Hagerstown Community College Master Syllabus
Course AET 102: Introduction to Alternative Energy

Course Information
Course AET 102: Introduction to Alternative Energy
3 Credits
Fall 2019

Instructor Information

Course Description
This class will introduce students to the various types of Alternative and Renewable Energy available in today’s global market. Students will learn the basics about different energy types such as solar, wind, bio fuel, solar thermal, geo thermal, magnetism, pressure and mechanical energy. Hands-on labs include miniature Wind Turbine Operation, Solar Energy Collection, and Hydro-fuel Vehicle operation. Three credits

Textbook and Course Materials

Student Learning Outcomes
• Identify and differentiate alternative energy systems.
• Conduct and evaluate data collection from alternative energy systems

Course Content Objectives
1. Describe the importance of energy efficiency and the global benefits
2. Define the different types of energy sources and principles surrounding them.
3. Describe how solar photovoltaic systems work.
4. Describe how solar thermal systems work.
5. Identify components and explain how basic solar energy systems work.
6. Describe how wind energy systems work.
7. Identify components and explain how basic wind energy systems work.
8. Describe the best location for the installation of wind and solar systems.
9. Explain the principles of fuel cells.
Definition of Credit Hour: Classroom Courses
To earn one academic credit at HCC, students are required to complete a minimum of 37.5 clock hours (45 fifty-minute academic hours) of coursework per semester. Those hours of coursework may be completed through a combination of hours in the classroom and hours outside the classroom. Certain courses may require more than the 37.5 minimum hours of coursework per credit. For most classes, students should expect to complete at least 2 hours of coursework outside of class for each hour of in-class coursework.

<table>
<thead>
<tr>
<th>Classwork type</th>
<th>Clock Hours</th>
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</thead>
<tbody>
<tr>
<td>In-class/Online lecture and discussion</td>
<td>45</td>
</tr>
<tr>
<td>Textbook Chapter Readings</td>
<td>15</td>
</tr>
<tr>
<td>Study of Manuals for Hands-on Activities</td>
<td>15</td>
</tr>
<tr>
<td>Chapter Review Questions and Answers</td>
<td>15</td>
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<tr>
<td>Research Assignments</td>
<td>15</td>
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<tr>
<td>Test Preparation</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>125 hours</strong></td>
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</tbody>
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Services for students with disabilities:
Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at dss@hagerstowncc.edu or at 240-500-2530.