

JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Applied Pneumatics & Hydraulics

Course Abbreviation and Number: MCT 1210

Credit Hours: 3

Course Type: Lecture/Lab

Course Description: Students will be introduced to the basics of hydraulic and pneumatic machinery. They will study the basic components of these systems, such as pumps, valves, and actuators. This course will include a combination of laboratory activities and computer-based simulations. Students will also discuss safety standards for pneumatic and hydraulic systems.

No requisites.

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Solve for properties in fluid systems using the basics of fluid mechanics
2. Analyze components in hydraulic and pneumatic systems, including pumps, compressors, valves, and actuators
3. Demonstrate familiarity with safety standards associated with pneumatic and hydraulic systems

Topics Covered:

- Fluid Mechanics (Pascal's Law, Pressure, Temperature, Fluid Flow, Gas Laws)
- Hydraulic pumps
- Air compressors and air treatment
- Valves and actuators
- Hydraulic fluids
- Piping, hoses, connections fittings
- Process controls, signal controls, relays, limit switches, PLCs
- Safety, cleanliness, and preventative maintenance

Information for Students

- Expectations of Students
 - [Civility Statement](#)
 - [Student Responsibility Statement](#)
 - [Academic Integrity Statement](#)
- [Accessibility Services](#)
Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.
- [Get Help: JCC & Community Resources](#)
- [Emergency Closing Procedures](#)
- Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0
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- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.

Effective Date: Fall 2021