET Program teaches Photovoltaic Solar technology. Students learn skills such as electrical theory and application, with a special emphasis on servicing alternative energy components.

The program features classroom instruction, as well as real-world, hands-on laboratory experiences that will include experiments in solar, wind, and fuel cell technology. The use of meters, gauges, and computer software is also included to assist students in achieving an advanced knowledge of measurements and calculations.

What types of jobs do AET technicians perform?

The field of alternative energy technology is one of the fastest growing fields today and as installations continue to expand, opportunities for service and maintenance of these systems will be in high demand. Students who complete this program can work as solar installers, technicians, system designers, electricians, and instrumentation or maintenance technicians.

What makes HCC's program special?

Not only does HCC provide theory and installation training, but the College offers service and maintenance skills training to give its students a broad knowledge base that will afford them greater opportunities for further learning and advancement at both the professional and academic level. Students completing the degree program will gain the necessary knowledge needed to enter the workforce and perform jobs such as installing, monitoring, and servicing alternative energy components in photovoltaic systems.

Within two semesters at HCC, students can earn credentials that are recognized by The North American Board of Certified Energy Practitioners (NABCEP).

Additionally, HCC's brand new 3,000 squarefoot, Energy Trades and Training Center (ETTC) features the latest, most advanced technologies in this rapidly growing field. Students have access to real world installation practices and monitoring through the use of green and solar energy components.

What are the program options?

Students can earn an associate of applied science in alternative energy technology. Students can also earn a certificate in solar energy installation.

PROGRAM OPTIONS

- A.A.S. Degree, Alternative Energy Technology
- Certificate, Alternative Energy Technology, Geothermal Energy Installation and Service
- Certificate, Alternative Energy Technology, Solar/Wind Energy Installation and Service

CAREER OUTLOOK

MEDIAN SALARY

$60K

for electricians

EMPLOYMENT

711,200 jobs in U.S.
7% growth in next 10 years

(source: www.bls.gov/ooh)

Green Energy Green Jobs

A.A.S. Degree

Alternative Energy Technology

The Alternative Energy Technology Program prepares students to enter the industrial/commercial/residential setting in the growing areas of renewable energy (i.e., solar, wind, and geothermal technologies). Within the Alternative Energy Technology Program, students can earn progressive levels of certificates toward employment and/or the degree. The methods of instruction include hands-on training as well as classroom instruction. Real-world lab environment will include experiments with solar, wind, and geothermal equipment, use of meters, measurements and calculations of values. This program of study embraces the body of knowledge found in national certifications for renewable energy professionals. This A.A.S. program is a career degree, preparing students for the workforce after graduation. However, students can opt to transfer to a four-year program rather than start a career, but should confer with advisors and transferring institutions for specific requirements.

General Education Requirements 18-19 credits

Arts/Humanities
Select from the approved General Education course list 3

Behavioral/Social Sciences
Select from the approved General Education course list 3

Biological/Physical Science
PHS 103 General Physical Science 3
OR
PHY 201 General Physics ..... (4)
**Students intending to transfer should take the General Physics course.*

Diversity
Select from the approved General Education course list 3

English
ENG 112 Technical Writing I 3
**A minimum grade of "C" or better is required for ENG 112.*

Mathematics
MAT 114 Introduction to Applied Algebra 3
OR
MAT 160 Precalculus ..... (3)

Program Requirements 26 credits
AET 102 Introduction to Alternative Energy ... 3
AET 106 Photovoltaic Installation I 3
AET 107 Photovoltaic Installation II 3
BUS 145 Customer Service..... 1
OR
STU 106 Professionalism in the Workplace .. (1)
CAD 152 Computer-Aided Design 3
ELE 110 Fundamentals of Electricity 4
ELE 113 Instrumentation and Process Control I..... 3
INT 101 Introduction to Industrial Technology..... 3
INT 120 Introduction to OSHA..... 1
INT 121 Facility Codes and Compliance 2

Restricted Electives 15-16 credits
Select from the following list:
ADM 102 Introduction to PLCs..... 3
AET 240 AET Capstone Project 1
AET 269 Internship I 1-3
AET 270 Internship II 1-3
BUS 101 Intro to Business Org and Mg 3
CAD 228 CAD: Solid Modeling..... 3
CSC 102 Introduction to Information Technology..... 3
EGT 235 Fluid Power 3
ELE 106 Digital Electronics 3
ELE 130 Introduction to Unmanned Systems . 3
IST 106 Spreadsheet Software 3

Degree Requirements 60

Certificate

Alternative Energy Technology Solar Energy Installation and Service

Students completing this program will have the skills to enter an entry-level or apprentice-level position in the field of photovoltaic and wind turbine installation and service.

Program Requirements 17 credits
AET 102 Introduction to Alternative Energy ... 3
AET 106 Photovoltaic Installation I 3
AET 107 Photovoltaic Installation II 3
BUS 145 Customer Service..... 1
OR
STU 106 Professionalism in the Workplace .. (1)
ELE 110 Fundamentals of Electricity 4
INT 120 Introduction to OSHA..... 1
INT 121 Facility Codes and Compliance 2

Restricted Electives 5 credits
Select from the following list:
AET 240 AET Capstone Project 1
AET 269 Internship I 1-3
CAD 152 Computer-Aided Design 3
CSC 102 Introduction to Information Technology..... 3
ELE 130 Introduction to Unmanned Systems . 3

Certificate Requirements..... 22

2073 3/23

Contact information:

Greg Betz
Assistant Professor, Industrial Technology
& Alternative Energy Technology
240-500-2581
gabetz@hagerstowncc.edu

www.hagerstowncc.edu/energy