

Hagerstown Community College Master Syllabus

ELE 207: Advanced Electronics/Electricity

Course Information

Course #: ELE 207 Advanced Electronics/Electricity

3 Credits

Spring 2019

Instructor Information

Course Description

Students will analyze and troubleshoot circuits and systems, as well as, design and build circuits typically found in industry. In this course, students will study the analysis and design of electronic circuit systems. The analysis of circuits covered in this course can involve multiple stages. The course will enable the students to apply mathematical and technical knowledge and skills to design and analyze electronic circuit systems, which might include all previously covered material, including AC/DC electronic circuits, PLCs, digital circuits, and microprocessors. The course will introduce the student to the techniques of Data Analysis and Acquisitions on a LabView environment. The goal is for students to be able to design, analyze, and prototype a complete electronic project. Total of 45 hours of lecture

Textbook and Course Materials

Electronic Design, Roden, Carpenter, Wieserman. Discovery-Press. ISBN 9780964696983

Learning the Art of Electronics: A Hands-On Lab Course 1st Edition, Cambridge Press. Hayes, Horowitz. ISBN 9780521177238

Hands-On Introduction to LabVIEW for Scientists and Engineers 4th Edition, Oxford Press. John Essick. ISBN 9780190853068

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

Student Learning Outcomes

- Design and build a complete electronic circuit project.
- Understand strengths and limitations of circuit design and prototyping.
- Troubleshoot electronic circuit systems.
- Prepare documentation related to an electronic project.

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.

| Classwork type | Direct Faculty Instruction In-class 37.5 hours required | Student Work Out of Classroom 75 hours required |
|---------------------------------|--|--|
| In-class lecture and discussion | 45 hours | |
| Reading | | 48 hours |
| Quiz/exam studying | | 12 hours |
| Reading question completion | | 8 hours |
| Paper writing | | 18 hours |
| | | |
| Total | 45 hours | 86 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.