Course Information
Course #: ELE 110 Fundamentals of Electricity
3 Credits
Fall 2019

Instructor Information

Course Description
This is a basic electricity course that includes both DC and AC circuits. The course has been designed for those students who need an understanding of electrical principles and applications but do not need the theoretical or mathematical depth required for electronic circuit design. Lab exercises deal with many of the practical applications of electricity along with learning to use test equipment for the purpose of circuit diagnosis and troubleshooting. Course fee required. Total of 60 hours of lecture.

Textbook and Course Materials

Student Learning Outcomes
- Identify hazards of electrical circuits and be able to work safely.
- Explain the concepts of current flow, AC/DC Circuits and Ohm's Law.
- Troubleshoot basic electrical circuits using schematic diagrams.
- Explain the operation and application of common components such as AC and DC motors, relays, switches, power supplies.
- Perform basic industrial wiring and troubleshooting.

Course Content Objectives
- Identify hazards of electrical circuits and be able to work safely.
- Explain the concepts of current flow, AC/DC circuits and Ohm's law.
- Recognize standard schematic symbols for common electrical and electronic components.
- Trouble-shoot basic electrical circuits using schematic diagrams.
- Explain the operation and application of common components such as AC and DC motors, relays, switches, power supplies, overload devices and lighting.
- Recognize and competently use common test equipment to evaluate electronic circuits.
- Perform basic industrial wiring and trouble-shooting.

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>Direct Faculty Instruction</th>
<th>Student Work Out of Class</th>
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</thead>
<tbody>
<tr>
<td>In-class lecture and discussion</td>
<td>60 hours</td>
<td>75 hours required</td>
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<tr>
<td>Reading</td>
<td>48 hours</td>
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<tr>
<td>Quiz/exam studying</td>
<td>12 hours</td>
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<tr>
<td>Reading question completion</td>
<td>8 hours</td>
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<tr>
<td>Paper writing</td>
<td>18 hours</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>60 hours</strong></td>
<td><strong>86 hours</strong></td>
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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.