

# Green Technology High School eLearning Program



## Learning Topics:

Wind Concepts

Solar Concepts

Solar Thermal Installation

Solar Site Analysis

Fluid Systems

Motors

Electrical Fabrication

Mechanical Systems

Pneumatics

Hydraulics

Electrical

Measurement Tools

Mathematics

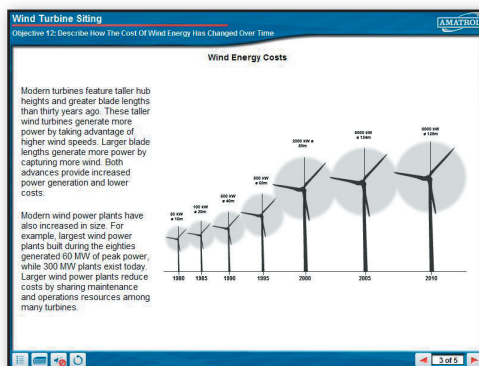
Machine Tools

Print Reading

Workplace Effectiveness

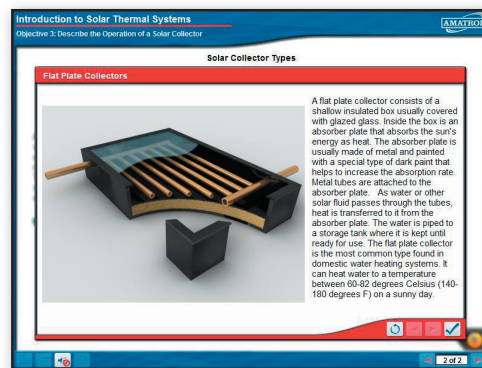
## Wind Technology

Wind energy is a rapidly expanding field that is projected to offer 1 million jobs in the near future. This is due to its exceptional adaptability as wind power can be used for both small-scale and industrial-sized applications in environments from the arctic to the tropics. Wind courses will cover this important source of power by explaining how wind power is harnessed, how to distinguish between different types of turbines, how wind resources are managed, etc. Students can use the knowledge accumulated from these courses to pursue future careers as wind development directors, wind analysts, turbine installers, turbine technicians, and more.



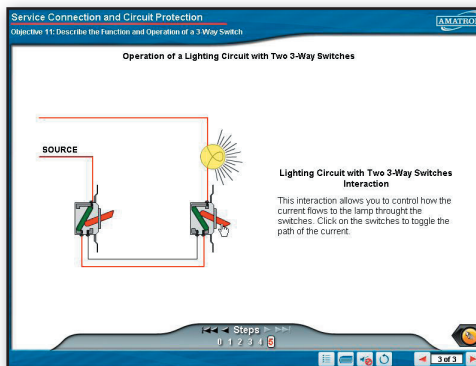
## Solar Technology

Solar energy is another rapidly growing industry due to its utilization across various scales of application and its geographic flexibility. Harnessing the sun's energy requires strong mathematical skills and thorough technical and scientific knowledge, which is why these courses will cover topics like photovoltaic and thermal solar systems, solar irradiance, global positioning, solar site analysis, copper tubing uses, plastic pipe assembly, etc. Students interested in the solar energy industry after completing these courses may pursue future careers as production workers, design engineers, PV installers, solar thermal installers, solar architects, solar energy sales, and more.



## Electrical

Because solar and wind energy are converted into electricity, a thorough understanding of electrical power, concepts, and components is vital. The courses in this area will cover key concepts such as fundamentals of AC/DC electrical systems, basic electrical circuits, electrical measurement, circuit analysis, transformers, electrical wiring systems, switches, outlets, and various electrical motors. The knowledge attained from these courses can lead to many future careers within green technology or work as an electrician or specialized technician.



# Green Technology High School eLearning Program



All Amatrol eLearning programs for high school include core courses in mechanical, electrical, and industrial technology. These standard courses include: Basic Electricity, Pneumatics, and Hydraulics; Measurement; Mechanisms; Manufacturing Processes; Electrical Control; Print Reading; Mathematics; Trigonometry; Communication Skills; Conflict Resolution; and Working in Groups. Students will gain valuable knowledge from these courses that can be applied across all areas of our economy.

## Amatrol Green Energy High School eLearning Program Courses

Course Title	Est. Hours	Functional Software Req.	Course #
AC/DC Electrical	24	-	W-VTB227
Basic Electrical Machines	16	-	W-B862
Basic Hydraulics	20	-	W-VTB831
Basic Pneumatics	20	-	W-VTB780
Communication Skills	2	-	PD101
Computer Control 2	2	Rockwell's RSLogix	W-B764
Conflict Resolution	2	-	PD102
Electrical Fabrication 1	6	-	W-12204
Electrical Relay Control	12	-	W-VTB703
Fluid Systems 2	10	-	W-11607
Machine Tools 1	12	-	W-VTB701
Mathematics 1	2	-	MA101
Measurement Tools	12	-	W-VTB725
Mechanical Fabrication 1	8	-	W-19004
Mechanical Fabrication 2	8	-	W-B745
Mechanical Systems	12	-	W-VTB728
Principles of CNC	2	-	CN101
Print Reading 1	8	-	W-12207
Solar Concepts	6	-	W-20016
Solar PV Install	8	-	W-20105
Solar Site Analysis	2	-	W-20017
Solar Thermal Install	8	-	W-20103
Thermal Science	8	-	W-11604
Trigonometry 1	2	-	MA304
Wind Concepts	6	-	W-20011
Working in Groups	2	-	PD103

