

**Course Title:** ADM-258 Advanced Motors, Machines, and Devices

**Course Instructor(s):** Edward Bass

**Programs:** Advanced Manufacturing Systems

### **Expected Learning Outcomes**

Students will:

- identify and describe electromagnetic devices and machines used in advanced manufacturing systems.
- identify and describe pumps driven by motors
- understand the concept of affinity for optimization of energy use on motor-driven pumps
- describe the operation of components used to control electromagnetic devices and machines.
- read motor data labels/plates.
- understand how to safely control motor-driven systems and measurement tools.
- describe and demonstrate troubleshooting procedures for electromagnetic devices and machines.

### **Assessment**

Assessments will include: exercises, assignments, projects and examinations.

### **Validation**

1. Examinations.
2. Student application of concepts via projects and assignments.
3. Feedback from industry advisors, particularly those who hire our graduates.

### **Results**

The results of the testing and final examination will show the level of retention of the classroom materials.

The results of the practice exercises, projects, and assignments will show the ability of the student to transfer textbook information to hands-on applications.

The results of the Advisory Committee input will allow us to place a rate of success in our database for ongoing improvement to the course and advise us of changes in technology and industry standards.

Internships will measure the student outcomes in a real world environment through feedback from internship supervisor.

### **Follow-up**

The data will be evaluated to improve teaching techniques

The data will be evaluated to help us remain up to date with technology changes.

### **Budget Justification**

Update textbook and practical exercises to include changes in industry best practices.