

MESABI RANGE COMMUNITY & TECHNICAL COLLEGE – VIRGINIA/EVELETH  
COURSE OUTLINE

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Course Title: Basic Soldering  
Quarter Course Prefix and Number:  
Semester Course Prefix and Number: EIAT 1295

Approval Date:  
Revision Date: 2/22/06

Number of Credits: 1      Number of Lecture Credits: 0      Number of Lab Credits: 1  
Semester(s) Offered:      Number of Studio/Discussion Credits:  
Class Size: 24  
Negotiated by AASC on  
(Date)\_\_\_

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**Course Purpose Code:**

- \_\_\_\_\_ 0 – Developmental Courses
- \_\_\_\_\_ 1 – Non-Transferable General Studies
- X   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 Minnesota Transfer Curriculum (MNTC) requirements.
- \_\_\_\_\_ 9 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

**Catalog Description:**

This offering is designed as a foundational course for those entering electrical maintenance/engineering related fields. Basic soldering concepts are studied with a focus on materials, equipment and various soldering processes. 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: Minimum score on basic skills test  
Composition Prerequisite:  
Mathematics Prerequisite: Minimum score on basic skills test

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

Electrical and Industrial Automation Technology

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

- |   |   |
|---|---|
| 0. <u>  X  </u> None                                    | 6. _____ The Humanities and Fine Arts     |
| 1. _____ Communications                                 | 7. _____ Human Diversity                  |
| 2. _____ Critical Thinking                              | 8. _____ Global Perspectives              |
| 3. _____ Natural Sciences                               | 9. _____ Ethical and Civic Responsibility |
| 4. _____ Mathematical/Logical Reasoning                 | 10. _____ People and the Environment      |
| 5. _____ 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.) State the safety precautions to take when soldering.
- 2.) Describe the various forms of solder and soldering equipment available.
- 3.) Explain the three methods of wire stripping.
- 4.) Describe the procedures for tinning.
- 5.) Explain the soldering process.
- 6.) Compare or contrast point-to-point, PCB, and surface mount device soldering.
- 7.) Describe the procedures for common soldering and drag soldering.
- 8.) Distinguish a good soldered connection from a poor one.
- 9.) Explain the three methods of removing solder.
- 10.) Observe proper safety procedures.
- 11.) Work cooperatively.
- 12.) Apply critical thinking skills.

**Possible 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.

**A one-paragraph summary or outline of the major course content:**

See "Learning Outcomes" above.

**Additional special information (special fees, directives on hazardous materials, etc.)**

Laptop Computer Lease

**Approvals:**

<b>Body</b>	<b>Representative Signatures</b>	<b>Date</b>
Curriculum Committee		
Faculty Association		
Academic Affairs Standards Committee		
Chief Academic Officer		

Distribution: Original – Administrative Office

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Revised February 10, 2004