

Hagerstown Community College
MASTER SYLLABUS DOCUMENT

COURSE: ELE 110 Fundamentals of Electricity 4 Credits **DATE:** Spring 2018
INSTRUCTOR: Juan C. Luna

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:

Electricity for the Trades, 2nd Edition; Frank D. Petruzella, McGraw-Hill Education. ISBN 9780073134314
Introduction to Basic Electricity and Electronics Technology; Earl Gates, Cengage. ISBN 9781133948513

STUDENT LEARNING OUTCOMES:

On successful completion of this course, students should be able to:

- 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.

Total Hours of Coursework:

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 within 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 do at least 2 hours of coursework outside of class for each hour of in-class coursework.

Minimum clock hours required for this course

	DIRECT Faculty Instruction In-class 37.5 hours required	Student Work Out of Classroom 75 hours required
In-class "lecture"	37.5 hours	
Reading chapters		15 hours
Quiz/activity for each chapter	Included in lecture time	10 hours prep
Lab Activities Prep		10 hours

3 lecture exams		30 hours exam prep
Cumulative final exam (Academic Testing Center)	Included in lecture time	10 hours exam prep
Total Hours	37.5 hours	75 hours

COURSE CONTENT OBJECTIVES:

After successfully completing this course, students will:

- Identify hazards of electrical circuits and be able to work safely.
- Explain the concepts of current flow, AC/DC circuits and Ohms 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.

ASSESSMENT PROCEDURES:

Lab Activities	40%
Assignments	20%
Quizzes	10%
Exams	15%
<u>Final Exam</u>	<u>15%</u>
Total:	100%

Grading Scale for Final Grade

A = 90% - 100%

B = 80% - 89%

C = 70% - 79%

D = 60% - 69%

F = 0% - 59%

Any violation of the Hagerstown Community College Honor System will result in a failing grade for the entire course.

COURSE POLICIES:

Attendance Policy: Students are expected to attend all classes. In the case of absence due to emergency (illness, death in the family, accident), or participation in official College functions, it is the student's responsibility to confer with the instructor about the absence and missed course work. Further, it is the student's responsibility to withdraw officially from any

class, which he/she ceases to attend. Failure to do so may result in the recording of an “F” grade. Students absent from an announced (major) test or examination, unless authorized, may be given an equivalent examination later at the discretion of the instructor. Each unexcused absence will result in a deduction of 2% from overall grade (up to a maximum of 10%)

Honor Code: upon admission to HCC, all students sign a pledge to uphold an honor system, which holds the qualities of honesty and integrity in highest regard for the duration of their educational experience. The HCC Honor Code Policy and Procedures is published in the Student Handbook and may be obtained in the Student Activities Office.

Continuing Education Students: A certificate of completion will be presented to CE students who attend at least 75% of scheduled classes.

Academic Dishonesty: Plagiarism and cheating are serious offenses and may be punished by failure on exam, paper, or project; failure in course; and or expulsion from HCC.

Reading and Workbook Assignments are due at the beginning of class on the date indicated in the course schedule. Five points may be subtracted from late assignments. Assignments will not be accepted after one week late.

Cell phone calls, texting or web usage is not permitted in the classroom. Please turn them off or set them onto “Airplane Mode” prior to entering the classroom.

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.

Disclaimer: The instructor reserves the right to alter the course content, assignments, examination due dates, and grading as circumstances arise.

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.