Course Outline

Course Title: Electrical Safety
Submitted By: Cary Satrang, Keith Bundermann

Semester Course Prefix and Number: IMT 2216
Approval Date: 11/5/2018
Old Quarter Course Prefix and Number:
Revision Date:

Number of Credits: 2
Number of Lecture Credits: 1
Number of Lab Credits: 1
Number of Lab Hours: 2
Number of Studio/Demonstration/Internship Credits:
Class Size: 35

Negotiated by AASC on: (11/5/2018)

Course Purpose Code:

0 – Developmental Courses
1 – Non-transferable
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 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.
6 – Continuing Education/Customized Training specialized credit course (not occurring in 0-5)

Catalog Description: This course provides a general knowledge of industrial electrical systems. The curriculum encompasses electrical safety, fundamentals of electricity, and electrical distribution systems. The course focus is on electrical safety as it pertains to the millwright profession.

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:

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. AASC review and the Chief Academic Officer's approval are required.)

0. x None
1. Communications
2. Critical Thinking
3. Natural Sciences
4. Mathematical/Logical Reasoning
5. History and the Social and Behavioral Sciences
6. The Humanities and Fine Arts
7. Human Diversity
8. Global Perspectives
9. Ethical and Civic Responsibility
10. People and the Environment
**Learning Outcomes:** (including any relevant competencies listed in the Minnesota Transfer Curriculum)
The goal is to increase the students’ knowledge of the fundamentals of electricity with an emphasis on safety. The student will have knowledge in electrical safety with lockout procedures, over-current protection techniques, and safe job procedures that apply to electrical systems.

Upon completion of this course, the student will be able to:
1. Demonstrate safe work practices including, but not limited to:
   - electric shock
   - arc flash hazards
   - PPE
   - ground fault protection
2. Identify electrical quantities or measurements
3. Demonstrate an understanding of ohm’s law
4. Identify distribution panels and motor control centers
5. Explain causes for overcurrent conditions
6. Apply equipment grounding requirements
7. Identify motor control problems and faults
8. Recognize electrical hazards and correct them

**Student Assessment Methods:**
May include: Lab assignments, worksheets and tests

**Use of Instructional Technology:** (includes software, interactive video and other instructional technologies):
May include: PowerPoint software, videos, and lab simulators

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

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

**Affiliated Mesabi Range College Courses and Programs:**

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<td>Faculty Association</td>
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**Distribution:** Original – Instructional Services
**Copies:** Transfer Specialist, Originating Faculty Member, Records
**Revised:** December 2012