

# MESABI RANGE COMMUNITY & TECHNICAL COLLEGE

## Course Outline

Course Title: Industrial PC Communications  
Semester Course Prefix and Number: PAS 2245  
Old Quarter Course Prefix and Number:

Submitted By: Scott Norcia  
Approval Date:  
Revision Date: 11/23/11

Number of Credits: 3  
Semester(s) Offered: Spring  
Class Size: 24  
Negotiated by AASC on: (date)

Number of Lecture Credits: 1  
Number of Lab Credits: 2 Number of Lab Hours: 4  
Number of Studio/Demonstration/Internship Credits:

### 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 offering is designed to provide the student with a fundamental knowledge of industrial personal computer based applications. PC based applications related to industrial controls will be studied with an emphasis on project/device documentation, data management and SCADA. Lab safety and the safe and proper use of tools and test equipment is emphasized.

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

Course Prerequisite(s): None  
Reading Prerequisite: None  
Composition Prerequisite: None  
Mathematics Prerequisite: None

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

Process Automation Systems Diploma  
Process Automation Systems AAS

### 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.)

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|--|--|
| 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)

Following the completion of this course the student will be able to demonstrate the ability to:

- 1.) Comprehend the current role of PCs in industrial automation.
- 2.) Install software.
- 3.) Manage data files.
- 4.) Use current software to document projects.
- 5.) Utilize current software to configure, troubleshoot and document field devices.
- 6.) Integrate SCADA systems with industrial control devices.
- 7.) Troubleshoot PC software/hardware problems.
- 8.) Observe proper safety procedures.
- 9.) Work cooperatively.
- 10.) Apply critical thinking skills.

**Student Assessment Methods:**

Lab assignments, worksheets, papers, and tests.

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

Power Point Software, videos, software based lab simulators.

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

See "Learning Outcomes" above.

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

Laptop Computer Lease

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

None

**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:** October 2006