

Hagerstown Community College
OFFICIAL MASTER SYLLABUS DOCUMENT

COURSE: ELE 158 Circuits, Schematics, and Test Equipment 3 Credits

INSTRUCTOR:

DATE: Fall 2017

COURSE DESCRIPTION:

This course teaches students how to recognize, interpret, and troubleshoot electrical and electronic circuits thru symbol identification and use of a variety of test instruments. Students will learn to effectively solve problems through critical thinking, logical and root cause analysis. Electrical standards for circuit structure using NFPA 79, IEEE, and IEC Standards, as well as ANSI and IEC codes and symbols will be emphasized.

TEXTBOOK:

Electrical Control for Machines, 7th Edition, Lobsiger et al., Cengage Learning.
ISBN 9781133693383

HCC Library-Ebook Central: The Circuit Designer's Companion, 2nd Edition, Tim Williams, Elsevier Science. ISBN 9780750663700

HCC Library-Ebook Central: Measurement and Instrumentation Principles, 3rd Edition, Alan S Morris, Elsevier Science. ISBN 9780750650816

STUDENT LEARNING OUTCOMES:

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

- Recognize standard schematic symbols for common electrical and electronic components.
- Recognize and competently use common test equipment to evaluate test circuits.
- Understand measurement errors and calibration procedures.
- Understand the complete cycle of printed circuit board fabrication.
- Recognize the fundamentals of devices for process control systems.

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

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.