Course Information Form (CIF)

Course Code: MFX 132

Course Title: Intermediate Pneumatics I

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.

General Course Objectives

Students will gain industry-relevant skills related to these new topics including operation, installation, performance analysis, maintenance, and design.

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
Cam Valves	1. Describe the function of a pneumatic cam-operated valve and give an application. 2. Describe the operation of a pneumatic cam-operated DCV and give its schematic symbol. 3. Connect and operate a pneumatic cam-operated 4/2 DCV. 4. Connect and operate a pneumatic cam-operated 3/2 DCV.	1	4	0
Cam Valve Applications	1. Describe the operation of a two-speed pneumatic circuit using a cam valve. 2. Design a rapid traverse-slow feed pneumatic circuit. 3. Design a pneumatic circuit to sequence two cylinders. 4. Describe three methods of decelerating a pneumatic cylinder. 5. Connect and operate a cylinder deceleration circuit using power braking.	2	4	0
Two-Way Valves	1. Describe the function of two-way valves. 2. Describe the construction and operation of five types of two-way valves. 3. Connect and operate a two-way DCV.	2	4	0
Externally Piloted Valves	1. Describe the function of an externally air-piloted DCV and give an application. 2. Describe the function of a detent and give its schematic symbol. 3. Describe four types of pneumatic DCV construction. 4. Describe the operation of an externally air-piloted DCV and give its schematic symbol. 5. Connect and operate an externally air-piloted DCV using the manual override. 6. Design a pneumatic circuit that uses an externally air-piloted DCV.	2.5	3	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
7.5	15	0