

Hagerstown Community College
OFFICIAL MASTER SYLLABUS DOCUMENT

COURSE:* ELE 103 - Analog and Digital Electronics, 3 credits

INSTRUCTOR:

SEMESTER/YEAR: SP17

COURSE DESCRIPTION:* Students will learn the principles of analog and digital circuits to include; logic gates, counting circuits, registers, A/D and D/A convertors. Study includes transistors, diodes, thyristors, operational amplifiers, timers, phase-locked loops, voltage regulators, amplifiers, oscillators, numbering systems, logic design, sequential and combination logic, digital troubleshooting. Total of 45 hours of lecture.

TEXTBOOK:* *Electricity & Electronics, 10th Edition; Howard Gerrish, 2009, The Goodheart-Willcox Company, Inc., ISBN-10: 1-59070-207-7*

Electricity & Electronic Student Study Guide, 10th Edition; Howard Gerrish, 2009, The Goodheart-Willcox Company, Inc., ISBN-10: 1-59070-208-5

STUDENT LEARNING OUTCOMES:*

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

- Evaluate circuits involving inductors, capacitors, and transformers.
- Investigate various semiconductor devices by building and testing circuits using such components as diodes, scr's, triacs, high speed solid state switches used in A.C. and D.C. power applications.
- Describe Digital Electronics and the relationship to Analog circuits
- Interface simple micro-processor based control such as in and out functions.

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.

	DIRECT Faculty Instruction In-class 37.5 h required	Student Work Out of Classroom 75 h required
In-class “lecture”	37.5 h	
Reading chapters		20 h
Nine Chapter Quizzes		25 h prep

Homework/Research		25 h
Cumulative final exam (Academic Testing Center)		5 h
Total Hours	37.5 h	75 h

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.