

# MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

## Course Outline

---

<b>Course Title:</b>	<b>Pneumatic and Hydraulics Troubleshooting</b>	<b>Submitted By:</b>	<b>Waldorf, Parker, Hill</b>
<b>Semester Course Prefix and Number:</b>	<b>IMT 2262</b>	<b>Approval Date:</b>	
<b>Old Quarter Course Prefix and Number:</b>		<b>Revision Date:</b>	<b>11-30-11</b>
<b>Number of Credits:</b>	<b>3</b>	<b>Number of Lecture Credits:</b>	<b>1</b>
<b>Semester(s) Offered:</b>		<b>Number of Lab Credits:</b>	<b>2</b>
<b>Class Size: 35</b>		<b>Number of Lab Hours:</b>	
<b>Number of Studio/Demonstration/Internship Credits:</b>			
<b>Negotiated by AASC on:</b>			
<b>(date)</b>			

---

### Course Purpose Code:

- 0 – Developmental Courses
- 1 – Non-transferable, General Education
- 2 – Technical course related to career programs
- 3 – College course which has the primary goal of applying certain concepts (e.g. vocal ensemble)
- 4 – Other college course not considered a part of general education (MNTC) (e.g. computer science, health, physical education)
- 5 – Course which is intended to fulfill the Minnesota Transfer Curriculum (MNTC) requirements or intended for transfer.
- 9 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

### Catalog Description:

This course is intended to provide the basis for the study course using models that are designed for “Hands On” learning with an actual working hydraulic system. The main purpose of this course will be to learn how to recognize the elements of a hydraulic system and how to blend your knowledge of the individual components into a comprehensive knowledge of the entire system and to be able to troubleshoot the systems.

### Prerequisites and/or recommended entry skills/knowledge:

Course Prerequisite(s):

Reading Prerequisite:

Composition Prerequisite:

Mathematics Prerequisite:

### Career Programs and Transfer Majors Accessing this Course:

### Minnesota Transfer Curriculum Goal(s) partially met by this course if applicable:

(Notes: No more than two goals may be met by any one course. Curriculum Committee review and the Chief Academic Officer’s approval are required.)

- |  |  |
|--|--|
| 0. <input checked="" type="checkbox"/> None                                | 6. <input type="checkbox"/> The Humanities and Fine Arts     |
| 1. <input type="checkbox"/> Communications                                 | 7. <input type="checkbox"/> Human Diversity                  |
| 2. <input type="checkbox"/> Critical Thinking                              | 8. <input type="checkbox"/> Global Perspectives              |
| 3. <input type="checkbox"/> Natural Sciences                               | 9. <input type="checkbox"/> Ethical and Civic Responsibility |
| 4. <input type="checkbox"/> Mathematical/Logical Reasoning                 | 10. <input type="checkbox"/> People and the Environment      |
| 5. <input type="checkbox"/> History and the Social and Behavioral Sciences |  |

**Learning Outcomes:** (including any relevant competencies listed in the Minnesota Transfer Curriculum)

Upon completion of this course, the student will be able to:

- Explain and perform necessary math functions
- Identify components such as pump power sources, actuators, control valves, conductors and connectors, hydraulic fluid, fluid storage equipment, and conditioning equipment.
- Explain circuit and system diagrams
- Identify hydraulic symbols

**Student Assessment Methods:**

Tests and hands-on performance

**Use of Instructional Technology:** (includes software, interactive video and other instructional technologies):

Videos

**Outline or Statement of Major Course Content:**

This course focuses on using models that are designed for “Hands On” Learning with an actual working hydraulic system.

**Additional Special Information:** (special fees, directives on hazardous materials, etc.)

**Transfer Information:** (Please list colleges/majors that accept this course in transfer.)

**Approvals:**

Body	Representative Signatures	Date
Curriculum Committee		
Faculty Association		
Academic Affairs Standards Committee		
Chief Academic Officer		

**Distribution:** Original – Administrative Office

**Copies:** Curriculum Committee Chair, AASC Chair, Transfer Specialist, Originating Faculty Member, Scheduler, Records, Student Services, Learning Center, Library

**Revised:** June 2009