

Hagerstown Community College
OFFICIAL MASTER SYLLABUS DOCUMENT

COURSE: ADM 258 Advanced Motors, Machines, & Mechanical Devices Credits 3

INSTRUCTOR:

SEMESTER/YEAR: Spring 2018

COURSE DESCRIPTION: Advanced Motors, Machines & Devices

This is an advanced course in the operating principles of a variety of electromagnetic devices and electric machines, particularly those used for motion control in manufacturing. Advanced topics such as variable speed drives, servomotors, and robotic motion control will be covered with an emphasis on hardware setup, testing, critical thinking and root cause analyses. Students will be trained in electromagnetic safety, circuit schematics, and ladder diagrams. Electrical standards for protection referring to NFPA 70 and 79. Circuit schematics and ladder diagrams will reference IEEE, ANSI and IEC codes and symbols. Prerequisites or Coresquisites: ELE 110, INT 101, INT 102

ONLINE RESOURCES: Moodle Required

TEXTBOOK: None (Online Material Provided by Instructor)

STUDENT LEARNING OUTCOMES:

After successfully completing this course, students will be able to:

- identify and describe electromagnetic devices and machines used in advanced manufacturing systems.
- describe the operation of components used to control electromagnetic devices and machines.
- read motor data labels/plates.
- understand how to safely insert testing equipment and measurement tools.
- describe and demonstrate troubleshooting procedures for electromagnetic devices and machines.

CREDIT HOUR EXPLANATION:

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.

Total Hours of Coursework:

Assignment/Assessment	Clock Hours
In-class Instruction	45 hrs
Assigned Internet Viewing and Reading	25 hrs
Study of Manuals for Hands-on Activities	15 hrs
Chapter Review Questions and Answers	20 hrs
Exam Preparation	20 hrs
	Total hours=125 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