Course Information Form (CIF)

Course Code: MFX 133

Course Title: Intermediate Pneumatics II

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 47.0303
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 0.5-1-1
Credit Hour Distribution:

Lecture: 0.5	Lab: 1	Clinical: 0	**Total: 1**

General Course Information

Catalog Description

Builds on basic pneumatics skills to teach intermediate pneumatic components and system applications. Industry-relevant skills related to these new topics, including air logic design, air filters, filter selection, filter maintenance, water removal techniques, air dryers, after-coolers, water traps, air lubricators, and component maintenance.

General Course Objectives

Builds on the basic pneumatics skills to teach intermediate pneumatic components and industry-relevant skills related to these new topics.

Minimum Placement Levels

English	Reading	Math
Placement into ENG 098	Placement into CCS 098	Placement into MAT 059

Prerequisites

None

Methods of Evaluation

There will be 5 quizzes.

Instructional Materials and Additional Supplies

Amatrol Course Code

Course Content

General Learning Outcomes (GLOs)

- Critical Thinking and Information Literacy: Students will demonstrate the ability to evaluate perspectives, evidence, and implications, and to locate, assess, and use information effectively.
- Reasoning and Inquiry: Students will demonstrate the ability to solve problems using deductive reasoning and logic, quantitative reasoning, or the scientific method.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Air Logic Design	1. Describe the function of a shuttle valve and give an application. 2. Describe the operation of a shuttle valve and give its schematic symbol. 3. Describe the operation of a pneumatic seal-in circuit. 4. Connect and operate an air logic circuit to control a reciprocating cylinder.	2	5	0
Air Filtration	1. List four sources of compressed air contamination and explain their effects. 2. Describe the operation of three common filter elements. 3. Describe the function of a coalescing filter and give an application. 4. Describe the operation of a coalescing filter and give its schematic symbol. 5. Change an air filter element. 6. Explain how air filter elements are rated. 7. Describe how to select a filter for an application. 8. Select an air filter for an application.	2	4	0
Water Removal	1. Define dew point and relative humidity and explain their importance. 2. Explain how water condenses in a pneumatic system and its effect. 3. Describe two methods of removing water vapor from a pneumatic system. 4. Describe the function of an aftercooler and give an application. 5. Describe the function of a dryer and give an application. 6. Describe the principle of operation of three types of dryers and give an advantage of each. 7. Describe the operation of a refrigeration type air dryer. 8. Describe the function of a pneumatic system trap. 9. Describe the operation of two types of pneumatic traps and give the schematic symbol of each.	1.5	0	0
Lubrication	1. Describe the function of air lubrication and list three lubrication methods. 2. Describe the function of a lubricator and give its schematic symbol. 3. Describe the operation of three types of pneumatic lubricators and give an application of each. 4. Describe the types of oils used in lubricators. 5. Connect, fill, and adjust a lubricator.	1	6	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Servicing Pneumatic Components	1. Describe how pressure gauges are calibrated. 2. Describe how acrylic flow meters are cleaned. 3. Describe the importance of eliminating air leaks. 4. Describe how to locate air leaks. 5. Describe four common pneumatic component failures and their probable causes.	1	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
7.5	15	0