

**Eastern WV Community & Technical College  
Master Course Record**

<b>Course Prefix and Number:</b> ELM 121
<b>Course Title:</b> Fundamentals of Hydraulics and Pneumatics
<b>Recommended Transcript Title:</b> Fundamentals of Fluid Power
<b>Date Approved/Revised:</b> 11/6/17
<b>Credit Hours:</b> 4 <b>Contact hours per week (Based on 15 week term):</b> <b>Lecture:</b> 3 <b>Lab:</b> 3
<b>Prerequisite:</b> None <b>Corequisite:</b> None <b>Pre/Corequisite:</b> None
<b>Grading Mode:</b> Letter
<b>Catalog Description:</b> This course introduces the student to the theory and application of fluid power. Hydraulic and pneumatic devices and circuits will be studied. The construction, function and application of these devices will be emphasized. Fluid power schematics, circuitry, instrumentation and control will be investigated.
<b>Course Outcomes:</b> <ol style="list-style-type: none"> <li>1. Demonstrate safety precautions and procedures when working on mechanical and electrical devices</li> <li>2. Understand and apply Pascal's Law</li> <li>3. Discuss fluid flow in hydraulic circuits</li> <li>4. Demonstrate fluid circuit analysis</li> <li>5. Discuss fluid pressure and power</li> <li>6. Define power in a fluid power system</li> </ol>
<b>Implementation Cycle:</b> Fall
<b>Role in College Curriculum: (Check all that apply)</b> <input type="checkbox"/> <b>General Education Core (Specify category)</b> <input checked="" type="checkbox"/> <b>Technical Core:</b> Electromechanical Technology or Wind Energy Technology <input type="checkbox"/> <b>Restricted Elective (Specify Program)</b> <input type="checkbox"/> <b>General Elective</b> <input type="checkbox"/> <b>Workforce Education</b> <input type="checkbox"/> <b>Other (Please specify)</b>
<b>Course Fee:</b> Yes
<b>Instructor's Qualifications:</b> Bachelors of Science in Engineering/Technology or related discipline and/or expertise and experience in the field.
<b>Expanded Course Description:</b> The differences and similarities between hydraulics and pneumatics will be identified. At the end of the course, students will take the Packaging Machinery Manufacturers Institute (PMMI) Fluid Power Certification Exam. This certification exam is not included in the grade for this course.

Prepared by:

Course Number &amp; Title: ELM 120 – Fundamentals of Hydraulics and Pneumatics

Date Prepared/Revised: 11/6/17

Date Course Approved by Curriculum Committee: 11/6/17

Date Course Approved by LCTE: 11/20/17

Form revised 12-12-16

Eric Putze, Advanced Technology/Wind Energy Faculty, 11/6/17

Approved Per LOT Minutes

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Dean of Teaching and Learning

Date

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