

Hagerstown Community College Master Syllabus

ELE 101: Device Data Systems Architecture

Course Information

Course #: ELE 101 Device Data Systems Architecture

3 Credits

Spring 2020

Instructor Information

Course Description

In this course, students will study the essentials of troubleshooting and problem solving of industrial data communications systems including areas such as RS-232, RS-485, industrial protocols such as Modbus, fiber optics, industrial Ethernet, TCP/IP, DeviceNet and Fieldbus protocols such as Profibus and Foundation Fieldbus. The goal is for students to be able to design, analyze, and install industrial data networks. Total of 45 hours of lecture

Textbook and Course Materials

Fieldbus and Networking in Process Automation, Sunit Kumar Sen. CRC-Press. ISBN 9781466586765

HCC Library-Ebook Central: Practical Industrial Data Communications. Deon Reynders, Steve Mackay, and Edwin Wright. Elsevier. ISBN 0750663952

https://ebookcentral.proquest.com/lib/brish-ebooks/detail.action?docID=226816#qoto_toc

Student Learning Outcomes

- Specify and build network components related to industrial data networks.
- Understand strengths and limitations of several industrial data protocols.
- Troubleshoot simple networking protocol problems

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.